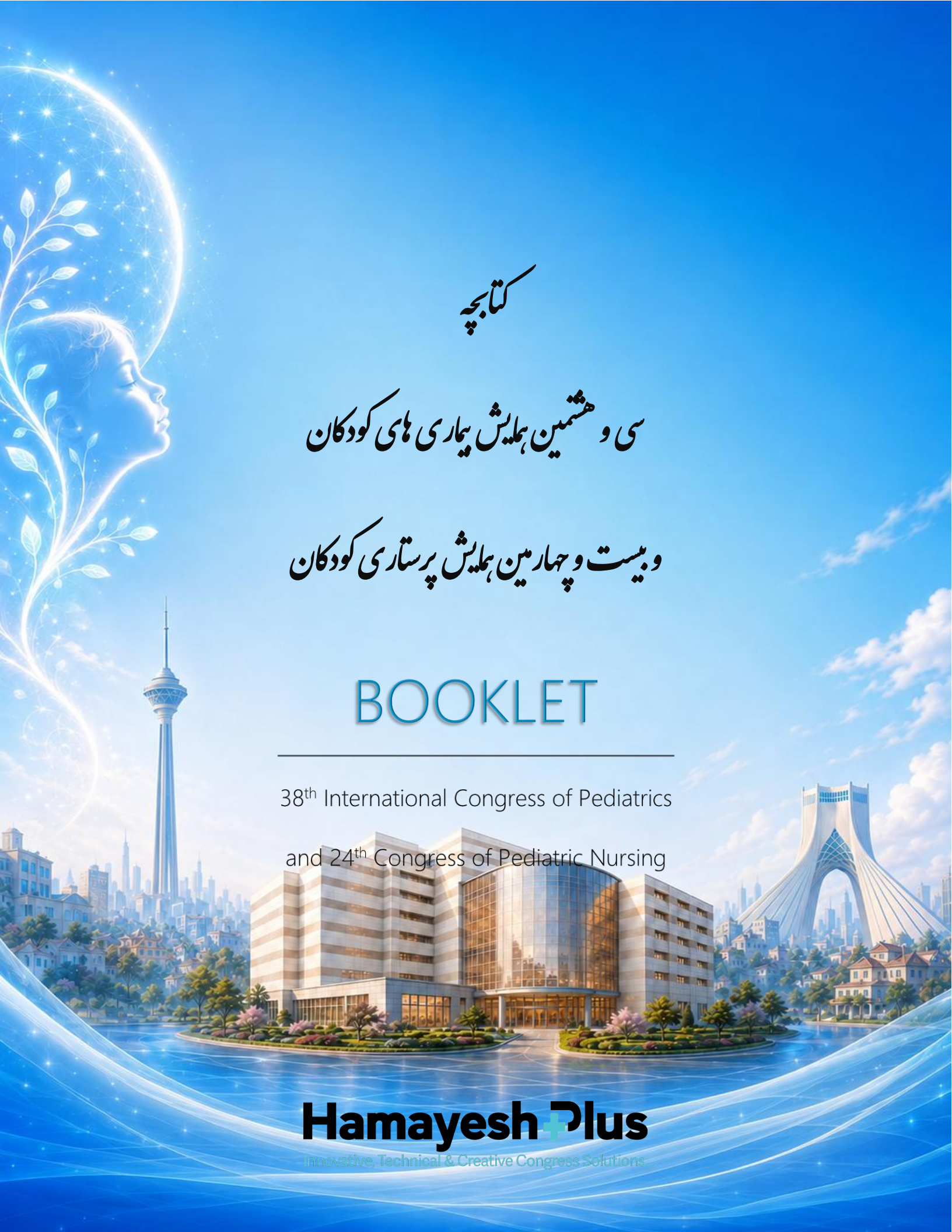


کتابچه

سی و هشتمین همایش پیاری های کودکان

و بیست و چهارمین همایش پرستاری کودکان

BOOKLET

38th International Congress of Pediatrics

and 24th Congress of Pediatric Nursing

Hamayesh Plus

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پیام رئیس همایش



اساتید ارجمند، همکاران گرامی، یاران گران‌مایه

با افتخار، سی و هشتمین همایش سالانه بین‌المللی بیماری‌های کودکان در دانشگاه علوم پزشکی تهران، به عنوان کهن‌ترین و پیشروترین مرکز آموزشی طب کودکان در کشور، برگزار می‌شود. این همایش، همچون سال‌های گذشته، فرصتی بی‌نظیر برای گردهمایی متخصصان و فوق تخصص‌های اطفال، پزشکان عمومی، جراحان اطفال، رادیولوژیست‌ها، محققان علوم پایه (ژنتیک، بیوشیمی، ایمونولوژی، سلول‌های بنیادی و...) و فعالان حوزه پزشکی اجتماعی و سلامت کودک فراهم می‌آورد.

تجربه موفق برگزاری ۳۷ دوره پیشین، این کنگره را به یکی از ارکان کلیدی ارتقاء علمی کشور در حوزه سلامت کودکان تبدیل کرده است.

تمرکز همایش در سال‌های اخیر بر محورهای مهمی همچون کاهش مرگ‌ومیر کودکان، کنترل بیماری‌های تنفسی و گوارشی، ارتقاء سلامت جامعه کودک و به‌ویژه توجه به چالش جوانی جمعیت بوده است.

در راستای تعامل بین‌رشته‌ای و باور به هم‌افزایی دانش، این رویداد به‌صورت دو بخش مجزای پزشکی و پرستاری برگزار می‌شود تا همکاران پرستار نیز از فرصت بازآموزی و تبادل تجربیات علمی با پزشکان بهره‌مند گردند.

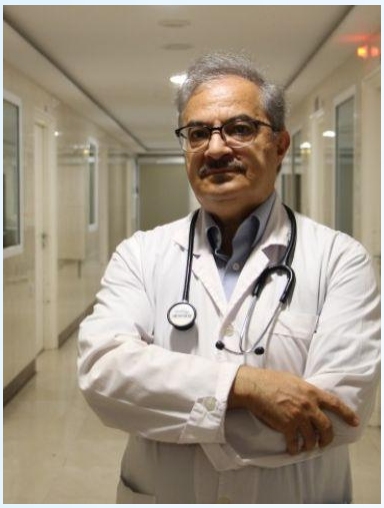
همچنین برای شانزدهمین سال پیاپی، بخش ویژه‌ای به محققان جوان و دانشجویان علوم پزشکی اختصاص یافته است. این بخش با همکاری کانون استعدادهای درخشان و مرکز پژوهش‌های دانشجویی دانشگاه علوم پزشکی تهران، بستری ارزشمند برای ورود نسل جوان به حوزه پژوهش‌های بالینی و بنیادی در طب اطفال ایجاد کرده است. مقالات برگزیده این بخش، در قالب ارائه سخنرانی و پوستر علمی مورد تقدیر قرار خواهند گرفت.

در همایش امسال، توجه ویژه‌ای به نقش فناوری‌های نوین، از جمله هوش مصنوعی، سلول‌درمانی و پزشکی دقیق در سلامت جنین، کودکان و نوجوانان معطوف شده است. این نگاه آینده‌نگر، نشان از تلاش کنگره برای پیوند میان علم روز، درمان مؤثر و ارتقاء سلامت جامعه دارد.

با احترام و آرزوی توفیق

دکتر علی شیرزادی

رئیس سی و هشتمین همایش بیماری های کودکان



پیام دبیر علمی همایش پزشکی

پیام کمیته علمی و اجرایی سی و هشتمین همایش بیماری‌های کودکان

گذر زمان، بار دیگر این افتخار را نصیب گروه کودکان دانشگاه علوم پزشکی تهران و مرکز طبی کودکان به‌عنوان قطب علمی اطفال کشور کرده است تا میزبان سی‌وششمین همایش سالانه بیماری‌های کودکان باشیم. این رویداد علمی به مدت چهار روز از تاریخ۱۷ تا ۲۰ مهرماه ۱٤۰٤ در مرکز همایش‌های بین‌المللی نورالرضا (ایران) برگزار خواهد شد و فرصتی ارزشمند برای خدمت به جامعه پزشکی کودکان ایران فراهم می‌سازد.

ارتقاء کیفیت علمی همایش همواره یکی از اهداف اصلی برگزارکنندگان بوده است و در این مسیر، نظرات اساتید، متخصصان و فراگیران طب کودکان نقش مهمی ایفا کرده‌اند.

در همایش امسال، ۲۱ دوره آموزشی (Teaching Course) دو ساعته طراحی شده است تا به بررسی چالش‌ها و موضوعات رایج در طب کودکان بپردازد. این جلسات با حضور اساتید برجسته برگزار می‌شوند و هدف آن‌ها ارائه راهکارهای کاربردی برای شرکت‌کنندگان است.

همچنین، ۱۹ پانل تخصصی به مدت ٦۰ تا ۱۲۰ دقیقه با محوریت روش‌های نوین تشخیص و درمان، دستاوردهای علمی جدید و همکاری‌های میان‌رشته‌ای از جمله جراحی، رادیولوژی و آزمایشگاه برنامه‌ریزی شده‌اند.

با استقبال چشم‌گیر از پانل محققین جوان در سال گذشته، امسال نیز دو پانل اختصاصی برای محققان جوان و دانشجویان پزشکی برگزار خواهد شد. هدف از این برنامه، تقویت حضور پژوهشگران جوان در عرصه تحقیقات بالینی و بنیادی کودکان است.

فراخوان ارسال مقالات علمی از ویژگی‌های برجسته این دوره است که منجر به انتخاب ۳۰ مقاله برای ارائه شفاهی شده و سایر مقالات نیز در قالب پوستر علمی در ایام همایش ارائه خواهند شد.

هر روز از ساعت ۸:۰۰ تا ۸:۳۰ صبح، سخنرانی‌های کلیدی با محوریت کاربرد هوش مصنوعی در آموزش، پژوهش و درمان در طب کودکان در سالن اصلی برگزار خواهد شد.برنامه‌های علمی همایش به‌صورت هم‌زمان در سه سالن اصلی برگزار می‌شوند و در برخی روزها با توجه به برگزاری کارگاه‌های آموزشی از جمله کارگاه تکامل، از چهار سالن استفاده خواهد شد.

حضور پررنگ بیش از ۳۰۰ استاد و عضو هیئت علمی از دانشگاه‌های علوم پزشکی سراسر کشور، شامل فوق تخصص‌های اطفال و اساتید علوم پایه، یکی از افتخارات این همایش است.

کلیه مطالب علمی پذیرفته‌شده در قالب یک کتابچه دیجیتال در پایان همایش منتشر و در اختیار شرکت‌کنندگان قرار خواهد گرفت.

امید است که تغییر زمان برگزاری همایش امسال نسبت به سال گذشته، به‌دلیل هم‌پوشانی با برخی برنامه‌های آموزشی و پژوهشی، شرایط را برای حضور حداکثری اساتید، متخصصان و فراگیران فراهم آورد.

حضور فعال شما در بزرگ‌ترین رویداد علمی کودکان کشور، علاوه بر بهره‌گیری از جدیدترین مباحث علمی و بالینی، فرصتی برای دیدار دوباره همکاران در فضایی صمیمانه و گامی مؤثر در ارتقاء سلامت نسل آینده ایران خواهد بود.

کمیته علمی و اجرایی همایش، از همراهی و حضور شما گرامی‌ترین میهمانان، صمیمانه استقبال می‌کند.

پیام دبیر اجرایی همایش



به سی و هشتمین همایش بیماری‌های کودکان و بیست و سومین همایش پرستاری کودکان خوش آمدید!

با افتخار، میزبان یکی از بزرگ‌ترین و مهم‌ترین رویدادهای علمی کشور در حوزه مراقبت‌های بهداشتی کودکان هستیم. این همایش معتبر که با میزبانی مرکز طبی کودکان، قطب علمی اطفال ایران، برگزار می‌شود، نقطه اتصال دانش، تجربه و نوآوری در درمان کودکان است.

بیش از ۲۰۰۰ شرکت‌کننده از سراسر کشور و جهان در این رویداد گرد هم آمده‌اند؛ از متخصصان مغز و اعصاب، قلب و عروق، گوارش و ریه گرفته تا متخصصان بیماری‌های عفونی، آسم و آلرژی، روماتولوژی، اورولوژی، نفرولوژی، غدد و جراحی کودکان و نوجوانان.

علاوه بر پزشکان، پرستاران، مراقبان ویژه نوزادان، فعالان حوزه مراقبت‌های تسکینی و اخلاق حرفه‌ای نیز در این رویداد حضور دارند و فرصتی استثنایی برای یادگیری و تبادل نظر فراهم شده است. سخنرانان برجسته داخلی و بین‌المللی، چه به‌صورت حضوری و چه آنلاین، در این رویداد حضور دارند تا آخرین یافته‌ها، پیشرفت‌ها و تجربیات خود را در زمینه سلامت کودک ارائه دهند.

محل برگزاری: مرکز همایش‌های بین‌المللی ایران، تهران

برگزاری همزمان به‌صورت حضوری و آنلاین در چهار سالن مجهز، با ظرفیت بیش از ۲۰۰۰ نفربا ما همراه باشید تا در فضایی علمی و الهام‌بخش، گامی مؤثر در ارتقاء سلامت و کیفیت زندگی کودکان برداریم.

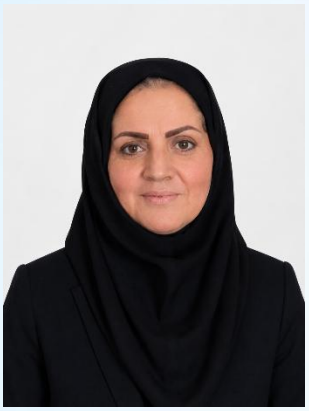
همایش امسال، پلی است به سوی آینده‌ای روشن‌تر در مراقبت‌های کودکان.

با احترام و آرزوی توفیق

دکتر محمد تقی مجنون

دبیر اجرایی سی و هشتمین همایش بیماری های کودکان

پیام دبیر علمی همایش پرستاری



بخش پرستاری کودکان، به عنوان قلب تپنده‌ی مراقبتِ مبتنی بر شواهد، همواره بر پیوند دیرینه‌ی «علم» و «بالین» تأکید داشته است؛ پیوندی که در آن دستاوردهای پژوهشی و پیشرفت‌های تجهیزاتی، تنها زمانی معنا و اثر واقعی می‌یابند که در کنار اندیشه‌ی بالینی، قضاوت حرفه‌ای و مهارت‌های تخصصی پرستاران قرار گیرند. کودکان و خانواده‌های آنان در هر مرحله از بیماری، نیازمند مراقبتی هستند که نه صرفاً از جنس دانش نظری، بلکه آمیخته‌ای از تخصص، تجربه‌ی مراقبتی، و درک عمیق از شرایط بالینی کودک باشد.

از این رو، در چارچوب رسالت علمی کنگره، این بخش با تمرکز بر حوزه‌های کلیدی زیر، تلاش می‌کند مسیر ارتقای کیفیت مراقبت را از طریق هم‌افزایی میان دانشگاه، بیمارستان و تیم‌های تخصصی هموار سازد: در حیطه‌ی قلب، تأکید بر مراقبت‌های دقیق پرستاری در تشخیص زودهنگام، پایش مستمر، و مدیریت پیامدهای قلبی است؛ در حوزه‌ی اورولوژی، توجه به مراقبت‌های تخصصی در پیشگیری از عوارض، مدیریت درد و عفونت‌های مرتبط، و ارتقای کیفیت زندگی کودک محور قرار می‌گیرد؛ در پرستاری پیوند، توسعه‌ی استانداردهای مراقبتِ پیش و پس از پیوند با رویکرد ایمنی بیمار، کنترل عفونت، و حمایت‌های بالینی و روانیِ مبتنی بر شواهد دنبال می‌شود؛ در مدیریت تنفسی، تمرکز بر بهبود راهکارهای بالینیِ تنفس درمانی، ارزیابی‌های دقیق و پاسخ به وضعیت‌های اورژانسی تنفسی، با هدف کاهش عوارض و بهینه‌سازی نتایج درمان صورت می‌گیرد؛ همچنین در اختلالات پوستی، با توجه به نقش بنیادین پرستار در مراقبت‌های حمایتی، کنترل عوارض، و ارتقای مراقبت‌های در منزل و مدرسه، محوریت به مراقبتِ بیمارمحور و آموزشی خانواده داده می‌شود.

ویژگی مهم این کنگره، توجه ویژه به «واقعیت‌های غیرعادی و شکننده‌ی نظام سلامت» است. در بحران‌های جنگ و پسا جنگ، کودک بیش از هر زمان دیگری نیازمند استمرار مراقبت، مدیریت منابع، و اجرای اصول ایمنی و کنترل عفونت در شرایط دشوار می‌باشد. بنابراین، این بخش با نگاه انسان‌دوستانه و علمی، به موضوعاتی می‌پردازد که شامل پایداری مراقبت‌های حیاتی، تداوم پیگیری‌های درمانی، مدیریت اضطراب و آسیب‌های روانی–اجتماعی، و ایجاد سازوکارهای مراقبتی قابل اجرا در محیط‌های بحران‌زده است؛ رویکردی که ضمن حفظ کرامت کودک، بر کارآمدی بالینی و امکان‌پذیری اجرایی تکیه دارد.

یکی از ارکان اصلی دستیابی به این اهداف، راه‌اندازی و تثبیت «پرستاران متخصص» در سطوح مختلف بالینی است. تخصص‌گرایی پرستاری، صرفاً یک عنوان حرفه‌ای نیست؛ بلکه راهی برای افزایش دقت تصمیم‌گیری، ارتقای کیفیت مراقبت، کاهش ریسک‌های بالینی، و یکپارچه‌سازی دانش و مهارت در قالب فرآیندهای استاندارد و قابل پایش است. از نگاه این بخش، پرستار متخصص پلی است میان یافته‌های علمی و اجرای اثربخش آن‌ها در تخت بیمار؛ به گونه‌ای که پیشرفت‌های پژوهشی و تجهیزاتی، در عمل بالینی تبدیل به «بهبود واقعی» در پیامدهای درمانی کودک گردد.

امید است این کنگره با ارائه‌ی مقالات، کارگاه‌ها و گفتگوهای علمیِ مبتنی بر شواهد، زمینه‌ی هم‌افزایی میان متخصصان قلب، اورولوژی، تیم‌های پیوند، حوزه‌ی مدیریت تنفسی، و کارشناسان اختلالات پوستی را فراهم آورد و در کنار آن، با ترویج رویکردهای قابل اجرا در شرایط جنگ و پسا جنگ، نقش پرستاری کودکان را در تاب‌آوری نظام سلامت برجسته سازد. بدین وسیله، از مشارکت

کلیه‌ی اساتید، پژوهشگران، پرستاران بالینی و مدیران سلامت که با همت علمی و دغدغه‌ی انسانی در این مسیر همراه‌اند، صمیمانه قدردانی می‌گردد.

در پایان، هدف مشترک ما روشن است: پرستاری تخصصی و بالین‌محور، مبتنی بر شواهد علمی و توانمند در مواجهه با پیچیدگی‌های بالینی؛ تا مراقبت از کودک، همواره از جنس دانش، ایمنی و امید باشد.

دکتر فاطمه خوشنوای فومنی

دبیر علمی بیست و چهارمین کنگره پرستاری کودکان

اردیبهشت ۱۴۰۵

پیام دبیر اجرایی همایش پرستاری



با سلام و احترام و سپاس از درگاه خداوند متعال که توفیق برگزاری بیست‌وچهارمین همایش پرستاری کودکان را در سال ۱۴۰۵ به ما عطا فرمود، با افتخار و احساس مسئولیتی عمیق، مسئولیت دبیر اجرایی این رویداد علمی و ارزشمند را بر عهده دارم؛ همایشی که با هدف ارتقای دانش و مهارت‌های تخصصی، توسعه مراقبت‌های مبتنی بر شواهد، و فراهم ساختن بستری برای تبادل اندیشه، تجربه و دستاوردهای نوین در حوزه سلامت کودک برگزار می‌شود. بی‌تردید، سلامت کودکان، زیربنای سلامت آینده جامعه است و پرستاری کودکان، عرصه‌ای آکنده از علم، تعهد، صبوری و مهرورزی است. از این‌رو، این همایش می‌کوشد با تمرکز بر موضوعات تخصصی و نیازهای روز نظام سلامت، زمینه‌ای برای هم‌اندیشی و هم‌افزایی میان استادان، پژوهشگران، پرستاران، دانشجویان و همه دغدغه‌مندان این حوزه فراهم آورد.

بیست‌وچهارمین همایش پرستاری کودکان، امسال با محورهای مهم و کاربردی شامل پرستاری قلب وعروق در نوزادان و کودکان، پرستاری ارولوژی کودکان و مدیریت اختلالات تکامل جنسی، مراقبت‌های پرستاری در پیوند اندام و بافت در کودکان، مدیریت پیشرفته تنفسی در نوزادان و کودکان، پرستاری پوست و مدیریت زخم در کودکان، پرستاری اورژانس و مراقبت‌های ویژه نوزادان و کودکان، و نیز پرستاری کودکان در شرایط بحران، بلایا و جنگ، تلاش دارد پاسخی علمی، تخصصی و متعهدانه به بخشی از مهم‌ترین نیازهای مراقبتی این گروه حساس و ارزشمند ارائه دهد.

امید آن داریم که طرح و بررسی این محورهای اساسی، بتواند به ارتقای کیفیت مراقبت‌های پرستاری، تقویت رویکردهای تخصصی، افزایش آمادگی حرفه‌ای در مواجهه با شرایط پیچیده بالینی و بحرانی، و در نهایت بهبود سطح سلامت کودکان عزیزمان منجر شود. این همایش، فرصتی مغتنم است تا یافته‌های علمی، تجربیات بالینی و دیدگاه‌های نوآورانه در مسیر تعالی خدمات پرستاری کودکان به اشتراک گذاشته شود و گامی مؤثر در جهت اعتلای این حوزه برداشته شود.

از تمامی استادان فرهیخته، پژوهشگران ارجمند، همکاران گرانقدر و دانشجویان علاقه‌مند دعوت می‌نمایم با مشارکت علمی و حضور ارزشمند خود، بر غنای این رویداد بیفزایند و ما را در تحقق اهداف والای آن یاری رسانند.

در پایان، از خداوند بزرگ مسئلت دارم که برگزاری این همایش، منشأ خیر و برکت برای نظام سلامت کشور و زمینه‌ساز ارتقای هرچه بیشتر مراقبت از کودکان این سرزمین باشد. همچنین از درگاه ایزد منان، سلامتی، آرامش و آینده‌ای روشن برای همه کودکان ایران عزیز آرزو دارم و امیدوارم هیچ کودکی جز طعم مهر، امنیت، تندرستی و لبخند را تجربه نکند.

با احترام و آرزوی توفیق

فاطمه جعفری لاریمی

دبیر اجرایی بیست‌وچهارمین همایش پرستاری کودکان

Oral Presentation

Medical Management of Pediatric Vesicoureteral Reflux

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Nephrology

abstract: abstract Vesicoureteral reflux (VUR) is a pediatric condition identified by the backward flow of urine from the bladder to one or both ureters and kidneys, predisposing patients to recurrent urinary tract infections (UTIs) and kidney scarring. VUR occurs in 1.3% of healthy children, but 36-56% of children having urinary tract infections (UTIs) have it, especially when UTIs happen at a younger age. Additionally, the likelihood of renal damage increases with the frequency of UTIs. Kidney scarring was observed in 26% of children who experienced no recurrence, 38% and 80% of whom experienced a single recurrence and more than one recurrence of UTIs, respectively. The first evaluation after a febrile UTI aims to avoid the recurrence, prevent renal damage, and reduce morbidity. American Urological Association (AUA) and the European Association of Urology (EAU) guidelines for diagnosing and treating VUR suggest that, a thorough history, physical examination, and assessment of height, body mass index, blood pressure, and serum creatinine (to determine glomerular filtration rate) are necessary. Urine analysis for proteinuria and bacteriuria should be conducted, and if an infection is detected, a culture and sensitivity test should follow. Recent studies indicate that serum procalcitonin levels are linked to APN-related kidney injury, which appears on DMSA scans, and increased levels of ESR and CRP. Measuring procalcitonin levels helps identify clinically significant VUR and kidney injury, reducing the need for VCUG Continuous Antibiotic Prophylaxis (CAP) CAP is commonly recognized as a groundbreaking non-invasive treatment for VUR as it helps prevent repeated febrile UTIs and subsequent new kidney scarring. Deciding between CAP and just observation depends on various factors, such as age, presence of febrile UTIs, dysfunction of the lower urinary tract, and constipation. When selecting antimicrobials for CAP, it is crucial to consider the sensitivity of intestinal bacteria and the potential for antimicrobial resistance. In clinical practice, cephalexin, penicillin antibiotics, and trimethoprim-sulfamethoxazole combinations are commonly used. Cephalexin, particularly traditional ones, are frequently used and can be administered from early infancy in Japan. One oral dose, ranging from one-third to one-sixth of the standard pediatric daily dose, is recommended at bedtime. Infants under two months old can receive penicillin as a single oral dose, equivalent to one-third of the recommended daily dose, administered at bedtime. TMP-SMX is regarded as a standard treatment option. However, it is contraindicated in infants under two months of age due to the potential for severe adverse effects. Careful monitoring through blood tests is essential. Safety and possible long-term side effects of CAP Antibiotics impact the gastrointestinal flora, which plays a vital role in enhancing digestion, energy turnover, metabolism, absorbing nutrients, pathogen defense, and the formation of the immune and nervous systems . Antibiotic resistance has, regrettably, emerged as an unintended consequence of antibiotic use. As

a result of antimicrobial resistance, the excessive use of antibiotics in pediatric urology, especially during CAP, and the lack of novel antimicrobial drugs have led to a worldwide problem. There is a 24-fold higher chance of E. coli resistance to TMP-SMX when CAP is used for UTIs. Recent research indicates a potential link between taking antibiotics in the neonatal period and the development of childhood asthma, inflammatory bowel disease, and other immune-mediated disorders. The comprehensive effects of antibiotics on metabolism, growth, and possible adverse events on immunity, the gastrointestinal tract, and the nervous system due to changes in the gut microbiota are still under investigation .

A Stepwise Approach to Elevated Transaminases in Children

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Gastroenterology

abstract: Evaluation of elevated aminotransferases in children can be organized into the following steps: 1. Is the elevation truly hepatic in origin? AST and, less commonly, ALT may increase in extrahepatic conditions such as muscle disease, hemolysis, strenuous exercise, or systemic illness. Creatine kinase and appropriate hematologic tests may help identify non-hepatic causes. 2. Is the liver disease acute or chronic? Features suggesting chronic liver disease include splenomegaly, prominence of the left hepatic lobe, thrombocytopenia, and ultrasonographic evidence of portal hypertension, fibrosis, or cirrhosis. 3. Is the biochemical pattern hepatocellular or cholestatic? This distinction is based on the relative elevation of aminotransferases compared with alkaline phosphatase and gamma-glutamyl transferase. Age-specific reference ranges are essential, particularly for alkaline phosphatase in growing children. 4. Has liver function been affected? In acute disease, the clinician should determine whether the child meets the criteria for pediatric acute liver failure. In chronic disease, the presence of cirrhosis should be assessed. 5. Is cirrhosis compensated or decompensated? Features of decompensation include ascites, gastrointestinal bleeding, spontaneous bacterial peritonitis, jaundice, coagulopathy, and hepatic encephalopathy. 6. What is the underlying cause? Aminotransferase levels exceeding ten times the upper limit of normal may occur in viral hepatitis, drug-induced liver injury, ischemic hepatopathy, autoimmune hepatitis, and severe acute hepatitis of unknown etiology. AST predominance may suggest muscle disease, metabolic disorders, advanced cirrhosis, or selected infections, but is not diagnostic by itself. 7. What treatment is required? Management should target the underlying cause, assess disease severity, treat complications, and identify patients requiring urgent referral or liver transplantation.

When Not to Worry About Growth: Recognizing Normal Variations in Childhood Growth and Avoiding Diagnostic Pitfalls

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Emergency

abstract: Abstract Growth assessment is a cornerstone of pediatric practice; however, many children referred for growth concerns have normal physiological variations rather than underlying disease. Misinterpretation of normal growth patterns may lead to unnecessary investigations, parental anxiety, and inappropriate interventions. Normal growth is a dynamic process influenced by genetic potential, nutrition, and developmental stage. This presentation will review the major physiological variations in childhood growth, including infancy catch-down and catch-up growth, infancy–childhood transition, familial short stature, constitutional delay of growth and puberty, normal adiposity rebound, constitutional tall stature, and pubertal growth acceleration. Emphasis will be placed on the practical interpretation of serial growth measurements, growth velocity, mid-parental height, body proportions, pubertal assessment, and selective use of bone age. Recent evidence highlights the importance of distinguishing physiological catch-up growth from excessive weight acceleration due to its association with future metabolic risk. Recognition of normal growth variations is essential for pediatricians to avoid over diagnosis and unnecessary testing while ensuring timely identification of children with true growth disorders. A systematic auxological approach based on longitudinal growth monitoring and current evidence-based recommendations remains the most reliable strategy for evaluating childhood growth.

Prognostic Value of Red Cell Distribution Width in Pediatric Hyperferritinemia

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Hematology & Oncology

abstract: Background: Hyperferritinemia in children is associated with severe systemic illness and an increased risk of adverse outcomes. Red cell distribution width (RDW), a routinely available hematologic marker, has been proposed as a prognostic indicator in inflammatory and critical conditions. However, its relationship with mortality in non-transfusion-dependent pediatric patients with hyperferritinemia remains insufficiently defined. Methods: We performed a retrospective analysis of 141 pediatric patients with hyperferritinemia. Mortality status was available for all cases, and RDW was available for 140 patients. Patients were grouped according to outcome status. RDW values were compared between survivors and non-survivors, and the association between RDW and mortality was assessed using group comparison and correlation-based analysis. Results: Among the 140 patients with available RDW data, 85 were alive and 55 had died. RDW was significantly higher in non-survivors than in survivors: 16.18 ± 2.97 vs. 15.20 ± 2.43, respectively. The median RDW was also higher in the mortality group (15.6 vs. 14.6). The difference between groups was statistically significant ($t = -2.04$, $df = 98.96$, $p = 0.0437$). Based on this comparison, RDW showed a small positive association with mortality (point-biserial correlation, $r \approx 0.20$), indicating that higher RDW values were associated with an increased risk of death. One patient had missing RDW data and was excluded from the RDW-specific comparison. Figure 1 shows that non-survivors showed significantly higher RDW than survivors, suggesting a potential prognostic role for RDW in this cohort. Conclusion: In this cohort of pediatric patients with hyperferritinemia, elevated RDW was associated with mortality and demonstrated a small but statistically significant relationship with death. RDW may serve as a simple, inexpensive prognostic marker for early risk stratification in this population. Larger prospective studies are warranted to validate its independent predictive value and to determine clinically useful cutoff thresholds. Figure 1. Red cell distribution width (RDW) in pediatric patients with hyperferritinemia according to survival status.

Comprehensive Approach to the Febrile Neonate: From Differentiating Fever and Hyperthermia to the Diagnosis and Management of Serious Bacterial Infections

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neonatology

abstract: Evaluation of a neonate with an elevated body temperature is a common yet critical challenge in neonatal practice. The first and most important step is to differentiate true fever from hyperthermia, as these conditions have distinct pathophysiological mechanisms and require different management strategies. Fever is a regulated increase in body temperature resulting from an elevated hypothalamic set point, usually secondary to infection or inflammation. In contrast, hyperthermia occurs without alteration of the hypothalamic set point and is commonly caused by excessive environmental heat exposure, over-bundling, radiant warmers, incubator overheating, or dehydration. Failure to distinguish between these entities may result in unnecessary investigations, inappropriate antibiotic administration, and avoidable hospitalization. Once fever is confirmed, defined as a rectal temperature ≥38.0°C, prompt evaluation is essential because neonates are at the highest risk for serious bacterial infection (SBI) and invasive bacterial infection (IBI), including bacteremia and bacterial meningitis. This presentation provides a practical, evidence-based approach to the assessment and management of febrile neonates, integrating the latest recommendations from the American Academy of Pediatrics (AAP) and recent international evidence. The lecture will review accurate temperature measurement, epidemiology of neonatal fever, and recognition of clinical features suggesting serious illness. A stepwise diagnostic approach will be discussed, including indications for blood, urine, and cerebrospinal fluid cultures, as well as the role of complete blood count, C-reactive protein, procalcitonin, absolute neutrophil count, and molecular viral testing in risk stratification. Age-specific management strategies will be emphasized, particularly the differences between infants aged 0–21 days and 22–28 days, focusing on indications for lumbar puncture, hospitalization, empirical antibiotic therapy, and safe discharge. Recent evidence supporting clinical prediction models and inflammatory biomarkers will also be highlighted. Finally, participants will be introduced to a concise clinical algorithm applicable in emergency departments, newborn nurseries, and neonatal intensive care units. The session aims to improve diagnostic accuracy, facilitate early identification of neonates with invasive bacterial infection, reduce unnecessary invasive procedures and antibiotic exposure, and promote evidence-based, high-quality neonatal care while supporting antimicrobial stewardship. Keywords: Febrile neonate; Hyperthermia; Serious bacterial infection; Invasive bacterial infection; Neonatal sepsis.

• Optimizing Phototherapy for Neonatal Hyperbilirubinemia: Current Evidence, Technological Advances, and Clinical Education

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neonatology

abstract: Neonatal hyperbilirubinemia remains one of the most common conditions encountered during early neonatal period. Although physiologic jaundice is benign, sever unconjugated hyperbilirubinemia can lead to bilirubin-induced neurologic dysfunction if not appropriately treated. Phototherapy is primary noninvasive intervention and has dramatically reduced incidence of kernicterus worldwide. Recent have significantly improved efficiency and safety. The updated AAP guideline for the management of hyperbilirubinemia in infants ≥35 weeks' gestation introduced revised treatment thresholds and emphasized individualized risk assessment and escalation of care. Contemporary phototherapy systems increasingly utilize narrow-spectrum blue light-emitting diode (LED) technology, typically centered between 460 and 490 nm, corresponding to the peak absorption spectrum of bilirubin. Intensive phototherapy is defined by an irradiance of at least 30 μW/cm²/nm delivered across the largest possible body surface area. Compared with traditional fluorescent and halogen light sources, LED-based phototherapy provides higher irradiance stability, reduced thermal output, lower energy consumption, and improved device durability. Emerging evidence suggests that optimized phototherapy delivery—including reduced lamp-to-infant distance, maximization of skin exposure, and continuous irradiance monitoring—can significantly enhance bilirubin photo-isomerization and shortern treatment duration. Furthermore, recent implementation studies evaluating the updated AAP guideline demonstrate a reduction in phototherapy utilization without compromising neonatal safety. Despite technological progress, variability in clinical practice persists, particularly among trainees and early young clinicians. Educational strategies, mentioning the precise cut off of bilirubin for starting and stopping phototherapy and furthur out paitient follow up are the important matters which we will explain in details. protocol-driven management, and simulation-based training shown to improve evidence-based phototherapy practices. Modern phototherapy technologies with updated guideline clinical decision making and structured education improve outcomes and optimize management. References American Academy of Pediatrics. Management of Hyperbilirubinemia in the Newborn Infant ≥35 Weeks of Gestation. Pediatrics. 2022. Maisels MJ, McDonagh AF. Phototherapy for Neonatal Jaundice. New England Journal of Medicine. Fanaroff and Martin's Neonatal-Perinatal Medicine, 12th Edition. Nelson Textbook of Pediatrics, 22nd Edition – Chapter: Neonatal Hyperbilirubinemia. Olusanya BO et al. Management of Neonatal Hyperbilirubinemia: Global Perspectives. Lancet Child & Adolescent Health. Review Article: "Light on Phototherapy—Complications and Strategies for Shortening Duration." 2023 Intensive phototherapy, Hyperbilirubinemia, Neonatal manegement, Bilirubin Threshold, Guidlines

A 24-month-old girl with a history of severe hypertension and palpitations referred to our clinic for further evaluation and identification of a possible cause, due to unsatisfactory blood pressure control: a challenging diagnostic case

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neonatology

abstract: Ataei Neamatollah, MD, Pediatric Nephrologist, Pediatric Chronic Kidney Disease Research Center, Tehran University of Medical Sciences. Aghaei Moghadam Ehsan MD, Associate Professor of Pediatric Cardiology, Tehran University of Medical Sciences. Hekmati Pooya MD, Associate Professor of Pediatric Urology, Tehran University of Medical Sciences Ataei FatemehMD, Assistant Professor of Nuclear Medicine, Department of Radiology , University of Texas Health, San Antonio Correspondence to: Ataei Neamatollah MD, Pediatric Chronic Kidney Disease Research Center, Tehran University of Medical Sciences, Email: ataei_nm@yahoo.com Abstract Background: Although renovascular hypertension (HTN) is a rare condition, it accounts for 5% to 10% of HTN cases in children. It is a potentially treatable cause of HTN and is frequently caused by renal artery stenosis (RAS). Fibromuscular dysplasia (FMD) is the most common cause of RAS in children. Mid-aortic syndrome (MAS), Takayasu arteritis, neurofibromatosis type 1 (NF1), Williams syndrome, Tuberous sclerosis, and other forms of vasculitis follow in terms of prevalence. Patients with renovascular HTN may be asymptomatic or present with nonspecific symptoms associated with end-organ damage. In adults, RAS is primarily caused by aortic atherosclerosis. In pediatric patients, isolated branch RAS is more common RAS can be diagnosed using various imaging modalities such as Angiography, Doppler ultrasound (USG), Computed tomography angiography (CTA), and Magnetic resonance angiography (MRA). However, its diagnosis can sometimes be challenging. In this study, we report a diagnostically challenging case involving a twenty-four -month-old girl with severe HTN secondary to RAS. Case Presentation: A 24-month old girl with history of palpitations accompanied by intermittent episodes of decreased consciousness after a 2-week hospitalization in a hospital in one of the provinces (with a diagnosis of asthma and allergies) and a 10-day hospitalization in a hospital in Tehran due to severe HTN (BP= 170/70) and some imaging studies, including a DMSA scan of the kidneys and a recommendation to perform CTA of the kidneys based on the color Doppler ultrasound report, after discharge from the hospital with a diagnosis of dilated cardiomyopathy, referred to our clinic. Renal ultrasonography showed mildly increased echogenicity in both kidneys. The right kidney (RK) measured 78 mm with preserved cortical thickness (10 mm),

whereas the left kidney(LK) was reduced in size (52 mm), mildly atrophic, and exhibited decreased cortical thickness (8 mm).No evidence of hydronephrosis or nephrolithiasis was observed. Renal scintigraphy revealed markedly asymmetric renal function, with 93.15% differential function in the RK and 6.85% in the LK. Dimercaptosuccinic acid (DMSA) imaging confirmed significant cortical volume loss and reduced size of the LK (Figure 1). Echocardiography findings were as follows: Severe global LV myocardial systolic and diastolic dysfunctions/ LV globular deformation/ severe MR (the occurrence of cardiomyopathy due to high BP). Computed tomography angiography (CTA) showed a normally positioned right renal artery with normal diameter. The left renal artery was visualized only at its origin, with severe proximal stenosis resulting in non-visualization of the remainder of the vessel. The patient was subsequently admitted to the Children's Medical Center , where CTA findings were confirmed, establishing the diagnosis of severe left RAS. Treatment options for RAS depend on the location, severity, and underlying abnormality of the condition. Nephrectomy in hypertensive pediatric patients with a unilateral poorly functioning or non-functioning kidney yielded HTN resolution in 67%. Given the alternative of lifelong antihypertensives with the risk of medication non-compliance and side-effects, nephrectomy is a logical option of care which can be offered to patients and families with informed knowledge of the potential for cure. Given the presence of a nonfunctional left kidney, severe left RAS and refractory HTN, the patient underwent left nephrectomy. Postoperatively, her HTN and tachycardia resolved, and her overall clinical status improved substantially within several weeks. Restoration of appetite was followed by a marked acceleration in both height and weight gain. Conclusions: This case highlights the critical importance of early recognition and comprehensive evaluation of severe HTN in pediatric patients. RAS, although uncommon in early childhood, should be considered in young patients presenting with severe or refractory HTN. Timely diagnosis and appropriate intervention—including nephrectomy in cases of a non-functional unilateral kidney with severe vascular damage—can lead to significant clinical improvement and favorable long-term outcomes. Enhanced clinical awareness of RAS in the pediatric population is essential for preventing complications and optimizing patient prognosis.

Antimicrobial Prescription and Resistance in Iran: An Update

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neonatology

abstract: Antimicrobial resistance (AMR) is a major public health threat in Iran, driven in part by high antimicrobial consumption, extensive empirical prescribing, and limited diagnostic support. Data from the Global Point Prevalence Survey (Global-PPS) and related Iranian studies show that antimicrobial use is particularly intense in pediatric and neonatal wards, where prescribing patterns frequently diverge from optimal stewardship principles. In Sanandaj, Western Iran, the Global-PPS conducted in 2019 showed that 74.9% of admitted pediatric patients received at least one antimicrobial, compared with 56.9% in Southeast Asian hospitals and 28.6% in European hospitals; all antimicrobials in Sanandaj were prescribed empirically, and prolonged surgical prophylaxis was common. The most frequently used agents in children were ceftriaxone, while neonates commonly received ampicillin, often in combination with cefotaxime. Importantly, 83.0% of prescribed agents were classified as Watch antibiotics, underscoring a substantial risk of selection pressure for resistance. Earlier work from Iran is consistent with these findings. In two Iranian teaching hospitals, Dr. Jafar Soltani and colleagues reported that 61% of pediatric inpatients and 71% of neonates received at least one antimicrobial, with very high rates of combination therapy, parenteral administration, and empirical treatment. Ceftriaxone and vancomycin were the most frequent pediatric agents, while ampicillin and cefotaxime predominated in neonates. In a broader point prevalence study of Sanandaj hospitals, the same research group documented poor quality indicators of antibiotic prescribing, including low documentation of indication and stop/review dates, limited use of microbiological evidence, and minimal reference to hospital guidelines. These features collectively reflect a health-care environment where antibiotics are often used pre-emptively rather than in a targeted manner. Resistance data from Iranian clinical settings further reinforce the stewardship challenge. In a surveillance study of gram-negative healthcare-associated infections in Sanandaj, imipenem and ciprofloxacin retained the best activity, whereas resistance to ampicillin and cephalothin was high; the burden of multidrug-resistant pathogens and the associated mortality were concerning. Together, these findings indicate that resistance is not only a microbiological problem but also a systems problem shaped by prescribing behavior, diagnostic capacity, and policy implementation. Overall, the Iranian experience suggests that high antimicrobial use, heavy reliance on broad-spectrum agents, and weak prescription quality indicators are key drivers of AMR. The Global-PPS framework has been valuable for benchmarking Iran against international hospitals and identifying local targets for improvement. Priority interventions should include hospital antimicrobial stewardship programs, stricter control of Watch antibiotics, better access to microbiologic diagnostics, regular audit-and-feedback, and targeted training for prescribers, particularly in pediatrics and neonatology. These measures are essential to curb unnecessary antimicrobial exposure and slow the advance of AMR in Iran. The main barriers in Iran are limited

laboratory capacity, heavy reliance on empirical prescribing, easy access and low cost of antimicrobials, and weak regulatory separation between prescription-only and over-the-counter antibiotic use. In pediatric settings, these problems are compounded by insufficient stewardship infrastructure, limited pediatric-specific guidance, and inconsistent training and support for prescribers. Core barriers • Lack of timely microbiology and diagnostic support, which pushes clinicians toward empiric broad-spectrum therapy rather than targeted treatment. • Economic and access factors, including the low cost and easy availability of antibiotics, which make unnecessary use more likely. • Regulatory gaps, especially poor enforcement of prescription control for antimicrobials. • Weak stewardship structures in hospitals, including limited multidisciplinary support, audit-and-feedback, and local protocols for children. • High diagnostic uncertainty in pediatrics, where nonspecific symptoms often lead to precautionary antibiotic use. Iran-specific pediatric context Evidence from Sanandaj shows that pediatric antimicrobial use is high and largely empirical, which makes stewardship harder to implement in practice. The same Global-PPS-related work highlights that children may be overlooked in hospital stewardship efforts because they represent a smaller share of admissions, yet they often receive a disproportionate amount of antibiotics. In Dr. Jafar Soltani's Iranian hospital studies, high rates of cephalosporin and vancomycin use, frequent combination therapy, and limited documentation of indication or stop dates suggest that stewardship barriers are not only structural but also behavioral. Practical implications The literature points to three high-yield solutions: strengthening laboratory capacity, building pediatric-focused stewardship programs, and improving education for prescribers and families. In Iran, these steps should be paired with stricter antibiotic regulation and hospital leadership support, because stewardship programs fail when diagnostics, policy, and clinical culture are misaligned.

Approach to Hydrops fetalis neonate

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neonatology

abstract: قبل از زایمان جنین با سابقه هیدروپس؛سونوگرافی جنین جهت تشخیص پلورال افیوژن ، آسیت و میزان آن شود. بی خطر کراس ماچ شده با مادر و دو کاتتر جهت کاتتر شریان و ورید نافی Packed cell وسایل لازم توراکوسنتز،پاراسنتز،خون احیا صورت گیرد.در صورت عدم اتساع مناسب ریه ضمن ونتیلیشن NRP آماده باشد.بعد از زایمان در صورت ضرورت طبق برنامه با بگ به فکر توراکوسنتز و پاراسنتز بود و در صورت ضرورت انجام شود.توصیه می شود موقع پاراسنتز مراقب آسیب به کبد و cc/Kg به احیا جواب مناسب نمی دهند که در این صورت تزریق خون 30%-35%طحال بزرگ نوزاد بود. نوزادان با هماتوکریت پر خون در اکوکاردیوگرافی به جای تزریق خون ؛تعویض خون به IVC بالا یا CVP انجام شود.در صورت 15 Packed cell انجام شود.در این فرم تعویض خون از طریق ورید نافی cc/Kg 80-50 Packed cell با (Isovulometric) صورت پارشیال دریافت خون کامل نوزاد صورت می گیرد.بدین طریق cc/kg/min 4-2 پک سل و از طریق شریان نافی cc/kg/min 4-2 تزریق در صورتیکه هماتوکریت .ضمن بالا بردن هماتوکریت نوزاد از نارسائی قلبی ناشی از تزریق خون به نوزاد آنمیک جلوگیری می شود cc/Kg 80-50 Packed cell با همان (Isovulometric) نوزاد هیدروپسی کمتر از ۳۰ ٪ است نیاز به تعویض خون پارشیال در این بیماران آلبومین اصولا پائین می باشد ولیکن اکثرا نیاز به تزریق آلبومین پیدا نمی کنند.تزریق مایع در این بیماران .می باشد تجویز شود.وزن نوزاد با توجه به تجمع مایع در نوزادان هیدروپس ۵۰٪ بر اساس پرسنتایل cc/kg/day 60- 40 محدود و حدود پیدا می کنند. به FFP وزن نسبت به سن حاملگی محاسبه شود.در این بیماران اختلال انعقادی شایع است که گاه نیاز به تزریق خودداری نمود.این بیماران در خطر هیپوگلیسمی هستند که لازم است FFP شدن نوزاد از تزریق اضافه Over load دلیل خطر از این جهت تحت نظر باشند.سورفاکتانت پائین این نوزادان گاه نیاز به تجویز پیدا می کند.توصیه می شود با درمان اسیدوز و هیپوکسی از پولمونری هیپرتنشن این بیماران نیز جلوگیری کنیم.

Avoiding False Diagnosis and missing of Coronary Artery Abnormalities in Children with Suspected Kawasaki Disease and MIS-C: The Importance of Comprehensive Echocardiographic Assessment

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neonatology

abstract: Avoiding False Diagnosis and missing of Coronary Artery Abnormalities in Children with Suspected Kawasaki Disease and MIS-C: The Importance of Comprehensive Echocardiographic Assessment Background: Coronary artery assessment is the cornerstone of echocardiographic evaluation in children with suspected Kawasaki disease (KD) and Multisystem Inflammatory Syndrome in Children (MIS-C). Inaccurate imaging may lead to false-positive diagnoses of coronary ectasia or aneurysm, while incomplete evaluation may result in missed lesions with potentially serious consequences. Objective: To emphasize the importance of meticulous, multi-view echocardiographic assessment of the coronary arteries in children with suspected KD or MIS-C. Discussion: Coronary arteries should be evaluated systematically from multiple acoustic windows, including parasternal short-axis, parasternal long-axis, apical, and high parasternal/suprasternal views whenever necessary. Careful optimization of imaging planes, gain settings, and Doppler interrogation helps distinguish true coronary dilation from imaging artifacts caused by oblique sections, tangential insonation, or surrounding structures. Likewise, incomplete visualization of distal coronary segments may overlook focal ectasia or aneurysms. Accurate measurement according to standardized Z-scores and correlation with clinical findings are essential to avoid both overdiagnosis and underdiagnosis. Conclusion: A comprehensive and patient echocardiographic examination using multiple imaging windows significantly improves diagnostic accuracy in KD and MIS-C. Standardized coronary imaging protocols should be emphasized in pediatric echocardiography to reduce diagnostic errors and optimize patient management.

Beyond the Score: Do's and Dont's in Developmental Screening Using ASQ-3

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abstract: Abstract The ASQ-3 is a practical developmental screening tool with high specificity but limited sensitivity (approximately 55–70%) in low-risk populations, resulting in significant false negatives. Thus, passing the ASQ-3 does not guarantee typical development. To identify at-risk children who screen negative, clinicians must integrate complementary strategies: monitoring qualitative red flags (e.g., loss of skills, poor eye contact, lack of pointing), taking parental concerns seriously, tracking declining domain-specific trends across repeated administrations, and conducting qualitative caregiver interviews beyond standardized responses. Suspicious cases warrant referral to precise diagnostic tools like Bayley-III, while individual factors (cultural context, illness, practice opportunities) must be considered to avoid misinterpretation. Ultimately, the ASQ-3 serves as a first-tier filter, not a diagnostic endpoint, and its limitations should be compensated through clinical judgment and developmental surveillance to minimize missed cases and ensure timely intervention.

Bloody Stool in Newborns: What Healthcare Providers Need to Know

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abstract: Bloody stool (hematochezia) in newborns is an alarming clinical finding that often causes significant anxiety for both parents and healthcare providers. Although many cases are benign and self-limiting, rectal bleeding may also be the first manifestation of a life-threatening gastrointestinal or systemic disorder. Therefore, every episode of bloody stool in a neonate warrants a careful and systematic evaluation. The clinician's primary responsibility is to distinguish infants who require urgent intervention from those with benign conditions that can be managed conservatively. The differential diagnosis depends on the infant's gestational age, overall clinical appearance, feeding history, and associated symptoms. Among healthy term infants, the most common causes include anal fissure, swallowed maternal blood, and food protein-induced allergic proctocolitis (FPIAP). In contrast, preterm or ill-appearing neonates require immediate evaluation for more serious conditions such as necrotizing enterocolitis (NEC), intestinal obstruction, volvulus, sepsis, or coagulation disorders. A thorough history is the cornerstone of diagnosis. Important questions include the infant's age at symptom onset, gestational age, birth history, type of feeding, administration of vitamin K after birth, maternal nipple trauma during breastfeeding, family history of allergy or bleeding disorders, and the presence of associated symptoms such as fever, vomiting, abdominal distension, poor feeding, or lethargy. The characteristics of the bleeding should also be clarified, including whether the blood is bright red, mixed with stool, associated with mucus, or appears as melena. Physical examination begins with an assessment of the infant's general condition. A well-appearing newborn with normal feeding and stable vital signs is less likely to have a surgical emergency. Conversely, abdominal distension, bilious vomiting, apnea, hypotension, temperature instability, or poor perfusion should immediately raise suspicion for NEC or intestinal obstruction. Examination of the perianal region is essential because a small anal fissure is a frequent and often overlooked cause of rectal bleeding. Abdominal tenderness, hepatosplenomegaly, or signs of systemic illness should also be carefully evaluated. Swallowed maternal blood is an important benign cause during the first few days of life. Blood may be ingested during delivery or breastfeeding from cracked maternal nipples. When the diagnosis is uncertain, the Apt-Downey test can differentiate maternal blood from neonatal blood by identifying fetal hemoglobin. Recognition of this condition prevents unnecessary investigations and hospitalization. Food protein-induced allergic proctocolitis is another common cause in otherwise healthy infants. It usually presents during the first months of life with small amounts of bright red blood mixed with mucus in the stool while the infant continues to feed well and gain weight appropriately. The condition is most commonly triggered by cow's milk protein. Management consists of eliminating cow's milk protein from the maternal diet in breastfed infants or switching to an extensively hydrolyzed formula in formula-fed infants. Clinical improvement is generally observed within several days. Necrotizing enterocolitis remains the most important diagnosis not to miss, particularly in premature infants. Bloody stool may be accompanied by

feeding intolerance, abdominal distension, lethargy, apnea, temperature instability, and signs of sepsis. Abdominal radiographs demonstrating pneumatosis intestinalis strongly support the diagnosis. Early management includes bowel rest, gastric decompression, intravenous fluids, broad-spectrum antibiotics, close monitoring, and prompt consultation with pediatric surgery when indicated. Laboratory investigations should be tailored to the clinical presentation. A complete blood count, platelet count, coagulation profile, C-reactive protein, blood culture, and abdominal radiography are commonly performed in ill-appearing infants. Abdominal ultrasonography may provide additional information in selected cases, particularly when intestinal obstruction or volvulus is suspected. Healthcare providers should remember several important clinical pearls. First, not every episode of neonatal hematochezia indicates a serious disease; however, every case deserves careful assessment. Second, the infant's overall clinical appearance is often more informative than the quantity of blood observed. Third, NEC should always be considered in premature infants presenting with bloody stool. Finally, a meticulous history and physical examination frequently establish the diagnosis without the need for extensive investigations. In conclusion, bloody stool in newborns represents a broad spectrum of disorders ranging from benign conditions to life-threatening neonatal emergencies. A structured clinical approach based on the infant's appearance, detailed history, focused examination, and appropriate diagnostic testing allows clinicians to identify serious disease promptly while avoiding unnecessary interventions in healthy infants. Early recognition and timely management remain essential for improving neonatal outcomes.

Book therapy backpack: A new solution in mobile book therapy to reduce anxiety in hospitalized children

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neonatology

abstract: محیط بیمارستان برای کودکان منبع استرس و اضطراب است که می تواند فرایند درمان را مختل کند. محدودیت های حرکتی و پروتکل های بهداشتی، دسترسی کودکان بستری به کتابخانه های ثابت را دشوار می سازد. طرح کوله کتاب درمانی با هدف انتقال کتاب درمانی و بازی درمانی از انتهای راهروهای به بالین کودک، به دنبال کاهش اضطراب بستری و تسهیل همکاری بستری .کودک با کادر درمان است. این طرح با رویکردی کم هزینه و عملیاتی، شعار کتابخانه در کنار تخت را محقق می سازد شدن در بیمارستانتجربه ای تنش زا برای کودکان است. جدایی از محیط خانه ، ترس از اقدامات پزشکی و محدودیت های فیزیکی، همگی منجر به افزایش سطح اضطراب می شوند. در ساختار فعلی اکثر بیمارستان های مجهز، اتاق بازی یا کتابخانه اطفال در نقاط ضعف جسمانی شدید ناشی از - .پایه سرم و مانیتورینگ - :ثابتی تعبیه شده است. اما چالش اصلی به تجهیزات پزشکی مانند قادر به ترک از تخت و بهره مندی از این فضاها نیستند. در نتیجه، دقیقا در زمانی که کودک به لحاظ روانی بیشترین نیاز .بیماری طرح کوله کتاب درمانی یک مدل عملیاتی از .را به مداخله دارد، دسترسی او به ابزارهای سرگرم کننده و درمانی قطع می شود کتابخانه سیار شخصی است. در این طرح، مجموعه ای برگزیده از کتاب های داستانی با رویکرد کتاب درمانی و ابزارهای متناسب با سن کودک در یک کوله پشتی اختصاصی قرار می گیرد. این کوله نه یک وسیله دکوری، بلکه یک ابزار بالینی در دست کادر کوله کتاب درمانی پاسخ خلاقانه به یک نیاز زمین مانده در نظام سلامت .درمانی است که مستقیما به بالای سر بیمار منتقل می شود اطفال است. این طرح با ساده سازی دسترسی به منابع فرهنگی و تفریحی، عدالت در سلامت روان را برای کودکان بدحال تر که توان خروج از تخت را ندارند، برقرار می کند. با توجه به هزینه پایین و قابلیت تکثیر سریع، این طرح پتانسیل تبدیل شدن به یک کیانمهر، شیبا و صدیقه محمداسماعیل (۱۴۰۳). اطلاع درمانی. - .پروتکل ملی در تمامی بیمارستان های اطفال کشور را داراست تهران: دانش شناس

Cardiac Involvement and Arrhythmias After Electrical Shock in Children

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neonatology

abstract: Electrical injuries are a significant cause of accidental trauma in children and may result in serious cardiovascular complications despite the absence of extensive external burns. The pediatric heart is particularly susceptible to the effects of electrical current, which can disrupt normal cardiac conduction, induce myocardial injury, and precipitate life-threatening arrhythmias. The severity of cardiac involvement is influenced by multiple factors, including voltage, type of current, duration of exposure, resistance of tissues, and the pathway of the current through the body. Cardiac complications range from transient electrocardiographic abnormalities to ventricular arrhythmias, myocardial dysfunction, and sudden cardiac arrest. Although delayed cardiac events are uncommon, careful risk stratification is essential to identify children who require prolonged observation and cardiac monitoring. Electrocardiography remains the cornerstone of the initial evaluation, while continuous cardiac monitoring, cardiac biomarkers, and echocardiography should be reserved for patients with high-risk features, including loss of consciousness, documented arrhythmias, high-voltage exposure, transthoracic current pathways, or abnormal clinical findings. Recent evidence supports a selective approach to cardiac monitoring based on clinical risk factors, minimizing unnecessary hospitalization while ensuring patient safety. Prevention remains fundamental and requires increased public awareness, childproofing of home environments, and adherence to electrical safety standards.

challenges of picc use in infants

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neonatology

abstract: PICC use in infants remains essantial for delivering complex therapies but is accompanied by significant technical and clinical challenges. Implementing evidence-based insertion techniques, standardized care protocols, and multidisciplinary expertise can minimize complications and improve vaşcular access outcoms. Further high-quality reserch is needed to strengthen evidence for best practices and optimize PICC care in this vulnerable population.

Clinical Localization in Acute Flaccid Paralysis of Children

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neonatology

abstract: Acute flaccid paralysis (AFP) is a neurological emergency in childhood that encompasses a heterogeneous group of disorders involving the central and peripheral motor pathways. Prompt recognition and accurate anatomical localization are essential, as management, prognosis, and urgency of intervention vary considerably among different etiologies. Rather than focusing solely on individual diseases, an organized localization-based clinical approach enables pediatricians to rapidly narrow the differential diagnosis and initiate appropriate investigations and treatment. The evaluation of a child with AFP begins with confirmation of true muscle weakness and exclusion of non-neurological causes of hypotonia. The first diagnostic step is to localize the lesion along the motor pathway: cerebral cortex, brainstem, spinal cord, anterior horn cell, peripheral nerve, neuromuscular junction, or muscle. Neurological examination remains the cornerstone of localization, emphasizing the pattern of weakness (symmetric versus asymmetric, ascending versus descending, proximal versus distal), muscle tone, deep tendon reflexes, cranial nerve involvement, sensory deficits, sphincter dysfunction, and respiratory muscle weakness.. By emphasizing localization before disease labeling, this approach enhances diagnostic accuracy, reduces unnecessary investigations, and supports timely evidence-based therapeutic
Keywords:Acute flaccid paralysis (AFP); Localization; Differential diagnosis; children

Comparative Analysis of Neonatal Jaundice Screening and Measurement Methods: From Classical Approaches to Non-Invasive Methods

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neonatology

abstract: Comparative Analysis of Neonatal Jaundice Screening and Measurement Methods: From Classical Approaches to Non-Invasive Methods. Maryam Saeedi, Children Medical Center, Pediatric Center of Excellence, Tehran University of Medical Science, Tehran, Iran Background Neonatal jaundice, caused by hyperbilirubinemia, remains one of the most common clinical conditions requiring medical attention in newborns. accurate measurement of bilirubin levels is critical to prevent bilirubin -induced encephalopathy. This review aims to evaluate and compare traditional methods and non-invasive technologies for assessing neonatal bilirubin levels. Methods: We reviewed the literature for comparing traditional invasive methods, specifically Total Serum Bilirubin (TSB) measurement via venipuncture, with modern non-invasive modalities. These modern approaches include transcutaneous bilirubin(TCB), smartphone -based digital image processing, spectrophotometric analysis of skin/sclera, and machine learning-driven predictive models. Results: While TSB remains the gold standard for clinical decision-making due to its high accuracy, it is invasive, painful, and associated with latency in obtaining results. Visual assessment using Kramer's rule is subjective and highly unreliable, particularly in infants with darker skin pigmentation. In contrast TCB offers a rapid, reliable, and pain-free screening tool, though its accuracy decreases at high bilirubin levels (15 mg/dL) and during and until 48 hours after phototherapy. Recent innovations, particularly smartphone applications utilizing calibration cards and convolutional neural networks (CNNs), demonstrate high correlation with TSB(r0.85), offer promising and low-cost screening options. Conclusion: Transitioning from traditional invasive methods to modern non-invasive technologies significantly reduces neonatal pain and healthcare costs. Although TSB is still indispensable for confirming critical hyperbilirubinemia, non -invasive method can play an important role in screening protocols and prevent delayed treatment. Keywords: Neonatal Jaundice, Total Serum Bilirubin (TSB), Transcutaneous Bilirubin (TCB).

Comparative analysis of outcomes of one stage versus staged surgical repair in esophageal atresia: an audit from a tertiary pediatric center in low resources country

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neonatology

abstract: Background: Esophageal atresia (EA) is a life-threatening congenital anomaly requiring surgical repair. The choice between primary (one-stage) and staged repair remains debated, particularly in neonates with long-gap EA or comorbidities. Evidence from resource-limited settings is scarce. Methods: We retrospectively reviewed 115 neonates with EA who underwent surgical repair at Motahari Pediatric Hospital, Iran (2017-2024). Patients were classified into one-stage or staged repair groups. Demographics,...

Comparison of outcomes between thoracostomy and non-thoracostomy management in patients undergoing esophageal atresia surgery: a retrospective study in a tertiary care center (2018–2021

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neonatology

abstract: Background: Esophageal atresia (EA) is a rare yet critical congenital anomaly requiring prompt surgical intervention. The necessity of routine chest tube placement during EA repair remains controversial, particularly in neonates vulnerable to procedure-related complications. This study aimed to evaluate clinical outcomes associated with thoracostomy versus non-thoracostomy management in neonates undergoing EA repair. Methods: In this retrospective descriptive-analytical study, 79 neonates treated

Comparison of outcomes between thoracostomy and non-thoracostomy management in patients undergoing esophageal atresia surgery: a retrospective study in a tertiary care center (2018–2021

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neonatology

abstract: Background Esophageal atresia (EA) is a rare yet critical congenital anomaly requiring prompt surgical intervention. The necessity of routine chest tube placement during EA repair remains controversial, particularly in neonates vulnerable to procedure-related complications. This study aimed to evaluate clinical outcomes associated with thoracostomy versus non-thoracostomy management in neonates undergoing EA repair. Methods In this retrospective descriptive-analytical study, 79 neonates treated for EA at Shahid Motahari Pediatric Hospital (Urmia, Iran) between 2018 and 2021 were included. Patients were categorized into thoracostomy (n = 27) and non-thoracostomy (n = 52) groups. Data on demographics, ventilation duration, NICU stay, postoperative pneumonia, pneumothorax, and mortality were analyzed using univariate and multivariate statistical methods. Results Baseline characteristics were comparable between groups. The thoracostomy group exhibited significantly longer NICU stays [median (IQR) 20 (12–31) vs. 13 (9–20) days; p = 0.022] and higher pneumothorax incidence (40.7% vs. 3.8%; p 0.001). Mechanical ventilation duration showed a non-significant trend toward longer duration in the thoracostomy group [median (IQR) 6 (4–12) vs. 4 (2–8) days; p = 0.053]. No significant differences were observed in pneumonia rates (11.1% vs. 11.5%; p = 0.947) or mortality (22.2% vs. 25.0%; p = 0.508). Multivariate logistic regression identified thoracostomy as a strong independent predictor of pneumothorax (adjusted OR = 22.56; 95% CI: 4.19- 121.39; p 0.001), with no significant association with pneumonia or mortality. Conclusions Routine chest tube placement in neonatal EA repair was associated with increased morbidity, particularly higher pneumothorax risk and prolonged NICU stay, without benefits in preventing pneumonia or reducing mortality. These findings argue against routine use and support a selective, individualized approach. Prospective multicenter studies are needed to establish evidence-based guidelines for thoracostomy in this high-risk population.

Cranberries for preventing UTI: Does it really work?

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neonatology

abstract: Background: Cranberries contain flavonoid with antioxidant and anti-inflammatory properties called proanthocyanids (PAC), which make it harder for E. coli and other bacteria to stick to the lining to the bladder. This anti-adherence effect may be fructose, which could interfere with adhesion of type 1 fimbriated E. coli to uroepithelium. For years, there have been several opinions regarding the use of its natural or pharmaceutical forms (tablet, syrup) to prevent or treat urinary tract infections. methods: This review study detailed the effects Cranberries for UTI prevention especially in recurrent UTIs. A comprehensive search in the PubMed, Scopus, and Google Scholar databases for English studies was con - ducted using keywords selected based on the MeSH pattern, including “Cranberry, Cystitis, UTI”. This research focused on review or clinical trials studies from 1995 to 2025. Results: I found 32 published English studies. As I found a 2024 series of 10 clinical trials, that using cranberry supplements daily and continually for 3-6 months. reduced the risk of UTIs. Although in 2016 clinical trials just recommended taking 36 mg of PAC per day for seven days for preventing UTIs. In a meta-analysis of 5 studies with about 500 children, cranberry products reduced the incidence of recurrent UTI compared with placebo (15 versus 34 percent; relative risk 0.46). Just in one uncontrolled study, more than 50% of their patients, who were all adults, had a significant decrease in UTI recurrence after drinking 450 mL of cranberry juice daily for 3 weeks. In the other hand, there was 10 studies, with more than 2160 participants, which they found no clear relationship between compliance with cranberry usage and the risk for repeat UTIs. In some reviews, cranberry juice provided better results in preventing urinary tract infections compared to its products, although updated studies suggest equal effect. I personally prefer cranberry supplements, because cranberry juice is acidic and has a high sugar, which could cause an upset stomach, and we can’t make sure it’s 100% cranberry juice or how much PAC does it have in each ml of juice. In addition, most articles mention caution in prescribing or prohibiting the use of cranberries in any form of it, in patient with kidney stones, Diabetes, high cholesterol, Interstitial cystitis, GI issues like irritable bowel syndrome (IBS), and has also interaction with some drugs such as proton pomp inhibitors. Conclusions: The overall clinical trials suggest cranberry to decrease the frequency of UTI, particularly cystitis in females without any underlying urologic or immunodeficiency abnormalities. There is no standard dose for cranberry, but due to my research, I suggest 240 mL glass of pure cranberry juice once or twice daily, if it is possible for patient, or cranberry supplements 500-1000 mg daily dose for about 6 months. Over all I believe, Cranberry won’t hurt, but it may help. Key words: Cranberries, UTI, Cystitis

Diagnosis of Vesicoureteral Reflux (VUR)

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neonatology

abstract: Diagnosis of Vesicoureteral Reflux (VUR) Seyed Taher Esfahani, MD, Professor of Pediatric Nephrology, Tehran University of Medical Sciences Imaging modalities that are used to diagnose VUR include: 1-Voiding Cystourethrography (VCUG): VCUG is the gold standard diagnostic tool for VUR. Here, contrast is instilled via a urethral catheter and x-rays taken as the bladder fills and empties so as directly visualize retrograde flow of urine during bladder filling and/or micturition; additional bladder and urethral views are also obtained 2-PIC Technique (Positioning Instillation of Contrast at the ureteral orifice): PIC is a novel but controversial technique to identify VUR .Is used for detection of VUR in patients with febrile UTIs but a normal VCUG. Contrast is instilled under low pressure through a ureteral catheter directly toward the ureteral orifice under direct cystoscopic vision and simultaneous fluoroscopy. This modality is a last resort due to requirement of a general anesthetic. Of note, if VUR is identified, it can be treated endoscopically under the same general anesthetic. 3-Direct Radionuclide Cystogram (RNC): RNC is an alternative for diagnosis of VUR. Instead of contrast, a radionuclide tracer is instilled into the bladder and imaged with a gamma camera. Compared with VCUG, RNC involves less radiation exposure but also provides less anatomic detail. 4-Indirect Radionuclide Cystogram: IRC is performed by injecting 99mTc- mercaptuacetyltriglycine (MAG3) IV, then acquiring continuous dynamic images of the kidney and bladder during bladder filling and voiding. The patient must be able to remain still during imaging and to void on command after bladder filling. Regions of interest are drawn over the intrarenal collecting systems and the ureters, and time-activity curves are plotted. A sudden increase in activity in the renal pelvis and ureter indicates the presence of VUR. 5-Contrast-Enhanced Voiding Urosonography: Contrast-enhanced voiding urosonography is another, less frequently used imaging modality that is described to directly visualize VUR. The exam utilizes ultrasonographic visualization of contrast instilled into the bladder and has the advantage of avoiding radiation, albeit with a reduced diagnostic accuracy. 6- MR Voiding Cystourethography (MRVCUG): MR cystography involves intravesical administration of gadolinium with imaging using MR during filling and Voiding.

Differential Diagnosis of Pediatrics Asthma

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abstract: Pediatric asthma is a common cause of recurrent wheeze, cough, chest tightness, and shortness of breath, but several other conditions can mimic it. The differential diagnosis depends on age, symptom pattern, triggers, exam findings, and response to bronchodilators. In infants and young children, viral bronchiolitis is a frequent mimic, especially with first-time wheezing after an upper respiratory infection. Foreign body aspiration should be suspected with sudden onset cough or wheeze, asymmetric breath sounds, or poor response to asthma therapy. Upper airway disorders can also present similarly. Allergic rhinitis or Sinusitis with postnasal drips may cause chronic cough, particularly at night. Vocalcord dysfunction may cause episodic dyspnea, throat tightness, and inspiratory noise, often during exercise or stress, and may be mistaken for exercise-induced asthma. Other pulmonary diseases should be considered when symptoms are atypical or severe. Cystic fibrosis may present with chronic cough, recurrent infections, poor growth, and steatorrhea. Primary ciliary dyskinesia can cause chronic wet cough, recurrent otitis media, sinusitis, and neonatal respiratory distress. Bronchiectasis causes chronic productive cough and recurrent infections. Congenital airway abnormalities, tracheomalacia, or bronchomalacia may cause noisy breathing and recurrent wheeze. Gastroesophageal reflux disease can trigger cough or wheeze, especially after feed or when lying down. Cardiac disease, including congenital heart disease or heart failure, may cause tachypnea, poor feeding, sweating, and failure to thrive. Immunodeficiency should be considered with recurrent, severe, or unusual infections. Key clues against simple asthma include poor growth, clubbing, persistent focal chest signs, chronic wet cough, neonatal onset, recurrent pneumonia, or failure to improve with appropriate asthma treatment. Evaluation may include spirometry when age-appropriate, chest imaging, allergy testing, sweat chloride testing, and referral to pediatric pulmonology when red flags are present.

Early Initiation of Enteral Feeding and the Role of Human Milk in Preterm Infants

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abstract: Enteral nutrition is an essential part of the care of preterm infants, and the timing of its initiation can have an important impact on gastrointestinal development, feeding tolerance, growth, and overall clinical outcomes. In the past, enteral feeding was often delayed because of concerns about gastrointestinal immaturity and the risk of necrotizing enterocolitis (NEC). However, more recent evidence suggests that prolonged withholding of enteral feeds is not necessary for clinically stable preterm and very-low-birth-weight (VLBW) infants. When clinically appropriate, early initiation of enteral feeding, particularly with human milk, appears safe and may offer several potential benefits. Early feeding provides nutrients to the developing intestine and may support gastrointestinal maturation by promoting intestinal motility, secretory activity, and mucosal integrity. It may also contribute to the development of a healthier gut microbiome. Another potential advantage is the earlier transition to full enteral feeding, which can reduce the duration of parenteral nutrition (PN). In turn, shorter exposure to PN and central venous catheters may help reduce catheter-related bloodstream infections and other complications associated with prolonged intravenous nutrition. Earlier achievement of full enteral feeding may also lower the risk of parenteral nutrition-associated cholestasis, although direct evidence for a specific protective effect of early enteral feeding on cholestasis remains limited. Some studies have reported a shorter hospital stay with earlier enteral nutrition, but this finding has not been consistent across all studies and is likely influenced by several clinical factors. Among available feeding options, mother's own milk (MOM) remains the preferred source of nutrition for preterm infants and should be provided as early as possible whenever feasible. Human milk contains a variety of bioactive components, including immunoglobulins, lactoferrin, human milk oligosaccharides, growth factors, and immune cells. These components may help maintain intestinal barrier function, modulate the immune response, and support the development of a favorable intestinal microbiome. One of the most consistently demonstrated benefits of human milk feeding is its association with a lower risk of NEC compared with formula feeding. Some studies also suggest that the protective effect may be greater with increasing exposure to human milk. The relationship between human milk feeding and late-onset sepsis is also of particular interest. Although the evidence is not as consistent as that for NEC, several studies suggest that greater exposure to MOM may be associated with a lower risk of sepsis. Human milk feeding may also help infants reach full enteral nutrition earlier and reduce their need for PN, potentially limiting exposure to central venous catheters and PN-related complications. These findings underline the importance of supporting mothers to initiate milk expression early and continue providing MOM throughout the infant's NICU stay. When MOM is unavailable or insufficient, pasteurized donor human milk (DHM) is generally preferred to preterm formula for very preterm and VLBW infants when it is safely available. Evidence suggests that DHM reduces the risk of NEC compared with formula, although

its effect on late-onset invasive infection and mortality appears to be limited or uncertain. Because human milk alone may not provide sufficient protein and minerals for the rapid growth of very preterm infants, appropriate fortification is usually required. Overall, nutritional care in preterm infants should focus on the early and clinically appropriate initiation of enteral feeding, with priority given to MOM and strong, sustained lactation support. When MOM is unavailable, DHM provides an important alternative, particularly for very preterm and VLBW infants. This approach may support gastrointestinal maturation, reduce the risk of NEC, facilitate earlier attainment of full enteral feeding, and potentially decrease PN-related complications. Human milk feeding may also contribute to better long-term outcomes, although further high-quality studies are needed to clarify its causal effects on neurodevelopment.

Endothelial Complications After Hematopoietic Stem Cell Transplantation: Focus on Veno-Occlusive Disease and Engraftment Syndrome

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neonatology

abstract: Abstract Hematopoietic stem cell transplantation (HSCT) is a potentially curative treatment for a wide range of malignant and non-malignant hematological disorders. However, endothelial injury remains a major contributor to early post-transplant morbidity and mortality. Conditioning regimens, immunosuppressive therapies, infections, and alloreactive immune responses can damage the vascular endothelium, triggering inflammatory and prothrombotic pathways that lead to severe transplant-related complications. Among these, hepatic sinusoidal obstruction syndrome/veno-occlusive disease (VOD/SOS) and engraftment syndrome (ES) are two of the most important endothelial disorders encountered after HSCT. VOD/SOS is characterized by sinusoidal endothelial injury resulting in hepatic dysfunction, portal hypertension, fluid retention, and, in severe cases, multiorgan failure. Engraftment syndrome typically occurs during neutrophil recovery and presents with fever, skin rash, capillary leak, pulmonary edema, and varying degrees of organ dysfunction. Early diagnosis is essential to improve patient outcomes and relies on careful clinical evaluation, established diagnostic criteria, laboratory findings, imaging studies, and the emerging use of endothelial biomarkers such as ST2, angiopoietin-2, and soluble thrombomodulin for risk stratification. Prompt recognition enables timely therapeutic intervention, including supportive care, optimization of fluid balance, modification of immunosuppressive therapy when appropriate, corticosteroids for engraftment syndrome, and defibrotide, the only approved endothelial-protective therapy for the treatment of severe VOD/SOS. Advances in understanding endothelial biology have also facilitated the development of novel biomarkers and targeted therapeutic strategies, offering opportunities for earlier intervention, improved prognostic assessment, and better clinical outcomes following HSCT.

Expanded program on Immunization in Iran, Situation report

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neonatology

abstract: Iran's National Immunization Program is one of the country's most significant public health initiatives. Since the 1980s, it has been implemented nationwide through a comprehensive and well-organized healthcare system. The primary objectives of the program are to prevent vaccine-preventable diseases, reduce childhood mortality, and improve population health. Through the expansion of the Primary Health Care (PHC) network, the establishment of rural health houses, and the provision of vaccines free of charge, Iran has become one of the leading countries in the region in the implementation of immunization programs. The Expanded Program on Immunization (EPI) was officially expanded in 1984 with the goal of achieving high vaccination coverage. One of the program's greatest achievements has been maintaining vaccination coverage above 95% for most childhood vaccines. This high level of coverage has resulted in a substantial reduction in the incidence of diseases such as diphtheria, tetanus, pertussis, measles, and poliomyelitis. The program's success has also been supported by free access to vaccines, a robust immunization registration and monitoring system, and the extensive network of healthcare workers throughout the country. According to recent national reports, vaccination coverage is approximately 97%, which has played a pivotal role in controlling vaccine-preventable diseases. Iran is recognized as one of the most successful countries in the region in polio control. No indigenous case of poliomyelitis has been reported for many years. This achievement is the result of high routine immunization coverage, a sensitive epidemiological surveillance system, and the implementation of supplementary immunization activities in border provinces, particularly those neighboring countries where poliovirus transmission has persisted. Nevertheless, the continued circulation of poliovirus in neighboring countries maintains the risk of virus importation, highlighting the importance of sustaining high-quality surveillance and immunization activities. Iran has also achieved remarkable success in measles control and has been officially verified as having eliminated endemic measles. However, sporadic measles cases have continued to occur in recent years, primarily due to importation from neighboring countries, population movement, migration, and the presence of under-vaccinated or unvaccinated populations. Prompt case detection, laboratory confirmation, active surveillance, and timely supplementary immunization activities have effectively prevented large-scale outbreaks. Despite these achievements, Iran's National Immunization Program continues to face several challenges, including increasing migration, population displacement, difficulties in reaching remote and underserved areas, sanctions-related constraints affecting the procurement of certain vaccines and immunization supplies, and the need to maintain public confidence in vaccination. Sustaining high vaccination coverage, strengthening vaccine-preventable disease surveillance, improving the cold chain infrastructure, and enhancing public awareness remain essential to ensuring the long-term success of the program and preventing the re-emergence of vaccine-preventable diseases.

Feeding intolerance in Premature Neonates

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abstract: Feeding intolerance in Premature Neonates Introduction. Feeding intolerance (FI) is defined as difficulty to digest enteral feedings and is accompanied by an increase in gastric residuals, abdominal distension, and/or reflux. FI is very common among preterm infants .Its clinical symptoms include abdominal distension, vomiting, bilious gastric residuals, occult or gross bloody stools, and are observed in nearly 29% of such neonates. The common cause of FI is low intestinal motility because of prematurity. Enzymatic digestion, bacterial colonization, hormonal response, and local immunity are also possible reasons for FI. Risk Factors. Extremely low birth weight, early use of formula feeding, history of resuscitation, 1-minute Apgar ≤7, SGA status, delayed first feeding 72 h, mechanical ventilation/respiratory support , early-onset sepsis (EOS) and low gestational age are major risk factors for FI. FI may be due to: Physiologic Conditions: Gastro esophageal reflux, overfeeding, etc. or Pathologic Conditions: 1-Infection: Septicemia, meningitis, etc.2-Intolerance: Cow's milk protein allergy.3-Central nervous system: Kernicterus, bleeding, etc. 4-Medications: Side effects of caffeine citrate, theophylline, etc. 5-Mechanical: Intestinal obstruction, ileus, necrotizing enterocolitis. 6-Endocrine: Congenital adrenal hyperplasia (rare) Prevention and Treatment. Facilitating breastfeeding and providing lactation; careful titration of feeding volumes; initiating smaller, more frequent feeds; and employing slow feeding techniques are helpful. Interventions such as oral stimulation, non-nutritive sucking (NNS), multimodal oral–sucking–oro-motor training plus routine care, probiotic supplementation, colostrum oral care, and standardized nursing protocols reduce FI. Whenever there are pathologic etiologies (septicemia, necrotizing enterocolitis, etc.), the intended etiology should be treated. Key Words: Feeding intolerance, premature neonates

From imaging to clinic in complicated pediatric chest diseases

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neonatology

abstract: Initial imaging modality in pediatric chest disease is still chest x ray (CXR) followed by ultrasound, in complex cases Computed tomography (CT) is an important imaging modality in the evaluation of pediatric chest diseases, particularly when chest radiography is inconclusive or when detailed anatomical assessment is required. With recent technological advances, CT provides high-resolution images with lower radiation doses, improving diagnostic accuracy while enhancing patient safety. It plays a key role in the assessment of congenital thoracic anomalies, complicated pulmonary infections, airway disorders, interstitial lung diseases, trauma, vascular abnormalities, and thoracic tumors, often influencing clinical management and treatment planning. Accurate interpretation of pediatric chest imaging requires a systematic approach and an understanding of normal developmental anatomy. Careful evaluation of the lung parenchyma, airways, pleura, mediastinum, chest wall, and vascular structures helps ensure a comprehensive assessment and reduces diagnostic errors. Correlation of imaging findings with the patient's age, clinical history, and laboratory results is essential for distinguishing normal anatomical variations from disease. This presentation highlights the major clinical indications for different imaging modalities in pediatric chest diseases and reviews practical tips for image interpretation. It also emphasizes the importance of applying radiation protection principles, particularly the ALARA (As Low As Reasonably Achievable) concept, to optimize image quality while minimizing radiation exposure.

Global prognostic factors for mortality and major postoperative morbidity in neonatal intestinal atresia in the modern surgical era: a systematic review and meta-analysis

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neonatology

abstract: Background Neonatal intestinal atresia remains a significant cause of morbidity and mortality despite advances in neonatal intensive care, anesthesia, and neonatal surgical management. This systematic review and meta-analysis aimed to identify and quantify global prognostic factors associated with mortality and major postoperative morbidity in the modern surgical era. Methods A comprehensive systematic literature review and meta-analysis was conducted in major databases from January 2000 to February 2026. Studies reporting mortality or major morbidity (anastomotic leak, unplanned reoperation, sepsis) after surgical repair of intestinal atresia in neonates were included. Data were pooled using a random-effects model. Sub- group and sensitivity analyses were performed to explore heterogeneity. Certainty of evidence was assessed with GRADE. Results Twenty-one studies comprising 2,040 neonates were included. The pooled mortality rate was 10% (95% CI 5–19%; I^2=84%). Mortality was significantly higher in low- and middle-income countries and African studies (p 0.001). Sensitivity analyses confirmed the robustness of the findings. The pooled unplanned reoperation rate was 15.1% (95% CI 12.7–17.6%; I^2=31%) and anastomotic leak rate was 7.5% (95% CI 4.8–13.0%; I^2=53%). Independent prognostic factors for adverse out- comes included prematurity (OR 4.9), low birth weight (OR 28.27), associated anomalies (OR 35.34), meconium peritonitis (OR 3.29), and surgical technique (primary anastomosis vs. Bishop-Koop). Sensitivity analyses confirmed robustness of the findings. Certainty of evidence was moderate for mortality and high for reoperation. Conclusion In the modern era, mortality after neonatal intestinal atresia repair remains substantial, with marked disparities between high-income and low- and middle-income settings. Key modifiable and non-modifiable prognostic factors were identified that can inform risk stratification and clinical decision-making. Targeted, context-appropriate interventions in resource-limited settings are urgently needed to close the global survival gap

Graft-versus-Host Disease: Classification, Prophylaxis, and treatment

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abstract: Graft-versus-host disease (GVHD) remains one of the principal barriers to successful allogeneic hematopoietic stem cell transplantation (allo-HSCT), significantly contributing to HSCT-related morbidity and mortality. Contemporary NIH consensus criteria have shifted GVHD classification from a purely time-based model to a clinicopathological framework encompassing acute GVHD, chronic GVHD, late acute GVHD, and overlap syndrome, thereby improving diagnostic precision and therapeutic stratification. Advances in prophylactic strategies have transformed clinical practice, with post-transplant cyclophosphamide (PTCy) emerging as a cornerstone for GVHD prevention across haploidentical and HLA-matched transplantation settings by selectively eliminating alloreactive T cells while preserving immune reconstitution. Conventional prophylactic regimens combining calcineurin inhibitors with methotrexate or mycophenolate mofetil continue to play an important role, whereas novel approaches targeting the intestinal microbiome, regulatory T-cell expansion, graft engineering, and biomarker-guided risk stratification are being actively investigated. Although systemic corticosteroids remain the first-line treatment for established GVHD, steroid-refractory disease continues to represent a major therapeutic challenge. Targeted immunomodulatory therapies have substantially expanded the therapeutic armamentarium, including the JAK1/2 inhibitor ruxolitinib, the selective ROCK2 inhibitor belumosudil, and the CSF-1 receptor antagonist axatilimab, all demonstrating meaningful clinical efficacy in refractory chronic GVHD. Extracorporeal photopheresis (ECP) has also emerged as an effective immunomodulatory therapy for steroid-refractory chronic GVHD, promoting immune tolerance through modulation of dendritic cells and expansion of regulatory T cells while minimizing global immunosuppression and infectious complications. Furthermore, mesenchymal stromal cell therapy, adoptive regulatory T-cell transfer, extracellular vesicle-based interventions, and precision immunotherapeutic approaches directed against cytokine signaling and metabolic pathways are under active clinical evaluation. Collectively, the paradigm of GVHD management is evolving from broad immunosuppression toward mechanism-based, biomarker-driven, and personalized therapeutic strategies designed to optimize immune tolerance while preserving the graft-versus-leukemia effect and minimizing long-term treatment-related toxicity.

Growth Follow Up In Children, Health And Growth Monitoring

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abstract: Growth monitoring is a fundamental component of child health care because it enables early detection of nutritional problems, chronic diseases, and developmental risks. Since breastfed infants represent the biological norm for growth, the WHO growth charts are based primarily on healthy breastfed children. Accurate serial measurements and interpretation of growth trends are more valuable than isolated measurements. *Weight Assessment* Weight should be measured using a calibrated electronic scale with an accuracy of 100 g. Infants should ideally be weighed naked, while older children should wear minimal clothing. The weighing environment should be warm and comfortable to reduce distress. Scales must be regularly calibrated and zeroed before each use. For children younger than two years, infant scales are used, and measurements should be taken when the child is calm. Children older than two years can stand independently on a standard scale. Every measurement should be recorded immediately and plotted on the weight-for-age chart in the child's growth record. Weight-for-age is primarily used to identify underweight children. Bilateral pedal edema may mask severe malnutrition by artificially increasing body weight; therefore, such children require careful evaluation and referral. Growth trends are assessed by connecting serial measurements rather than relying on a single point. Children are classified as severely underweight, underweight, at risk of growth problems, or normal according to WHO z-scores. Severe underweight, bilateral edema, mid-upper arm circumference (MUAC) below 115 mm, or associated serious illness requires referral for specialist care. Follow-up intervals depend on age, ranging from 10 days in young infants to one month in older children. *Height (Length) Assessment* Children younger than two years should have recumbent length measured, whereas standing height is used after two years of age. If only one method is possible, a correction of approximately 0.7 cm is applied when converting between standing height and recumbent length. Proper positioning is essential. During recumbent measurement, the head, trunk, legs, and feet must be correctly aligned while gently extending the knees. During standing measurement, the child's heels, buttocks, shoulders, and head should touch the stadiometer, with the head positioned in the Frankfurt plane. Height-for-age reflects cumulative linear growth and identifies stunting resulting from chronic malnutrition or recurrent illness. Children are classified as severely stunted, stunted, at risk, or normal. Persistent short stature requires evaluation of nutritional history, family height, systemic disease, endocrine disorders, thyroid function, laboratory investigations, and bone age. Constitutional growth delay, familial short stature, and endocrine disorders should be differentiated because each has a distinct growth pattern and prognosis. *Weight-for-Height and Body Mass Index (BMI)* Weight-for-height evaluates body proportionality and is particularly useful when age is uncertain. It identifies acute malnutrition (wasting) as well as overweight and obesity. BMI-for-age is calculated by dividing weight (kg) by height squared (m^2) and provides a reliable screening tool for overweight and obesity. BMI should not be calculated in children with

bilateral edema because edema falsely elevates body weight. According to WHO z-scores, children are classified as severely wasted, wasted, normal, at risk of overweight, overweight, or obese. Severe wasting requires urgent referral, while overweight and obesity require comprehensive dietary assessment, physical examination, laboratory evaluation, nutritional counseling, and regular follow-up. *Mid-Upper Arm Circumference (MUAC)* MUAC is a rapid method for identifying acute malnutrition, particularly in children aged 6–59 months. It is measured midway between the acromion and olecranon on the left arm using a non-stretch tape. A MUAC ≥125 mm is normal, 115–124 mm indicates moderate acute malnutrition, and 115 mm indicates severe acute malnutrition requiring urgent management. Duplicate measurements improve accuracy. *Interpreting Growth Indicators* Growth assessment requires simultaneous interpretation of all growth charts rather than reliance on a single index. Children may have normal weight-for-height despite being underweight for age because of chronic stunting. Crossing z-score lines, flattening of growth curves, or rapid upward or downward shifts may indicate nutritional or medical problems, although rapid catch-up growth after illness may represent normal recovery.

Growth Monitoring and Nutritional Supplementation in Preterm Infants

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neonatology

abstract: Preterm infants are at increased risk of growth impairment and nutritional deficiencies due to interrupted fetal nutrient accretion, immature organ function, and high postnatal nutritional demands. Optimal nutritional management requires accurate assessment of growth using appropriate preterm growth references, serial evaluation of weight, length, head circumference, and interpretation of growth trajectories. Adequate provision of energy, protein, and minerals, together with human milk feeding and appropriate fortification, is essential to support optimal growth, body composition, and neurodevelopmental outcomes.Micronutrient supplementation and individualized nutritional strategies remain important components of care during hospitalization and after discharge. Particular attention should be given to metabolic bone disease of prematurity (osteopenia of prematurity), a common complication related to inadequate mineral accretion, which requires early recognition, prevention, and appropriate management. Evidence-based nutritional care tailored to gestational age, clinical condition, growth pattern, and nutrient intake is essential to improve short- and long-term outcomes in preterm infants

Human Milk Fortification in Preterm Infants: Current Evidence and Practical Perspectives

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neonatology

abstract: Human milk is the recommended source of nutrition for preterm infants because of its well-established immunological, gastrointestinal, and neurodevelopmental benefits. However, unfortified human milk alone does not adequately meet the increased nutritional requirements of very preterm and very low birth weight infants, particularly for protein, minerals, and selected micronutrients. Human milk fortification has therefore become an essential component of nutritional care in neonatal intensive care units. This presentation will provide an evidence-based overview of current fortification strategies, including standard, adjustable, and targeted fortification, and discuss recent advances in individualized nutritional support. Contemporary evidence regarding the optimal timing of fortification, the choice between bovine- and human milk-derived fortifiers, growth outcomes, feeding tolerance, and potential effects on neonatal morbidities will be reviewed. Practical recommendations for implementing fortification in routine clinical practice and addressing common controversies will also be presented. By integrating the latest international guidelines and recent clinical evidence, this lecture aims to provide pediatricians with a practical framework for optimizing nutrition and promoting growth and neurodevelopmental outcomes in preterm infants.

Integrated Approach to Exchange Transfusion in Neonates with Immune-Mediated Hemolysis

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neonatology

abstract: Introduction: Hemolytic disease of the newborn due to Rh or ABO incompatibility causes rapid red cell destruction, leading to anemia and severe hyperbilirubinemia. If untreated, bilirubin may cause irreversible neurological injury such as kernicterus. Exchange transfusion is the most effective rescue therapy, but its timing remains challenging. Decision-making based only on bilirubin levels may be insufficient. A combined approach using neurological assessment (BIND score) and bilirubin trends provides better guidance. Diagnosis of immune hemolysis requires blood group incompatibility, laboratory evidence of hemolysis, and a positive direct Coombs test. Methods: Infants are closely monitored with frequent neurological assessments every 15–30 minutes. A score of 0 indicates that continued observation and phototherapy are sufficient. Scores of 1–3 suggest early neurological involvement and require preparation for possible exchange transfusion, especially if bilirubin is rising quickly. Scores of 4–6 indicate the need for urgent intervention, while scores of 7–9 require immediate exchange transfusion. At the same time, bilirubin levels are checked every two hours to monitor trends. A rising or stable level supports proceeding with exchange, while a 10–20% decrease suggests improvement and allows continued monitoring. A drop of more than 20% may allow cancellation of the procedure. Severe anemia or clear neurological signs always require immediate exchange transfusion regardless of bilirubin levels. Intensive phototherapy is continued in all cases, and intravenous immunoglobulin may help reduce hemolysis and the need for exchange. Conclusion: Using a combined approach of neurological assessment and bilirubin trends allows clinicians to make safer and more timely decisions. This strategy helps avoid unnecessary procedures while protecting newborns from the serious effects of bilirubin toxicity. 1. Watchko JF, Kaplan M. Hemolytic disease of the newborn. In: Avery's Diseases of the Newborn. 10th ed. Elsevier; 2018. 2. Cochrane Neonatal Group. Intravenous immunoglobulin for alloimmune hemolytic disease in neonates. Cochrane Database Syst Rev. 2018. 3. Fanaroff AA, Martin RJ, Walsh MC, editors. Fanaroff and Martin's Neonatal-Perinatal Medicine: Diseases of the Fetus and Infant. 12th ed. Elsevier; 2025. exchange , hemolysis ,neonatal jaundice

Irritable Neonate and Excessive Crying

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neonatology

abstract: بی قراری و گریه زیاد در نوزادان دکتر عباس حبیب الهی فوق تخصص نوزادان. دانشگاه علوم پزشکی تهران بی قراری و گریه در نوزادان از شایع ترین دلایل بررسی نوزدان در بخش های نوزادان، مراقبت ویژه نوزادان، فوریت ها و درمانگاه های سرپایی است. اگر چه بیشتر موارد گریه و بی قراری شدید فیزیولوژیک بوده ناشی از گرسنگی، کولیک شیرخوارگی و .... است اما گریه های پایدار بهبود نیابنده می تواند نشانه ای از یک بیماری یا وضعیت بحرانی و خطیر باشد. چالش پزشکی جداسازی این موارد خطیر و بحرانی از وضعیت های خوش خیم خود بهبود یابنده است. یک بررسی کامل با گرفتن تاریخچه، معاینه همه جانبه اگر چه تعریف پذیرفته شده ای برای بی قراری نوزاد .بالینی و گاه بررسی های آزمایشگاهی می تواند به حل این چالش کمک کند گریه های •گریه های بلند •گریه های پیوسته که آرام نمی شود • .وجود ندارد اما توجه به نکات زیر می تواند کمک کننده باشد گریه های همراه با ناپایداری فیزیولوژیک مهم ترین •گریه های همراه با تغییر تون یا تغذیه •شدید در مقایسه با گریه های قبلی نکات در ارزیابی تاریخچه شامل نوع و ویژگی های گریه مانند یک باره یا پیشرونده بودن، شدید یا ضعیف بودن آن، دردناکی یا همراهی با آپنه یا سیانوز، همراهی با خوب شیرنخوردن، استفراغ یا استفراغ صفراوی و داروهای مادر است. همراهی تب، هیپوترمی، در معاینه بالینی، معاینه .بثورات پوستی، زردی، خواب آلودگی، مدفوع خونی و کاهش میزان ادرار از نکات قابل توجه دیگر است معاینه قرنیه، بیضه ها انگشتان دست و پا و ناحیه .از سر تا نوک پا در حالی که نوزاد کامل برهنه است باید مورد توجه قرار گیرد در تشخیص افتراقی نوزادان سرپایی، نخست باید سپسیس و عفونت را در نظر داشت. .تناسلی نباید موزرد غفلت قرار گیرد گرسنگی، یکی از شایع ترین علل خوش خیم گریه در نوزادان است. حساسیت به پروتئین شیر گاو، ریفلاکس معده به مری، کولیک، ناهنجاری های قلبی بدو تولد، انسداد گوارشی، مشکلات استخوانی مانند شکستگی استخوان ترقوه، گلوکوم و زخم قرنیه، گزش در همراهی بی قراری با تب، هیپوترمی، خوب شیرنخوردن، استفراغ .حشرات، سوختگی ناحیه تناسلی از علل دیگر مراجعه است صفراوی، مدفوع خونی، برجستگی ملاج، سیانوز، دیسترس تنفسی، تشنج، تغییر سطح هشیاری، ارزیابی فوری باید صورت گرفته براساس تشخیص های احتمالی مراقبت و درمان صورت گیرد.

malrotation symptoms and management in pediatrics

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neonatology

abstract: مالروتاسیون روده طیفی از اختلالات تکامل میدگات است که با روتیشن و فیکس شدن غیرطبیعی روده طی سه مرحله جنینی در سه ماهه اول بارداری همراهی د ارد. این اختلال به صورت قرارگیری غیر طبیعی میدگات با قرارگیری خم دئودنوژژونال سمت راست خط میانه شکم و نزدیک دریچه ایلئوسکال ، باریک شدگی ریشه مزانتریک دورسال و ریسک ولولوس چینهای پریتونئال به نام لد که از کولون و سکوم به دئودنوم و کبد وصل میشوند میتواند منجر به علایم انسداد میدگات میباشد. بیمار ممکن است تا مدتهت بی علامت بماند و به صورت تصادفی تشخیص داده شود و یا با علایم انسداد حاد دئودنوم شود. روده با درد شکم کولیکی ،اتساع شکم ،استفراغ صفراوی،یا شوک و سپسیس تظاهر یابد و یا علایم غیر اختصاصی انسدادهای فراوانی در اتوپسی ۰.۵ تا ۱ اپیزودیک مزمن ،اختلال رشد و سوء جذب ،اسهال و دردهای کولیکی گهگاهی شکم داشته باشد. در همراهی با بعضی ناهنجاری ها درصد و یک مورد علامت دار در ٦۰۰۰ تولد زنده بوده است و در جنس پسر بیشتر از دختر. انواع علامت دار معمولا در یک سال اول زندگی تظاهر مثل اختلالات جدار قدامی شکم و هرنی دیافراگم میزان بروز بیشتری دارد میابند ولی در مطالعات اخیر نیمی از موارد درعلامت بزرگسالی داشته اند مدالیته های تصویربرداری مختلف در تشخیص شامل گرافی ساده شکم، مطالعات با کنتراست روده باریک ، کنتراست انما ،سونوگرافی و سی تی اسکن و ام آرآی میباشد که هیچ کدام در تشخیص ۱۰۰ درصد کمک کننده و تشخیصی نیستند.کمک کننده ترین مطالعات با کنتراست و سونوی داپلر جهت بررسی محل اقدام درمانی در موارد علامت دار با تصویربرداری مثبت دئودنوم و جابجایی عروق مزانتریک در ارتباط با هم و دئودنوم میباشد. و یا شک بالینی بالا جراحی اورژانسی میباشد و در موارد بی علامت کنتراورسی وجود دارد که از گذشته با توجه به احتمال ولولوس میدگات در ٤٥ تا ٦٥ درصد موارد مالروتاسیون و ایسکمی روده و مورتالیتی ۷ تا ۱۵ درصد بیشتر جراحان پس از تشخیص به سمت جراحی پیش میروند با وجود احتمال انسداد ناشی از چسبندگی بعد لاپاروتومی .جراحی به روش باز و نیز لاپاروسکوپی مراحل و اصول جراحی همچنان قابل انجام است و در برخی مطالعات احتمال ولولوس بعد جراحی لاپاروسکوپی بیشتر بوده است. از پروسیجر لد که به صورت اولیه ۱۹۳٦ معرفی شده تغییر زیادی نیافته و شامل جااندازی ولولوس خلاف چرخش عقربه های ساعت ،جداسازی باندهای لد،پهن کردن مزانتر روده باریک ،آپاندکتومی (امروزه کنتراورسی) وقراردادن صحیح سکوم و کولون در شکم(روده های باریک در نیمه راست شکم و کولون و سکوم سمت چپ شکم میباشد.

Needs assessment and requirements analysis for an intelligent pediatric health consultation assistant: a qualitative study from the perspectives of parents and pediatricians

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neonatology

abstract: مقدمه: والدین در پایش سلامت کودک اغلب با پراکندگی اطلاعات، دشواری تفسیر علائم، محدودیت دسترسی به منابع معتبر و نبود ابزارهای یکپارچه و والد–محور مواجه‌اند. این چالش‌ها می‌توانند تصمیم‌گیری به‌موقع درباره رشد، تغذیه، خواب، واکسیناسیون، مشکلات رفتاری و علائم بیماری را مختل کنند. پژوهش حاضر با هدف نیازسنجی و تحلیل الزامات یک دستیار روش: این مطالعه با رویکرد کیفی اکتشافی و تحلیل محتوای جهت‌دار انجام شد. .هوشمند مشاوره سلامت کودکان انجام شد مشارکت‌کنندگان شامل والدین کودکان ٦ تا ١٢ سال ساکن تهران و متخصصان مرتبط با سلامت کودک، از جمله متخصصان اطفال، بودند که به‌صورت هدفمند و با حداکثر تنوع انتخاب شدند. داده‌ها از طریق مصاحبه‌های نیمه‌ساختاریافته گردآوری و همزمان با جمع‌آوری تحلیل شدند. سپس، بر پایه یافته‌ها، الزامات کارکردی و مفهومی سامانه استخراج و در قالب یک ساختار مفهومی و یافته‌ها: مهم‌ترین الزامات شناسایی‌شده شامل داشبورد رنگ‌محور برای نمایش سریع وضعیت .پروتوتایپ اولیه صورت‌بندی شد سلامت، تعامل گفت‌وگومحور با دستیار هوشمند، پرونده سلامت چندبعدی، ارزیابی و غربالگری اولیه، ژورنال سلامت برای ثبت طولی رویدادها، توصیه‌های شخصی‌سازی‌شده، رابط کاربری ساده و قابل‌فهم، و سازوکارهای ایمن برای تشخیص علائم هشدار و نتیجه‌گیری: دستیار هوشمند مشاوره سلامت کودکان باید فراتر از یک ابزار اطلاع‌رسانی ساده، .ارجاع به خدمات تخصصی بود به‌عنوان سامانه‌ای پشتیبان برای پایش، ثبت، تفسیر اولیه و هدایت والدین به اقدام مناسب طراحی شود. چنین سامانه‌ای می‌تواند ..شکاف اطلاعاتی میان خانه و نظام سلامت را کاهش داده و تصمیم‌گیری آگاهانه‌تر والدین را تسهیل کند

Pediatric Chronic Urticaria: A Practical Approach to Diagnosis and Management

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abstract: Pediatric urticaria is a common dermatologic disorder that affects children of all ages and may significantly impair the quality of life of both patients and their families. Acute urticaria, most commonly triggered by viral infections, represents the predominant clinical subtype, whereas chronic urticaria (CU), defined by symptoms persisting for more than six weeks, is less common but poses greater diagnostic and therapeutic challenges. CU is classified into chronic spontaneous urticaria (CSU) and chronic inducible urticaria (CIU). A detailed clinical history and comprehensive physical examination remain the cornerstone of diagnosis, allowing clinicians to distinguish spontaneous from inducible forms and identify patients requiring further evaluation. Wheals lasting longer than 24 hours, systemic manifestations, fever, arthralgia, or other atypical features should prompt investigation for alternative diagnoses, including urticarial vasculitis and autoinflammatory disorders. Routine extensive laboratory investigations are generally unnecessary unless guided by clinical findings. In children with CSU, screening for autoimmune thyroid disease and celiac disease should be considered because of their increased prevalence. Current evidence does not support routine allergy testing or extensive infectious screening in the absence of a suggestive clinical history. Second-generation H1-antihistamines remain the recommended first-line treatment because of their favorable efficacy and safety profile. Short courses of systemic corticosteroids may be used during severe exacerbations, whereas long-term corticosteroid therapy should be avoided. For antihistamine-refractory CSU, omalizumab is recommended for patients aged 12 years and older, with emerging evidence supporting its safety and efficacy in younger children. Cyclosporine may be considered in selected refractory cases when omalizumab is ineffective or unavailable. A stepwise, evidence-based approach emphasizing accurate diagnosis, targeted investigations, and individualized treatment is essential for optimizing outcomes in pediatric urticaria. Keywords: Pediatric urticaria, Chronic spontaneous urticaria, Chronic inducible urticaria, Antihistamines, Omalizumab

Pediatric Disorders of Gut-Brain Interaction: A Biopsychosocial Framework for Diagnosis and Management

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neonatology

abstract: Disorders of gut-brain interaction (DGBI) are common pediatric conditions characterized by chronic or recurrent gastrointestinal symptoms that are not fully explained by structural or biochemical abnormalities on routine evaluation. In children, these disorders represent a major cause of abdominal pain, nausea, altered bowel habits, school absenteeism, and reduced quality of life. Contemporary understanding of DGBI has moved beyond the outdated dichotomy of "organic" versus "psychological" disease and now favors a biopsychosocial model in which gastrointestinal motility, visceral hypersensitivity, immune activation, microbiome changes, central pain processing, stress, and family dynamics interact bidirectionally. Recent literature confirms that pediatric DGBI are highly prevalent worldwide, with Rome IV-based studies showing that functional gastrointestinal disorders affect a substantial proportion of children and adolescents. Functional abdominal pain disorders remain among the most frequent subtypes, including irritable bowel syndrome, functional dyspepsia, abdominal migraine, and functional abdominal pain not otherwise specified. The gut-brain axis plays a central role in symptom generation, and stress exposure, particularly early-life adversity and chronic psychosocial stress, may amplify symptoms through altered autonomic regulation, enhanced visceral sensitivity, and maladaptive behavioral responses. Diagnosis should remain primarily clinical and symptom-based, guided by Rome IV criteria and careful identification of alarm features rather than extensive exclusionary testing. Management is most effective when individualized and multidisciplinary. Core elements include validation of symptoms, family education, restoration of daily functioning, attention to school participation and sleep, treatment of associated constipation or dyspepsia, and targeted psychological therapies such as cognitive behavioral therapy and gut-directed hypnotherapy. Dietary and microbiome-directed strategies, including soluble fiber, selective low-FODMAP approaches, and probiotics, may benefit selected patients, although current pediatric evidence remains heterogeneous and insufficient to support universal recommendations. In conclusion, pediatric DGBI should be recognized as real, prevalent, and mechanistically complex disorders. The most effective approach combines clinical confidence, limited but targeted investigation, and integrated treatment addressing both gastrointestinal physiology and psychosocial context.

Primary Care Management of Pediatric Asthma Exacerbation

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abstract: Background: Asthma exacerbation is a common cause of pediatric outpatient visits, emergency department presentations, and hospital admissions. Timely recognition and appropriate management in primary care are crucial for reducing morbidity, preventing progression to life-threatening asthma, and minimizing healthcare utilization. Recent guideline updates have refined recommendations regarding bronchodilator delivery, corticosteroid administration, oxygen therapy, and post-exacerbation follow-up. Objective: To summarize the current evidence and provide practical recommendations for the assessment and initial management of pediatric asthma exacerbations in primary care. Methods: An evidence-based narrative review was performed using the latest recommendations from the Global Initiative for Asthma (GINA 2025) together with recent pediatric asthma literature. Evidence regarding severity assessment, initial pharmacologic treatment, criteria for referral, and discharge planning was critically reviewed. Results: Initial evaluation should focus on respiratory distress, oxygen saturation, mental status, and response to treatment. Metered-dose inhaler with spacer is preferred over nebulization for most mild-to-moderate exacerbations, while repeated inhaled short-acting β2-agonists remain the cornerstone of therapy. Early systemic corticosteroids significantly reduce hospitalization in moderate-to-severe attacks. Supplemental oxygen should be administered to maintain appropriate oxygen saturation. Patients with poor response to initial treatment, persistent hypoxemia, altered consciousness, silent chest, or impending respiratory failure require urgent referral to emergency care. Following stabilization, optimization of controller therapy, inhaler technique education, provision of a written asthma action plan, and early follow-up are essential to reduce future exacerbations. Conclusion: Implementation of updated evidence-based strategies in primary care enables early control of asthma exacerbations, decreases hospitalization, and improves long-term outcomes in children. Standardized protocols and physician education remain key components of high-quality asthma care. Keywords: Pediatric asthma, Asthma exacerbation, Primary care, Acute asthma, Children

Scorpion and Snake bites: An Update of Current Diagnosis and Treatment

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neonatology

abstract: Scorpion and snake envenomation remain major but underrecognized public health problems worldwide, with the greatest burden in tropical and subtropical, rural, low-resource settings. Globally, snakebite causes an estimated 1.2–5.5 million envenomings and more than 125,000 deaths annually, while scorpion stings affect over 1.2 million people each year and are estimated to cause at least 3,250 deaths; children are more likely to develop severe disease, and rural agricultural workers are at highest risk. In Iran, these injuries are also common, with about 250,000 animal bites and stings reported yearly, including roughly 50,000 scorpion stings. Scorpionism is particularly important in the southwest and other warm regions. The scorpion species most clearly linked to pediatric mortality in Iran are Hemiscorpius lepturus and, to a lesser extent, Androctonus crassicauda. In the available Iranian literature, H. lepturus is repeatedly identified as the most dangerous species, and one study from Khuzestan reported that it accounted for 89% of deaths despite causing only 10–15% of stings; most fatal and severe cases were in children under 12 years. Reviews from Iran also note that deaths have been reported mainly from two species, with H. lepturus the dominant cause and A. crassicauda the other major lethal species. Clinically, both conditions require rapid assessment of airway, breathing, circulation, neurologic status, and local tissue injury, with severity driven more by systemic toxicity than by the bite or sting itself. Scorpion envenomation often presents with intense pain followed by autonomic signs such as hypertension, tachycardia, vomiting, sweating, hypersalivation, and, in severe pediatric cases, pulmonary edema or shock; management is supportive, with pain control, monitoring, and prazosin as a key therapy for significant systemic toxicity, while antivenom is reserved for selected severe cases where available. Snakebite management depends on identifying envenoming syndrome and the local species when possible; early immobilization, avoidance of harmful incision or suction, and prompt hospital evaluation are essential, and antivenom is indicated for progressive local swelling, neurotoxicity, hemotoxicity, or systemic instability Diagnosis is primarily clinical, supported by serial examination and targeted laboratory tests for coagulopathy, hemolysis, renal injury, and muscle injury, rather than by waiting for venom assays. Overall outcomes improve most when communities recognize danger signs early, and patients receive timely transport, species-appropriate antivenom, and structured supportive care. A practical rural-clinic protocol for antivenom use should be standardized around rapid triage, clear indications, a single weight-based dosing algorithm, and mandatory observation for adverse reactions. In snakebite care, antivenom is the cornerstone treatment for clinically significant envenoming, and WHO guidance emphasizes its use in health facilities with trained staff and quality product availability. The key principle is to treat based on clinical evidence of envenoming, not on the bite alone, and to give antivenom only when there is progressive local swelling, neurotoxicity, coagulopathy, hemolysis, renal injury, or systemic instability. Antimicrobial prescription is not routine in scorpion stings or uncomplicated

snakebites, because prophylactic antibiotics have not shown clear benefit and may contribute to resistance. Antibiotics should be reserved for patients with evidence of secondary infection, such as cellulitis, necrosis, purulent drainage, fever, or strong clinical suspicion of wound infection after snakebite. When treatment is indicated, empiric choices should reflect likely skin and oral-flora pathogens, with options such as piperacillin/tazobactam, a third-generation cephalosporin, or ciprofloxacin in appropriate settings. For scorpion stings, antibiotics are generally unnecessary unless there is a separate infected wound or another clear indication of infection.

The Role of Routine Checkups in Children,Health and Growth Monitoring

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neonatology

abstract: Routine checkups and periodic examinations are fundamental pillars in preventing diseases and ensuring the healthy growth of children. These care visits extend far beyond times of illness, allowing physicians to continuously monitor physical growth, neurological development, nutrition, and mental health. Early detection of disorders such as vision and hearing impairments or developmental delays plays a decisive role in treatment success. According to the "Healthy Child Integrated Care" guidelines in Iran's health system, routine care from birth up to five years of age is conducted in 16 precise stages. These include neonatal care (3–5 days, 14–15 days, and 30–45 days), foundational infancy months (2, 4, 6, 7, and 9 months), toddlerhood (12, 15, 18, and 24 months), and subsequent years up to age five (30, 36, 48, and 60 months). During these specific intervals, alongside developmental assessments, vaccination records are reviewed to ensure timely immunization and protection against dangerous diseases. Furthermore, these visits provide a valuable opportunity to offer specialized counseling to parents regarding proper nutrition, sleep patterns, and home safety. Continuing these care practices across the 16 specified stages not only enables timely prevention and screening but also fosters a trusting relationship between the family and the healthcare team, laying the groundwork for establishing a healthy lifestyle from childhood into adulthood.

Treatment of type I diabetes and types of insulin

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neonatology

abstract: Type 1 diabetes mellitus (T1D) is one of the most common chronic endocrine disorders in childhood and adolescence, resulting from autoimmune destruction of pancreatic β-cells and subsequent absolute insulin deficiency. Since the discovery of insulin more than a century ago, remarkable advances in insulin formulations, delivery technologies, and glucose monitoring have transformed T1D from a fatal disease into a manageable chronic condition. Nevertheless, maintaining near-physiological glucose control in growing children remains challenging because of age-related variations in insulin sensitivity, unpredictable food intake, physical activity, pubertal hormonal changes, and psychosocial factors. Consequently, successful management requires a comprehensive approach that combines appropriate insulin replacement, structured diabetes education, nutritional counseling, continuous glucose monitoring, and regular multidisciplinary follow-up. Insulin therapy remains the cornerstone of treatment for all children and adolescents with T1D. Contemporary management aims to reproduce normal pancreatic insulin secretion through physiological basal and prandial insulin replacement. Basal insulin suppresses hepatic glucose production between meals and overnight, whereas rapid-acting insulin analogues control postprandial glycemic excursions. Basal-bolus therapy using multiple daily injections (MDI) or continuous subcutaneous insulin infusion (CSII) is currently considered the standard of care and has largely replaced conventional split-mixed insulin regimens. Modern rapid-acting insulin analogues, including insulin lispro, insulin aspart, insulin glulisine, faster insulin aspart, and ultra-rapid lispro, provide faster absorption, improved postprandial glucose control, and lower hypoglycemia risk than regular human insulin. Likewise, long-acting and ultra-long-acting basal analogues such as insulin glargine, insulin detemir, and insulin degludec offer more predictable pharmacokinetic profiles, reduced glycemic variability, and fewer nocturnal hypoglycemic episodes compared with neutral protamine Hagedorn (NPH) insulin. Treatment decisions should be individualized according to the child's age, developmental stage, lifestyle, family support, glycemic targets, and access to diabetes technologies. Preschool children often require highly flexible insulin dosing because of unpredictable eating behaviors, whereas adolescents frequently experience increased insulin resistance during puberty, variable adherence, and greater psychosocial challenges. Frequent dose adjustments based on carbohydrate counting, insulin-to-carbohydrate ratios, correction factors, exercise, illness, and growth are therefore essential components of modern diabetes management, all of which require careful training. Technological advances have dramatically changed pediatric diabetes care during the past decade. Continuous glucose monitoring (CGM) systems now provide real-time glucose trends, alerts for hypo- and hyperglycemia, and standardized metrics such as Time in Range (TIR), which complement glycated hemoglobin (HbA1c) in evaluating glycemic control. Integration of CGM with insulin pumps has enabled automated insulin delivery (AID) or hybrid closed-loop systems, which continuously adjust basal insulin according to sensor glucose values. These systems consistently

improve TIR, reduce glycemic variability, decrease severe hypoglycemia, and lessen the daily management burden for children and their families. Accordingly, current international guidelines increasingly recommend CGM and AID systems as preferred therapeutic options whenever available and feasible. Despite these advances, several challenges remain. Young children continue to be particularly vulnerable to hypoglycemia because of low insulin requirements and limited ability to recognize symptoms. Conversely, adolescents often struggle with treatment adherence, diabetes distress, body image concerns, and transition to adult care. Socioeconomic disparities, limited access to diabetes technologies, and the high costs of insulin analogues also contribute to unequal outcomes worldwide. Therefore, optimizing diabetes care requires attention to all of these aspects. The future of insulin therapy in pediatrics is expected to focus on improving both physiological insulin replacement and disease modification. Emerging ultra-rapid insulin analogues are designed to better match postprandial glucose excursions, while once-weekly basal insulins may simplify treatment and improve adherence in selected patients. Glucose-responsive ("smart") insulins capable of releasing insulin according to ambient glucose concentrations remain under active investigation and have the potential to substantially reduce hypoglycemia. Advances in automated insulin delivery are progressing toward fully closed-loop systems requiring minimal user input, supported by increasingly sophisticated algorithms and artificial intelligence. In parallel, immunomodulatory therapies aimed at preserving residual β-cell function during early T1D, together with stem cell-derived β-cell replacement and gene-editing technologies, may ultimately complement insulin therapy and alter disease progression. Although insulin replacement will remain the foundation of pediatric T1D management for the foreseeable future, ongoing innovations promise safer, more precise, and increasingly personalized treatment strategies that improve both metabolic outcomes and quality of life for children living with diabetes.

vomiting in neonates

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neonatology

abstract: Neonatal vomiting is a common clinical presentation that ranges from benign physiological regurgitation to a manifestation of life-threatening disease Accurate differentiation between normal vomiting and pathological causes is essential to ensure timely diagnosis and appropriate management. This presentation reviews the definition of neonatal vomiting, highlights important clinical warning signs, and discusses a systematic approach to evaluation based on the characteristics of the vomitus, including projectile, bilious, non-bilious, and bloody vomiting Common etiologies such as overfeeding, gastroesophageal reflux, food intolerance, hypertrophic pyloric stenosis, gastrointestinal obstruction, sepsis, inborn errors of metabolism, and congenital gastrointestinal anomalies are reviewed. The presentation also emphasizes the importance of recognizing associated clinical features such as dehydration, abdominal distension, delayed passage of meconium, failure to thrive, and aspiration risk, which may indicate serious underlying pathology. A structured clinical assessment enables early identification of surgical and medical emergencies, facilitating prompt intervention and improving neonatal outcomes. Neonatal vomiting is a common clinical presentation Neonatal vomiting is a common clinical presentation that ranges from benign physiological regurgitation to a manifestation of life-threatening disease. Accurate differentiation between normal vomiting and pathological causes is essential to ensure timely diagnosis and appropriate management. This presentation reviews the definition of neonatal vomiting, highlights important clinical warning signs, and discusses a systematic approach to evaluation based on the characteristics of the vomitus, including projectile, bilious, non-bilious, and bloody vomiting. Common etiologies such as overfeeding, gastroesophageal reflux, food intolerance, hypertrophic pyloric stenosis, gastrointestinal obstruction, sepsis, inborn errors of metabolism, and congenital gastrointestinal anomalies are reviewed. The presentation also emphasizes the importance of recognizing associated clinical features such as dehydration, abdominal distension, delayed passage of meconium, failure to thrive, and aspiration risk, which may indicate serious underlying pathology. A structured clinical assessment enables early identification of surgical and medical emergencies, facilitating prompt intervention and improving neonatal outcomes.

بیماریهای ارثی سیستم ایمنی، تظاهرات عفونی

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neonatology

abstract: Abstract: Inborn errors of immunity (IEI) are a heterogeneous group of genetic disorders that often first present in childhood with infection. Although recurrent infections are common in pediatric practice, infections that are unusually severe, persistent, recurrent, opportunistic, site-specific, or caused by uncommon pathogens should raise suspicion for an underlying immune defect. Early recognition is essential because delayed diagnosis may result in irreversible organ damage, chronic lung disease, invasive infection, immune dysregulation, and increased mortality. This presentation reviews the major infectious phenotypes that suggest IEI in children and links them to the underlying immune pathway involved. Recurrent sinopulmonary infections with encapsulated bacteria are classically associated with antibody deficiencies, whereas early-onset severe viral, fungal, and opportunistic infections suggest severe combined or other combined immunodeficiencies. Deep abscesses, invasive staphylococcal or catalase-positive bacterial infections, and aspergillosis point toward phagocytic disorders. Recurrent or invasive Neisseria &/or pneumococcal infections suggest complement deficiency. Disseminated Bacillus Calmette-Guerin infection, environmental mycobacterial disease, or severe salmonellosis should prompt evaluation of defects in the IL-12/IFN-gamma axis. Severe herpes simplex encephalitis or other unusual viral infections may reflect defects in innate antiviral immunity, including TLR3- and type I interferon-related pathways. In addition to infectious history, associated features such as failure to thrive, chronic diarrhea, persistent candidiasis, eczema, autoimmunity, cytopenias, lymphoproliferation, or a positive family history can strengthen clinical suspicion. A practical diagnostic approach includes careful characterization of infection pattern, basic immunologic screening, lymphocyte subsets, assessment of vaccine antibody responses, neutrophil oxidative burst testing, complement studies, and timely genetic evaluation when indicated. Improving pediatric awareness of the infectious presentations of IEI can facilitate earlier diagnosis, targeted therapy, appropriate vaccination decisions, infection prophylaxis, and better long-term outcomes. Keywords: inborn errors of immunity; primary immunodeficiency; recurrent infection; pediatric immunology; opportunistic infection; genetic diagnosis

Beyond Symptom Control: Advances and Challenges in Long-Term Asthma Management in the Era of Precision Medicine

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Immunology

abstract: Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Asthma is a chronic inflammatory airway disease that requires sustained and individualized Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Asthma is a chronic inflammatory airway disease that requires sustained and individualized management to achieve long-term disease control and prevent exacerbations. Over recent decades, therapeutic approaches have evolved from symptom-based treatment to comprehensive strategies emphasizing inflammation control, risk reduction, and precision medicine. Effective long-term asthma management involves a combination of pharmacological therapy, patient education, environmental control, and regular monitoring of disease activity. Inhaled corticosteroids remain the cornerstone of maintenance therapy and have significantly reduced morbidity and mortality associated with asthma. The incorporation of inhaled corticosteroid–formoterol combinations as both maintenance and reliever therapy has further improved outcomes and minimized severe exacerbations. For patients with severe asthma, biologic agents targeting immunologic pathways such as immunoglobulin E, interleukin-5, interleukin-4/interleukin-13, and thymic stromal lymphopoietin have transformed long-term disease management by enabling phenotype-driven treatment selection. Non-pharmacological interventions, including smoking cessation, weight management, allergen avoidance, pulmonary rehabilitation, and enhancement of medication adherence, are equally important for sustained control. Regular assessment of lung function, exacerbation history, and treatable traits allows clinicians to optimize therapy and reduce unnecessary treatment escalation. Despite substantial therapeutic advances, challenges remain in achieving equitable access to specialized care, improving adherence, and addressing the heterogeneity of asthma phenotypes. Future directions focus on biomarker-guided interventions, digital health technologies, and personalized therapeutic algorithms. A comprehensive, patient-centered, and precision-based approach is essential to ensure optimal long-term outcomes, improved quality of life, and reduced healthcare burden among individuals living with asthma.

Precision Prophylaxis in Inborn Errors of Immunity: Current Concepts and Future Directions

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Immunology

abstract: Abstract Background: Inborn errors of immunity (IEIs) comprise more than 550 genetically heterogeneous disorders characterized by susceptibility to recurrent infections, immune dysregulation, autoimmunity, autoinflammation, allergy, and malignancy. While advances in hematopoietic stem cell transplantation, gene therapy, and targeted biologics have transformed disease management, infection remains a major cause of morbidity and mortality. Consequently, prophylaxis has evolved from empirical antimicrobial administration to precision prophylaxis tailored to the patient's molecular diagnosis and immune phenotype. Objective: To review current evidence and emerging concepts in infection prophylaxis for patients with IEIs, with emphasis on personalized preventive strategies. Methods: Recent international guidelines and high-quality publications (2020–2026) addressing antimicrobial prophylaxis, immunoglobulin replacement therapy, vaccination, biomarker-guided monitoring, and novel preventive therapies were reviewed. Results: Precision prophylaxis integrates antimicrobial prophylaxis, immunoglobulin replacement therapy (IVIG/SCIG), optimized immunization strategies, immune monitoring, and molecular diagnostics. Trimethoprim-sulfamethoxazole remains the cornerstone for prevention of Pneumocystis jirovecii pneumonia in severe T-cell defects, whereas antifungal and antiviral prophylaxis should be individualized according to the underlying immune defect. Immunoglobulin replacement therapy significantly reduces severe infections and should be optimized using serum IgG trough levels and breakthrough infection monitoring. Vaccination strategies require individualized assessment, with inactivated vaccines recommended whenever feasible and live vaccines avoided in severe cellular immunodeficiencies. Emerging biomarkers, next-generation sequencing, pathogen-specific immune assays, monoclonal antibodies, antimicrobial stewardship, and gene-directed therapies are redefining preventive care and enabling precision medicine in IEIs. Conclusion: Precision prophylaxis represents the next generation of preventive care in IEIs. Integrating molecular diagnosis, biomarker-guided monitoring, targeted antimicrobial strategies, immunoglobulin replacement, and individualized vaccination has the potential to substantially reduce infectious complications while improving survival and quality of life. Future multicenter prospective studies are required to establish standardized precision-based prophylactic algorithms. Keywords: Inborn Errors of Immunity; Precision Prophylaxis; Immunoglobulin Replacement Therapy; Antimicrobial Prophylaxis; Vaccination; Biomarkers.

The History of Inborn Errors of Immunity: From Clinical Observation to Precision Medicine

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Immunology

abstract: Primary immunodeficiency diseases (PIDs), now more accurately termed inborn errors of immunity (IEIs), represent a heterogeneous group of inherited disorders characterized by defects in the development or function of the immune system. The history of these disorders reflects one of the most remarkable advances in modern medicine, evolving from the first clinical observations to the era of precision genomics. The field began in 1952 when Colonel Ogden Bruton described a boy with recurrent bacterial infections and agammaglobulinemia, establishing the first recognized primary immunodeficiency. Over subsequent decades, the identification of severe combined immunodeficiency (SCID), chronic granulomatous disease, Wiskott–Aldrich syndrome, and complement deficiencies expanded the spectrum of recognized immune defects and improved understanding of immune system biology. The introduction of molecular genetics in the 1980s and 1990s transformed the field by enabling the identification of disease-causing genes, while next-generation sequencing has accelerated the discovery of novel monogenic disorders and clarified genotype–phenotype correlations. In 2019, the International Union of Immunological Societies (IUIS) formally adopted the term inborn errors of immunity to reflect the broader spectrum of diseases, including autoinflammatory disorders, immune dysregulation syndromes, bone marrow failure syndromes, and phenocopies of immunodeficiency. Today, more than 550 genetically defined IEIs have been described, highlighting the complexity of human immune function. Advances in newborn screening, genetic diagnosis, hematopoietic stem cell transplantation, gene therapy, and targeted biological therapies have significantly improved patient survival and quality of life. This historical perspective illustrates how discoveries in IEIs have not only transformed patient care but have also provided fundamental insights into human immunology and paved the way for personalized medicine. Keywords: Primary immunodeficiency; Inborn errors of immunity; Molecular genetics; Precision medicine.

Basic Pathophysiology of Heart Failure

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cardiology

abstract: Basic Pathophysiology of Heart Failure Toktam Sheykhian Assistant Professor of Pediatric Cardiology Department of Pediatric Cardiology, Tehran University of Medical Sciences, Tehran, Iran Heart failure (HF) is a complex clinical syndrome resulting from structural or functional cardiac abnormalities that impair ventricular filling or ejection of blood. The initial myocardial insult, such as ischemia, pressure or volume overload, genetic cardiomyopathy, or inflammation, leads to reduced cardiac output and increased ventricular wall stress. In response, several compensatory mechanisms are activated, including the sympathetic nervous system (SNS), the renin–angiotensin–aldosterone system (RAAS), and arginine vasopressin release. Although these responses temporarily maintain systemic perfusion, their chronic activation becomes maladaptive. Persistent neurohormonal stimulation promotes vasoconstriction, sodium and water retention, increased myocardial oxygen demand, cardiomyocyte apoptosis, and progressive ventricular remodeling. Cardiac remodeling is characterized by myocyte hypertrophy, interstitial fibrosis, extracellular matrix alterations, and changes in ventricular geometry, ultimately resulting in systolic and/or diastolic dysfunction. In parallel, inflammatory cytokines, oxidative stress, endothelial dysfunction, and mitochondrial impairment further accelerate myocardial injury and disease progression. Counter-regulatory pathways, particularly the natriuretic peptide system, oppose excessive neurohormonal activation by promoting natriuresis, vasodilation, and antifibrotic effects; however, these protective mechanisms become insufficient as HF advances. Contemporary heart failure therapies are therefore designed to interrupt maladaptive neurohormonal signaling, attenuate ventricular remodeling, improve cardiac function, and reduce morbidity and mortality.

Early Combined Serologic and Molecular Evaluation of Parvovirus B19 in Acute Myocarditis: A Practical Diagnostic Approach

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cardiology

abstract: Early Combined Serologic and Molecular Evaluation of Parvovirus B19 in Acute Myocarditis: A Practical Diagnostic Approach Background: Establishing Parvovirus B19 as the causative agent in acute myocarditis remains challenging because endomyocardial biopsy is frequently unavailable or impractical in pediatric patients. Detection of viral DNA in peripheral blood by PCR alone does not necessarily confirm active infection. Objective: To highlight the value of obtaining Parvovirus B19 IgM and IgG serology simultaneously with blood PCR at the time of hospital admission in patients with suspected acute myocarditis. Discussion: Simultaneous baseline serologic testing allows documentation of antibody kinetics during follow-up. Demonstration of rising antibody titers, particularly alongside positive blood PCR findings, provides stronger evidence for recent active infection when myocardial biopsy cannot be performed. Early etiologic confirmation may support timely consideration of targeted antiviral therapy, including interferon-based treatment in carefully selected patients, before irreversible myocardial injury occurs. Conclusion: Concurrent measurement of Parvovirus B19 IgM, IgG, and blood PCR at the onset of hospitalization may improve diagnostic confidence in acute myocarditis when endomyocardial biopsy is not feasible. This strategy may facilitate earlier therapeutic decision-making and should be evaluated in prospective clinical studies.

Exercise tolerance test in Kawasaki patients without coronary lesions

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cardiology

abstract: Introduction Kawasaki disease (KD) is a systemic vasculitis of unknown origin and the leading cause of acquired heart disease in children in developed countries. If untreated, it can cause coronary artery damage in up to 25% of cases. Lifelong follow-up is essential, even for patients without obvious coronary lesions (risk level-I KD). Since some cardiac abnormalities may not be apparent at rest, stress testing offers valuable insight. This study aimed to evaluate exercise tolerance test (ETT) outcomes in children with a history of risk level-I KD compared to a control group. Materials and methods This case-control study included children aged 5–17 years with documented KD without coronary lesions and at least six months since disease onset. After ethics approval, participants underwent a standardized treadmill test (modified Bruce protocol). A control group of healthy children was also included; however, exact age-matched analysis was not possible due to recruitment constraints. Results Sixty children were divided equally into KD and control groups. The KD group had significantly lower mean age, height, weight, and BSA compared to the control group. After adjusting for these variables, most exercise indices showed no significant difference between groups, except for chronotropic incompetence which was more prevalent in the KD group. However, most differences became non-significant after adjusting for age and BMI. Conclusion Children with KD generally showed normal exercise tolerance, but a reduced chronotropic response may indicate subtle residual cardiac effects. These findings suggest a potential for subtle cardiac effects and may support the consideration of stress-based evaluation in select patients; however, further larger prospective studies are needed to confirm these observations.

Large aneurysm of the right atrial and the tetralogy of fallot: a rare case report and literature review

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cardiology

abstract: Introduction: Congenital right atrial (RA) aneurysm is a rare cardiac anomaly, and its association with complex cyanotic heart disease, such as tetralogy of Fallot (TOF), is exceptionally uncommon. This combination poses significant diagnostic and therapeutic challenges. Case Presentation:We report the case of a 22-month-old boy with uncorrected TOF who was found to have a giant RA aneurysm (approximately 3×5 cm) causing significant compression of the left ventricle. The diagnosis was confirmed by transthoracic echocardiography and computed tomography angiography. The patient underwent complete single-stage surgical repair, including TOF correction (ventricular septal defect closure and right ventricular outflow tract reconstruction) and RA aneurysmectomy with patch closure of a large communication between the RA and the aneurysmal sac. Outcome:Despite a technically successful operation, the patient developed catastrophic hemodynamic collapse several hours postoperatively and could not be resuscitated. Post-mortem examination revealed re-expansion of the aneurysm with thrombus within the pericardial space, adjacent to the left ventricle. While the exact mechanism of hemodynamic collapse remains uncertain, the post-mortem findings suggest that the distended aneurysmal sac may have contributed to impaired cardiac filling or reduced ventricular preload. We hypothesize that residual vascular communications to the aneurymal cavity may have contributed to this fatal complication. Conclusion:This case highlights a rare and fatal association between a giant RA aneurysm and TOF. It underscores the critical importance of meticulous intraoperative evaluation for potential coronary-cameral fistulae or additional venous drainage into the aneurysmal sac. We recommend direct intraoperative testing, such as cardioplegic injection, to identify and ligate these vessels, which may be crucial for preventing fatal postoperative re-expansion in similar cases

Pediatric Cardiovascular Manifestations in Drug Toxicity: Recognition and Clinical Management

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cardiology

abstract: Drug toxicity is a significant cause of morbidity and mortality among children, with cardiovascular complications representing some of the most serious and life-threatening manifestations. Pediatric patients are particularly vulnerable due to age-related differences in drug metabolism, body composition, and accidental exposure to medications. Cardiovascular manifestations vary depending on the toxic agent and may include tachycardia, bradycardia, hypotension, hypertension, conduction abnormalities, QT interval prolongation, arrhythmias, myocardial depression, and, in severe cases, cardiogenic shock or cardiac arrest. Common agents associated with cardiovascular toxicity include calcium channel blockers, beta-blockers, tricyclic antidepressants, digoxin, opioids, sympathomimetic drugs, and certain environmental toxins. Early recognition of toxic cardiovascular effects through careful clinical assessment, electrocardiographic monitoring, and appropriate laboratory investigations is essential for improving outcomes. Prompt supportive care, targeted antidotal therapy when available, and advanced interventions such as vasoactive agents, lipid emulsion therapy, extracorporeal membrane oxygenation (ECMO), or extracorporeal life support may be required in refractory cases. A multidisciplinary approach involving pediatric emergency physicians, toxicologists, intensivists, and cardiologists is crucial for optimizing patient management. Preventive strategies, including safe medication storage, caregiver education, and poison control awareness, remain fundamental in reducing pediatric poisoning incidents. This review highlights the spectrum of cardiovascular manifestations associated with pediatric drug toxicity, discusses underlying pathophysiological mechanisms, and summarizes current diagnostic and therapeutic approaches. Enhancing clinician awareness and promoting timely intervention can substantially improve survival and reduce long-term cardiovascular complications in affected children. Keywords: Pediatric; drug toxicity; Cardiovascular manifestations; Poisoning

The Importance of Comprehensive Cardiovascular Examination Following Pediatric Cardiac Surgery – A Case of Acquired Aortic Obstruction

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cardiology

abstract: The Importance of Comprehensive Cardiovascular Examination Following Pediatric Cardiac Surgery – A Case of Acquired Aortic Obstruction Background: Postoperative echocardiography after congenital heart surgery often focuses on ventricular function and surgical repair. However, a complete cardiovascular examination, including assessment of systemic arterial circulation, may identify life-threatening complications that could otherwise remain undetected. Case Presentation: A child underwent successful repair of Tetralogy of Fallot and subsequently developed refractory chylothorax requiring reoperation for thoracic duct ligation. Serial echocardiograms demonstrated satisfactory ventricular function and surgical repair. During a routine comprehensive cardiovascular examination, diminished flow in the abdominal aorta was incidentally detected by Doppler echocardiography. Further bedside examination revealed absent lower-extremity pulses and unrecordable blood pressure in the legs. The patient was diagnosed with acquired severe aortic obstruction causing acute lower-limb and renal ischemia and underwent urgent surgical correction with successful restoration of perfusion. Conclusion: This case illustrates that postoperative evaluation should extend beyond assessment of intracardiac anatomy and ventricular performance. Routine examination of peripheral pulses, blood pressure in all extremities when indicated, and Doppler assessment of the descending and abdominal aorta may facilitate early recognition of rare but catastrophic vascular complications. Comprehensive cardiovascular assessment should be incorporated into standard postoperative pediatric cardiac care.

The silent epidemic: why routine blood pressure screening from age 3 is non negotiable

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cardiology

abstract: The Silent Epidemic: Why Routine Blood Pressure Screening from Age 3 is Non-Negotiable Presenting author: Mojtaba Gorji, pediatric cardiologist Background & Clinical Gap Despite the American Academy of Pediatrics (AAP) and European Society of Hypertension (ESH) guidelines explicitly recommending annual blood pressure (BP) measurement starting at age 3, adherence in primary care remains alarmingly poor. The auscultatory "ritual" is frequently deferred unless the child is acutely ill, creating a dangerous false sense of security. This practice gap constitutes a missed opportunity for secondary prevention, as pediatric hypertension is rarely symptomatic but frequently indicates a significant underlying pathology. Missed Critical Etiologies The failure to obtain a baseline and track percentiles in every well-child visit directly delays the diagnosis of correctable secondary causes. Coarctation of the aorta (CoA), often presenting with discrepant upper/lower extremity BP, is missed beyond the neonatal period, leading to refractory upper-body hypertension. Takayasu arteritis, a large-vessel vasculitis, manifests with claudication and unequal pulses; its hypertension is due to renal artery stenosis or aortic rigidity—conditions that require urgent immunosuppression and revascularization. Furthermore, silent renovascular anomalies (e.g., fibromuscular dysplasia) and chronic renal parenchymal diseases (glomerulonephritis, reflux nephropathy) present primarily with elevated BP before any biochemical derangement appears. Skipping the cuff means skipping the first, and often only, red flag for these life-threatening diagnoses. The Cascade of End-Organ Damage Untreated sustained hypertension in childhood is not benign. It exerts a relentless hemodynamic toll, inducing left ventricular hypertrophy (LVH), diastolic dysfunction, and early carotid intima-media thickening, which tracks strongly into adulthood cardiovascular events. Cerebrovascularly, it predisposes to silent cerebral infarcts and cognitive decline. Renally, it accelerates nephrosclerosis, perpetuating a vicious cycle of worsening hypertension and progressive chronic kidney disease (CKD). Ocularly, grade II–IV hypertensive retinopathy can develop within just a few years of uncontrolled disease. These complications are largely irreversible once established, making early detection the sole modifiable variable. The Call to Action Routine BP screening from 3 years of age is not an optional metric but a critical diagnostic imperative that must be integrated into every single pediatric encounter. I advocate for a "zero-tolerance" policy for undocumented BP checks. Identifying elevated BP in a child is not a nuisance; it is a gateway to renal ultrasonography, echocardiography, and vascular imaging that can catch CoA, Takayasu, or renal anomalies at a surgically salvageable stage. By shifting our mindset from "screening for hypertension" to "ruling out life-threatening etiologies and preventing adult cardiovascular collapse," we can fundamentally alter the natural history of these patients. The stethoscope must listen to the brachial artery at every visit starting at age 3—anything less is a dereliction of our duty as pediatric specialists.

Acylcarnitine and Amino Acid Signatures of Pediatric Hyperinsulinemic Hypoglycemia and Diazoxide-Associated Metabolic Adaptation

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endocrinology

abstract: Background: Hyperinsulinemic hypoglycemia (HH) is a rare but severe metabolic disorder characterized by inappropriate insulin secretion and recurrent hypoglycemia. Although the clinical manifestations of HH are well recognized, its broader metabolic consequences and the systemic effects of diazoxide therapy remain incompletely understood. Methods: Targeted metabolomic profiling of amino acids and acylcarnitines was performed in 30 pediatric patients with HH and age-matched healthy controls using LC–MS/MS. Patients were further stratified according to diazoxide treatment status. Multivariate and univariate analyses, including principal component analysis (PCA), volcano plot analysis, correlation network analysis, and receiver operating characteristic (ROC) analysis, were applied to identify metabolic alterations associated with disease status and treatment exposure. Results: HH patients demonstrated coordinated alterations in amino acid and acylcarnitine metabolism, particularly involving branched-chain amino acids and long-chain acylcarnitines. Correlation analysis revealed tightly connected metabolic modules related to β-oxidation and amino acid metabolism. Subgroup analysis demonstrated partial metabolic separation between diazoxide-treated (HD) and untreated (H) patients. Tiglylcarnitine (C5:1) was significantly increased in the HD group ($\log_2FC = 1.37$, $p = 0.0019$), while tyrosine was significantly reduced ($\log_2FC = -1.01$, $p = 0.044$). Tiglylcarnitine also showed the strongest discriminative performance between groups (AUC = 0.829). Network-level differences in metabolite correlations suggested treatment-associated metabolic reorganization beyond isolated metabolite abundance changes. Conclusion: Pediatric HH is associated with distinct perturbations in amino acid and fatty acid metabolism. Diazoxide treatment is linked to coordinated metabolic remodeling, particularly involving short-chain acylcarnitines and aromatic amino acid pathways. These findings support the potential utility of targeted metabolomics for improved metabolic characterization and treatment-response assessment in pediatric HH.

Pharmacologic Advances in Pediatric Type 2 Diabetes Mellitus

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endocrinology

abstract: Background: The incidence of type 2 diabetes mellitus (T2DM) in children and adolescents has increased substantially over the past two decades, paralleling the global rise in pediatric obesity. Youth-onset T2DM is associated with a more aggressive disease course and earlier development of microvascular and macrovascular complications than adult-onset disease. Consequently, effective pharmacologic management has become a major priority in pediatric diabetes care. Objective: To review currently approved pharmacologic therapies and recent advances in the treatment of pediatric T2DM. Methods: Recent recommendations from the American Diabetes Association (ADA) Standards of Care 2026 and contemporary clinical evidence were reviewed. Results: Metformin remains the first-line oral therapy for most children and adolescents with T2DM. Insulin is recommended in patients presenting with significant hyperglycemia, ketosis, or diabetic ketoacidosis. Over the last decade, several novel agents have expanded treatment options. Approved glucagon-like peptide-1 receptor agonists (GLP-1 RAs) include liraglutide, exenatide extended-release, and dulaglutide, which improve glycemic control and may promote weight reduction. Sodium-glucose cotransporter-2 (SGLT2) inhibitors have emerged as an important therapeutic class, with empagliflozin, dapagliflozin, and canagliflozin now approved for youth aged 10 years and older in several regions. These agents provide effective HbA1c reduction with additional cardiometabolic benefits. Ongoing clinical trials are evaluating next-generation incretin-based therapies, including semaglutide and tirzepatide, which have shown remarkable efficacy in adults and may further transform pediatric diabetes management in the future. Conclusion: Current pharmacologic treatment of pediatric T2DM has evolved beyond metformin and insulin. GLP-1 receptor agonists and SGLT2 inhibitors represent major therapeutic advances, while emerging incretin-based therapies offer promising future opportunities for improving glycemic control, reducing obesity, and preventing long-term complications in affected youth.

Short stature with hormonal etiology

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endocrinology

abstract: Short stature is defined as a height more than two standard deviations below the mean for age and sex (height SDS –2). It is one of the most common reasons for referral to pediatric endocrinologists. Although normal variants such as familial short stature and constitutional delay of growth and puberty account for most cases, endocrine disorders represent an important group of pathological causes because they are often treatable if diagnosed early. Growth hormone deficiency (GHD) is the most common endocrine cause of short stature. It may be congenital or acquired due to pituitary malformations, tumors, traumatic brain injury, infections, or cranial irradiation. Children with GHD typically present with reduced growth velocity, delayed bone age, preserved or increased body weight, and relatively increased adiposity. Laboratory evaluation usually includes serum insulin-like growth factor-1 (IGF-1) and IGF-binding protein-3 (IGFBP-3), followed by growth hormone stimulation testing when indicated. Magnetic resonance imaging (MRI) of the hypothalamic-pituitary region is recommended in confirmed cases. Hypothyroidism is another major endocrine cause of impaired linear growth. Thyroid hormones are essential for normal growth plate function, skeletal maturation, and the synthesis and action of growth hormone and IGF-1. Clinical manifestations include growth failure, delayed bone age, fatigue, constipation, dry skin, and weight gain despite poor linear growth. Cushing syndrome, resulting from chronic glucocorticoid excess, is characterized by the distinctive combination of growth failure and excessive weight gain. Glucocorticoids suppress growth hormone secretion, reduce IGF-1 activity. Less common endocrine causes include multiple pituitary hormone deficiency, hypogonadotropic hypogonadism, and disorders of the growth hormone–IGF axis, such as growth hormone insensitivity. The diagnostic evaluation of a child with short stature should include accurate serial height measurements, assessment of growth velocity, calculation of mid-parental height, bone age determination, and a comprehensive physical examination. Initial laboratory investigations typically include complete blood count, inflammatory markers, thyroid function tests, IGF-1, and screening for systemic disorders. Endocrine testing should be guided by clinical findings rather than performed indiscriminately.Early diagnosis and timely intervention remain the most important determinants of optimal growth outcomes and adult height.

The importance of hypoglycemia in diabetic patients

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endocrinology

abstract: The importance of hypoglycemia in diabetic patients Hypoglycemia can be considered a complication of diabetes treatment, which is likely to occur in all types of diabetes. DEFINITION: Hypoglycemia is classified and defined into 3 levels. Level 1 hypoglycemia is defined as a plasma glucose concentration 70 mg/ and ≥54 mg/dL. Level 2 hypoglycemia is defined as a plasma glucose concentration 54 mg/dL. At level 3 hypoglycemia, severe changes in mental function and impairment in the patient's physical abilities are observed, which can lead to seizures, and even death. There are many risk factors that cause hypoglycemia in diabetic patients. In general, risk factors include: intensive insulin therapy, poor food consumption, incorrect exercise program, celiac disease, thyroid dysfunction, addison disease. TREATMENT: If the patient has an acceptable level of consciousness, treatment begins with 10 to 20 grams of oral rapid acting glucose. In severe hypoglycemic conditions where the patient has an impaired level of consciousness or in a hospitalized patient, treatment is performed with IV glucose (2-3 mL/kg of 10% glucose over 10 min). If intravenous access is not available, glucagon IM or SC should be given (1 mg for 25 kg and 0.5 mg for 25 kg). PREVENTION: Principles for preventing hypoglycemia include: education about risk factors; availability of appropriate blood glucose monitoring equipment; informing patients about recognizing the early signs of hypoglycemia, and immediate treatment; investigation of pathogenic factors causing hypoglycemia, such as celiac disease, thyroid dysfunction; use of modern technologies.

"Beyond Bedwetting: Unraveling the Multifactorial Etiology of Nocturnal Enuresis in Children"

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Nephrology

abstract: Here is the condensed version with the requested edits, reducing approximately 20 words while maintaining all essential information: # Structured Summary: A Descriptive Study of the Causes of Nocturnal Enuresis in Children (100 Cases, 5–18 Years) ## Background and Context Nocturnal enuresis is defined as involuntary intermittent urinary incontinence during sleep in children aged five years or older. It is primary when the child has never achieved six months of nighttime dryness, and secondary when it recurs after a prolonged dry period. It is categorized as monosymptomatic, or nonmonosymptomatic when associated with daytime symptoms, bowel dysfunction, or other complaints. Enuresis is multifactorial, involving genetic, physiological, sleep, and psychosocial factors. Identifying these is essential for individualized treatment. ## Objective This descriptive cross-sectional study analyzed the clinical characteristics, associated conditions, and potential causes of nocturnal enuresis in 100 children (aged 5–18 years) at the **Children's Medical Center, Tehran University of Medical Sciences**. ## Methods We included 100 children (5–18 years) who experienced involuntary bedwetting at least monthly for three consecutive months. Standardized questionnaires assessed family history, onset, classification, frequency, daytime symptoms, bowel habits, previous infections, sleep quality, and psychosocial stressors. All participants underwent physical examination and urinalysis. Additional investigations, such as culture or ultrasound, were performed when clinically indicated. Children with chronic kidney disease, diabetes, neurological disorders, or structural urinary anomalies were excluded. ## Results The mean age was 9.8 years (58% boys). Primary enuresis was present in 84%, while 16% had secondary enuresis. Monosymptomatic enuresis was diagnosed in 62%, with 38% exhibiting nonmonosymptomatic features (daytime urinary or bowel dysfunction). A positive family history was identified in 54% of cases. Functional constipation was present in 23%. Daytime lower urinary tract symptoms (urgency, frequency, or incontinence) were reported in 18%, and urinary tract infection in 7%. Obstructive sleep-disordered breathing signs (e.g., habitual snoring) were reported in 8%. Significant psychosocial stressors were identified in 12%, particularly in secondary enuresis cases. No clear factor was identified in 15%. Many children exhibited multiple contributing factors, especially constipation combined with daytime symptoms. ## Conclusion and Clinical Implications Nocturnal enuresis in children is a heterogeneous, multifactorial disorder. Primary monosymptomatic enuresis with positive family history was the most common pattern. However, a substantial proportion had treatable comorbidities, including constipation, daytime dysfunction, infection, sleep-disordered breathing, or psychosocial stress. Comprehensive clinical assessment is essential, rather than assuming a single cause. Evaluation must include bladder/bowel history, family history, daytime symptoms, sleep quality, and psychosocial screening. Treatment should be individualized. Constipation and infections should be managed before or alongside specific enuresis therapy. Behavioral interventions, fluid management, alarms, or desmopressin may be utilized in selected children to improve treatment response and quality of life.

Complications of Urinary vesicoureteral Reflux

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Nephrology

abstract: Vesicoureteral reflux (VUR) is a condition in which urine flows backward from the bladder into the ureters and, in severe cases, reaches the kidneys. While some cases resolve spontaneously during childhood, untreated or high-grade reflux can lead to several serious complications that may affect health throughout a patient's life. The most frequent complication is recurrent urinary tract infections (UTIs). Because urine remains in the upper urinary tract, bacteria can multiply more easily, causing frequent, painful, and persistent infections that often require long-term monitoring. More critically, persistent reflux can lead to renal scarring. When infected urine backs up into the kidneys, it can cause damage to the delicate nephron tissue. This scarring reduces the kidneys' filtering capacity and is strongly linked to hypertension (high blood pressure) at a young age. Because the kidneys are essential for regulating fluid balance and blood pressure, scarred tissue impairs their ability to filter blood and regulate hormones effectively. This elevated blood pressure, if left untreated, can further damage the kidneys, creating a dangerous cycle that exacerbates renal impairment. Over time, significant scarring may progress to chronic kidney disease and, in severe cases, end-stage renal failure, potentially requiring dialysis or kidney transplantation. Early diagnosis through specialized imaging and prompt management—including prophylactic antibiotics or surgical correction—can significantly reduce these long-term risks. Therefore, timely clinical evaluation for children experiencing recurrent UTIs is essential to prevent permanent damage, manage blood pressure levels effectively, and preserve overall renal health for the future.

Evaluation And Diagnostic Assessment Of Hypertension In Children

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Nephrology

abstract: Hypertension in children aged 13years is defined as blood pressure (BP) ≥95th percentile for age, sex, and height. For adolescents aged ≥13 years, it is defined as BP ≥130/80 mmHg. Because BP can fluctuate significantly due to anxiety or activity, a formal diagnosis requires elevated readings on at least 3 separate visits. Furthermore, 24-hour Ambulatory Blood Pressure Monitoring (ABPM) is strongly recommended to rule out "white coat" hypertension, identify masked hypertension, and assess nocturnal BP dipping patterns. Once hypertension is confirmed, the clinical evaluation aims to differentiate between primary and secondary etiologies. A comprehensive medical history should screen for symptoms of target organ damage (e.g., severe headaches, visual changes, seizures), sleep-disordered breathing, a history of neonatal complications (such as umbilical artery catheterization), and a family history of premature cardiovascular or renal disease. The physical examination must include height and weight to calculate Body Mass Index (BMI), as the rising prevalence of pediatric obesity is the primary stimulus of essential hypertension. Clinicians must evaluate BP in both arms and at least one leg to screen for coarctation of the aorta. Additional exam findings, such as abdominal bruits, café-au-lait macules, or acanthosis nigricans, can provide crucial diagnostic clues to underlying secondary causes. The likelihood of secondary hypertension is inversely proportional to the child's age and directly proportional to the severity of the BP elevation. Children aged 6 years are likely to have a secondary cause, most commonly renal parenchymal disease or renovascular abnormalities. Conversely, adolescents generally present with primary hypertension, often clustered with features of metabolic syndrome. The initial diagnostic investigation for all children with confirmed hypertension includes a urinalysis, a basic chemistry panel (electrolytes, blood urea nitrogen, and creatinine), and a fasting lipid profile. A renal ultrasound is universally recommended for all children aged 6 years and those with abnormal baseline renal function tests. Finally, assessing for target organ damage is a mandatory component of the evaluation. An echocardiogram should be performed at the time of diagnosis to evaluate for left ventricular hypertrophy (LVH) . The presence of LVH indicates significant disease chronicity and immediately dictates the need for pharmacological intervention over lifestyle modifications alone.

Evaluation of Hypertension in Pediatric Hemolytic Uremic Syndrome (A Cross-Sectional Study)

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Nephrology

abstract: ABSTRACT Background: Hemolytic uremic syndrome (HUS), particularly the Shiga toxin-producing Escherichia coli (STEC)-associated subtype, is a major cause of acute kidney injury [AKI] in children. Although hypertension (HTN) is a recognized complication of HUS, its prevalence and related risk factors in these children are particularly poorly studied. Objectives: This study is designed to determine the prevalence of HTN among children diagnosed with HUS and to identify its potential clinical correlates, including laboratory parameters and cardiac involvement. Methods: A descriptive cross-sectional study was conducted on 50 pediatric patients diagnosed with HUS and hospitalized in our tertiary nephrology ward between 2021 and 2024. Clinical and laboratory data, including blood pressure, BMI, renal function markers, and echocardiographic findings, were extracted from medical records. HTN was defined using the AAP Pediatric HTN calculator. Statistical analysis was performed using SPSS v26 software, t-tests, chi-square, and Fisher's exact test. Results: HTN was observed in 48% of our patients. No significant associations were found between HTN and age, sex, BMI, HUS type, urea, creatinine, or hemoglobin levels. However, HTN was significantly associated with hypokalemia ($p = 0.011$) and cardiac involvement ($p = 0.045$). Among patients with AKI, 54.2% had HTN; however, this association was not significant ($p = 0.402$). Conclusion: Although this study is a small one and was done in a single center, it supports the importance of HTN in patients with HUS. HTN is quite prevalent among children with HUS and shows a significant association with cardiac complications and electrolyte imbalances. These findings indicate the importance of routine blood pressure monitoring and cardiovascular assessment in the management of pediatric HUS. Lifelong follow-up is recommended for early detection of signs of chronic kidney and cardiovascular sequelae.

Initial Management of Hypertensive Emergencies and Urgencies in Children & Adolescents

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Nephrology

abstract: Initial Management of Hypertensive Emergencies and Urgencies in Children & Adolescents Acute severe hypertension in children is classified as either a hypertensive emergency or hypertensive urgency, although clinical judgment is more important than any strict classification. Unlike adults, there is no absolute blood pressure (BP) threshold that defines severe hypertension. A BP level more than 30 mmHg above the 95th percentile for age, sex, and height should raise concern for acute target-organ injury. However, symptoms and evidence of end-organ damage are more important than the absolute BP value. A hypertensive emergency is defined as severe hypertension associated with life-threatening symptoms or acute target-organ injury, including hypertensive encephalopathy, seizures, acute heart failure, pulmonary edema, retinal injury, or acute kidney injury. These patients require immediate admission to an intensive care unit, continuous monitoring, rapid evaluation, and prompt intravenous antihypertensive therapy. A hypertensive urgency refers to severe hypertension without acute target-organ damage. Although prompt evaluation is necessary, BP reduction should be gradual and depends on whether hypertension is acute or chronic. Initial management begins with stabilization of the airway, breathing, and circulation. The airway should be secured when necessary while avoiding medications that may further increase BP during intubation. Intravenous access should be established, baseline laboratory studies obtained, and BP monitored frequently. Seizures should be treated immediately with anticonvulsants. Patients with altered mental status, papilledema, focal neurologic deficits, or seizures require urgent neuroimaging before aggressive BP reduction. Severe hypertension should always be confirmed using an appropriately sized cuff, preferably by auscultation. BP should be measured in both arms and at least one leg to screen for coarctation of the aorta. A focused history and physical examination should assess target-organ injury and identify secondary causes, including kidney disease, endocrine disorders, medications, or toxic exposures. The goal of treatment in hypertensive emergencies is controlled BP reduction while preserving cerebral, myocardial, and renal perfusion. The long-term target BP is approximately the 95th percentile in children younger than 13 years or below 130/80 mmHg in adolescents. During the first eight hours, systolic BP should be reduced by no more than 25% of the difference between the presenting BP and the target BP. Complete normalization is usually achieved over the following 24 to 48 hours. The preferred first-line intravenous antihypertensive agents are labetalol and nicardipine because they provide rapid, predictable BP control. Nicardipine is preferred in infants younger than one year and in patients with asthma or heart failure. Hydralazine is less favored because of its slower onset and risk of overshoot hypotension. Sodium nitroprusside is reserved for refractory cases because of the risk of cyanide toxicity, particularly in renal impairment. Routine use of enalaprilat is discouraged. Children with chronic kidney disease, heart failure, pulmonary edema, or significant volume overload may require intravenous loop diuretics

as adjunctive therapy. Diuretics should never be used as the sole antihypertensive treatment. Dialysis should be considered when fluid overload is refractory to medical therapy. If BP remains uncontrolled after approximately 30 minutes of continuous infusion, combined therapy with labetalol (when not contraindicated) and nicardipine is recommended. If hypertension remains refractory, nitroprusside may be considered in patients with preserved kidney function, whereas hydralazine is generally preferred in patients with renal dysfunction. Management of hypertensive urgency depends on the underlying cause. Acute hypertension is usually treated with intravenous labetalol, while hydralazine or nicardipine are alternatives when labetalol is contraindicated. Chronic hypertension should be lowered gradually over one to two days using oral isradipine or clonidine when appropriate. Short-acting oral nifedipine should be avoided because of unpredictable hypotension. Before treatment, clinicians should identify conditions requiring modification of therapy, including intracranial hypertension, coarctation of the aorta, severe pain, preeclampsia or eclampsia, and sympathetic overactivity. In sympathomimetic intoxication, beta-blockers such as labetalol should generally be avoided because of the risk of unopposed alpha-adrenergic stimulation. After BP stabilization, patients should undergo evaluation for the underlying cause, transition gradually to oral antihypertensive therapy, and receive long-term management according to the underlying diagnosis.

pathogenesis and diagnosis of vesicoureteral reflux in children

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Nephrology

abstract: pathogenesis and diagnosis of vesicoureteral reflux in children abstract VUR is a common clinical entity which represents the retrograde flow of urine from the bladder into the upper urinary tract. VUR is estimated at 0.4% to 1.8% in asymptomatic children, almost 1% in the pediatric population. In a large meta-analysis cystography performed in children for various indications showed VUR in 30% of cases with UTI and in 17% without UTI. Up to 70% of neonates less than one year of age with a history of UTI have VUR. When VUR is detected antenatally, it is more frequent in boys than in girls. Furthermore, it tends to be of high grade, bilateral and with higher chances of spontaneous resolution. In older children, girls are more likely to have reflux than boys. Genetic predisposition is quite clear for the prevalence of VUR is 100% in identical twin siblings.17 Systematic review shows rates of 27.5% for siblings and 35.7% for offspring of an index patient. When hydronephrosis is detected antenatally, evaluation for VUR postnatally is done by ultrasonography. The main problem is that postnatal ultrasound is not sensitive screening tests that will miss VUR cases, even those with high grade. On the other hand, VCUG is an invasive procedure with need of urethral catheterization, radiation exposure and 1% risk of UTI. The American Academy of Pediatrics (AAP) has changed its recommendation of 1999 when RBUS and VCUG were indicated after a first episode of febrile UTI for the diagnosis of VUR. Today, VCUG is to be done in case of recurrent UTI, hydronephrosis, ureteral dilation or the presence of a renal scar. The European Society for Pediatric Urology (ESPU) and the EAU recommend for VCUG in addition to RBUS, considering that early diagnosis may prevent bad prognosis of VUR. National Institutes for Clinical Excellence (NICE) guidelines note that extensive evaluation of a child after his first episode of UTI is inappropriate. VCUG is limited to children less than 6months of age with recurrent or atypical UTI and children between 6months and 3years with recurrent or atypical UTI and hydroureter, hydronephrosis, family history of VUR, non E. Coli infection or poor urine flow

Amebiasis

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Infectious

abstract: Amebiasis is a parasitic infection caused by the protozoan Entamoeba histolytica, transmitted through ingestion of cysts from contaminated food, water, or hands. It remains a major global health burden, causing roughly 50 million infections and 55,000 deaths annually, making it the third leading parasitic cause of death worldwide. The disease disproportionately affects children in developing regions such as South Asia, sub-Saharan Africa, and Latin America. After ingestion, cysts release trophozoites in the intestine. Most infections (about 90%) remain asymptomatic, with the parasite living harmlessly in the gut. In some cases, however, the parasite invades the intestinal lining via a specialized lectin, causing colitis, dysentery, or chronic diarrhea. Severe cases can lead to intestinal perforation or fulminant colitis, particularly dangerous in young children. In roughly 1% of cases, the parasite spreads through the bloodstream to other organs — most commonly the liver, producing abscesses, and occasionally the lungs, brain, or pericardium, which carries higher mortality risk. Diagnosis has evolved from stool microscopy (which cannot distinguish E. histolytica from nonpathogenic look-alike species) to more accurate antigen detection and PCR-based testing, along with serology for extraintestinal disease. Treatment relies primarily on nitroimidazole drugs like metronidazole for invasive disease, followed by luminal agents such as paromomycin to eliminate intestinal colonization. Severe complications may require drainage or surgical intervention. Currently, no vaccine exists, though research into the parasite's key virulence factors offers promise for future prevention strategies, especially given the substantial disease burden in vulnerable pediatric populations.

Comparative Analysis of Clinical and Paraclinical Features in Pediatric Autoimmune Versus Infectious Encephalitis

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Infectious

abstract: Autoimmune encephalitis (AE) is a condition often triggered by infections, vaccinations, or neoplasms ,characterized by acute/sub-acute onset with psychiatric symptoms, seizures, cognitive deficits, and abnormal movements .The differentiation between autoimmune encephalitis (AE) and infectious encephalitis (IE) in younger children remains a clinical challenge. The overlap in symptoms, coupled with the behavioral complexities of young children and their inability to effectively communicate symptoms, complicates diagnosis. Encephalitis is an inflammatory condition of the brain that can arise from a variety of etiologies, including infectious agents such as bacteria, viruses, and fungi, autoimmune mechanisms mediated by T-cell-associated antibodies, paraneoplastic processes, or other, often unidentified causes . Among these, autoimmune encephalitis (AE) represents a significant and increasingly recognized cause of acute encephalitis that is amenable to treatment . AE encompasses a group of inflammatory brain disorders predominantly characterized by neuropsychiatric symptoms associated with antibodies targeting neuronal surface proteins, ion channels, or receptors. The most common subtypes include N-methyl-D-aspartate receptor (NMDAR) encephalitis and autoimmune limbic encephalitis (IE), with anti-gamma aminobutyric acid B receptor (GABAbR) and leucine-rich glioma-inactivated 1 (LGI1) encephalitis being less frequent but clinically important variants. This study employed a cross-sectional design involving the review of medical records from pediatric patients who were evaluated at the Children's Medical Center affiliated with Tehran University of Medical Sciences over a 15-y period (2011–2025). Forty infectious encephalitis (IE) patients and 45 AE patients participated in this study. This population comprised patients younger than 18 y who met specific inclusion criteria for either autoimmune AE or IE. Ethical approval was obtained prior to data extraction . The study found significant differences between the AE and IE groups. The AE group had a higher average age (8.78 ± 4 y) compared to the IE group (3.3 ± 3.2 y); 7 (15.6%) cases (majority of AE patients) being 12-y-old, and 20 (50%) of IE group being under 12 mo. This difference was statistically significant (p 0.001). Twenty (44%) AE patients and 6 (15%) IE patients had behavioral changes, including aggression and irritability (χ^2 test, p = 0.003). However, 31 (77.5%) IE patients compared to 15 (33.3%) AE patients had reports of fever (p 0.001) (Supplementary Table S1). Significant differences in inflammatory markers were noted. The IE group had higher C-reactive protein (CRP) (23.15 ± 30.8) compared to AE patients (5.98 ± 10.3), and also IE patients had higher CSF glucose (69 ± 13.1) than AE patients (57 ± 17.5) (both p = 0.009). MRI revealed greater cortical and subcortical white matter involvement in 26 (68%) IE patients compared to 19 (43%) AE patients (p = 0.022). In conclusion, our study corroborates previous literature by elucidating key clinical, laboratory, and neuroimaging distinctions between pediatric IE and AE.

Dog and Cat Bites in Children: Current Concepts in Evaluation and Management

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Infectious

abstract: Dog and cat bites are among the most frequent animal-related injuries encountered in pediatric practice and represent a significant public health concern worldwide. Children are particularly vulnerable because of their close interaction with household pets, limited ability to recognize potentially dangerous animal behavior, and shorter stature, which predisposes them to injuries involving the face, head, and neck. Although many bite wounds are minor, they may lead to serious complications, including soft tissue infection, deep tissue injury, cosmetic deformity, functional impairment, tetanus, and rabies. Appropriate early management is therefore essential to minimize morbidity and prevent life-threatening outcomes. The microbiology of bite wounds is polymicrobial and reflects the oral flora of the biting animal together with the patient's skin flora. Pasteurella multocida is the organism most frequently isolated from cat bites and is also common following dog bites. Other important pathogens include Staphylococcus aureus, streptococci, Capnocytophaga canimorsus, anaerobic bacteria, and mixed aerobic-anaerobic organisms. Cat bites are associated with a substantially higher risk of infection because their sharp teeth create deep puncture wounds that inoculate bacteria into poorly oxygenated tissues. Dog bites, in contrast, more commonly produce crush injuries, lacerations, or avulsions that may result in extensive tissue damage despite a lower overall infection rate. Clinical evaluation should begin with a detailed history, including the time and mechanism of injury, species and health status of the animal, vaccination history when available, circumstances of the exposure, and the patient's tetanus immunization status. Physical examination should carefully assess wound depth, contamination, neurovascular integrity, tendon involvement, and possible injury to underlying structures. Bite wounds involving the face, hands, joints, tendons, or genital region require particular attention because of their greater functional and cosmetic significance. Effective wound management is the cornerstone of treatment. Immediate copious irrigation with normal saline and meticulous cleansing substantially reduce bacterial contamination and the likelihood of subsequent infection. Devitalized tissue should be conservatively debrided while preserving viable structures. Decisions regarding primary wound closure should be individualized according to wound location, degree of contamination, time since injury, cosmetic considerations, and infection risk. Facial wounds may often be closed primarily because of their excellent blood supply, whereas puncture wounds, heavily contaminated injuries, and wounds of the hands are frequently managed with delayed closure. Antimicrobial prophylaxis is recommended for high-risk bite wounds, including cat bites, puncture injuries, hand wounds, deep or crush injuries, delayed presentation, immunocompromised patients, and bites requiring surgical repair. Amoxicillin-clavulanate remains the preferred first-line oral antimicrobial because it provides excellent coverage against the polymicrobial flora typically associated with animal bites. Alternative regimens should be

selected according to patient age, allergy status, and local antimicrobial susceptibility patterns. Prevention of tetanus and rabies represents another critical aspect of management. Tetanus immunization status should be verified in every patient, and booster vaccination or tetanus immunoglobulin should be administered when indicated according to current immunization guidelines. Rabies post-exposure prophylaxis should be determined after careful assessment of the type of exposure, local rabies epidemiology, and the availability of the biting animal for observation or testing. Category III exposures require immediate wound cleansing, rabies vaccine administration, and infiltration of rabies immunoglobulin into and around the wound whenever indicated. In conclusion, successful management of dog and cat bites in children requires systematic risk assessment, meticulous wound care, appropriate antimicrobial therapy, and timely administration of tetanus and rabies prophylaxis when indicated. Adherence to current evidence-based recommendations can substantially reduce infectious complications, improve cosmetic and functional outcomes, and prevent potentially fatal infections. Equally important are public education, responsible pet ownership, and preventive strategies aimed at reducing bite incidents in children.

Infectious Causes of Hemophagocytic Lymphohistiocytosis: An Updated Narrative Review

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Infectious

abstract: Hemophagocytic lymphohistiocytosis (HLH) is a life-threatening hyperinflammatory syndrome characterized by uncontrolled activation of cytotoxic T lymphocytes, natural killer cells, macrophages, and excessive cytokine release, resulting in progressive multiorgan dysfunction. Although primary HLH results from inherited defects in immune regulation, secondary HLH is most commonly triggered by infections. Infection-associated HLH remains an important diagnostic challenge because its clinical manifestations frequently overlap with severe sepsis, septic shock, and systemic inflammatory disorders, often delaying diagnosis and appropriate treatment. Early identification of the underlying infectious trigger is essential, as successful management depends on both controlling hyperinflammation and eradicating the causative pathogen. Among infectious agents, viruses are the leading causes of secondary HLH. Epstein–Barr virus (EBV) is the most frequently implicated pathogen worldwide and is strongly associated with severe disease due to its ability to infect B lymphocytes and occasionally T or natural killer cells, resulting in persistent immune activation and cytokine overproduction. Cytomegalovirus (CMV) is another important trigger, particularly in infants and immunocompromised individuals, while herpes simplex virus (HSV), varicella-zoster virus (VZV), influenza virus, dengue virus, and SARS-CoV-2 have also been reported as causes of secondary HLH. Human immunodeficiency virus (HIV) may induce HLH directly during acute infection or indirectly through opportunistic infections and immune dysregulation. Several bacterial pathogens have also been associated with HLH. Mycobacterium tuberculosis is one of the most significant bacterial triggers, especially in regions where tuberculosis is endemic. Disseminated tuberculosis frequently presents with prolonged fever, hepatosplenomegaly, pancytopenia, liver dysfunction, and markedly elevated ferritin levels, making differentiation from HLH particularly challenging. Brucella spp. and Rickettsia spp. have also been recognized as important causes in endemic areas. Delayed recognition of these infections may lead to unnecessary immunosuppression and increased mortality, highlighting the importance of thorough microbiological evaluation before initiating HLH-directed therapy. Parasitic infections represent another important group of infectious triggers. Visceral leishmaniasis is among the best-recognized parasitic causes of HLH because it closely mimics the syndrome clinically, with fever, splenomegaly, pancytopenia, and hyperferritinemia. Early diagnosis using bone marrow examination, serological tests, or molecular methods allows prompt treatment with liposomal amphotericin B, often resulting in rapid clinical improvement. Severe Plasmodium falciparum malaria and disseminated Toxoplasma gondii infection have also been associated with secondary HLH, particularly among immunocompromised patients. Fungal infections are less common but are associated with substantial mortality. Histoplasma capsulatum is the fungal pathogen most frequently linked to

HLH, especially in patients with advanced HIV infection or other immunodeficiency states. Invasive candidiasis, aspergillosis, and other opportunistic fungal infections have also been reported as triggers. Because fungal-associated HLH usually occurs in critically ill or immunocompromised individuals, early diagnosis and initiation of appropriate antifungal therapy are essential. Diagnosis of infection-associated HLH requires simultaneous confirmation of hyperinflammation and identification of the underlying pathogen. Comprehensive evaluation should include detailed clinical assessment, microbiological investigations, molecular diagnostic techniques, imaging studies, and bone marrow examination when indicated. Management requires prompt antimicrobial therapy directed against the infectious trigger together with immunomodulatory treatment, including corticosteroids, intravenous immunoglobulin, etoposide, or selected biologic agents in severe cases. The therapeutic approach should be individualized according to disease severity, the causative pathogen, and the patient's immune status. In conclusion, infections remain the predominant cause of secondary HLH across all age groups. EBV is the leading viral trigger, whereas tuberculosis and visceral leishmaniasis are particularly important in endemic regions. Because infection-associated HLH often resembles severe sepsis, clinicians should maintain a high index of suspicion in patients with persistent fever, cytopenias, hepatosplenomegaly, and marked hyperferritinemia. Early diagnosis, identification of the infectious cause, and timely initiation of pathogen-specific therapy together with appropriate immunomodulation are the cornerstones of improving survival and reducing the high mortality associated with this devastating syndrome.

Opportunistic Infections in Pediatric Hematopoietic Stem Cell Transplantation

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Infectious

abstract: Advances in supportive care have substantially reduced transplant-related mortality (TRM) in pediatric HSCT, though opportunistic infections still account for roughly 25-27% of deaths following allogeneic transplant. Increased use of alternative donors (cord blood, haploidentical) for nonmalignant diseases has heightened infection risk due to greater pre-transplant immunoablation and delayed immune recovery. Infection risk follows three phases: Phase I (pre-engraftment, 30 days) features neutropenia-related bacterial infections, candidemia, and invasive aspergillosis; Phase II (30-100 days) involves persistent phagocyte defects and viral reactivations (CMV, other DNA viruses); Phase III (100 days) relates to chronic GVHD immunosuppression, causing infections with encapsulated bacteria and recurrent aspergillosis. Bacterial infections are most common, split between gram-positive skin/gut organisms and translocating gram-negative bacteria. Fungal infections (primarily Candida and Aspergillus) cause disproportionate mortality (58-83%), managed through prophylaxis (fluconazole, echinocandins, triazoles) and newer diagnostic tools like galactomannan assays. Viral reactivations—including CMV, EBV, HSV, VZV, HHV-6, adenovirus, and BK virus—require careful monitoring via PCR, with treatments ranging from ganciclovir to emerging virus-specific T-cell therapies. Pneumocystis jiroveci pneumonia is largely preventable with TMP-SMX prophylaxis. Protozoal infections, though less common, include toxoplasmosis (reactivation-related, prevented by TMP-SMX), Strongyloides hyperinfection syndrome (high mortality), and Cryptosporidium-related chronic diarrhea, which can mimic GVHD symptoms. Emerging strategies—including pathogen-specific adoptive T-cell therapies, refined antifungal/antiviral agents, and microbiome-based interventions—offer promise for further reducing infection-related mortality and improving overall HSCT outcomes in children.

Pertussis Epidemiology in Iran: Current Situation and Recent Trends

Seyed Mohsen Zahraei [1] © Ⓟ

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Infectious

abstract: Pertussis (whooping cough), caused by Bordetella pertussis, remains an important vaccine-preventable disease despite the long-standing implementation of routine childhood immunization. Iran introduced whole-cell pertussis (wP) vaccine into its Expanded Program on Immunization more than five decades ago and has maintained childhood vaccination coverage above 95% since the late 1980s. The routine schedule includes primary immunization during infancy followed by booster doses in early childhood. This strategy has substantially reduced the burden of severe disease and mortality among children. Despite sustained high vaccination coverage, epidemiological evidence indicates that pertussis has re-emerged in Iran during the past two decades. Similar to many other countries, the reported increase in pertussis cases is believed to result from a combination of improved surveillance and laboratory diagnosis, waning vaccine-induced immunity, greater clinical awareness, and the natural cyclical pattern of pertussis transmission. Recent systematic reviews suggest that pertussis remains underdiagnosed, particularly among adolescents and adults who often present with atypical or prolonged cough and may serve as an important reservoir for transmission to vulnerable infants. The greatest burden of severe disease continues to occur among infants younger than six months of age, particularly those who have not yet completed the primary vaccination series. Several studies have demonstrated declining anti-pertussis antibody levels with increasing age after completion of childhood vaccination, supporting the role of waning immunity in ongoing transmission. These findings have raised concerns regarding susceptibility among older children, adolescents, and adults, who may contribute to household and community spread. Iran continues to use whole-cell pertussis vaccine as part of its routine childhood immunization program, while acellular pertussis vaccines have not yet been incorporated into the national schedule. Although the whole-cell vaccine provides durable protection against severe disease, recent evidence suggests that booster immunization strategies may need to be reconsidered. Several investigators have proposed introducing acellular pertussis booster doses for adolescents, adults, and pregnant women to enhance population immunity and provide indirect protection for young infants during the first months of life. Molecular surveillance has also revealed important changes in circulating B. pertussis strains in Iran. Genomic studies have shown that the predominant circulating isolates belong to the ptxP3 lineage, which has become widespread globally. These genetic changes may influence bacterial fitness and transmission dynamics, although current evidence suggests that waning immunity remains the principal driver of pertussis resurgence rather than vaccine escape alone. Continuous molecular surveillance is therefore essential to monitor pathogen evolution and support evidence-based vaccination policies. Strengthening laboratory capacity through the wider use of polymerase chain reaction (PCR), improving surveillance for prolonged cough illness, and enhancing case detection among adolescents and adults remain important public health priorities. Future strategies may include evaluation of maternal immunization during pregnancy, assessment of booster vaccination policies, and expansion of genomic surveillance. Maintaining high infant vaccination coverage while adapting immunization strategies to changing epidemiological patterns will be essential for reducing pertussis transmission and protecting the youngest age groups in Iran.

rabies

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Infectious

abstract: Rabies remains the oldest and deadliest zoonosis ,with a case –fatality rate approaching %100 after symptom onset.Despite global eradication efforts ,it claims approximately 59000 lives annually ,of which children under 15 years constitute 40 -50 % of all human cases ,particularly in Asia and Sub-SaharanAfrica.this pediatric predominance is not incidental :it reflects a dangerous synergy of behavioral,anatomical,and immunological factors.childrens natural curiosity ,tendency to approach unfamiliar animals,and inability to interpret aggressive canine behaviors increase exposure risk.their shorter stature results in a higher frequency of bites to the head,face,and neck-regions with dense innervation and short neural pathways to the brain ,significantly accelerating viral transit and shortening the incubation period to as little as 5-10 days. The clinical landscape in pediatrics is fraught with diagnostic pitfalls.while the classic furious (encephalitic)form with hydrophobia and aerophobia is well –recognized ,the paralytic variant accounts for nearly 20% of pediatric cases and can masquerade as Guillain-Barre syndrome,ADEM,or transverse myelitis.recent case reports describe children presenting solely with progressive flaccid paralysis , urinary retention , or painful paresthesias at the bite site ,without any autonomic instability .in comatose children,hydrophobia is invariably absent.MRI findings of T2 hyperintensities in the basal ganglia , thalami , and hippocampi are highly suggestive but not pathognomonic.therefore ,a history of any animal bite or bat exposure ,even trivial ,in a child with acute progressive encephalitis or paralysis should prompt immediate rabies consideration. P0st-exposure prophylaxis (PEP) is the sole life –saving intervention,but pediatric application requires nuance.wound care remains paramount:immediate 15 minute irrigation with soap and water , followed by povidone –iodine ,reduces viral load by up to 90% .vaccination dosing is identical to adults,but site selection is age-dependent –the anterolateral thigh for infant 12 months and the deltoid for older children ,with gluteal injection strictly contraindicated.the WHO now endorses both the 5 dose Essen (Days 0,3,7,14,28) and the 4 dose Zagreb (2-1-1) regimens,with the latter compliance in children .Critically ,rabies immunoglobulin (RIG) –20 IU/Kg of HRIG or 40 IU/Kg of ERIG-must be infiltrated entirely into and around all wounds,regardless of wound size.the obsolete practice of injecting the remainder at a distant site has been abandoned in 2024 -2025 guidelines.for immunocompromised pediatric patient (HIV or transplant recipients) ,RIG is indicated even for Category 2 exposures, with mandatory serological confirmation of titers 0.5 IU/ml on Day 14.emerging monoclonal antibody cocktails show equivalent neutralization with less pain ,offering a scalable alternative to plasma-derived products. In conclusion ,survival in pediatric rabies hinges on early recognition of atypical presentations,aggressive local wound infiltration ,and strict adherence to updated PEP schedules .every unexplained pediatric encephalitis or ascending paralysis in endemic areas must trigger a rabies workup.because by the time classic signs appear, the opportunity for survival has already passed.

Recent Advances in Hepatitis A and Varicella Vaccination: From Updated Guidelines to Clinical Practice

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Infectious

abstract: Vaccination remains one of the most effective public health interventions for preventing infectious diseases in children. Among vaccine-preventable infections, hepatitis A and varicella continue to impose a considerable clinical and economic burden despite the availability of safe and highly effective vaccines. In recent years, updated recommendations from the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP Red Book 2024–2027), and the World Health Organization (WHO Position Paper 2025) have introduced important changes in vaccination strategies, particularly regarding post-exposure prophylaxis, vaccination of high-risk populations, and universal immunization programs. These recommendations emphasize not only individual protection but also the broader impact of vaccination on reducing disease transmission, hospitalizations, complications, healthcare costs, and mortality. This presentation provides a concise review of the latest evidence and practical recommendations regarding hepatitis A and varicella vaccination for pediatric healthcare providers. For hepatitis A, the discussion highlights recent updates in post-exposure prophylaxis, expanding AAP Red Book 2024–2027; WHO Varicella Vaccines Position Paper (2025); Nelson NP. ACIP Hepatitis A Recommendations (MMWR 2020) and PEP Update (MMWR 2018); Doshani et al. Homeless Persons (MMWR 2019); Larkin & Rathnayake. Universal Varicella Vaccination (2025); Bolormaa et al. Varicella Vaccine Effectiveness (2025); Leung et al. Severe Breakthrough Varicella (2017); Zhu et al. Breakthrough Varicella Meta-analysis (2018); Laue et al. Pediatric Liver Transplantation (2025); Sintusek et al. HAV Immunogenicity after Liver Transplantation (2024); Schnyder et al. HAV Breakthrough Infection (2025); Săndulescu et al. Global HAV Vaccination (2025). Hepatitis A Vaccine; Varicella Vaccine; Immunization; Pediatrics; Post-Exposure Prophylaxis; Universal Vaccination; Breakthrough Varicella; Immunocompromised Host; Vaccine Effectiveness; Clinical Practice Guidelines

Tetanus

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abstract: Introduction Tetanus is an acute neurologic disease caused by the neurotoxin of Clostridium tetani. It presents with painful muscle spasms, trismus (lockjaw), and autonomic dysfunction. Vaccination has markedly reduced disease incidence. Epidemiology WHO reported 22,833 global tetanus cases in 2024. The disease remains uncommon in high-resource settings but persists in low-resource regions. Neonatal tetanus is associated with unhygienic deliveries and inadequate maternal immunization. Predisposing Factors Major risk factors include lack of vaccination, contaminated puncture wounds, burns, devitalized tissue, and poor wound care. Pathogenesis Spores germinate in anaerobic wounds and produce tetanospasmin, which blocks inhibitory neurotransmitters (GABA and glycine), causing sustained muscle contraction and autonomic instability. Clinical Features Generalized tetanus presents with trismus, risus sardonicus, neck stiffness, opisthotonus, dysphagia, respiratory compromise, and autonomic dysfunction. Localized and neonatal forms also occur. Diagnosis Diagnosis is clinical and supported by a history of inadequate immunization and a compatible wound. Laboratory confirmation is usually unnecessary. Treatment Management includes airway support, wound debridement, tetanus immune globulin (TIG), metronidazole or penicillin, muscle spasm control with benzodiazepines, and active immunization. Conclusion Tetanus is a preventable but potentially fatal disease. Early recognition, prompt treatment, appropriate wound care, and complete vaccination are essential to reduce morbidity and mortality.

Analysis of Incidence and Risk Factors of Complicated Acute Appendicitis in Children: Evidence From a Tertiary Pediatric Center

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Gastroenterology

abstract: Acute appendicitis (AA) is the most prevalent surgical emergency in the pediatric population, with the complicated form leading to various adverse outcomes. Our study is aimed at evaluating the incidence and associated risk factors of complicated AA among children presenting with this condition. Employing a cross-sectional design, we included all children suspected of having AA who were admitted to a tertiary pediatric center in Iran from 2020 to 2021.We classified AA into complicated and uncomplicated categories. We recorded and analyzed demographic, clinical, and laboratory data of patients admitted with AA. Analyzed laboratory parameters included white blood cell count, neutrophil count and percentage, erythrocyte sedimentation rate and C-reactive protein. The study comprised 98 pediatric patients with AA, Eighteen (18.4%) cases were diagnosed with complicated. After adjusting for relevant clinical factors, CRP (odds ratio: 1.02 [95% CI: 1.00–1.04]), WBC count (1.18 [1.03–1.37]), and neutrophil count (1.23 [1.06–1.45)]) were significantly associated with complicated AA. Receiver operating characteristic (ROC) curve analysis indicated a CRP cut-off of 19.5 mg/dL, with an area under the curve of 0.687 (95% CI:0.551–0.823), a sensitivity of 72.2%, and a specificity of 68.4% for predicting complicated AA. Azadnajafabad, Sina et al. “Analysis of Incidence and Risk Factors of Complicated Acute Appendicitis in Children: Evidence From a Tertiary Pediatric Center.” International journal of pediatrics vol. 2025 1230753. 23 Mar. 2025, doi:10.1155/ijpe/1230753 appendicitis; complications; pediatrics; risk factors; incidence; Iran Acute appendicitis is the most common pediatric surgical emergency. This cross-sectional study evaluated the incidence and predictors of complicated acute appendicitis in 98 children at a tertiary center in Iran (2020–2021). Results showed that 18.4% of patients presented with complicated disease. Significant elevations in white blood cell (WBC) count, neutrophil count, and C-reactive protein (CRP) were observed in complicated cases. Multivariate analysis confirmed these markers as significant independent predictors of complications. A CRP cut-off of 19.5 mg/dL yielded a sensitivity of 72.2% and specificity of 68.4%. These findings provide clinicians with reliable laboratory parameters to assist in the timely diagnosis and management of pediatric appendicitis.

Approach to Pediatric Obesity: From Early Recognition to Comprehensive Management

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Gastroenterology

abstract: Title Approach to Pediatric Obesity: From Early Recognition to Comprehensive Management Abstract Pediatric obesity has evolved into one of the most challenging chronic diseases encountered in clinical practice. Affecting nearly one in five children in many countries, obesity is associated with substantial cardiometabolic, gastrointestinal, endocrine, musculoskeletal, and psychosocial complications that frequently persist into adulthood. Contemporary evidence emphasizes that obesity is a chronic, multifactorial, and relapsing disease driven by complex interactions among genetic susceptibility, environmental exposures, behavioral factors, and neuroendocrine regulation. Consequently, effective management requires a comprehensive, patient-centered approach rather than isolated lifestyle advice. This lecture will present a practical, evidence-based approach to the evaluation and management of pediatric obesity based on recent international recommendations. The diagnostic pathway begins with accurate anthropometric assessment using BMI-for-age percentiles, evaluation of growth velocity, pubertal status, and obesity severity, followed by a detailed assessment of dietary habits, physical activity, sleep, screen time, medications, family history, and psychosocial factors. Participants will learn how to distinguish common exogenous obesity from endocrine, hypothalamic, monogenic, and syndromic causes by recognizing key clinical red flags that warrant further investigation. A structured approach to screening obesity-related comorbidities will be discussed, including hypertension, dyslipidemia, prediabetes and type 2 diabetes mellitus, metabolic dysfunction-associated steatotic liver disease (MASLD), obstructive sleep apnea, polycystic ovary syndrome, orthopedic complications, and mental health disorders. The lecture will review current recommendations regarding laboratory evaluation, risk stratification, and longitudinal follow-up. The management section will focus on Intensive Health Behavior and Lifestyle Treatment (IHBLT) as the foundation of therapy, highlighting family-based behavioral interventions, nutritional optimization, promotion of physical activity, sleep hygiene, reduction of sedentary behavior, and motivational interviewing. Recent advances in pharmacologic treatment, particularly GLP-1 receptor agonists and other approved anti-obesity medications, together with their indications, expected outcomes, and safety profiles, will be critically reviewed. Indications, patient selection criteria, and outcomes of metabolic bariatric surgery in adolescents with severe obesity will also be addressed. Using practical clinical algorithms and case-based discussions, this lecture aims to provide pediatricians with an efficient, stepwise framework for diagnosis, risk assessment, individualized treatment, and long-term follow-up of children with obesity. The ultimate goal is to facilitate early intervention, reduce obesity-related complications, and improve lifelong health outcomes through evidence-based multidisciplinary care.

Benefits of Breastfeeding: An Evidence Based Perspective for Health Care Professionals

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Gastroenterology

abstract: Breastfeeding remains the gold standard for infant nutrition and is a cornerstone of preventive pediatric healthcare. Human milk provides an optimal balance of macronutrients and bioactive components, including immunoglobulins, human milk oligosaccharides (HMOs), lactoferrin, cytokines, and living immune cells that support infant growth, immune maturation, and gut microbiome development. Exclusive breastfeeding for the first six months significantly reduces the incidence of gastrointestinal and respiratory infections, acute otitis media, necrotizing enterocolitis in preterm infants, and sudden infant death syndrome (SIDS). Long-term benefits include lower risks of obesity, type 1 and type 2 diabetes, childhood leukemia, and improved neurocognitive outcomes. For mothers, breastfeeding is associated with reduced postpartum hemorrhage, accelerated uterine involution, and lower lifetime risks of breast and ovarian cancers, type 2 diabetes, and cardiovascular disease. Emerging evidence also highlights the role of breastfeeding in promoting maternal mental health and strengthening mother–infant bonding. Pediatricians play a critical role in protecting, promoting, and supporting breastfeeding by providing evidence-based counseling, addressing common lactation challenges, and discouraging unnecessary supplementation when medically unwarranted. The implementation of Baby-Friendly Hospital practices and adherence to the International Code of Marketing of Breast-milk Substitutes have been shown to improve breastfeeding initiation and duration. Current international guidelines recommend exclusive breastfeeding for approximately six months, followed by continued breastfeeding alongside appropriate complementary feeding for two years or beyond, according to maternal and child preference. Promoting breastfeeding should remain a priority in pediatric practice because of its substantial health, developmental, economic, and public health benefits. References: 1.American Academy of Pediatrics. Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics. 2022;150(1):e2022057988. 2.World Health Organization. Infant and Young Child Feeding. Updated 2023. 3.United Nations Children's Fund. Infant and Young Child Feeding Programme. 2024. 4.Victora CG, Bahl R, Barros AJD, et al. Breastfeeding in the 21st Century: Epidemiology, Mechanisms, and Lifelong Effect. The Lancet. 2016;387:475–490. 5.Rollins NC, Bhandari N, Hajeebhoy N, et al. Why Invest, and What It Will Take to Improve Breastfeeding Practices? The Lancet. 2016;387:491–504.

chronic abdominal pain in children

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Gastroenterology

abstract: Chronic Abdominal Pain in Children: A Practical Pediatric Approach Mehri Najafi MD Professor in Pediatric Pediatric gastroenterologist Chronic abdominal pain (CAP) is one of the most common reasons for referral to pediatric clinics and is defined as recurrent or persistent abdominal pain lasting for at least two months. It affects approximately 10–20% of school-aged children and can significantly impair daily activities, school attendance, and quality of life. Most cases are classified as functional abdominal pain disorders, including irritable bowel syndrome, functional dyspepsia, abdominal migraine, and functional abdominal pain–not otherwise specified. Organic causes, although less common, include inflammatory bowel disease, celiac disease, peptic disorders, constipation, urinary tract pathology, and hepatobiliary diseases. A detailed history and thorough physical examination remain the cornerstone of diagnosis. Alarm features such as weight loss, gastrointestinal bleeding, persistent vomiting, nocturnal symptoms, growth failure, or abnormal physical findings warrant further investigation. The evaluation should be individualized to avoid unnecessary diagnostic testing while identifying children who require additional assessment. Management of functional abdominal pain focuses on patient and family education, reassurance, normalization of daily activities, dietary optimization, and treatment of associated constipation or psychosocial stressors. Cognitive behavioral therapy and other psychological interventions have demonstrated efficacy in improving symptoms and functional outcomes. Pharmacological therapy may be considered selectively based on symptom profile and underlying diagnosis. A multidisciplinary, biopsychosocial approach provides the best long-term outcomes for children with chronic abdominal pain. Early recognition, appropriate evaluation, and evidence-based management can reduce healthcare utilization, improve quality of life, and minimize the burden on affected children and their families. Continued research is needed to refine diagnostic strategies and develop targeted therapeutic interventions for pediatric chronic abdominal pain.

Constipation in infant and children

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Gastroenterology

abstract: Introduction: Functional constipation is responsible for more than 95 percent of cases of constipation in healthy children one year and older and is particularly common among preschool-aged children. Epidemiology: Infants and children - There are three periods during which the infant and developing child are particularly prone to developing functional constipation; After the introduction of cereals and solid food into the diet (age six months to one year) • During toilet training (age two to three years) • During the start of school (age three to five years) Painful defecation is common trigger for stool withholding when child avoids defecation because of pain, stool accumulates in the rectum and becomes harder or larger, causing even more pain when they are passed. Manometric studies have suggested that some constipated children have "dyssynergia" (contraction of the external sphincter when they try to defecate), Other children appear to have poor relaxation of the internal sphincter (which is not under voluntary control), known as internal anal sphincter (IAS) achalasia. Diagnosis: requires at least two the following symptoms for the past month (2): •On average, two or fewer defecations per week •On average, at least one episode of fecal incontinence per week (if the child is toilet trained) •History of retentive posturing, straining, or inappropriate stool retention (stool withholding) •History of painful or hard bowel movements •Presence of a large fecal mass in the rectum • History of large-diameter stools

Diagnosis and Management of Faltering Weight

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Gastroenterology

abstract: Faltering Weight in Children 1. New Terminology & Diagnostic Criteria The term "Failure to Thrive" has been officially replaced with "Faltering Weight" to eliminate stigma, resolve definitional inconsistencies, and move away from the outdated "organic vs. non-organic" classification. The new diagnosis is based on standardized Z-score cutoffs rather than percentiles, allowing for greater precision at the extremes of growth charts. Diagnosis requires meeting any of the following criteria: • Weight-for-length or BMI-for-age -1.65 Z-score (5th percentile). • In children -2 Z-score for age (2.3rd percentile) per WHO standards. • A decline in weight, weight-for-length, or BMI ≥ 1 Z-score (e.g., dropping from the 50th to the 15th percentile). 2. Common Underlying Etiologies (Focus on Infants) Faltering weight is a symptom, not a final diagnosis. The most common causes include: • Acute infections (sepsis, UTI, bronchiolitis) presenting with fever and lethargy. • Feeding disorders (prematurity, oropharyngeal anomalies, neuromuscular weakness, oral aversion). • GERD (often with esophagitis, presenting as irritability, arching, or Sandifer syndrome). • Pyloric stenosis (non-bilious projectile vomiting, "hungry vomiter" around 4–6 weeks). • Cow's milk protein allergy (vomiting, diarrhea, bloody stools, atopy). • Malnutrition (poverty, improper formula dilution, restrictive diets). • Rare causes: Inborn errors of metabolism, primary immunodeficiencies, renal tubular acidosis, and congenital heart disease. 3. Diagnostic Approach (Who to Test?) A thorough history, feeding observation, and physical examination remain the cornerstones of evaluation. • Against Routine Testing: Strong recommendation against routine laboratory tests (CBC, electrolytes, imaging) in children without specific signs, symptoms, or risk factors. In hospitalized cohorts, routine tests lead to an underlying diagnosis in only ~1% of cases, incurring high costs and moderate harm. • When to Test: Conditional recommendation for targeted diagnostic testing in children with persistent faltering weight (≥3 months) , significant malnutrition, concerning family history, or specific symptoms (e.g., chronic diarrhea, dysphagia). • Endoscopy: Strongly recommended against as part of the initial workup. It should be reserved conditionally for children with persistent faltering weight despite nutritional intervention or when conditions like celiac disease or eosinophilic esophagitis are strongly suspected. 4. Treatment Strategies (Three Pillars) • A) Increased Caloric Intake (Strong Recommendation): This is the first-line intervention. Despite very low-certainty evidence, the panel strongly recommends it due to large potential benefits and minimal, manageable harms (excessive weight gain, stress). Practical strategies include: • Fortifying formula (e.g., increasing from 20 to 22–24 kcal/oz). • Adding calorie-dense foods to complementary feeds (oil, butter, avocado, peanut butter). • For breastfed infants, supplementation should be done with minimal disruption to lactation. 5. B) Oral Nutritional Supplements (Conditional Recommendation): High-calorie formulas and oral supplements (e.g., Pediasure) are suggested for infants on formula or children 12 months. Studies show a mean weight gain increase of ~17.8 g/day. However, this is conditional due to high costs,

limited accessibility, potential for reduced solid food intake, allergies, and the risk of excessive weight gain C) Pediatric Feeding Therapy (Conditional Recommendation): For children with documented feeding difficulties (oral aversion, dysphagia, motor delays), referral to a speech-language pathologist or occupational therapist with pediatric feeding expertise is suggested. While weight gain improvements are modest, this therapy significantly enhances cognitive and motor development. 5. Equity & Implementation Considerations • Socioeconomic Status (SES): The panel strongly advises against using SES as an assigned risk factor for diagnosis, as studies in resource-abundant countries show no consistent link, and its use exacerbates health inequities. However, clinicians must screen for social drivers of health (food insecurity, housing) to connect families with support programs (e.g., WIC, SNAP). • System Changes: Electronic Health Records (EHRs) should be updated to auto-calculate Z-scores. Telehealth is strongly encouraged to improve access to feeding specialists, especially in underserved areas. An official Implementation Toolkit is available via the AAP website. Conclusion: Faltering weight is now defined by precise Z-score criteria. Diagnosis relies primarily on clinical evaluation, avoiding costly and unnecessary routine tests. Management focuses on aggressive caloric optimization, with targeted use of supplements and feeding therapy based on individual patient needs, while maintaining a strong emphasis on health equity.

Efficacy of Lactobacillus reuteri Probiotic in the Bowel Preparation Regimen of Children Candidates for Colonoscopy

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Gastroenterology

abstract: Bowel preparation can directly affect the final outcome of a colonoscopy. However, limited studies have been conducted regarding the effect of probiotics on intestinal preparation. Thus, the present study aims to investigate the effect of Lactobacillus reuteri probiotics in the bowel preparation regimen of children who are candidates for colonoscopy. . I. In the study conducted by Kesavelu et al., children received a preparation comprising senna and probiotic Bacillus coagulans, which resulted in successful bowel preparation in all patients, with a mean BBPS score of 2.93 ± 0.25, indicating effective bowel cleansing In this double- blind, placebo-controlled, randomized clinical trial, 84 colonoscopy candidate pediatric patients were enrolled. Patients were divided into two equal groups of 42 individuals. One group of patients underwent the bisacodyl, polyethylene glycol regimen 48 h before colonoscopy, as along with a placebo. The other group was administered L. reuteri 10 days before colonoscopy and also received bisacodyl and polyethylene glycol 48 h before the procedure. Then, the bowel preparation of the patients was assessed using the Boston Bowel Preparation Scale (BBPS). The mean age of patients in the placebo and probiotic groups was 94.1 ± 43.8 and 111.2 ± 48.8 months, respectively (p = 0.10). The preparation of the left colon was not significantly different between the placebo and probiotic groups (p = 0.075). The effect of L. reuteri probiotic on the preparation of the right colon was excellent in 18 patients (42.86%) and good in 17 patients (40.47%). The preparation of the right colon was significantly different between the placebo and probiotic groups (p = 0.007). Based on the results, there was a significant association between the consumption of L. reuteri and placebo in the preparation of the transverse colon . F. Begum, K. L. Nahid, F. Islam, W. Majumder, M. Rukunuzzaman, and A. B. Karim, “Paediatric Colonoscopy: Experience From Pediatric Gastroenterology and Nutrition Department, BSMMU,” Bangladesh Journal of Child Health 45, colonoscopy-preparation-probiotic-Lactobacillus reuteri -polyethylene glycol -

Essential Micronutrient Supplementation in Childhood: Evidence-Based Guidelines for Vitamin A, D, Iron, and Beyond

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abstract: This lecture provides a comprehensive, evidence-based overview of essential micronutrient supplementation in pediatric practice, addressing vitamin A, vitamin D, iron, and other clinically significant micronutrients. Topics include current international guidelines, age-specific dosing recommendations, indications for supplementation versus dietary sufficiency, and practical screening and monitoring strategies for at-risk populations. Special attention is given to high-yield clinical scenarios and common pitfalls in everyday practice. The session equips pediatricians with a practical, up-to-date framework for preventing micronutrient deficiencies and optimizing growth, development, and long-term health outcomes in children.

Gastroesophageal Reflux in Infancy

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abstract: Abstract Background: Gastroesophageal reflux (GER) is a physiological phenomenon in infants, characterized by effortless regurgitation that typically peaks at 3–4 months and resolves spontaneously by 12–24 months in the vast majority (up to 88% by 12 months and nearly all by 24 months). However, when reflux causes bothersome symptoms—such as esophagitis, feeding aversion, growth failure, or respiratory manifestations—it is defined as gastroesophageal reflux disease (GERD). Distinguishing GER from GERD in preverbal infants remains a clinical challenge, as excessive crying, fussiness, and feeding difficulties are common and often non-specific, overlapping with normal infant behavior. Pediatricians often face pressure from concerned parents, leading to widespread overprescription of acid-suppressing medications for physiological GER. Pathophysiology: The antireflux barrier relies on the lower esophageal sphincter (LES) and diaphragmatic crura. Transient LES relaxations (TLSERs), triggered mainly by gastric distension, are the primary mechanism of reflux. These relaxations occur independently of swallowing, reduce LES pressure to 0-2 mm Hg, and last 10-60 seconds. In GERD, defective clearance, impaired mucosal resistance, and hiatal hernia perpetuate esophageal injury. Chronic esophagitis creates a vicious cycle by producing peristaltic dysfunction, decreased LES tone, and inflammatory shortening, all worsening reflux. Epidemiology and Clinical Presentation: Infantile reflux peaks at 4 months and resolves in up to 88% by 12 months and nearly all by 24 months. GERD symptoms are age-dependent: infants present with regurgitation, irritability, arching, choking, feeding aversion, and failure to thrive; older children develop heartburn, epigastric pain, and respiratory complaints including wheezing, chronic cough, laryngitis, and recurrent pneumonia. Neurologically impaired children are at increased risk. Sandifer syndrome is a specific but uncommon presentation. Diagnosis: Diagnosis is primarily clinical. Standardized questionnaires such as the GERDQ facilitate assessment (score 8-10 indicates 79% GERD probability). Alarm signs (bilious vomiting, projectile vomiting, GI bleeding, lethargy, organomegaly, abdominal distention, dysphagia, failure to thrive, fever, or seizures) warrant further investigation and consideration of differential diagnoses including pyloric stenosis, malrotation, cow's milk protein allergy, and eosinophilic esophagitis. Esophageal pH monitoring quantifies acid reflux (normal distal exposure 5-8%). Its main indications include assessing acid suppression efficacy and evaluating atypical presentations. Multichannel intraluminal impedance detects acid and non-acid reflux, valuable for respiratory symptoms. Endoscopy with biopsy diagnoses erosive esophagitis (found in ~12% of children), strictures, Barrett esophagus, and rules out eosinophilic esophagitis. Empirical PPI trial may be considered in older children, but systematic reviews show no benefit of PPI over placebo in infants with symptomatic GERD based on crying alone. Management: Conservative measures are first-line and can improve symptoms in 24-59% of infants. These include parental education; dietary modifications (normalizing feeding techniques and volumes; thickening feeds with oat cereal at 1 tablespoon per ounce, starting at 4-6 months; avoiding overfeeding; 2-week hypoallergenic diet trial); positioning (supine for sleep;

prone when awake; avoiding semi-seated positions); and avoidance of tobacco smoke. Pharmacotherapy is reserved for confirmed GERD: PPIs provide the most potent acid blockade and are superior to H2RAs for severe esophagitis, though children require higher weight-based doses. H2RAs are effective for mild-to-moderate esophagitis but limited by tachyphylaxis; ranitidine was recalled in 2020. Antacids are not recommended for chronic use. Prokinetics have limited efficacy and FDA black box warning for tardive dyskinesia; baclofen may help in selected neurologically impaired children. Surgery (fundoplication) is reserved for refractory cases but carries substantial failure rates (14-20%) and complications, especially in neurologically impaired children. Conclusion: Physiologic GER in infants is benign and self-limiting. The key challenge is avoiding over-diagnosis and overtreatment while identifying the minority who require targeted intervention. A conservative, evidence-based approach is essential. Keywords: Gastroesophageal Reflux, Infant, GERD, Diagnosis, Management

Profile of Children With Non-alcoholic Fatty Liver Disease Referred to a Hospital in Iran

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Gastroenterology

abstract: Background and Purpose: Non-alcoholic fatty liver disease (NAFLD) has become a health concern in children and adolescents. Early detection and intervention are crucial to prevent its long-term complications. This study aimed to identify demographic, clinical, and laboratory characteristics of children with NAFLD referred to a hospital in Iran. Materials and Methods: This descriptive cross-sectional study was conducted on 66 children with NAFLD aged ≤18 years referred to Children's Medical Center in Tehran, Iran during 2021-2022. The NAFLD diagnosis was via ultrasound or liver biopsy. Demographic and laboratory data were collected from an electronic health record system, and lifestyle information (physical activity (PA) and nutrition) was gathered using a standardized screening questionnaire. Statistical tests such as chi-square, Fisher's exact, independent sample t-test, and ANOVA were performed in SPSS software, version 27. The significance level was set at 0.05. Results: The majority of children were male (74%), with a mean age of 118.04±42.01 months and a mean BMI of 26.37 kg/m2 (75.93% overweight). A significant proportion of participants had a family history of fatty liver disease (57.4%). Children's PA level was low; 50% engaged in less than 420 minutes of PA per week. Eating habits were also concerning; 68.5% eat fast food and sweets almost daily. Laboratory findings revealed elevated levels of alanine transaminase (ALT), triglycerides (TG), and total cholesterol (TC) (60.72±59.06 U/L, 65.35±142.54 mg/dL, 35±166.71 mg/dL, respectively). Conclusion: This study highlights the importance of considering family history and metabolic markers in NAFLD diagnosis and management. Most of the children with NAFLD referred to the study hospital were male with a family history of NAFLD and elevated liver enzymes and lipid levels. Keywords: Non-alcoholic fatty liver disease (NAFLD), Pediatric fatty liver, Clinical indicators, Pediatric obesity

Severe Acute Hepatitis of Unknown Origin in Children: Clinical Characteristics, Management, and Outcomes in a Single-Center Case Series

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Gastroenterology

abstract: In early 2022, clusters of severe acute hepatitis of unknown origin were reported in previously healthy children from multiple countries. To describe the clinical features, treatment approaches, and outcomes of children with severe acute hepatitis of unknown origin. This retrospective single-center study evaluated children diagnosed with severe acute hepatitis of unknown origin at a tertiary pediatric referral hospital. Clinical manifestations, laboratory findings, treatment strategies, histopathologic findings, hospital outcomes, and followup data were reviewed. Recovery during follow-up was classified as complete or partial according to liver biochemical and synthetic function recovery. Nineteen children were included. Jaundice was the most common presenting manifestation, and nearly half of the patients developed acute hepatic failure during hospitalization. Severe disease was frequently associated with hepatic encephalopathy, intensive care admission, and systemic complications. Initial laboratory evaluation demonstrated marked hepatocellular injury together with cholestatic and synthetic dysfunction. Serial laboratory assessment showed gradual biochemical improvement during hospitalization and follow-up. Most survivors demonstrated progressive recovery, with substantial improvement in liver biochemical and synthetic function parameters by approximately 6 months. Conventional corticosteroids and pulse methylprednisolone were commonly used, particularly in patients with progressive disease. Two patients died during hospitalization, and one additional patient died during follow-up after discharge. Histopathologic findings were heterogeneous but predominantly inflammatory. Namakin, Kosar et al. “Severe acute hepatitis of unknown etiology in children in 2022: A Narrative Review.” New microbes and new infections vol. 51 101087. 21 Jan. 2023, doi:10.1016/j.nmni.2023.101087 Acute hepatitis; Acute liver failure; Children; Corticosteroids; Hepatic dysfunction This retrospective study examined clinical characteristics and outcomes in 19 children diagnosed with severe acute hepatitis of unknown origin. Jaundice was the most frequent presentation, with nearly half of patients developing acute hepatic failure. Severe disease often necessitated intensive care due to encephalopathy and systemic complications. Laboratory results revealed marked hepatocellular, cholestatic, and synthetic dysfunction. While corticosteroid therapy was common, two patients died during hospitalization, and one died post-discharge. Despite the severe initial presentation, most survivors showed gradual biochemical recovery within six months. The inflammatory histopathology and positive response to corticosteroids suggest a potential immune-mediated pathogenesis, warranting further investigation into optimal management strategies for this critical condition.

Challenges of the genetic diagnosis of hypermobile Ehlers–Danlos Syndrome

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Rheumatology

abstract: Challenges of the genetic diagnosis of hypermobile Ehlers–Danlos Syndrome Abstract Introduction: Ehlers-Danlos syndrome is a group of inherited connective tissue disorders affecting the skin, joints, and vasculature, with the hypermobile Ehlers-Danlos syndrome being the most common. As the molecular etiology of hypermobile Ehlers-Danlos syndrome is currently unknown, diagnosis is based on clinical criteria, including generalized joint hypermobility, systemic manifestations of connective tissue disorders, and the exclusion of alternative diagnoses. Despite these guidelines, the specific role of genetic testing remain challenging and lack full refinement. In this review, we aimed to evaluate challenges of genetic diagnosis of hypermobile Ehlers–Danlos Syndrome. Method and material: This narrative review assessed challenges of genetic diagnosis of hypermobile Ehlers–Danlos Syndrome based on previuos studies from 2018 to 2023. Keywords included “Ehlers–Danlos Syndrome”, OR “hypermobile Ehlers–Danlos Syndrome”, AND “hypermobility”, AND “gene”, OR ”genetic”. Case-reports, case-series, and review studies were excluded. Result: Many monogenic disorders present with joint laxity. Evaluation for skeletal or connective tissue disorders is indicated when there is a personal or family history of aortic disease, sudden cardiac death, retinal detachment, keratoconus, brittle bones, or significant dental anomalies. In patients with RYR1- and SEPN1-related myopathies, joint laxity can be a key finding, necessitating both genetic and neurological assessments. Joint laxity is also associated with chromosomal abnormalities like triple X syndrome, 1q21.1 deletion, and 16p13.11 microduplication. Furthermore, TPSAB1 duplications cause elevated serum alpha-tryptase and a multisystem phenotype that resembles hypermobile Ehlers-Danlos syndrome, including joint laxity and autonomic dysfunction. Conclusion: Despite emerging evidence on genetic variations in hypermobile Ehlers-Danlos syndrome, the exact causative genes remain unknown. Further studies are required to precisely identify the genetic basis of the syndrome Keyword: hypermobile Ehlers–Danlos syndrome, genetic testing, diagnosis

Neonatal Lupus

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Rheumatology

abstract: Neonatal lupus erythematosus (NLE) is a rare, passively acquired autoimmune condition caused by the transplacental passage of maternal autoantibodies, most commonly anti-Ro/SSA and anti-La/SSB antibodies. These antibodies target fetal tissues, leading to distinct clinical manifestations. The most serious complication is congenital heart block (CHB), which typically presents in utero during the second trimester and results from immune-mediated injury to the fetal cardiac conduction system. CHB is often permanent and may require pacemaker implantation. Cutaneous manifestations, including characteristic annular, erythematous, and photosensitive skin lesions, are common and typically appear within the first weeks to months of life. These skin findings are generally benign and resolve spontaneously by 6–12 months of age as maternal antibodies are cleared. Other less frequent features include thrombocytopenia, hepatobiliary disease (elevated liver enzymes), and mild hematological abnormalities. The diagnosis of NLE is confirmed by the presence of maternal anti-Ro/SSA and/or anti-La/SSB antibodies, along with characteristic clinical findings in the infant. Management is primarily supportive and organ-specific; for instance, cardiac pacing may be required for symptomatic CHB, while skin lesions are managed with sun avoidance and topical corticosteroids. Early recognition and a multidisciplinary approach are crucial for optimizing outcomes. All infants born to mothers with these autoantibodies should undergo electrocardiographic and echocardiographic monitoring, as timely intervention can be life-saving in cases of severe cardiac disease.

An introduction to the pediatric mechanical ventilation

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PICU

abstract: تهویه مکانیکی در کودکان در مواردی انجام میشود که فعالیت تنفسی بیمار برای اکسیژناسیون و تنظیم دی اکسید کربن خون کافی نبوده و یا به علل آسیب مغزی و یا مسمومیت تنفس بیمار قطع و یا برادی پنه رخ داده باشد. همچنین در صورت نارسایی قلبی, شوک کاردیوژنیک و نیز انواع دیگر شوک, تهویه مکانیکی به کارکرد بهتر قلب کمک میکند. تهویه مکانیکی در نارسایی قلبی همانند اینوتروپ به عملکرد بهتر قلب کمک میکند. در حین انتوباسیون, درمانگران با مراقب اثرات جانبی داروهای سداتیو و خواب آور که به بیمار بد حال و احتمالا دهیدره با قلب خسته و آسیب پذیر تجویز میکنند باشند. این داروها میتوانند باعث ارست ناگهانی و برگشت ناپذیر قلب شوند. راه حل این موارد هیدراسیون صحیح, تجویز اینوتروپ قبل از سداتیو و همچنین دوز حداقل داروهای اینوتروپ منفی از جمله میدازولام است. بیماری که با ونیتلاسیون مکانیکی تنفس میکند باعث در حین این روند کاملا آرام و بدون درد باشد. کاملا آرام و بدون درد. در این صحبت به جزییات موارد مطرح شده میپردازیم.

Antimicrobial Therapy and Stewardship in Pediatric Sepsis

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PICU

abstract: Antimicrobial stewardship has become a cornerstone of modern sepsis management, aiming to optimize antimicrobial therapy while minimizing the emergence of antimicrobial resistance, drug-related toxicity, and unnecessary healthcare costs. The 2026 Surviving Sepsis Campaign guidelines reinforce that stewardship principles should be integrated throughout the continuum of sepsis care, beginning with timely recognition and extending to reassessment, de-escalation, and treatment discontinuation. Early administration of empiric antimicrobial therapy remains a priority, with broad-spectrum agents selected according to the suspected source of infection, local epidemiology, patient-specific risk factors, previous microbiological data, and the likelihood of multidrug-resistant pathogens. In children with suspected septic shock, antimicrobial therapy should be initiated as soon as possible, ideally within one hour of recognition, whereas in children with probable sepsis without shock, a brief diagnostic evaluation is recommended before treatment initiation, with antibiotics administered ideally within three hours if sepsis remains likely. Appropriate microbiological cultures should be obtained before antibiotic administration if this does not delay treatment. Following clinical stabilization and microbiological results, daily reassessment of antimicrobial therapy is strongly encouraged to facilitate narrowing of the antimicrobial spectrum, discontinuation of unnecessary agents, and transition to targeted therapy. Antimicrobial duration should be individualized according to the infection source, adequacy of source control, microbiological findings, and clinical response rather than predetermined treatment courses. Biomarkers such as procalcitonin are not recommended for routine guidance of antimicrobial de-escalation in pediatric sepsis because of insufficient supporting evidence. Successful antimicrobial stewardship also depends on prompt source control, optimization of antimicrobial pharmacokinetics and pharmacodynamics through appropriate dosing strategies, and close collaboration among intensivists, infectious disease specialists, microbiologists, pharmacists, and antimicrobial stewardship teams. Collectively, the 2026 recommendations advocate a balanced strategy that ensures immediate effective treatment for life-threatening infection while promoting responsible antimicrobial prescribing, thereby improving patient outcomes and preserving antimicrobial efficacy for future generations.

oral

Blood product administration and the role of immunotherapy in septic shock

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PICU

abstract: سپسیس و شوک سپتیک در کودکان همچنان از مهم‌ترین چالش‌های درمانی در بخش‌های مراقبت ویژه محسوب می‌شوند و علی‌رغم پیشرفت‌های قابل توجه در تشخیص و درمان، میزان مرگ‌ومیر و ناتوانی ناشی از آن همچنان قابل توجه است. تشخیص زودهنگام، احیای هدفمند، آنتی‌بیوتیک مناسب و پایش دقیق، پایه‌های اصلی مدیریت سپسیس را تشکیل می‌دهند؛ اما تصمیم‌گیری درباره درمان‌های کمکی مانند ایمونوگلوبولین‌ها و فرآورده‌های خونی نیازمند ارزیابی دقیق شواهد و توجه به توصیه‌های استفاده از ایمن گلوبولین بر اساس توصیه‌های جدید کمپین‌های مدیریت سپسیس، استفاده ..به‌روز کمپین‌های بین‌المللی است می‌تواند با خنثی‌سازی IVIG در کودکان مبتلا به سپسیس یا شوک سپتیک توصیه نمی‌شود. اگرچه از نظر تئوریک IVIG روتین از توکسین‌ها، افزایش اپسونیزاسیون و تعدیل پاسخ التهابی نقش حمایتی داشته باشد، اما مطالعات بالینی نتوانسته‌اند سود مشخص و پایداری را نشان دهند. در بررسی‌های انجام‌شده، تفاوت معنی‌داری در مرگ‌ومیر، طول بستری، مدت تهویه مکانیکی یا پیامدهای و گروه کنترل مشاهده نشده است. حتی در برخی مطالعات، افزایش مدت بستری، نیاز IVIG نورولوژیک بین دریافت‌کنندگان می‌تواند در گروه‌های خاصی IVIGبا وجود این، .بیشتر به تهویه مکانیکی و استفاده از درمان‌های پیشرفته گزارش شده است مورد توجه قرار گیرد؛ از جمله کودکان دارای نقص ایمنی هومورال اولیه، بیماران ایمونوساپرس با سطح پایین ایمونوگلوبولین، و در کنار درمان آنتی‌بیوتیکی ممکن است نقش کمکی داشته باشد. IVIG برخی موارد شوک توکسیک استرپتوکوکی که در آن‌ها تزریق فرآورده های خونی .باید انتخابی، هدفمند و بر اساس ارزیابی دقیق وضعیت ایمنی بیمار باشد IVIG بنابراین، استفاده از تزریق گلبول قرمز در کودکان پایدار از نظر همودینامیک، توصیه می‌شود که در صورت داشتن هموگلوبین ۷ گرم‌دردسی‌لیتر یا بیشتر، اجتناب شود. مطالعات نشان داده‌اند که استراتژی محدودکننده در این بیماران ایمن است و تفاوتی در بروز RBC از ترانسفوزیون برای کودکان ناپایدار از نظر همودینامیک، شواهد کافی .نارسایی چند ارگان یا مرگ‌ومیر نسبت به استراتژی لیبرال ایجاد نمی‌کند برای تعیین آستانه مشخص وجود ندارد و تصمیم‌گیری باید بر اساس وضعیت بالینی انجام شود. در این موارد، توصیه می‌شود که انجام شود تا از تزریق غیرضروری و عوارض احتمالی جلوگیری TAXI تزریق خون بر اساس اصول و راهنماهای معتبر مانند تزریق پلاکت ترانسفوزیون پروفیلاکتیک پلاکت در کودکان بدون خونریزی، صرفاً بر اساس عدد پلاکت، توصیه نمی‌شود. .شود شواهد نشان می‌دهد که این کار می‌تواند با پیامدهای نامطلوبی مانند افزایش طول بستری، پیشرفت نارسایی ارگان و افزایش مرگ‌ومیر با این حال، در مواردی که خطر خونریزی بالا است—مانند پلاکت‌های بسیار پایین، بیماران انکولوژیک یا کودکان .همراه باشد تصمیم‌گیری باید فردمحور و بر اساس ارزیابی دقیق خطر انجام شود. در این زمینه نیز توصیه می‌شود که تزریق —ECMO تحت انجام شود تا تعادل مناسبی بین پیشگیری از خونریزی و جلوگیری از عوارض TAXI-CAB پلاکت بر اساس راهنمای تزریق پلاسما ترانسفوزیون پروفیلاکتیک پلاسما در کودکان بدون خونریزی، حتی در صورت وجود .ترانسفوزیون برقرار شود

اختلالات آزمایش‌های انعقادی، توصیه نمی‌شود. مطالعات نشان داده‌اند که اگرچه پلاسما ممکن است مقادیر آزمایشگاهی را اصلاح ، بیماران انکولوژیک یا کودکان تحت حمایتDIC کند، اما تأثیری بر پیامدهای بالینی ندارد .تنها در شرایط خاص مانند خطر بالای و انتقال TACO، TRALI عوارض احتمالی ترانسفوزیون شامل .می‌توان استفاده انتخابی از پلاسما را در نظر گرفت ECMO عفونت است که باید در تصمیم‌گیری جمع بندی مرور شواهد نشان می‌دهد که در مدیریت سپسیس کودکان، استفاده روتین از نیز تنها در شرایط مشخص و با آستانه محدودکننده قابل انجام RBC ، پلاکت و پلاسما توصیه نمی‌شود و ترانسفوزیونIVIG است. تصمیم‌گیری درباره این مداخلات باید بر اساس وضعیت بالینی، خطر خونریزی، نقص ایمنی و شرایط فردی بیمار انجام در نهایت، تمرکز اصلی درمان سپسیس کودکان باید بر احیای منطقی، آنتی‌بیوتیک مناسب، پایش دقیق و مداخلات اثبات‌شده .شود .باشد و درمان‌های کمکی تنها در شرایط انتخاب‌شده و با قضاوت بالینی دقیق مورد استفاده قرار گیرند

fluid therapy in pediatric septic shock

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abstract: سپسیس و شوک سپتیک از مهم‌ترین علل مرگ‌ومیر کودکان در سراسر جهان هستند و تشخیص و درمان سریع آن‌ها ، سپسیس به‌صورت اختلال Surviving Sepsis Campaign 2026 تأثیر مستقیمی بر پیامد بیماران دارد. بر اساس راهنمای عملکرد ارگان ناشی از پاسخ نابجای میزبان به عفونت تعریف می‌شود و شوک سپتیک شدیدترین شکل سپسیس است که با اختلال شدید همودینامیک، کاهش پرفیوژن بافتی و افزایش خطر مرگ مشخص می‌شود. در این راهنما بر شناسایی زودهنگام بیماران، اندازه‌گیری لاکتات خون به‌عنوان بخشی از ارزیابی اولیه و آغاز سریع درمان‌های استاندارد تأکید شده است، زیرا تأخیر در احیا با افزایش مرگ‌ومیر همراه است. مایع‌درمانی همچنان نخستین اقدام درمانی در احیای کودکان مبتلا به شوک سپتیک محسوب می‌شود، و اجتناب از تجویز (Goal-directed fluid resuscitation) اما راهنمای ۲۰۲۶ نسبت به نسخه‌های پیشین بر احیای هدفمند بی‌رویه مایعات تأکید بیشتری دارد. در مراکزی که دسترسی به بخش مراقبت ویژه، تهویه مکانیکی، داروهای وازواکتیو و پایش همودینامیک وجود دارد، تجویز کریستالوئید به میزان ۴۰ تا ۶۰ میلی‌لیتر به ازای هر کیلوگرم طی ساعت اول توصیه می‌شود. این حجم باید به‌صورت بولوس‌های متوالی ۱۰ تا ۲۰ میلی‌لیتر به ازای هر کیلوگرم تزریق شود و پس از هر بولوس، بیمار از نظر پاسخ همودینامیک به‌طور کامل ارزیابی گردد. این تغییر رویکرد، یکی از مهم‌ترین تفاوت‌های راهنمای جدید با رویکردهای قدیمی است که بر تجویز سریع حجم‌های زیاد مایع تأکید داشتند. ارزیابی مکرر بیمار پس از هر بولوس، بخش اساسی مایع‌درمانی محسوب می‌شود. شاخص‌های بالینی شامل بهبود ضربان قلب، افزایش فشار خون، کاهش زمان پرشدگی مویرگی، گرم شدن اندام‌ها، بهبود کیفیت نبض‌ها، افزایش سطح هوشیاری و برقراری برونده ادراری مناسب باید به‌طور متوالی بررسی شوند. علاوه بر این، روند تغییرات لاکتات خون می‌تواند در ارزیابی کفایت احیا کمک‌کننده باشد، هرچند تصمیم‌گیری نباید صرفاً بر اساس یک عدد لاکتات برای ارزیابی عملکرد قلب، وضعیت (POCUS) انجام شود. در مراکز مجهز، استفاده از اکوکاردیوگرافی و سونوگرافی کنار تخت حجم داخل عروقی و تشخیص علائم اضافه‌بار مایع می‌تواند دقت تصمیم‌گیری را افزایش دهد. راهنمای ۲۰۲۶ تأکید ویژه‌ای بر دارد. ادامه تجویز بولوس تنها زمانی توصیه می‌شود که بیمار همچنان شواهد هیپوپرفیوژن داشته Fluid overload پیشگیری از باشد و علائمی از تجمع مایع مشاهده نشود. بروز رال ریوی، افزایش نیاز به اکسیژن، تشدید دیسترس تنفسی، هپاتومگالی، ادم محیطی یا سایر شواهد احتقان باید به‌عنوان نشانه‌ای برای توقف مایع‌درمانی در نظر گرفته شود. این توصیه بر پایه شواهدی است ، نارسایی چند ارگان و افزایش مرگ‌ومیر ICU که نشان می‌دهند اضافه‌بار مایع با افزایش مدت تهویه مکانیکی، طول بستری در ارتباط دارد؛ بنابراین، هدف درمان تنها افزایش حجم داخل عروقی نیست، بلکه دستیابی به پرفیوژن مناسب با حداقل تجمع مایع است. از نظر نوع مایع، راهنما استفاده از کریستالوئیدها را برای احیای اولیه توصیه می‌کند و استفاده روتین از آلبومین را پیشنهاد نسبت به نرمال سالین ارجح دانسته Plasma-Lyte نمی‌دهد. همچنین محلول‌های کریستالوئیدی بالانس مانند رینگر لاکتات یا شده‌اند، زیرا احتمال ایجاد اسیدوز هایپرکلرمیک و آسیب کلیوی در آن‌ها کمتر است، اگرچه کیفیت شواهد هنوز محدود است. در

مقابل، استفاده از محلول‌های هیدروکسی‌اتیل‌نشاسته توصیه نمی‌شود و ژلاتین نیز جایگاهی در احیای اولیه ندارد. یکی از نکات مهم این راهنما، تفاوت راهبرد مایع‌درمانی در مراکز مجهز و مراکز فاقد امکانات مراقبت ویژه است. در بیمارستان‌هایی که دسترسی به ICU یا امکانات پایش پیشرفته وجود ندارد، در کودکان مبتلا به سپسیس که دچار افت فشار خون نیستند، تجویز بولوس مایع توصیه نمی‌شود و تنها مایع نگهدارنده باید دریافت کنند، زیرا مطالعات انجام‌شده در این محیط‌ها افزایش عوارض ناشی از مایع‌درمانی تهاجمی را نشان داده‌اند. در صورت وجود هیپوتانسیون، می‌توان حداکثر ۴۰ میلی‌لیتر به ازای هر کیلوگرم کریستالوئید را طی ساعت اول و در بولوس‌های ۱۰ تا ۲۰ میلی‌لیتر به ازای هر کیلوگرم همراه با ارزیابی مکرر بیمار تجویز کرد. پس از پایان فاز احیا، مدیریت مایعات وارد مرحله جدیدی می‌شود که هدف آن حفظ تعادل مایع و جلوگیری از تجمع آن است. راهنما بر ثبت دقیق دریافت و دفع مایعات، ارزیابی روزانه وضعیت حجم، و در صورت ایجاد اضافه‌بار مایع، استفاده از محدودیت مایعات، دیورتیک‌ها یا درمان مایع‌درمانی را نه Surviving Sepsis Campaign 2026 جایگزینی کلیه در بیماران منتخب تأکید دارد. در مجموع، راهنمای به‌عنوان تجویز حجم ثابت، بلکه به‌عنوان یک فرآیند پویا، و مبتنی بر ارزیابی مداوم معرفی می‌کند که باید متناسب با پاسخ بالینی هر کودک تنظیم شود تا ضمن اصلاح هیپوپرفیوژن، ازاضافه بار پرهیز شود.

Golden Seconds That Save Lives: Key Updates in Pediatric Resuscitation Based on the 2025 AHA PALS Guidelines

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PICU

abstract: Pediatric cardiac arrest remains a time-critical emergency in which early recognition and immediate intervention are the strongest determinants of survival. The 2025 American Heart Association (AHA) Pediatric Advanced Life Support (PALS) Guidelines introduce several evidence-based updates aimed at improving both survival and neurological outcomes. High-quality cardiopulmonary resuscitation (CPR) continues to be the cornerstone of successful resuscitation, with emphasis on minimizing interruptions, ensuring adequate compression depth and rate, allowing complete chest recoil, and avoiding excessive ventilation. Notably, the two-finger chest compression technique for infants has been removed in favor of the heel-of-one-hand or two-thumb encircling hands technique to improve compression quality. The updated recommendations support earlier administration of epinephrine in non-shockable rhythms while maintaining rapid defibrillation as the priority for shockable cardiac arrest. New hemodynamic targets during CPR, including age-specific diastolic blood pressure goals when invasive monitoring is available, provide additional guidance for optimizing resuscitation quality. Furthermore, end-tidal carbon dioxide monitoring is recommended as an adjunct for assessing CPR effectiveness rather than as a sole predictor for termination of resuscitation. The guidelines also highlight comprehensive post–cardiac arrest care, including prevention of hyperthermia, optimization of oxygenation and perfusion, multimodal neurological assessment, and structured recovery planning. Together, these updates reinforce a systematic, team-based approach to pediatric resuscitation that translates current evidence into improved clinical outcomes.

Vasoactive Medications and Corticosteroids in Septic Shock:why and when?

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PICU

abstract: Septic shock represents the most severe form of sepsis and continues to be associated with substantial morbidity and mortality despite significant advances in critical care medicine. The syndrome is characterized by profound circulatory, cellular, and metabolic abnormalities that result in persistent hypotension, impaired tissue perfusion, and progressive organ dysfunction. Early recognition, prompt administration of broad-spectrum antimicrobial therapy, source control, and adequate fluid resuscitation remain the cornerstones of treatment. However, many patients continue to experience hemodynamic instability despite appropriate fluid therapy, making vasoactive medications essential for restoring adequate organ perfusion. Recent recommendations from the 2026 Surviving Sepsis Campaign, supported by Nelson Textbook of Pediatrics (2024), UpToDate, and contemporary evidence from PubMed, emphasize an individualized, physiology-based approach to vasopressor and corticosteroid therapy. Norepinephrine is recommended as the first-line vasopressor for both adult and pediatric patients with septic shock who remain hypotensive after adequate fluid resuscitation. Its potent α-adrenergic activity effectively increases systemic vascular resistance while preserving cardiac output more favorably than dopamine, resulting in improved blood pressure with a lower incidence of tachyarrhythmias. Dopamine is no longer routinely recommended because of its association with increased arrhythmias and less predictable hemodynamic responses, although it may still have a limited role in selected patients with significant bradycardia and a low risk of arrhythmias. Hemodynamic management should extend beyond achieving target blood pressure and instead focus on restoring effective tissue perfusion using dynamic clinical assessment, serum lactate trends, urine output, capillary refill time, and bedside echocardiographic evaluation whenever available. Although norepinephrine remains the preferred initial vasopressor, additional vasoactive agents may be required when shock persists. Epinephrine is recommended when higher doses of norepinephrine fail to achieve adequate perfusion or when myocardial dysfunction contributes significantly to circulatory failure. Owing to its combined α- and β-adrenergic effects, epinephrine improves both vascular tone and cardiac contractility, although clinicians should recognize its potential to increase serum lactate concentrations without necessarily indicating worsening tissue hypoxia. Vasopressin serves as an adjunctive rather than primary vasopressor and is commonly introduced in refractory septic shock to reduce catecholamine exposure and improve vascular responsiveness. In selected patients with septic myocardial dysfunction and reduced cardiac output despite adequate intravascular volume and arterial pressure, inotropic support with dobutamine may improve oxygen delivery and end-organ perfusion. The choice and titration of vasoactive medications should therefore be individualized according to the patient's hemodynamic profile rather than relying solely on predefined blood pressure targets. The role of corticosteroids in septic shock has undergone substantial refinement over the past decade. Current evidence does not support routine corticosteroid administration for every patient with septic shock. Instead, intravenous

hydrocortisone is recommended for patients who remain hemodynamically unstable despite adequate fluid resuscitation and appropriate vasopressor therapy. Randomized clinical trials and meta-analyses have demonstrated that hydrocortisone accelerates shock reversal, decreases vasopressor requirements, and may shorten intensive care unit stay, although its impact on overall mortality remains modest and somewhat inconsistent across studies. The proposed mechanisms include restoration of vascular responsiveness to catecholamines, attenuation of excessive systemic inflammation, stabilization of endothelial function, and correction of relative adrenal insufficiency that may develop during critical illness. Nevertheless, corticosteroid therapy should be accompanied by careful monitoring because adverse effects, including hyperglycemia, secondary infections, neuromuscular weakness, and electrolyte disturbances, may occur, particularly with prolonged treatment. In pediatric septic shock, the indications for corticosteroids are even more selective. Nelson 2024 and current pediatric recommendations advise considering hydrocortisone primarily in children with suspected or confirmed adrenal insufficiency, previous chronic corticosteroid exposure, or persistent catecholamine-resistant shock after optimization of fluid resuscitation and vasoactive support. Routine administration in all children with septic shock is not supported by available evidence, highlighting the importance of individualized clinical judgment and continuous reassessment. Overall, contemporary management of septic shock requires more than simply achieving numerical blood pressure goals. Successful treatment depends on integrating early antimicrobial therapy, adequate source control, judicious fluid administration, timely initiation of appropriate vasoactive medications, selective use of corticosteroids, and repeated evaluation of tissue perfusion and organ function. As understanding of the complex pathophysiology of septic shock continues to evolve, an evidence-based, patient-centered strategy remains fundamental to improving hemodynamic stabilization, limiting multiple organ dysfunction, and ultimately enhancing survival in both adult and pediatric populations.

VC or PC? Which one is better? Why?

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PICU

abstract: Traditionally mechanical ventilation is the art of proper ventilation, it is delivering O2 and removing CO2 This depends solely on time and volume. Volume plays the most important role. It was thought there is a priority to use pressure control modes over volume control modes to reduce risk of pneumothorax or barotrauma. In modern ventilation documents, there is no evidence of such a belief. Indeed, even in pressure control modes we have to increase pressure until the correct volue of ventilation is obtained. What do you do when there is mot a correct tidal volume according to disease state? Increasing or decreasing PIP. So why not using volume control modes as a first choice? VC, PC, Mode, Ventilator setup, pneumothorax, barotrauma It is obvious that there are no preferred mode. So use the one which you are familiar with.

acute scrotum in childes

Ashjaei Bahar [1] © Ⓟ

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Emergency

abstract: Acute Scrotum in Children: A Pediatric Emergency Ashjaei bahar Associate professor Department of pediatric surgery Tehran University of Medical Sciences Acute scrotum is a common pediatric emergency characterized by the sudden onset of scrotal pain, swelling, and redness. The condition requires prompt evaluation because some underlying causes, particularly testicular torsion, demand immediate surgical intervention to preserve testicular viability. Delayed diagnosis may result in irreversible ischemic damage, testicular loss, impaired fertility, and significant psychological consequences. The differential diagnosis of acute scrotum includes testicular torsion, torsion of the appendix testis, epididymitis, orchitis, trauma, incarcerated inguinal hernia, and idiopathic scrotal edema. Among these, testicular torsion is the most time-sensitive diagnosis. Clinical features such as sudden severe pain, nausea, vomiting, a high-riding testis, and an absent cremasteric reflex should raise strong suspicion. Although color Doppler ultrasonography is a valuable diagnostic tool, it should not delay surgical exploration when clinical findings strongly suggest torsion. Management depends on the underlying etiology. Immediate scrotal exploration with detorsion and bilateral orchiopexy is the standard treatment for testicular torsion. Testicular salvage rates exceed 90% when surgery is performed within six hours of symptom onset but decline rapidly with increasing ischemic time. Other causes, such as torsion of the appendix testis or epididymitis, are generally managed conservatively or with appropriate antimicrobial therapy when indicated. Early recognition, timely referral, and rapid multidisciplinary management remain essential to achieving optimal outcomes. Educating healthcare providers, emergency physicians, and families about the warning signs of acute scrotum can reduce diagnostic delays and improve testicular salvage rates. A standardized diagnostic approach combined with prompt intervention is crucial for minimizing morbidity and preserving future reproductive function in affected children.

CT first or Resuscitation first? Initial Decision-Making in Pediatric Major Trauma

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Emergency

abstract: CT First or Resuscitation First? Initial Decision-Making in Pediatric Trauma One of the most critical decisions we make during the first few minutes of managing a severely injured child is deciding when to perform a CT scan. At first glance, the question appears straightforward: Should we send the patient directly to the CT scanner, or should we complete resuscitation first? However, this question is not really about imaging. It is about prioritizing life-saving interventions during the golden minutes after trauma. With the widespread availability of multidetector CT scanners, there has been a growing tendency to obtain early imaging in pediatric trauma patients. While CT has dramatically improved our diagnostic capabilities, increasing evidence suggests that indiscriminate or premature imaging does not necessarily improve outcomes. In fact, transporting an unstable child away from the resuscitation bay may delay definitive treatment, interrupt ongoing resuscitation, and expose the patient to preventable complications. Our primary goal in the trauma bay is not to define the anatomy of the injury. Our first priority is to recognize and correct life-threatening physiological derangements. Imaging becomes valuable only after physiology has been stabilized. It is important to remember that a CT scanner is a diagnostic tool—not a therapeutic intervention. CT cannot secure the airway. It cannot stop hemorrhage. It cannot reverse hypoxia. It cannot treat shock. If a child deteriorates during transport to the scanner, the quality of the images becomes irrelevant. Imaging should never replace resuscitation, and any investigation that delays life-saving interventions has the potential to worsen patient outcomes. This principle becomes even more important in children because pediatric physiology differs significantly from that of adults. Children have remarkable compensatory mechanisms. They can maintain normal blood pressure despite substantial blood loss through increased heart rate and peripheral vasoconstriction. Consequently, hypotension is a late and ominous sign of circulatory failure. A normal blood pressure should never be interpreted as evidence of hemodynamic stability. Instead, greater attention should be paid to persistent tachycardia, prolonged capillary refill, altered mental status, cool extremities, poor peripheral perfusion, and rising serum lactate. These findings frequently indicate shock long before hypotension develops. This is precisely why the initial assessment must follow a structured primary survey. The purpose of the ABCDE approach is not merely to complete a checklist. Its purpose is to rapidly identify and immediately treat reversible causes of preventable death. Airway assessment must always be accompanied by cervical spine protection. Life-threatening breathing abnormalities must be corrected immediately. Hemorrhage should be recognized and controlled as early as possible. Neurological status should be reassessed repeatedly rather than documented only once. At the same time, hypothermia must be prevented because even mild hypothermia contributes to trauma-induced coagulopathy and worsens

outcomes. While resuscitation is ongoing, diagnostic adjuncts are performed in parallel. Adequate vascular access is established. Blood samples are obtained. Blood products are prepared when indicated. Portable chest and pelvic radiographs are obtained. Focused Assessment with Sonography for Trauma (FAST) is performed at the bedside. The key concept is that all diagnostic procedures should support resuscitation—not compete with it.FAST is an excellent bedside screening tool, particularly in unstable patients, but it has important limitations in children. A negative FAST examination does not exclude significant intra-abdominal injury. Therefore, FAST findings should always be interpreted within the broader clinical context rather than in isolation. Following initial resuscitation, the patient must be reassessed. Has the heart rate improved? Has peripheral perfusion normalized? Is oxygenation adequate? Is the child responding appropriately? Most importantly, does the patient still require ongoing resuscitative interventions? Only after physiological stabilization has been achieved should transportation to the CT scanner be considered. The decision to obtain CT imaging should never be based solely on diagnostic curiosity. Rather, it should be based on the patient's ability to safely tolerate leaving the resuscitation environment. Every transfer outside the trauma bay represents a period during which immediate interventions become more difficult. Therefore, transporting an unstable child to the CT scanner exposes the patient to unnecessary risk. If I were to summarize today's message it would be this: treat physiology before imaging anatomy.

An Infant with Refractory Seizures and Renal Tubular Dysfunction: A Diagnostic Challenge

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Neurology,Psychiatry,Physical....

abstract: An Infant with Refractory Seizures and Renal Tubular Dysfunction: A Diagnostic Challenge Background Mitochondrial disorders are clinically heterogeneous and may present with predominantly neurological manifestations, making early diagnosis challenging. Multisystem involvement, particularly the coexistence of neurological, renal, auditory, and metabolic abnormalities, should raise suspicion for a mitochondrial disorder. Case Presentation A 5-month-old infant, born as the third child to non-consanguineous parents with no significant family history, presented with refractory seizures and developmental regression. The patient had been apparently well until 2 months of age, when recurrent myoclonic jerks involving the extremities, associated with cyanotic episodes, developed following vaccination. Progressive feeding and swallowing difficulties and failure to achieve head control were subsequently noted. At presentation, the infant was hypotonic, had impaired purposeful eye movements, recurrent myoclonic jerks, and simultaneous oxygen desaturation. Due to impaired consciousness and recurrent cyanotic episodes, the patient required intubation and continuous midazolam infusion. Investigations Initial laboratory evaluation revealed severe metabolic acidosis (pH 7.10, HCO_3^- 10.1 mmol/L, BE −19.6) and elevated lactate (20 mmol/L). Serum ammonia was transiently elevated to 260 µmol/L but subsequently normalized without specific therapy. Brain ultrasonography was normal. Abdominal ultrasonography demonstrated bilateral medullary nephrocalcinosis and increased renal medullary echogenicity. Laboratory evaluation further suggested proximal tubular dysfunction, with proteinuria and glycosuria. Brain MRI showed no structural abnormality apart from delayed myelination. Metabolic screening, including plasma amino acids, acylcarnitine profile, and urine organic acids, did not establish a specific metabolic diagnosis. EMG/NCS demonstrated a uniform axonal neuropathy. Cardiac evaluation was unremarkable, while ophthalmologic examination was normal. Auditory brainstem response demonstrated bilateral sensorineural hearing loss. Genetic Diagnosis Given the combination of refractory epilepsy, lactic acidosis, renal tubular dysfunction, axonal neuropathy, and sensorineural hearing loss, a mitochondrial disorder was suspected. Genetic testing identified a pathogenic variant in BCS1L, confirming BCS1L-related mitochondrial disease due to Complex III dysfunction. Discussion and Conclusion This case highlights the diagnostic complexity of mitochondrial disorders in infancy. Refractory seizures may be the presenting feature, while renal tubular dysfunction, nephrocalcinosis, peripheral neuropathy, and sensorineural hearing loss provide important clues to the underlying multisystem disorder. A normal or near-normal brain MRI and nonspecific metabolic screening should not exclude mitochondrial disease. Early recognition of multisystem involvement and comprehensive genomic testing can facilitate definitive diagnosis and appropriate supportive management.

Childhood Apraxia of Speech, Dysarthria, and differential diagnosis from language delay

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Neurology,Psychiatry,Physical....

abstract: Childhood apraxia of speech (CAS), dysarthria, and language are among the most common communication disorders encountered in pediatric clinical practice. Despite overlapping clinical manifestations, these conditions differ substantially in their underlying mechanisms, assessment, and intervention approaches. This presentation aims to review the characteristics of childhood apraxia of speech and dysarthria, highlight their distinguishing features, and discuss key clinical indicators for differentiating these problems. In fact, accurate differential diagnosis is essential for selecting appropriate intervention strategies. Childhood apraxia of speech (CAS), dysarthria, and language are among the most common communication disorders encountered in pediatric clinical practice. This presentation provides clinicians with practical clinical markers to facilitate evidence-based assessment and decision-making. In fact, accurate differential diagnosis is essential for selecting appropriate intervention strategies. Nelson Textbook Bedside Neurology of Jaypee Up to Date Childhood apraxia of speech (CAS), dysarthria, and language are among the most common communication disorders encountered in pediatric clinical practice. This presentation provides clinicians with practical clinical markers to facilitate evidence-based assessment and decision-making. In fact, accurate differential diagnosis is essential for selecting appropriate intervention strategies. Nelson Textbook Bedside Neurology of Jaypee Up to Date Apraxia, Dysarthria, language delay, children

Determining item sequence of the Persian version of the standardized Bayley scale for Persian language children

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Neurology,Psychiatry,Physical....

abstract: Objective: Bayley scale is one of the important and well-known tests to measure the development in the early life of children. Using this test, it is possible to identify possible developmental delay and child's strengths and weaknesses. The cultural adaptation and standardization were performed in Persian language. However, it is necessary to carefully examine the item sequences in each language and culture. Therefore, the purpose of this study is to investigate the appropriateness of the items sequence of this test in the Persian language. Methods: This study is a secondary study and data from previous standardization studies were used. The scores of people in each age group were analyzed for each item. Based on the structure of the test, the items become progressively more difficult. If this gradual process deviates from its path, it indicates that the object is not in its proper place. In this study, by examining the difference in scores before and after each item, deviant items were identified. Results: The results showed that 41 items were deviated from the main trend, of which 27 deviated items were at the starting point. Among the 27 deviant items at the starting point, 14 items were easier than the previous items (item 42 cognitive, items 10, 20, 24 receptive communication, items 3, 5, 10, 15, 18 expressive communication Items 24, 39 are fine motor and items 20, 53, 55 are gross motor). Conclusion: According to the results, there are 14 deviant items in the Persian Bayley scale, which may have an impact on the test result, which is a small amount compared to the total test items. Nevertheless, it is recommended to examine these items in the next revisions of the test so that a correct estimate of the development process of Persian-speaking children can be made. Keywords: Bayley scale, Persian language children, Development.

Effect of Adjunctive Ginkgo biloba Supplementation on Symptoms of Attention-Deficit/Hyperactivity Disorder in Children: A Randomized Controlled Trial

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Neurology,Psychiatry,Physical....

abstract: Title Effect of Ginkgo biloba Supplementation on Attention-Deficit/Hyperactivity Disorder Symptoms in Children: A Randomized Controlled Clinical Trial Background: Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in children. Despite the effectiveness of conventional medications, their adverse effects and incomplete response in some patients have increased interest in complementary therapies. This study aimed to evaluate the effect of Ginkgo biloba supplementation on ADHD symptoms in children receiving atomoxetine. Methods: In this single-blind randomized controlled trial, 30 children aged 5–15 years with ADHD were randomly assigned to an intervention group (n=15) or a control group (n=14). Both groups received routine treatment with atomoxetine. The intervention group additionally received 3 g/day of Ginkgo biloba for one month. ADHD symptoms were assessed using the Conners' Parent Rating Scale before and after treatment. Data were analyzed using SPSS version 26, and P0.05 was considered statistically significant. Results: Baseline demographic characteristics and ADHD severity were comparable between the two groups. The mean Conners score decreased from 73.73±15.75 to 68.40±13.56 in the intervention group, whereas it changed from 69.00±12.00 to 71.00±10.65 in the control group. Although symptom improvement was greater in the intervention group, the difference between groups was not statistically significant (P=0.537). No significant differences were observed in the inattention, hyperactivity, or aggression subscales. Conclusion: Adjunctive Ginkgo biloba supplementation showed a trend toward improvement in ADHD symptoms; however, the short-term effect was not statistically significant. Larger randomized controlled trials with longer follow-up are warranted to determine its clinical efficacy. Keywords: ADHD, Ginkgo biloba, Children, Atomoxetine, Randomized controlled trial

Environmental and Social Factors Influencing Language Development

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Neurology,Psychiatry,Physical....

abstract: Language development is a complex and dynamic process influenced by the interaction of biological, cognitive, social, and environmental factors. Among these, the quality of the child's environment, exposure to multiple languages, screen time, and socioeconomic deprivation play important roles in shaping language acquisition and communication skills. A rich and responsive linguistic environment, characterized by frequent caregiver–child interactions, shared reading, play, and opportunities for meaningful conversation, provides essential stimulation for vocabulary development, grammar, and pragmatic language. In contrast, limited linguistic input and reduced opportunities for social interaction may negatively affect language development. Bilingualism itself does not cause language delay. Children exposed to two languages may distribute their vocabulary across both languages, which can sometimes lead to apparently smaller vocabulary in each individual language. However, when both languages are considered together, bilingual children can demonstrate age-appropriate language development and may develop enhanced metalinguistic awareness and cognitive flexibility. Therefore, bilingual exposure should not be mistaken for a developmental language disorder. Screen exposure has also become an increasingly important environmental factor. Excessive or passive screen use, particularly when it replaces face-to-face interaction, shared play, reading, and other developmentally appropriate activities, may be associated with poorer expressive and receptive language outcomes. Importantly, the effects of screen time appear to depend not only on its duration but also on the content, context, and degree of caregiver engagement. Environmental deprivation represents another major risk factor. Poverty, neglect, inadequate educational resources, chronic psychosocial stress, and limited access to stimulating environments may reduce children's opportunities for language learning and contribute to persistent difficulties in communication and academic achievement. These effects may be particularly pronounced during early childhood, when the brain is highly sensitive to environmental experiences. Understanding the independent and interacting effects of these factors is essential for pediatricians, child psychiatrists, speech and language therapists, educators, and families. Early identification of environmental risks and promotion of responsive communication, balanced media use, and supportive learning environments can help optimize language development and reduce preventable disparities in communication outcomes.

Epileptic Syndromes with Speech Regression in Children

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Neurology,Psychiatry,Physical....

abstract: Speech regression in epilepsy represents a diagnostic challenge requiring systematic evaluation. Speech loss in children with epilepsy is not always Landau–Kleffner syndrome (LKS). LKS is a rare age-related epileptic encephalopathy (0.2% of childhood epilepsies), characterized by acquired aphasia with epileptiform EEG abnormalities and previously normal development. Male:Female ratio ~2:1 and Prevalence: ~1 in 1,000,000 in some populations. Peak incidence of LKS is 5-7 years. GRIN2A gene mutations (16p13.2) is its major genetic cause. Triad of Presentation:1-Aphasia (Hallmark Feature) : Receptive: Auditory verbal agnosia ("word deafness"), inability to give semantic meaning to phonemes. Expressive: Progressive reduction in spontaneous speech, mutism in severe cases. 2. Seizures (70-80% of patients) : Partial motor (most common), Generalized clonic and Atypical absence (eye blinking, lip-smacking). 3. Behavioral Disorders : Attention deficit, hyperactivity, impulsivity, Emotional lability, anxiety, depression, Social withdrawal, autistic features and Sleep disturbances. Autism Spectrum Disorder, sensorineural hearing loss and other epileptic encephalopathies are main differential diagnosis. Other Genetic Epilepsies with Speech Regression are SYNGAP1-related DEE, SCN1A-related syndromes . Treatment Approaches are Multidisciplinary management. Antiepileptic Drugs including Valproate, Clobazam, Levetiracetam, and Ethosuximide are able to control seizures. Immunomodulatory approaches including Corticosteroids and IV immunoglobulin. (limited evidence) Non-Pharmacological approaches include : Speech and language therapy (often underutilized!), Augmentative and alternative communication devices, Behavioral programs, psychomotor therapy and Special education support. Surgical: Multiple subpial transections (MST) reserved for severe, pharmaco-resistant cases and Steroid dependency or toxicity . Key words : Aphasia, Epilepsy, GRIN2A, Epileptic syndromes

Outcomes of Ketogenic Diet in Pediatric Intractable Epilepsy and Neurometabolic Disorders: Insights From the First Iranian Registry

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Neurology,Psychiatry,Physical....

abstract: Abstract Background The ketogenic diet (KD) is characterized by its high-fat, moderate-protein, and low-carbohydrate composition, promoting elevated ketone body levels. This study aimed to evaluate the efficacy of KD in pediatric patients with intractable epilepsy and neurometabolic disorders using data from the first Iranian registry system. Methods A cross-sectional study was conducted at the pediatric neurology clinic of Mofid Hospital, Iran, from 2019 to 2022. Sixty-five pediatric patients (38 boys, 27 girls; mean age 7.8 ± 3.09 years) with refractory epilepsy, autism spectrum disorder, or neurometabolic disorders were included. Patients received different KD types (classic, modified Atkins diet, low glycemic index treatment). Data on seizure frequency, developmental outcomes, and complications were collected and analyzed using SPSS v24. Results At one and three months postinitiation of KD, a significant reduction in seizure frequency was observed in 50% of patients, with some achieving seizure freedom (no episode of seizure in the six months period of the study). Developmental outcomes improved significantly, with reductions in movement delay (from 62% to 37%), language delay (from 84% to 43.3%), and mental delay (from 89% to 45%) (P 0.05). The most common reasons for KD discontinuation were gastrointestinal intolerance (lethargy, nausea, vomiting) and lack of family cooperation. Conclusions The ketogenic diet is an effective and safe therapeutic option for pediatric patients with refractory epilepsy and neurometabolic disorders. The findings underscore the value of patient registry systems for optimizing KD management and reducing adverse effects. Future studies with larger cohorts and extended follow-ups are necessary to confirm these results and refine clinical recommendations.

Presentation of clinical cases with speech delay and regression

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Neurology,Psychiatry,Physical....

abstract: Speech and language disorders affect 5% to 10% of preschool-aged children. Early identification significantly alters long-term neurodevelopmental and academic outcomes. In this presentation we discuss speech Delay versus speech regression with 6 cases with speech disorder. In speech delay, the child follows the normal sequence of development but at a slower rate. The milestone was never fully achieved at the expected chronological age. However, in speech Regression, the child actually loses previously acquired, stable speech and language milestones. Regression is always a red flag that demands immediate, comprehensive neurological investigation. `

Clinical Recognition of Congenital Disorders and Developmental Anomalies:A Comprehensive Approach in Pediatric Practice

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pulmonary disease

abstract: Congenital anomalies and structural disorders present unique diagnostic and therapeutic challenges in contemporary pediatric medicine. As these conditions often manifest across a wide clinical spectrum—ranging from isolated defects to complex syndromic presentations—early identification is paramount to mitigating long-term sequelae and optimizing therapeutic outcomes. This lecture provides an evidence-based overview of the etiology, classification, and clinical characterization of major congenital anomalies. The presentation will critically evaluate the diagnostic pathways for pediatric patients, with a specific focus on the subtle, early clinical markers that necessitate immediate subspecialty evaluation. Key areas of discussion include: * **Clinical Phenotyping:** Systematic assessment of dysmorphic features, developmental delay, and failure to thrive as potential markers for congenital syndromes. * **Diagnostic Red Flags:** Identifying sentinel signs in neonatal and pediatric physical examinations that indicate underlying structural or genetic anomalies. * **Multidisciplinary Management:** The role of integrated care pathways—bridging neonatology, genetics, and subspecialty pediatrics—in the long-term management of complex cases. * **Preventative and Diagnostic Strategies:** The integration of advanced prenatal screening and postnatal diagnostic protocols in reducing pediatric morbidity. By synthesizing clinical knowledge with current diagnostic standards, this session aims to empower clinicians to improve their diagnostic precision, ensuring timely intervention and superior patient-centered care.

Approach to pediatrics respiratory distress

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pulmonary disease

abstract: Approach to Respiratory Distress in Children Respiratory distress in children is a clinical condition characterized by increased work of breathing and may result from pulmonary or extrapulmonary disorders. Early recognition and assessment of severity are essential because respiratory distress may progress rapidly to respiratory failure. The initial evaluation should focus on the child's general appearance, level of consciousness, respiratory rate and pattern, oxygenation, and signs of increased work of breathing, including nasal flaring, chest-wall retractions, grunting, stridor, wheezing, and cyanosis. In infants, nasal flaring and changes in responsiveness are particularly important; lethargy, poor interaction, weak cry, or decreasing respiratory effort may indicate fatigue and impending respiratory failure. The respiratory pattern and auscultatory findings can help localize the underlying pathology. Inspiratory stridor, prolonged inspiration, and suprasternal retractions suggest extrathoracic upper-airway obstruction, whereas expiratory wheezing and prolonged expiration are more consistent with intrathoracic airway obstruction. Rapid, shallow breathing accompanied by retractions and grunting suggests reduced pulmonary compliance, as seen in pneumonia or pulmonary edema. Conversely, rapid and deep breathing without prominent signs of increased work of breathing should raise consideration of extrapulmonary causes such as metabolic acidosis, central nervous system disorders, or systemic illness. After initial stabilization, targeted investigations should be guided by the clinical presentation. Continuous pulse oximetry is useful for monitoring oxygenation, while blood gas analysis may be required when significant hypoxemia, hypercapnia, altered mental status, or impending respiratory failure is suspected. Chest radiography and laboratory investigations should be obtained selectively according to the suspected etiology. Management should proceed simultaneously with evaluation and should prioritize airway patency, adequate oxygenation, and effective ventilation. Supplemental oxygen is appropriate for hypoxemia, while escalation to noninvasive or invasive respiratory support should be considered when oxygenation or ventilation remains inadequate or when clinical signs indicate progressive respiratory fatigue. Importantly, clinical appearance, work of breathing, mental status, and their trajectory over time are often more informative than any single laboratory value in recognizing impending respiratory failure.

Association of Lung Clearance Index with Nutritional Status, Pulmonary Function, and Clinical Characteristics in Children with Cystic Fibrosis

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pulmonary disease

abstract: The lung clearance index (LCI) is a sensitive marker of ventilation inhomogeneity in cystic fibrosis (CF), but its associations with nutritional status, pulmonary function, and clinical characteristics remain incompletely understood, particularly in hospitalized children. This study aimed to evaluate the independent associations between LCI and body mass index (BMI), pulmonary function indices, non-invasive ventilation (NIV) use, vitamin D status, and respiratory pathogens in children with CF. This cross-sectional study included 107 children (aged 6- 16 years) with CF admitted to Tehran Children's Medical Center between 2020 and 2022. Data on BMI, serum vitamin D, NIV use, sputum culture, FEV_1 (% predicted), and LCI (multiple-breath nitrogen washout) were collected from medical records Median LCI was 9 (IQR 8–11); mean FEV_1 was 73.4±16.0% predicted. After multivariable adjustment, higher BMI remained independently associated with lower LCI (β = -0.21, 95% CI: -0.37 to -0.05, P = 0.010). Higher FEV_1 were also independently associated with lower LCI (β = -0.05, P = 0.003, respectively). NIV use was independently associated with higher LCI (β = 1.82, P 0.001). Univariate associations of vitamin D and mucoid Pseudomonas aeruginosa with LCI were attenuated and became non-significant after adjustment for confounders. 1. Hospital for Sick Children. Cystic Fibrosis Mutation Database: Hospital for Sick Children; 2018 [Available from: http://www.genet.sickkids.on.ca. Cystic fibrosis, Lung clearance index, Nutritional status, Pulmonary function, Non-invasive ventilation All LCI measurements were performed after withholding short-acting bronchodilators for at least 24 hours, and results were interpreted with caution because all patients were hospitalized.In hospitalized children with CF, LCI is independently associated with nutritional status (BMI) and pulmonary function (FEV_1). NIV use is a marker of more severe disease rather than a direct modulator of LCI. The associations of vitamin D and mucoid P. aeruginosa with LCI appear to be confounded by disease severity and nutritional status. LCI may be particularly useful for identifying high-risk children with low BMI or relatively preserved FEV_1 in whom conventional spirometry underestimates disease burden.

Chronic cough

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pulmonary disease

abstract: Overview & Definition Chronic cough in children aged 14 and under is defined as a daily cough lasting four or more weeks. Unlike adults, pediatric evaluation requires specific algorithms. Prompt assessment prevents chronic lung morbidity (e.g., bronchiectasis) and improves health-related quality of life for children and families. Diagnostic Evaluation: Specific vs. Nonspecific Cough Initial assessment includes a detailed history, physical exam, chest radiograph, and spirometry (for children aged 3–6 years). Specific Cough: Defined by "specific cough pointers" such as a chronic wet/productive cough, wheezing, digital clubbing, abnormal growth, choking history, or abnormal radiography/spirometry. Key pediatric causes include protracted bacterial bronchitis (PBB), asthma, foreign body aspiration, and bronchiectasis . Treatment targets the underlying etiology (e.g., amoxicillin-clavulanate for PBB). • Nonspecific Cough: A dry cough with no specific pointers and normal initial tests, most commonly following viral respiratory infections. Management Strategy: Watchful Waiting: A 2- to 4-week period of observation is recommended for nonspecific cough as most cases resolve spontaneously. • Medication Trials: Brief (2–4 week) empiric trials of low-dose inhaled corticosteroids or SABA may be considered if cough-dominant asthma is suspected. • Contraindicated Therapies: Over-the-counter cough medicines, expectorants, and opioids (e.g., codeine) are strongly advised against due to lack of efficacy and risk of adverse effects . • Addressing Risk Factors: Environmental tobacco smoke exposure must be minimized, and parental expectations and anxieties addressed.

Clinical Approach to Pediatric Sleep Apnea: From Recognition to Personalized Management

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pulmonary disease

abstract: Sleep-disordered breathing (SDB) in children encompasses a spectrum from primary snoring to obstructive sleep apnea (OSA), as well as less common disorders such as central sleep apnea and sleep-related hypoventilation. Pediatric OSA is increasingly recognized as a heterogeneous disorder rather than simply a consequence of adenotonsillar hypertrophy. Obesity, craniofacial anatomy, neuromuscular disorders, genetic syndromes, and upper-airway inflammation may substantially influence its presentation, severity, and response to treatment. Importantly, daytime manifestations may include hyperactivity, impaired attention, behavioral problems, and poor school performance rather than the typical excessive daytime sleepiness observed in adults. Although overnight polysomnography remains the diagnostic gold standard, a major challenge in clinical practice is determining which children require objective sleep assessment and specialist referral. Contemporary management is therefore shifting toward a risk- and phenotype-based approach. Clinical history and examination remain essential for identifying high-risk patients, while nocturnal oximetry and other simplified diagnostic approaches may assist in selected settings when polysomnography is not readily available, although they cannot reliably exclude OSA. Particular attention should be given to children with obesity, craniofacial or neuromuscular disorders, genetic syndromes, suspected hypoventilation, or significant cardiopulmonary consequences. Management is similarly evolving beyond a “one-size-fits-all” adenotonsillectomy approach. Treatment may include management of nasal inflammation and obesity, adenotonsillectomy, positive airway pressure therapy, and selected phenotype-directed upper-airway interventions. Recognition of persistent OSA following adenotonsillectomy has further emphasized the importance of post-treatment reassessment, particularly in high-risk children. This presentation provides a practical framework for pediatricians to recognize sleep apnea, initiate appropriate first-line measures, identify children requiring polysomnography or specialist referral, and incorporate emerging concepts of individualized management into everyday pediatric practice. اختلالات تنفسی مرتبط با خواب در کودکان طیفی از خرخر اولیه تا آپنه انسدادی خواب (Obstructive Sleep Apnea; OSA) و اختلالات کمتر شایعی مانند آپنه مرکزی و هیپوونتیلاسیون مرتبط با خواب را دربرمی‌گیرند. امروزه OSA کودکان بیش از آنکه صرفاً پیامد هیپرتروفی آدنوتانسیلار در نظر گرفته شود، به‌عنوان اختلالی ناهمگون با فنوتیپ‌های متفاوت شناخته می‌شود. چاقی، ویژگی‌های آناتومیک کرانیوفاسیال، بیماری‌های نوروموسکولار، سندرم‌های ژنتیکی و التهاب راه هوایی فوقانی می‌توانند بر تظاهر بالینی، شدت بیماری و پاسخ به درمان تأثیر قابل توجهی داشته باشند. همچنین برخلاف بزرگسالان، در کودکان ممکن است به‌جای خواب‌آلودگی واضح، به‌صورت بیش‌فعالی، اختلال توجه، مشکلات رفتاری OSA تظاهرات روزانه محسوب می‌شود، یکی OSA اگرچه پلی‌سومنوگرافی شبانه همچنان استاندارد طلایی تشخیص .و افت عملکرد تحصیلی بروز کند

از چالش‌های مهم در طب بالینی، تعیین کودکانی است که واقعاً به ارزیابی عینی خواب و ارجاع تخصصی نیاز دارند. رویکردهای جدید به سمت ارزیابی مبتنی بر خطر و فنوتیپ بیمار حرکت کرده‌اند. شرح حال و معاینه بالینی دقیق همچنان اساس شناسایی بیماران پرخطر است و در شرایط محدودیت دسترسی به پلی‌سومنوگرافی، روش‌هایی مانند پالس‌اکسی‌متری شبانه و سایر ابزارهای نیستند. توجه ویژه OSA تشخیصی ساده‌تر می‌توانند در بیماران منتخب به تصمیم‌گیری کمک کنند، هرچند قادر به رد قابل اعتماد به کودکان مبتلا به چاقی، اختلالات کرانیوفاسیال یا نوروموسکولار، سندرم‌های ژنتیکی، هیپوونتیلاسیون احتمالی و عوارض قابل کودکان نیز از رویکرد یکسان مبتنی بر آدنوتانسیلکتومی به سمت درمان فردمحور OSA درمان .توجه قلبی‌ریوی ضروری است در حال حرکت است. درمان می‌تواند شامل کنترل التهاب و انسداد بینی، مدیریت چاقی، آدنوتانسیلکتومی، استفاده از فشار مثبت OSA راه هوایی و در بیماران منتخب، مداخلات اختصاصی متناسب با محل و مکانیسم انسداد راه هوایی باشد. شناخت روزافزون پایدار پس از آدنوتانسیلکتومی نیز اهمیت ارزیابی مجدد پس از درمان، به‌ویژه در کودکان پرخطر، را برجسته ساخته است. در این سخنرانی تلاش می‌شود چارچوبی ساده و کاربردی برای شناسایی آپنه خواب، انجام اقدامات اولیه، انتخاب بیماران نیازمند .پلی‌سومنوگرافی یا ارجاع تخصصی و به‌کارگیری مفاهیم جدید درمان فردمحور در طب روزمره کودکان ارائه شود

Emerging Therapeutic Strategies in Asthma: The Era of Precision Medicine

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pulmonary disease

abstract: Asthma is a heterogeneous chronic inflammatory airway disease affecting more than 260 million individuals worldwide and remains a major cause of morbidity despite significant therapeutic advances. Asthma is a complex and heterogeneous inflammatory disorder characterized by diverse clinical phenotypes and underlying molecular endotypes. A narrative review was conducted to summarize recent advances in asthma therapeutics and precision medicine approaches Recent therapeutic advances have substantially improved outcomes in patients with moderate-to-severe asthma. Biologic agents targeting IgE, IL-5, IL-5 receptor, IL-4/IL-13 receptor, and thymic stromal lymphopoietin have demonstrated significant reductions in exacerbation rates, enhanced lung function, and decreased dependence on systemic corticosteroids Global Initiative for Asthma (GINA). Global Strategy for Asthma Management and Prevention. 2025. Israel E, Wechsler ME, Jackson DJ Keywords: Asthma; Precision medicine; Biologic therapies; Severe asthma; TSLP; Biomarkers; Treatable traits. The therapeutic landscape of asthma has evolved substantially with advances in precision medicine and a deeper understanding of disease endotypes. Novel biologic therapies targeting type 2 inflammation, including anti-IgE, anti-IL-5, anti-IL-5 receptor, anti-IL-4/IL-13 receptor, and anti-thymic stromal lymphopoietin (TSLP) agents, have demonstrated significant reductions in exacerbation frequency, improved lung function, and decreased reliance on systemic corticosteroids in severe asthma. The emergence of upstream alarmin blockade, particularly with TSLP inhibition, represents a major innovation by providing clinical benefits across a broader spectrum of inflammatory phenotypes, including patients with low eosinophil counts. Recent studies have also highlighted the potential of targeting additional epithelial-derived cytokines, such as IL-33 and IL-25, with several monoclonal antibodies currently undergoing advanced clinical evaluation. Beyond biologics, inhaled dual phosphodiesterase 3/4 inhibitors and other small-molecule therapies offer promising anti-inflammatory and bronchodilatory effects. The integration of biomarkers—including blood eosinophils, fractional exhaled nitric oxide, serum IgE, and transcriptomic signatures—has further refined patient selection and individualized therapeutic strategies. Moreover, the increasing adoption of treatable traits approaches, and digital health technologies is reshaping asthma management by enabling continuous monitoring and personalized intervention. Collectively, these developments signify a transition from conventional symptom control toward mechanism-based, precision therapeutics, with the potential to improve long-term outcomes and quality of life for patients with asthma across diverse clinical phenotypes.

Pediatric Pleural Diseases and Parapneumonic Effusions,Empyema: Modern Diagnostic Algorithms, Evidence-Based Management, and Long-Term Outcomes

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pulmonary disease

abstract: Title: Pediatric Pleural Diseases and Parapneumonic Effusions/Empyema: Modern Diagnostic Algorithms, Evidence-Based Management, and Long-Term Outcomes. Background: Pediatric pleural diseases present across a spectrum from dry pleurisy and uncomplicated parapneumonic effusions (PPE) to loculated empyema. Modern management emphasizes radiation-sparing imaging and minimally invasive procedures. This review incorporates current evidence-based consensus on diagnostic stewardship, intrapleural therapies, and long-term pulmonary prognosis. Methods: We synthesized recent evidence-based strategies regarding PPE/empyema categorization, point-of-care ultrasound (POCUS), multiplex PCR diagnostic yield, intrapleural fibrinolytic protocols (tPA/DNase), and indications for Video-Assisted Thoracoscopic Surgery (VATS). Results: Diagnostic POCUS has superseded routine CT, effectively identifying early fibrin deposition, septation, and guiding thoracentesis. While pleural cultures yield pathogens in 60\% of cases due to prior antibiotic exposure, multiplex PCR significantly enhances detection rates. Uncomplicated PPEs (10\ mm} or non-loculated) resolve with targeted systemic antibiotics. Complicated effusions (pH 7.20), glucose 60\ mg/dL, or overt purulence warrant tube thoracostomy. Current evidence supports intrapleural fibrinolytic therapy (e.g., tPA) via small-bore chest tubes as a first-line alternative to initial VATS, demonstrating equivalent efficacy, reduced invasiveness, and shorter hospital stays. VATS or decortication is reserved for treatment failures or extensive organization. Pneumatoceles and pleural thickening resolve spontaneously over months, with long-term pulmonary function returning to normal in over 95\% of pediatric cases. Conclusion: Integrating POCUS and multiplex PCR optimizes early risk stratification. A stepped-care model prioritizing small-bore chest tube drainage with intrapleural fibrinolytic over immediate surgical intervention successfully resolves pediatric empyema with minimal long-term restrictive lung impairment.

Prevalence and Patterns of Pulmonary Function Impairment in Transfusion-Dependent β-Thalassemia: A Cross-Sectional Study

Seyedehzalfa Modarresi [1] © Ⓟ, Roohollah Edalatkhah [2], Maryam Yazdanparast [2], Razieh Kalantari [3], Reihane Sefidkar [4]

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pulmonary disease

abstract: Transfusion-dependent β-thalassemia (TDT) is a chronic hematologic disorder associated with progressive systemic complications, including potential respiratory involvement. Pulmonary dysfunction has been increasingly reported in affected patients, but its prevalence, pattern, and clinical determinants remain insufficiently characterized. Pulmonary function impairment has been reported in previous studies with variable prevalence and patterns, but its clinical characteristics and age differences remain incompletely defined. This cross-sectional study evaluated 103 patients with TDT to determine the frequency and pattern of pulmonary function impairment. Participants were categorized into pediatric (≤18 years, n=50) and adult (18 years, n=53) groups. Clinical and hematologic data were collected, and pulmonary function was assessed using spirometry, including forced expiratory volume in one second (FEV_1), forced vital capacity (FVC), and flow parameters. Patients were classified into normal, obstructive, restrictive, or mixed ventilatory patterns. The mean age of the participants was 19.45 ± 10.67 years. Abnormal spirometry was identified in 84.5% (87/103) of patients. Restrictive and mixed ventilatory defects were the most common patterns, observed in 49.5% (51/103), followed by obstructive patterns in 35.0% (36/103), while only 15.5% (16/103) demonstrated normal pulmonary function. Pulmonary impairment was significantly more prevalent in adults compared with younger patients (p = 0.002). Specifically, normal spirometry was observed in 26.0% (13/50) of pediatric patients versus 5.7% (3/53) of adults. Patients with abnormal spirometry were significantly older than those with normal pulmonary function (p 0.001). Overall, pulmonary function impairment was highly prevalent in this cohort of patients with TDT, with restrictive and mixed ventilatory defects predominating. The severity of pulmonary dysfunction appeared to increase with age and duration of transfusion exposure, highlighting the progressive nature of respiratory involvement in this population. Chan KC, Au CT, Leung AWC, et al. Pulmonary function in patients with transfusion-dependent thalassemia and its associations with iron overload. Scientific Reports. 2023;13:3674. doi:10.1038/s41598-023-30214-8 β-thalassemia major; transfusion-dependent thalassemia; pulmonary function impairment; spirometry; rlung function tests;

Prolidase Deficiency Presenting With Pulmonary Arteriovenous Malformations and Seizures: Report of Two Cases From Iran

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pulmonary disease

abstract: Prolidase deficiency (PD) is a rare autosomal recessive metabolic disorder caused by pathogenic variants in the PEPD gene, which is responsible for making prolidase and collagen resynthesize. It leads to a wide range of clinical symptoms, including skin ulcers, intellectual disability, and recurrent infections. Diagnostics are based on the presence of dipeptides in the urine and prolidase activity in various cells, as well as the detection of the pathogenic variant in the PEPD gene; however, no standard method is currently known for its diagnosis nor for its treatment. Case 1 presents a 17-year-old male with dyspnea, cyanosis, and pulmonary arteriovenous malformations (AVMs), an atypical presentation for PD. Case 2, a one-year-old female with fever, seizures, productive coughs, erythematous ulcers, and developmental delays, highlights the disease's broad symptoms. /is study widens our understanding of PD, especially for lesser-known populations, such as the population in Iran. It indicates considering PD in the dierential diagnosis of various diseases and also a global collaboration for managing PD. /e study also recommends a standard approach to diagnosing PD and a personal management system due to its broad manifestations. In addition, it indicates the need to consider dierent ethnic and geographical groups in future PD studies to further enhance our understanding of this rare disease. Keywords: AVMs; genetic disorders; Iran; prolidase de3ciency; pulmonary arteriovenous malformations; rare diseases; seizure

Recent Advances in Pediatric Bronchiectasis: Current Concepts in Pathogenesis, Diagnosis, and Management

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pulmonary disease

abstract: abstract pediatric bronchiectasis is increasingly recognized as a chronic yet potentially reversible respiratory disease when diagnosed and treated early. Over the past two years, significant advances have improved our understanding of disease pathogenesis, diagnostic strategies, and evidence-based management. Emerging data suggest that small-airway dysfunction and hyperconcentrated mucus may represent the earliest pathogenic events, preceding bacterial colonization and irreversible airway damage. In parallel, international collaborative efforts such as the Child-BEAR-Net Registry have provided the first multicountry characterization of pediatric bronchiectasis and have supported the development of standardized quality-of-care indicators. This review summarizes the most important recent developments and discusses their implications for clinical practice. Introduction Bronchiectasis is characterized by irreversible bronchial dilatation resulting from chronic inflammation, impaired mucociliary clearance, and recurrent respiratory infections. Although traditionally regarded as an uncommon disease in children, recent epidemiological studies indicate that pediatric bronchiectasis is substantially underdiagnosed, particularly among children with chronic wet cough. Importantly, unlike adult bronchiectasis, structural airway abnormalities in children may partially resolve following timely diagnosis and optimal treatment, highlighting the importance of early recognition. New Insights into Pathogenesis The most significant conceptual advance in 2025 has been the proposal of a novel pathophysiological model emphasizing the role of the small airways. Rather than considering infection as the initiating event, this model suggests that hyperconcentrated mucus develops within the distal airways because of epithelial dysfunction and impaired hydration. The resulting mucus obstruction creates localized hypoxia, which activates epithelial alarmins and promotes neutrophilic inflammation before microbial colonization occurs. Persistent inflammation subsequently leads to airway wall remodeling, lymphoid follicle formation, and eventually radiological bronchiectasis. This paradigm shifts attention from the classical “vicious cycle” toward a “muco-inflammatory cascade,” suggesting that therapeutic interventions targeting mucus hydration, mucociliary clearance, and early inflammation may prevent disease progression before irreversible structural damage develops. Recent immunological studies further support the dominant role of neutrophilic inflammation. Elevated concentrations of inflammatory mediators, including interleukin-8 (IL-8), neutrophil elastase, and other proteolytic enzymes, correlate closely with disease severity and recurrent exacerbations. In addition, alterations in the airway microbiome appear to reflect microbial dysbiosis rather than infection by a single pathogen, emphasizing the complex interaction between host immunity and microbial communities. Advances in Diagnosis Current evidence strongly recommends evaluating every child presenting with chronic productive (wet) cough lasting longer than four weeks for possible bronchiectasis. High-resolution computed

tomography (HRCT) remains the diagnostic gold standard, while early referral to pediatric respiratory specialists is encouraged to minimize diagnostic delay. Equally important is the systematic investigation of underlying etiologies. Contemporary diagnostic algorithms recommend evaluation for primary immunodeficiency, cystic fibrosis, primary ciliary dyskinesia, chronic aspiration, congenital airway abnormalities, foreign body aspiration, and post-infectious causes. Identification of an underlying etiology is crucial because many causes are potentially treatable and significantly influence long-term prognosis . Emerging Precision Medicine Precision medicine is becoming increasingly relevant in pediatric bronchiectasis. A recent review identified approximately 40 potential “treatable traits” encompassing pulmonary, etiological, extrapulmonary, behavioral, and environmental domains. Rather than applying uniform treatment strategies, clinicians are encouraged to identify individual disease characteristics that are measurable and modifiable, allowing personalized therapeutic approaches. Potential treatable traits include chronic bacterial infection, mucus retention, impaired airway clearance, immunodeficiency, nutritional impairment, environmental tobacco exposure, poor treatment adherence, and coexisting asthma. Although evidence remains limited in children, this framework represents a promising direction for future clinical trials. Future Directions Several important research priorities remain. Biomarkers capable of predicting disease progression, response to therapy, and exacerbation risk are still lacking. Novel therapies targeting mucus hydration, neutrophilic inflammation, and epithelial dysfunction are currently under investigation. Furthermore, ongoing international registry studies are expected to improve understanding of disease phenotypes, long-term outcomes, and regional variations in management. Conclusion Recent research has fundamentally changed the understanding of pediatric bronchiectasis. The disease is no longer viewed solely as an irreversible consequence of recurrent infection but rather as a potentially preventable and, in some cases, partially reversible condition when identified early. Advances in pathophysiology, standardized international care recommendations, and the emergence of precision medicine approaches are reshaping clinical practice. Future research focusing on early intervention and personalized therapy is expected to further improve long-term respiratory outcomes for affected children.

Breastfeeding at night and dental hygiene

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Nutrition

abstract: Breastfeeding at night and dental hygiene Breastfeeding is the physiological norm; therefore, dental teams and pediatrician should promote breastfeeding and include in their advice the risks of not breastfeeding to general and oral health. Risk factors leading to caries and poor dental health include a mother or primary care provider with active tooth decay, low socioeconomic status, nutritional deficiencies, special healthcare needs, poor oral hygiene and lack of dental care, sweetened pacifiers, putting babies to bed with a bottle, fruit juices, sodas, sweetened foods, “sippy” cups, iron deficiency, lead exposure, and tobacco smoke. Direct breastfeeding at night has important physiological functions. Infants’ sleeping through the night is associated with a much lower rate of breastfeeding. Intentionally limiting nighttime feeding is associated with early cessation of exclusive breastfeeding. Despite the researches, some dentists may state that breastfeeding, especially breastfeeding during the night, is a cause of dental decay. However, it is biologically normal for babies and toddlers to breastfeed frequently day and night and there isn’t any evidence for this hypothesis. The claim that night-time nursing causes tooth decay is simply anti-breastfeeding propaganda and is not scientifically based. Several studies suggest that human milk is protective against caries and that breastfed children have less dental decay than do those who are fed otherwise. Immune factors in human milk, such as secretory immunoglobulin A and G (IgA and IgG), are protective, and lactoferrin in breastmilk has a bactericidal effect. Other probable reasons for this include the mechanical differences between breastfeeding and bottle-feeding. Drawn deep into the child’s mouth, the human nipple rests at the junction of the hard and soft palates during breastfeeding, posterior to the child’s teeth. a suckle is automatically followed by a swallow, thus preventing the teeth from being bathed in pooled milk. In contrast, the milk from a bottle flows out spontaneously with only the slightest pressure into the anterior part of the mouth, permitting stagnation of the milk on and around the teeth. Several studies have continued to report breastfeeding under the age of 12 months of age is protective against dental caries when compared to infants who are bottle fed. breastfeeding up to 12 months was associated with a reduced risk of caries by around half, but new research does not show independent association between breastfeeding beyond 1 y of age and ECC, or between breastfeeding to sleep and ECC. What you can do to help your baby/child avoid tooth decay? • Eat sugary foods and drinks less frequently, particularly if breastfeeding beyond the age of 2 years. • Avoid too many sugary, sticky foods. • Brush teeth twice a day for two minutes with a fluoride toothpaste(3 years size of a grain of rice, 3 years pea-sized), especially just before bed. • Introduce an open top cup from six months. • Be careful about oral hygiene (eg not sharing food, toothbrushes or cutlery, wet kisses on the mouth, chewing food for baby, or putting baby’s pacifier in your mouth.). • If your baby/child uses a dummy, avoid cleaning or moistening it with your mouth, as bacteria from your mouth will end up in the baby/child’s mouth. When the baby's first teeth appear,

usually around 6 months of age, use a soft cloth to remove plaque from their surfaces at least twice a day, especially after feeding and before bedtime. • Eventually, parents can start cleaning their child's baby teeth with a soft toothbrush with a small head and large handle. • At first, just wet the toothbrush and massage their teeth gently. • Infant toothpastes are safe to use, but you shouldn't use fluoridated toothpaste until your child is old enough to spit it out(2-3 year) • A baby's first visit to the dentist should occur between ages 6 months and 1 year, followed by dental checkups every six months (AAPD and AAP recommend that the first dental visit occur at or near one year of age), he noted.

Asymptomatic Lead intoxication in Children

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Toxicology

abstract: The US Centers for Disease Control and Prevention (CDC) recently estimated that blood lead concentrations (BLLs) are 9 µg/dL in 434,000 children 1–5 years old. Inorganic Lead, gastrointestinal (GI) absorption is less efficient than pulmonary absorption. Organic Lead, Tetraethyl lead is lipid soluble, easily absorbed through intact skin, and distributed widely to lipophilic tissues, including the brain. Lead is a complex toxin with numerous pathophysiologic effects in many organ systems. The neurotoxicity of lead involves several mechanisms, including apoptosis, excitotoxicity, adverse influence on neurotransmitter and second-messenger function, mitochondrial injury, cerebrovascular endothelial damage, and impaired development and function of both oligodendroglia and astroglia, although particularly the former, with resultant abnormal myelin formation. Sensory nerves are less affected than motor nerves. Lead is a potent inhibitor of several enzymes in the heme biosynthetic pathway. Lead nephropathy produces a Fanconi like syndrome of aminoaciduria, glycosuria, and phosphaturia. The most important manifestation of lead toxicity on the cardiovascular system is hypertension. Children with elevated lead concentrations have depressed secretion of human growth hormone and insulin like growth factor. Impaired bone growth and shortened stature are associated with childhood lead poisoning. Asymptomatic Children with elevated body lead burdens but without overt symptoms represent the largest group of persons believed to be at risk of chronic lead toxicity. The subclinical toxicity of lead in this population centers around subtle effects on growth, hearing, and neurocognitive development. There is a significant inverse association between lead exposure and IQ, on the order of 1–2 IQ points for each 10–20 µg/dL increase in BLL.

GLP-1 Receptor Agonists and Pediatric Toxicology: Accidental Exposure, Dosing Errors, and Risk-Prone Use Among Adolescents

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Toxicology

abstract: Background: Glucagon-like peptide-1 receptor agonists (GLP-1 RAs), particularly liraglutide and semaglutide, have become increasingly visible in clinical practice because of their role in diabetes management and, more recently, obesity treatment. Their use in selected adolescents with obesity has also brought these agents closer to routine pediatric care. This change has clear therapeutic value, but it also creates a less familiar safety problem for pediatricians and toxicologists. As these injectable drugs become more common in homes, children may be exposed unintentionally, caregivers may make errors in dose selection or administration, and adolescents may seek or use these medications for weight reduction outside a carefully supervised medical setting. Objective: This narrative review discusses GLP-1 RAs as a developing issue in pediatric toxicology, with particular attention to accidental exposure, dosing errors, and potentially unsafe use among adolescents. Methods: A focused review of recent clinical, toxicological, regulatory, and poison-center evidence was performed. The review considered pediatric patterns of exposure, expected toxicological manifestations, mechanisms relevant to adverse effects, and practical implications for prevention and clinical management. Discussion: The toxicological relevance of GLP-1 RAs in children is not limited to their approved therapeutic use. Several features of these drugs may contribute to preventable exposure. Many products are injectable, involve dose escalation, and are supplied in devices that may be unfamiliar to patients or caregivers. Confusion between different formulations, incorrect dose adjustment, repeated administration, and the use of compounded or non-standard products may increase the risk of adverse events. In younger children, the main concern is accidental household exposure, especially when pens or injection devices are stored without adequate precautions. In adolescents, the problem is different. Because GLP-1 RAs are strongly associated with weight loss, they may attract unsupervised use, sharing of medication, or use motivated by body-image concerns rather than medical indication. This risk deserves particular attention in adolescents with eating-disorder vulnerability, psychiatric comorbidity, or pressure for rapid weight reduction. Most reported or anticipated manifestations are gastrointestinal, including nausea, vomiting, abdominal pain, diarrhea, reduced oral intake, and dehydration. These symptoms are often considered expected adverse effects in treated patients, but after unintentional exposure or dosing error in a child, they may become clinically significant. Hypoglycemia is generally less characteristic than with insulin or sulfonylureas, but risk assessment should not be automatic or dismissive. Concomitant glucose-lowering therapy, prolonged vomiting, poor nutritional reserve, younger age, or underlying metabolic disease may

modify clinical risk. Other concerns include electrolyte disturbance, gallbladder-related symptoms, pancreatitis-like presentations, and delayed presentation because families may not initially recognize the medication as a possible cause. This issue also shows why pediatric toxicology should not be restricted to traditional household poisons or acute intoxications. New therapeutic trends can rapidly create new exposure patterns before clinical practice has fully adapted. For GLP-1 RAs, pediatric safety requires more than treatment guidelines for obesity. It also requires anticipatory counseling about storage, clear education on injection devices and dose escalation, careful screening before prescribing to adolescents, and better reporting of pediatric exposures and adverse events. Emergency and primary care clinicians should consider GLP-1 RA exposure when evaluating unexplained vomiting, dehydration, or abdominal symptoms in children and adolescents, particularly when these medications are present in the household. Conclusion: GLP-1 receptor agonists represent a timely and clinically relevant topic for pediatric toxicology. Their expanding use may benefit selected adolescents with obesity, but wider availability also increases the possibility of accidental exposure, medication error, and unsafe adolescent use. A child-centered toxicovigilance approach is needed to reduce preventable harm while preserving the appropriate therapeutic role of these agents. Keywords: Pediatric toxicology; GLP-1 receptor agonists; Semaglutide; Liraglutide; Medication error; Accidental exposure; Adolescent misuse; Toxicovigilance

Methanol and Ethanol in Pediatrics: From Acute Poisoning to Pharmaceutical Exposure

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Toxicology

abstract: Although methanol and ethanol are structurally related alcohols, they differ substantially in their toxicokinetics, pathophysiology, clinical manifestations, and management. Delayed recognition of methanol poisoning may lead to severe metabolic acidosis, irreversible visual toxicity, and death, whereas ethanol poisoning in children most commonly presents with central nervous system depression and hypoglycemia, particularly in infants and young children. The use of ethanol as a pharmaceutical excipient in pediatric formulations has become an important consideration in pediatric pharmacotherapy. Although the ethanol content of most pediatric formulations is well below clinically significant toxic thresholds, safety assessment should be based on the actual ethanol dose, patient characteristics, and cumulative exposure rather than on the mere presence of ethanol in the formulation. This lecture reviews current evidence on the diagnosis and management of methanol and ethanol poisoning in children and provides a practical framework for evaluating ethanol-containing pediatric formulations, their clinical relevance, and their implications for safe prescribing in pediatric practice .

Pediatric Vitamin D and Iron Poisoning: What is New in Diagnosis and Management?

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Toxicology

abstract: Vitamin D and iron poisoning remain important pediatric toxicologic emergencies despite increased awareness and preventive strategies. The widespread use of high-dose vitamin D supplements and the availability of iron-containing preparations continue to contribute to accidental and iatrogenic intoxication in children. Early recognition and timely intervention are essential to prevent irreversible complications. Vitamin D toxicity is primarily caused by excessive supplementation and results in persistent hypercalcemia mediated by elevated serum 25-hydroxyvitamin D concentrations. Clinical manifestations range from vomiting, dehydration, and constipation to nephrocalcinosis, acute kidney injury, hypertension, cardiac arrhythmias, and neuropsychiatric dysfunction. Current management emphasizes immediate discontinuation of vitamin D and calcium intake, aggressive isotonic saline hydration, and individualized use of calcitonin, intravenous bisphosphonates, or glucocorticoids for severe or refractory hypercalcemia. Recent evidence supports early antiresorptive therapy in selected patients to reduce the duration and complications of hypercalcemia. Iron poisoning remains one of the leading causes of fatal poisoning in young children because of its direct mitochondrial toxicity and oxidative cellular injury. Contemporary management relies on early clinical risk stratification, appropriate interpretation of serum iron concentrations, selective abdominal radiography, and prompt administration of intravenous deferoxamine in severe poisoning. Whole bowel irrigation is reserved for selected patients with significant ingestion of sustained-release or multiple iron tablets. This review summarizes recent advances in the pathophysiology, diagnosis, and evidence-based management of pediatric vitamin D and iron poisoning, emphasizing practical clinical recommendations, rational antidotal therapy, and preventive strategies based on current international pediatric toxicology guidelines.

Childhood Immune Thrombocytopenia: An Update on Diagnosis and Management

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Hematology & Oncology

abstract: Childhood Immune Thrombocytopenia: An Update on Diagnosis and Management Elham Shahgholi, MD Associate Professor of Pediatric Hematology and Oncology Bahrami Children's Hospital Tehran University of Medical Sciences (TUMS) Tehran, Iran Primary immune thrombocytopenia (ITP) is the most common acquired cause of isolated thrombocytopenia in children and is defined as a platelet count 100 × 10^9/L due to immune-mediated platelet destruction and impaired platelet production without another identifiable cause. Most cases follow viral infection, and 70–80% of children achieve spontaneous remission within the first year. Current terminology classifies ITP as newly diagnosed, persistent, or chronic, replacing the former acute/chronic classification. Management is guided primarily by bleeding severity rather than platelet count. Children usually present with petechiae, purpura, ecchymoses, epistaxis, or mild mucosal bleeding; life-threatening hemorrhage is rare. Diagnosis is clinical and based on isolated thrombocytopenia on complete blood count and peripheral smear after excluding secondary causes. Routine platelet antibody testing and bone marrow aspiration are unnecessary in typical ITP. Bone marrow examination is reserved for atypical features, including additional cytopenias, organomegaly, lymphadenopathy, constitutional symptoms, abnormal smear findings, or suspected leukemia or marrow failure. Observation alone is recommended for children with no or minor bleeding. Corticosteroids and intravenous immunoglobulin (IVIG) remain first-line therapies for clinically significant bleeding. Anti-D immunoglobulin may be considered in selected Rh-positive, nonsplenectomized patients. For persistent or chronic ITP, thrombopoietin receptor agonists, including eltrombopag and romiplostim, are preferred second-line agents, while rituximab and splenectomy are reserved for selected refractory cases. Platelet transfusion is limited to life-threatening bleeding or emergency surgery and should be combined with IVIG and high-dose corticosteroids. Routine immunization should continue, but live vaccines should be deferred after IVIG. Recent advances have shifted ITP management toward individualized, bleeding-oriented care and targeted therapies. Keywords: Primary immune thrombocytopenia; Children; Bleeding; Intravenous immunoglobulin; Thrombopoietin receptor agonists. Reference: Neunert CE, Arnold DM, Grace RF, Kuhne T, McCrae KR, Terrell DR. The 2022 review of the 2019 American Society of Hematology guidelines on immune thrombocytopenia. Blood Adv. 2024;8(13):3578-3582. doi:10.1182/bloodadvances.2023012541.

Hemophilia

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Hematology & Oncology

abstract: Dr. Alieh Safari Pediatrician Hematologist Tehran Medical University Children's Medical Center Hemophilia is a rare, inherited bleeding disorder characterized by impaired blood coagulation due to a deficiency or dysfunction of specific clotting factors. Hemophilia A, caused by factor VIII deficiency, and hemophilia B, resulting from factor IX deficiency, are the most common forms. Both disorders are typically inherited in an X-linked recessive pattern and predominantly affect males, although females may also experience clinically significant bleeding. The severity of hemophilia is generally classified according to the residual activity of the affected clotting factor and ranges from mild to severe disease. Patients with severe hemophilia may experience spontaneous bleeding, particularly into joints and muscles, which can lead to recurrent hemarthroses, chronic synovitis, joint damage, and significant disability. The diagnosis of hemophilia is based on clinical and family history, coagulation screening tests, and specific factor assays. Genetic testing can further confirm the underlying pathogenic variant and facilitate carrier detection and family counseling. The primary treatment for hemophilia is replacement therapy with recombinant or plasma-derived factor VIII or IX concentrates. Prophylactic factor replacement has substantially improved long-term outcomes by reducing the frequency of bleeding episodes and preventing progressive joint damage. In recent years, non-factor therapies, including emicizumab for hemophilia A, and extended half-life factor products have expanded therapeutic options. Gene therapy has also emerged as a promising approach with the potential to provide sustained endogenous production of the deficient clotting factor in selected patients. Despite major advances in treatment, challenges remain, including treatment cost, access to specialized care, development of inhibitors against replacement factors, and variability in individual treatment response. Early diagnosis, individualized prophylaxis, comprehensive multidisciplinary care, and continued advances in novel therapies are essential for improving quality of life and reducing long-term complications in individuals with hemophilia.

management of emergencies in pediatric oncology

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abstract: Oncologic emergencies are acute, potentially life-threatening complications that arise from cancer itself or its treatment and require prompt recognition and intervention to reduce morbidity and mortality. These emergencies are broadly categorized into metabolic, hematologic, structural, and treatment-related conditions. Common metabolic emergencies include tumor lysis syndrome and hypercalcemia of malignancy, while hematologic emergencies encompass febrile neutropenia, disseminated intravascular coagulation, and hyperviscosity syndrome. Structural emergencies such as malignant spinal cord compression, superior vena cava syndrome, and increased intracranial pressure may lead to irreversible neurological deficits or cardiorespiratory compromise if treatment is delayed. Advances in cancer therapies, including immunotherapy and targeted agents, have introduced unique treatment-related toxicities that can also present as oncologic emergencies. Early diagnosis relies on a high index of suspicion, comprehensive clinical assessment, laboratory investigations, and appropriate imaging. Effective management requires rapid stabilization, multidisciplinary collaboration, and disease-specific interventions, including intravenous fluids, electrolyte correction, antimicrobial therapy, corticosteroids, radiotherapy, chemotherapy, or urgent surgical procedures when indicated. Preventive strategies, including risk stratification, prophylactic measures, and close monitoring of high-risk patients, play a crucial role in minimizing the occurrence and severity of these complications. As cancer survival continues to improve, healthcare professionals across emergency medicine, oncology, intensive care, and primary care settings must remain vigilant in identifying these conditions early. Timely recognition and evidence-based management not only improve immediate patient outcomes but also preserve opportunities for continued cancer-directed therapy and enhance overall quality of life. Ongoing education, standardized clinical protocols, and interdisciplinary communication are essential to optimize the care of patients experiencing oncologic emergencies in both inpatient and outpatient settings.

Rare Bleeding Disorders in Childhood: Advances in Diagnosis and Therapeutic Strategie

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Hematology & Oncology

abstract: Rare bleeding disorders (RBDs) comprise a heterogeneous group of inherited coagulation factor deficiencies, accounting for approximately 3–5% of all congenital bleeding disorders. These include deficiencies of fibrinogen and factors II, V, VII, X, XI, XIII, as well as combined factor deficiencies. Although individually uncommon, their prevalence is relatively higher in regions with frequent consanguineous marriages, underscoring the importance of heightened clinical awareness. The clinical phenotype is highly variable, ranging from mild mucocutaneous bleeding to life-threatening intracranial or gastrointestinal hemorrhage. Unlike hemophilia, bleeding severity often shows poor correlation with residual factor activity, making clinical judgment an essential component of patient evaluation. The diagnostic approach requires a thorough bleeding history, family history, and appropriate interpretation of coagulation screening tests, followed by specific coagulation factor assays. Molecular genetic testing has become an integral part of diagnosis, enabling accurate disease characterization, genetic counseling, and prenatal diagnosis in affected families. Management should be individualized according to the underlying factor deficiency, bleeding phenotype, and therapeutic availability. Specific coagulation factor concentrates remain the treatment of choice whenever available. In their absence, fresh frozen plasma, cryoprecipitate, or fibrinogen concentrate provide effective alternatives. Adjunctive use of antifibrinolytic agents, particularly tranexamic acid, is beneficial for mucosal bleeding and perioperative care. Long-term prophylaxis is recommended for selected disorders, especially severe factor XIII deficiency, where it substantially reduces the risk of life-threatening bleeding. Early recognition, timely diagnosis, multidisciplinary care, and improved access to specialized therapies and genetic services are essential to optimize clinical outcomes and reduce morbidity in children with rare bleeding disorders.

Von Willebrand Disease in Pediatric Practice: Diagnostic Pitfalls and Targeted Therapy

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Hematology & Oncology

abstract: Title: Von Willebrand Disease in Pediatric Practice: Diagnostic Pitfalls and Targeted Therapy Background: Von Willebrand disease (VWD) is the most frequent inherited bleeding disorder in children, typically presenting with mucocutaneous bleeding such as epistaxis and menorrhagia. Despite its prevalence, accurate diagnosis remains challenging in general pediatric practice. Objectives: This presentation reviews the clinical evaluation, stepwise laboratory workup, and subtype-specific management of VWD, aiming to improve early recognition and care. Clinical Approach: VWD is divided into quantitative (Types 1 and 3) and qualitative (Type 2) defects. Because standard screens like activated partial thromboplastin time (aPTT) are frequently normal, diagnosis requires a targeted panel: VWF antigen (VWF:Ag), VWF ristocetin cofactor activity (VWF:RCo), and Factor VIII activity. Platelet counts are typically normal, except in Type 2B which may present with mild thrombocytopenia. A VWF:RCo/VWF:Ag ratio of 0.7 indicates Type 2 variants, prompting multimer analysis. Clinicians must also consider the patient's ABO blood group, as type O individuals naturally exhibit lower baseline VWF levels. Management: Treatment is dictated by the specific subtype. Desmopressin (DDAVP) is highly effective for most Type 1 patients, though a prior therapeutic trial is recommended. For Types 2 and 3, or during major surgery, plasma-derived VWF/FVIII concentrates are indicated. Furthermore, antifibrinolytic agents (e.g., tranexamic acid) serve as excellent adjunctive therapies for mucosal bleeding, while oral contraceptives are highly valuable for managing severe menorrhagia in adolescent girls. Avoiding NSAIDs is universally recommended. Conclusion: Recognizing VWD beyond basic coagulation screens prevents hemorrhagic complications. A tailored, subtype-directed approach ensures optimal hemostasis in pediatric patients.

Development of a Conceptual Model for an Artificial Intelligence-Based Clinical Decision Support System for Early Screening of Pediatric Musculoskeletal Developmental Disorders in Low-Resource Settings

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هوش مصنوعی

abstract: مقدمه: اختلالات تکاملی اسکلتی-عضلانی کودکان مانند دیسپلازی تکاملی هیپ، ناهنجاری‌های ستون فقرات و دفورمیتی‌های اندام تحتانی، در صورت تشخیص دیرهنگام می‌توانند به ناتوانی‌های پایدار منجر شوند. در مناطق محروم، دسترسی محدود به متخصص ارتوپدی کودکان، غربالگری نظام‌مند را با مشکل مواجه کرده‌است. سامانه‌های پشتیبان تصمیم‌گیری بالینی مبتنی بر هوش مصنوعی با تحلیل داده‌های بالینی می‌توانند پزشکان عمومی را در شناسایی موارد مشکوک و ارجاع به‌موقع یاری دهند. هدف: برای طراحی مؤثر این سامانه‌ها، تدوین یک مدل مفهومی جامع ضروری است. مواد و روش‌ها: این مطالعه توسعه‌ای در سه مرحله انجام شد. در مرحله نخست، مرور نظام‌مند مطالعات مرتبط بر اساس دستورالعمل PRISMA انجام شد و مقالات مرتبط پس از غربالگری در پایگاه‌های اطلاعاتی Web of Science، Scopus و PubMed بر اساس معیارهای ورود و خروج، به‌منظور شناسایی سامانه‌های پشتیبان تصمیم‌گیری در حوزه ارتوپدی کودکان و استخراج الزامات عملکردی و غیرعملکردی مورد تحلیل قرار گرفتند. در مرحله دوم، با بهره‌گیری از یافته‌های مرور نظام‌مند، مدل مفهومی سامانه با تعیین کاربران هدف (پزشکان عمومی و مراقبان سلامت)، منابع داده (شرح حال، معاینه فیزیکی، ابزارهای استاندارد غربالگری)، پایگاه دانش، موتور استنتاج مبتنی بر الگوریتم‌های یادگیری ماشین و خروجی‌های تصمیم‌یار طراحی شد. در مرحله سوم، مدل مفهومی پیشنهادی از طریق پانل خبرگان شامل متخصصان ارتوپدی کودکان، پزشکان عمومی، متخصصان انفورماتیک پزشکی و هوش مصنوعی از نظر ساختار، جامعیت اجزا و قابلیت کاربرد در مناطق محروم ارزیابی و بر اساس بازخوردهای آنان اصلاح شد. یافته‌ها: در این مطالعه، یک مدل مفهومی برای سامانه پشتیبان تصمیم‌گیری مبتنی بر هوش مصنوعی با هدف غربالگری زودهنگام اختلالات تکاملی اسکلتی-عضلانی کودکان طراحی شد. مدل پیشنهادی در سه لایه اصلی سازمان‌دهی گردید. لایه ورودی شامل داده‌های دموگرافیک، شرح حال، یافته‌های معاینه فیزیکی (شامل بررسی تقارن اندام‌ها، دامنه حرکتی و الگوی راه رفتن) و داده‌های حاصل از ابزارها و پرسشنامه‌های استاندارد غربالگری است. لایه پردازش شامل پایگاه دانش مبتنی بر راهنماهای بالینی معتبر و الگوریتم‌های یادگیری ماشین برای تحلیل داده‌ها و طبقه‌بندی سطح خطر است. لایه خروجی، سطح خطر (پایین، متوسط، بالا) را همراه با توصیه‌های تصمیم‌یار شامل ارجاع، پیگیری یا آموزش ارائه می‌دهد. کاربران هدف سامانه، پزشکان عمومی و مراقبان سلامت شاغل در خانه‌های بهداشت مناطق محروم تعیین شدند. ارزیابی خبرگان، مناسب بودن مدل پیشنهادی از نظر ساختار، جامعیت اجزا

مدل مفهومی پیشنهادی، چارچوبی نظام‌مند برای :نتیجه‌گیری .و قابلیت کاربرد در مراقبت‌های اولیه مناطق محروم را نشان داد طراحی سامانه پشتیبان تصمیم‌گیری بالینی فراهم می‌کند و می‌تواند به‌عنوان مبنایی برای توسعه و ارزیابی سامانه‌های مبتنی بر هوش .مصنوعی در زمینه غربالگری زودهنگام اختلالات تکاملی اسکلتی-عضلانی کودکان در مناطق محروم مورد استفاده قرارگیرد

نقص آدنوزین دآمیناز ۲ (DADA2): مروری بر تظاهرات بالینی، تشخیص و رویکردهای درمانی

دکتر مینا گواهی[1]، دکتر وحید ضیائی[1,2,3]

دستیار فوق تخصصی روماتولوژی کودکان و فوق تخصص روماتولوژی کودکان[1]

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abstract:

نقص آدنوزین دآمیناز ۲ (Deficiency of Adenosine Deaminase 2; DADA2) یک بیماری مونوژنیک نادر با توارث اتوزوم مغلوب است که در اثر جهش‌های بیماری‌زا در ژن ADA2 (نام پیشین: CECR1) ایجاد می‌شود. این بیماری از سال ۲۰۱٤ به‌عنوان یک واسکولوپاتی التهابی مونوژنیک شناخته شده و امروزه از علل مهم ژنتیکی واسکولیت، استروک مغزی زودرس، اختلالات هماتولوژیک و نقص ایمنی محسوب می‌شود.

مروری بر مقالات منتشرشده در پایگاه PubMed با استفاده از کلیدواژه‌های Deficiency of Adenosine Deaminase 2، DADA2 و Sneddon syndrome در فاصله سال‌های ۲۰۱٤ تا ۲۰۲٦ انجام شد. پس از غربالگری عناوین و چکیده‌ها، متن کامل مقالات مرتبط بررسی و مطالعات واجد شرایط انتخاب شدند. همچنین، گزارش‌های منتشرشده از بیماران ایرانی مبتلا به DADA2 مرور گردید.

DADA2 دارای طیف وسیعی از تظاهرات بالینی است و می‌تواند سیستم‌های مختلف بدن را درگیر کند. استروک‌های ایسکمیک عودکننده در کودکی، لیویدو راسموسا یا لیویدو رتیکولاریس، واسکولیت عروق متوسط، تب‌های راجعه، آرترالژی، آپلازی خالص گلبول قرمز، سیتوپنی‌ها و نقص ایمنی از مهم‌ترین تظاهرات بیماری هستند. کاهش فعالیت آنزیم ADA2 موجب اختلال در تنظیم پاسخ ایمنی، قطبیت ماکروفاژها به سمت فنوتیپ التهابی و آسیب اندوتلیال می‌شود. تشخیص بر اساس یافته‌های بالینی، سنجش فعالیت آنزیم و تأیید مولکولی جهش‌های ژن ADA2 است. مهارکننده‌های TNF درمان انتخابی بوده و در پیشگیری از آسیب‌های غیرقابل برگشت، به‌ویژه عوارض عصبی، مؤثر هستند. تاکنون ۱۵ بیمار از ایران در متون علمی گزارش شده‌اند.

DADA2 بیماری نادر اما بالقوه تهدیدکننده حیات است. آگاهی از تظاهرات متنوع بیماری، تشخیص زودهنگام و شروع به‌موقع درمان هدفمند، نقش مهمی در بهبود پیش‌آگهی و پیشگیری از عوارض شدید و غیرقابل برگشت دارد.

واژگان کلیدی: نقص آدنوزین دآمیناز ۲؛ واسکولیت؛ استروک مغزی؛ پلی‌آرتریت ندوزا؛ بیماری‌های خودالتهابی

پروتیینوری(مقدمات)

دکتر مجتبی فاضل

abstract: Although proteinuria is usually benign in the form of transient or orthostatic proteinuria, persistent proteinuria may be associated with more serious renal diseases. Proteinuria may be an independent risk factor for the progression of chronic kidney disease in children. Mechanisms of proteinuria can be categorized as glomerular, tubular, secretory, or overflow. A history, a physical examination, and laboratory tests help determine the cause. Transient (functional) proteinuria is temporary. It can occur with fever, exercise, stress, or cold exposure, and it resolves when the inciting factor is removed. Orthostatic proteinuria is the most common type in children, especially in adolescent males. It is a benign condition without clinical significance. Persistent proteinuria can be glomerular or tubulointerstitial in origin. The urine dipstick test is the most widely used screening method. Although a 24-hour urine protein excretion test is usually recommended for quantitation of the amount of protein excreted in the urine, it may be impractical in children. A spot, first-morning urine test for a protein-to-creatinine or protein-to-osmolality ratio is a reliable substitute. Treatment of proteinuria should be directed at the underlying cause. Patients with active urinary sediments, hematuria, hypertension, hypocomplementemia, renal insufficiency with depressed glomerular filtration rate, or signs and symptoms suggestive of vasculitic disease may require referral to a pediatric nephrologist and a renal biopsy.

A urinalysis is the easiest way to test for proteinuria. A urinalysis is done by dipping a chemically treated paper strip into a urine sample. If the paper strip changes to a certain color, that means there's protein in the urine. Then, other tests can be used to find the exact amount of protein. This can be done by sending a urine sample to a lab.

Many children with proteinuria do not have kidney disease. Orthostatic proteinuria and temporary proteinuria, for example, are common causes of proteinuria in children *without* kidney disease.

Some children may have increased protein in the urine during times of illness, fever, exercise or other kinds of physical stress. This type of proteinuria is also a variation of normal. It is important to recheck the amount of protein in the urine of these children after they are well or before exercise to make sure that proteinuria is not still present.

JUVENILE SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Juvenile systemic lupus erythematosus (JSLE) is a chronic multisystem autoimmune disease that develops before adulthood and may affect the skin, musculoskeletal system, kidneys, nervous system, cardiovascular system, and other organs. Although less common than adult-onset systemic lupus erythematosus, JSLE is of particular clinical importance because children may experience more severe disease and early organ involvement during critical periods of growth and development.

Methods: This review highlights the clinical and public health importance of JSLE in children, with emphasis on early recognition, organ involvement, multidisciplinary management, and long-term outcomes.

Findings: The heterogeneous clinical presentation of JSLE may delay diagnosis and increase the risk of irreversible organ damage. Renal and neuropsychiatric involvement can significantly affect morbidity and long-term prognosis. Chronic inflammation, prolonged immunosuppressive treatment, and disease-related complications may also influence physical growth, psychological well-being, school performance, and quality of life. Early diagnosis, regular monitoring, appropriate treatment, and coordinated care involving pediatric rheumatologists and other specialists are essential for reducing disease activity and preventing long-term complications.

Conclusion: JSLE represents an important challenge in pediatric medicine because of its potential for multisystem involvement, chronic morbidity, and lifelong consequences. Increasing awareness among healthcare professionals and families, promoting early diagnosis, and improving access to specialized multidisciplinary care may contribute to better clinical outcomes and quality of life in affected children.

Keywords: Juvenile systemic lupus erythematosus; Children; Autoimmune disease; Pediatric rheumatology; Early diagnosis

Diagnosis and Management of Faltering Weight

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Gastroenterology

abstract: The term “Failure to Thrive” has been officially replaced with “Faltering Weight” to eliminate stigma, resolve definitional inconsistencies, and move away from the outdated “organic vs. non-organic” classification. The new diagnosis is based on standardized Z-score cutoffs rather than percentiles, allowing for greater precision at the extremes of growth charts. Diagnosis requires meeting any of the following criteria:

- Weight-for-length or BMI-for-age < -1.65 Z-score (5th percentile).
- In children < -2 Z-score for age (2.3rd percentile) per WHO standards.
- A decline in weight, weight-for-length, or BMI ≥ 1 Z-score (e.g., dropping from the 50th to the 15th percentile).

Enhancing Classification and Risk Stratification Accuracy for Pediatric Solid Tumors via Multimodal Integration of Pathomic Features and Clinical Data: A Conceptual Framework Based on Foundation Models

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هوش مصنوعی

abstract: مقدمه تشخیص دقیق و طبقه‌بندی تومورهای جامد کودکان (نظیر نوروبلاستوما، تومور ویلمز و مدولوبلاستوما) به مواجه (Inter-observer variability) دلیل ناهمگنی بافتی و پیچیدگی‌های مولکولی، همواره با چالش تغییرپذیری بین ناظران پارادایم جدیدی را در استخراج ویژگی‌های (Foundation Models) بوده است. ظهور «پاتولوژی محاسباتی» و مدل‌های پایه نامرئی برای چشم انسان فراهم آورده و ابزارهای جدیدی را برای دستیابی به دقت بالای بالینی در پزشکی (Pathomic) پاتومیک و (WSI) روش کار این مدل مفهومی بر پایه ادغام تصاویر اسلاید کامل .ارائه کرده است (Precision Medicine) دقیق جهت استخراج (CONCH و UNI مانند) داده‌های بالینی ناهمگون طراحی شده است. پیشنهاد می‌شود از مدل‌های پایه بزرگ بردارهای ویژگی در ابعاد بالا برای شناسایی بافت استفاده شود. همزمان، داده‌های بالینی (شامل سن، مرحله بیماری، مارکرها و به فضای برداری نگاشت شوند. هسته اصلی مدل، بهره‌گیری از (NLP) ساختار بافت‌یافته) از طریق پردازش زبان طبیعی پزشکی است که به‌جای الحاق ساده داده‌ها، تعاملات فرامدالی (Bidirectional Cross-Attention) «مکانیزم «توجه متقابل دوطرفه یافته‌ها شواهد متدولوژیک اخیر .مدل‌سازی می‌کند (Feature-level) را در سطح ویژگی (Cross-modal dependencies) برتر هستند. برای نمونه، در پیش‌بینی (Unimodal) نشان می‌دهد که مدل‌های چندوجهی به‌طور معناداری از مدل‌های تک‌وجهی برابر با ۸۴۹/۰ AUC ریسک تومورهای مغزی کودکان، تلفیق ویژگی‌های پاتومیک و بالینی منجر به دستیابی به سطح زیر منحنی (Segmentation) پتانسیل بالایی در بخش‌بندی (SGA و U-Net مانند) شده است. همچنین، معماری‌های مبتنی بر توجه اثبات کرده‌اند که نقشه‌های توجه ۹۵/۰ (Dice Coefficient) اجزای تومور (مانند ناحیه نکروز همگرا) دارند و با ضریب دایس به‌طور خودکار بر مناطق بیولوژیک کلیدی مانند تراکم سلولی بالا و نواحی نکروز همگرا می‌شوند که با (Attention Maps) نتیجه‌گیری چارچوب مفهومی ارائه‌شده، پتانسیل بالایی برای کاهش .معیارهای تخصصی پاتولوژیست‌های اطفال همخوانی دارد خطای تشخیصی و شخصی‌سازی استراتژی‌های درمانی در انکولوژی کودکان دارد. این چارچوب مسیر را برای توسعه سیستم‌های هموار می‌سازد و با عبور از محدودیت‌های روش‌های سنتی، مدیریت داده‌های ناهمگون را (CDSS) پشتیبان تصمیم‌گیری بالینی در مجموعه‌های مختلف تسهیل می‌کند. با این حال، پیاده‌سازی نهایی نیازمند اعتبارسنجی بالینی چندمرکزی و مدیریت داده‌های ناهمگون در جمعیت‌های مختلف است.

Challenges of management of cases of child maltreatment in the medical centers: a qualitative study

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پرستاری

abstract: اهمال در مراقبت از کودکان و سوءرفتار با آنان از پدیده های جهانی است. تحقیقات در مورد چالش های در برخورد با سوءرفتار با کودکان و غفلت به صورت تحلیل کیفی در میان اعضا تیم درمانی محدود است. هدف این مطالعه شناخت چالش های مدیریت موارد سوءرفتار با کودکان از دیدگاه صاحبنظران و ارائه دهندگان خدمات سلامت بود. سوءرفتار علیه کودکان با دورنمایی از عوامل مثل عوامل فردی در خانواده به عنوان یک سیستم اجتماعی و عوامل اجتماعی- فرهنگی که واحد خانواده را متخصصان خدمات بهداشتی نقش مهمی در شناسایی و بررسی موارد سوءرفتار، .تحت تاثیر قرار می دهد، مد نظر قرار می گیرد بازی می کنند و بخشی از مسئولیت های آنها پیشگیری از سورفتار و ارائه درمان و حمایت برای کودکان آزار دیده است. در سال های اخیر، رشد در آگاهی و حساسیت ارایه دهندگان مراقبت در پیگیری موارد سو رفتار با کودکان مشاهده شده است ولی هنوز اطلاعات کمی در مورد بهترین راهکارها برای مقابله با موارد سورفتار وجود دارد . این مطالعه به روش کیفی و با استفاده از رویکرد تحلیل محتوا و روش نمونه گیری هدفمند با حداکثر تنوع انجام شده است. جمع آوری اطلاعات از طریق مصاحبه های نیمه ساختارمند با صاحب نظران عرصه سلامت شامل کارکنان درمانی به علاوه کارشناسان و اعضا هیئت علمی گروه پرستاری، مددکاران اجتماعی، حقوقدانان و سیاست گذاران مرتبط با این عرصه انجام شد. سپس متن مصاحبه ها با استفاده از تحلیل محتوای قراردادی .مورد تحلیل قرار گرفت.در این مطالعه با ۲۷ نفر از گروه هدف مصاحبه شد که یافته ها در شش طبقه اصلی طبقه بندی شدند طبقات در قالب (مفهوم کودک آزاری، پیامدهای سوءرفتار، تجارب مرتبط، کمبود برنامه آموزشی، خلاء برنامه مدیریتی،)معرفی و چالش ها شامل (کمبود آموزش، نبود قانون شفاف و مشخص، فقدان سیستم حمایتی، عدم وجود پروتکل ساختار یافته، نبود رویکرد تیمی،) مشخص شدند .کد اخلاق مقاله: IR.TUMS.MEDICINE.REC.1398.122 - Gubbels J, et al. Why Healthcare and Education Professionals Underreport Suspicions of Child Abuse: 2021 - Wilson I et al. Barriers and Facilitators Associated With Child Abuse and Neglect Reporting Among Child Care Professionals. 2021.

چالش های مدیریت، سوءرفتار، کودکان

Digital Phenotyping for the Early Identification of Pediatric Mental Disorders: A Systematic Review of the Nursing Role

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پرستاری

abstract: زمینه و اهداف اختلالات روانی در دوران کودکی و نوجوانی از چالش‌های اساسی سلامت عمومی هستند که تشخیص زودهنگام آن‌ها نقش حیاتی در پیشگیری از پیامدهای مزمن دارد. فنوتایپ‌سازی دیجیتال، به‌عنوان رویکردی نوظهور با بهره‌گیری از داده‌های سنسورهای گوشی‌های هوشمند و ابزارهای پوشیدنی، امکان پایش مستمر الگوهای رفتاری و شناختی را فراهم می‌آورد. با وجود پتانسیل بالای این فناوری در شناسایی زودهنگام، ابهاماتی در خصوص ملاحظات اخلاقی و نقش پرستاران در تفسیر داده‌ها وجود دارد. این مطالعه با هدف مرور نظام‌مند شواهد موجود پیرامون کاربرد فنوتایپ‌سازی دیجیتال در شناسایی زودهنگام اختلالات روش‌ها این مطالعه به‌صورت مرور سیستماتیک و مطابق با .روانی کودکان و تبیین نقش پرستاران در این فرایند انجام شده است PRISMA 2020 دستورالعمل Web، Scopus، PubMed طراحی شده است. جست‌وجوی نظام‌مند در پایگاه‌های اطلاعاتی برای مقالات منتشرشده در بازه زمانی ۲۰۲۰ تا ۲۰۲۶ صورت می‌گیرد. راهبرد جست‌وجو CINAHL و Embase، of Science بر ترکیبی از کلیدواژه‌های «فنوتایپ‌سازی دیجیتال»، «سلامت روان کودکان»، «تشخیص زودهنگام»، «پرستاری کودکان»و «هوش مصنوعی» که معادل آنها «Pediatric»، «Early Detection»، «Pediatric Mental Health»، «Digital Phenotyping» متمرکز است. انتخاب مقالات، ارزیابی کیفیت و استخراج داده‌ها توسط دو پژوهشگر «Artificial Intelligence»، «Nursing» یافته‌ها نتایج اولیه نشان می‌دهد که فنوتایپ‌سازی دیجیتال .مستقل انجام شده و یافته‌ها به‌صورت سنتز روایتی گزارش خواهند شد با پایش پیوسته شاخص‌های رفتاری، در تشخیص زودهنگام علائم اختلالات خلقی و اضطرابی در کودکان کارآمد است. یافته‌ها بر نقش کلیدی پرستاران در سه محور اصلی تأکید دارند: ۱) آموزش خانواده‌ها در استفاده از ابزارهای دیجیتال، ۲) تفسیر بالینی داده‌های دیجیتال در کنار روش‌های سنتی، و ۳) نظارت بر حفظ حریم خصوصی و اخلاق‌مداری در فرآیند مراقبت نتیجه‌گیری فنوتایپ‌سازی دیجیتال می‌تواند به عنوان ابزاری مکمل، تحولی در غربالگری و مراقبت‌های پرستاری کودکان ایجاد کند. با این حال، اثربخشی این فناوری مستلزم تدوین پروتکل‌های اخلاقی استاندارد و ارتقای سواد دیجیتال در کادر پرستاری است. نتایج این مرور می‌تواند بستری کلیدواژه‌ها .در حوزه پرستاری کودکان و سلامت دیجیتال فراهم آورد (Clinical Guidelines) برای توسعه راهنماهای بالینی فنوتایپ‌سازی دیجیتال؛ سلامت روان کودکان؛ تشخیص زودهنگام؛ پرستاری کودکان؛ هوش مصنوعی

Novel Approaches to Postoperative Pain Management in Children: A Narrative Review

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پرستاری

abstract: Introduction: In this article, we will discuss Postoperative Pain, a very important subject regarding children who had to undergo surgical procedures. It is a well-known fact that patients who undergo surgery often suffer from pain after their surgery. It should be noted that untreated pain can cause complications like increased anxiety, disrupted sleep, recovery delay, less movement, and higher incidence rates of complications during surgery. Although pain relievers play an important part in relieving patients from pain, there are some limitations known about using opioids in Postoperative Pain relief. However, the focus on innovative approaches to relieving pain has increased significantly in recent years. This review aims to investigate the different pharmacological, non-pharmacological and technical approaches used for effective Postoperative Pain management in kids. Methods: The current narrative review was performed through searching the published studies in databases like PubMed, Scopus, Web of Science, ScienceDirect, and Google Scholar. The search terms used were Pediatric Postoperative Pain, Pain Management, Multimodal Analgesia, Virtual Reality, Distraction, Non-pharmacological Intervention, Regional Anesthesia, and their Persian equivalents. The studies published between 2016 and 2026 were considered based on the specific inclusion and exclusion criteria, and the outcomes regarding the new methods of pain management in pediatrics used were obtained and analyzed. Outcomes: According to the sourced literature, different multimodal techniques, such as combinations of non-opioid analgesics with regional anesthesia procedures, nerve blocks, and non-pharmacological methods, might minimize the level of pain and require less opioids for children. The utilization of drugs like acetaminophen and non-steroidal anti-inflammatory medication, local anesthetic methods, and new techniques, such as ultrasound-guided nerve blocks, has enhanced pain management and decreased drug side effects. In addition, non-pharmacological approaches, including virtual reality, therapeutic plays, music therapies, cognitive distractions, and storytelling, have shown their effectiveness in postoperative pain management since they reduce anxiety, provide a sense of control to the children, and modify their pain perception. Moreover, the utilization of new technologies such as mobile health applications and interactive digital systems is also worthy of exploration in the context of pain education and monitoring, and encouraging family participation in pediatric care. Conclusion: Managing pain in children after surgery is a complex process that must take into consideration their individual needs. Pain relief can be achieved through a combination of medications, advanced anesthesia options, and alternative methods of treatment. This area of research needs further investigation in order to establish more effective methods. Keywords: Children, Pain Management,Non-pharmacological Interventions, Pediatrics.

Operating Room Nurses' Experiences of Interprofessional Collaboration When Facing New Technologies

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پرستاری

abstract: اتاق عمل به عنوان یکی از پیچیده‌ترین محیط‌های بالینی در نظام سلامت بوده، همواره دستخوش تحولات فناورانه بوده است. از سیستم‌های لاپاراسکوپی و جراحی رباتیک گرفته تا ابزارهای دیجیتال ثبت اطلاعات و هوش مصنوعی . این فناوری‌ها اگرچه در جهت افزایش دقت و ایمنی طراحی شده‌اند، اما به طور بنیادین بر پویایی تیم جراحی و نقش پرستار تأثیر گذاشته‌اند . از ورود سیستم‌های کم‌تهاجمی مانند لاپاراسکوپی در دهه‌ی ۱۹۹۰ تا انقلاب کنونی در جراحی رباتیک (مانند سیستم داوینچی)، ابزارهای دیجیتال ثبت داده‌ها، و اخیراً کاربردهای هوش مصنوعی در تشخیص و برنامه‌ریزی جراحی، این حوزه دستخوش دگرگونی‌های شتابنده‌ای شده است (کاتز و همکاران، ۲۰۲۱). اگرچه هدف غایی این فناوری‌ها افزایش دقت، کاهش خطا و ارتقای .ایمنی بیمار است، اما پیاده‌سازی آن‌ها به طور بنیادین پویایی‌های تیم جراحی و به ویژه نقش پرستار را دستخوش تغییر کرده است پرستاران اتاق عمل به عنوان اعضای کلیدی تیم که در تمام طول فرایند جراحی حضور دارند، مستقیماً با چالش‌های تطابق با فناوری روبرو هستند. تحقیقات نشان داده که فناوری‌های جدید می‌توانند ارتباطات را مختل کنند، تمرکز بر بیمار را کاهش دهند و حتی منبع استرس‌های تکنولوژیک برای پرستاران باشند . شواهد پژوهشی نشان می‌دهد که فناوری‌های جدید، علی‌رغم مزایای بالقوه، می‌توانند حلقه‌های ارتباطی را مختل کنند، توجه بیمارمحور را کاهش دهند و به منبعی برای استرس تکنولوژیکدر میان پرستاران تبدیل شوند (راینر و همکاران، ۲۰۲۰؛ اسمیت و اندرسون، ۲۰۱۹) این استرس نه تنها بر سلامت روانی و حرفه‌ای پرستاران تأثیر می‌گذارد، بلکه می‌تواند از طریق افزایش بار شناختی، ایمنی بیمار را نیز به مخاطره اندازد علی‌رغم اهمیت این موضوع، مطالعات کیفی کمی به تجربه‌ی زیسته‌ی خود پرستاران از تعامل با فناوری و تأثیر آن بر هم‌کاری تیمی پرداخته‌اند و بیشتر پژوهش‌ها بر جنبه‌های فنی متمرکز بوده‌اند . به عبارتی یک شکاف پژوهشی آشکار وجود دارد؛ اغلب مطالعات انجام‌شده در این حوزه بر جنبه‌های فنی و کارایی ابزارها متمرکز بوده‌اند و کمتر به تجربه‌ی زیسته خود پرستاران و چگونگی معنادهی آن‌ها به تعاملات روزمره‌شان با فناوری و تأثیر آن بر هم‌کاری بین‌حرفه‌ای پرداخته‌اند. پژوهش کیفی حاضر با هدف پر کردن این خلأ، به دنبال درک عمیق‌تر این .پدیده از نگاه پرستاران اتاق عمل است این مطالعه تلاش می‌کند تا این شکاف را پر کند

The role of reading errors in diagnostic and therapeutic errors: A report of a near miss in a pediatric ward

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پرستاری

abstract: در (Near Miss) نقش خطای خوانش در بروز اشتباهات تشخیصی و درمانی: گزارش یک مورد نزدیک به خطا :بخش کودکان دکتر فاطمه کلروزی استادیار، گروه کودکان دانشکده پرستاری آجا، دانشگاه علوم پزشکی آجا، تهران، ایران مقدمه خطاهای پزشکی یکی از چالش‌های مهم در سیستم‌های سلامت است که می‌تواند پیامدهای جبران‌ناپذیری برای بیماران، به‌ویژه کودکان، به همراه داشته باشند. یکی از انواع این خطاها، اشتباه در خواندن یا تفسیر دستورات پزشکی است که می‌تواند منجر به ناشی از اشتباه در خوانش تشخیص پزشک در بخش (Near Miss) فاجعه ای شود. این مقاله به بررسی یک مورد نزدیک به خطا دستور بستری بیمار با تشخیص و انجام جراحی «ارکیدوپکسی» که در مطب پزشک نوشته :معرفی مورد .کودکان انجام شده است شده بود ، اما به‌دلیل شباهت یا اشتباه در خوانش نوشتاری، توسط پذیرش بیمارستان به‌اشتباه «ارکیدکتومی» خوانده شد. بیمار با همان تشخیص در بخش بستری می شود. پرستاران بی توجه به نوع تشخیص، در روز عمل به همراه بیمار اطلاع می دهند عمل جراحی برداشتن بیضه ها قرار است انجام شود که با مقاومت و اعتراض شدید مادر بیمار مواجه شد. نکته تاسف برانگیز آن است پرستاران، بر تشخیص اشتباه اصرار کرده و مادر را متهم به هوچی گری کردند. این خطا در مرحله پیش از عمل و با دقت و این مورد :بحث و نتیجه‌گیری .هوشیاری دانشجویان پرستاری شناسایی شد و از وقوع یک مداخله آسیب‌زا جلوگیری به عمل آمد نشان‌دهنده اهمیت دقت در ثبت و خوانش دستورات پزشکی و همچنین نقش کلیدی اعضای مختلف تیم درمان، در پیشگیری از خطاهای پزشکی است. عواملی مانند دست‌خط ناخوانا، شباهت اصطلاحات تخصصی و نبود سیستم‌های کنترل چندمرحله‌ای از :جمله دلایل بروز چنین خطاهایی هستند. به‌منظور کاهش این‌گونه خطاها، اجرای راهکارهای کاربردی زیر پیشنهاد می‌شود الزام .جهت افزایش خوانایی و کاهش ابهام (CPOE) جایگزینی دستورات دست‌نویس با سیستم‌های الکترونیک ثبت دستورات استفاده از .پیش از مداخلات جراحی، به‌ویژه در موارد با اصطلاحات مشابه (Double-check) «به انجام «تأیید دو مرحله‌ای آموزش مستمر کادر درمان .پیش از شروع عمل (Surgical Safety Checklist مانند) چک‌لیست‌های استاندارد ایمنی جراحی بدون Near Miss تقویت فرهنگ گزارش‌دهی خطاها و .و دانشجویان در زمینه خطاهای رایج و راه‌های پیشگیری از آن‌ها تأکید بر ارتباط مؤثر تیمی و تشویق اعضای تیم، به‌ویژه افراد در سطوح آموزشی، به بیان .سرزنش، به‌منظور یادگیری سازمانی اجرای این مداخلات می‌تواند نقش مؤثری در ارتقای ایمنی بیمار و پیشگیری از بروز خطاهای جدی در .نگرانی‌ها بدون ترس ، ارکیدوپکسی، ارکیدکتومی، ایمنی بیمار، کودکان Near Missواژگان کلیدی: خطای پزشکی، .مراقبت‌های کودکان داشته باشد

Network of Safe Embraces: Family Participation in Home-Based Kangaroo Mother Care for Preterm Infants

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پرستاری

abstract: Network of Safe Embraces: Family Participation in Home-Based Kangaroo Mother Care for Preterm Infants Saki Mojgan1 , Ghasemi Fatemeh2 1- Department of Operating Room, School of Allied Medical Sciences and Rehabilitation, Lorestan University of Medical Sciences, Khorramabad, Iran. 2- Faculty Member, Lorestan University of Medical Sciences, School of Nursing and Midwifery, Khorramabad, Iran. Abstract Introduction: Continuation of Kangaroo Mother Care (KMC) after discharge from the Neonatal Intensive Care Unit (NICU) requires active family participation and continuous access to education and professional support. Despite the well-established benefits of KMC, many families encounter challenges in correctly implementing the intervention, addressing daily caregiving concerns, and maintaining consistent skin-to-skin contact after discharge. Telenursing, as an innovative family-centered care strategy, can strengthen the connection between healthcare providers and families during the transition from hospital to home. Literature Review: Evidence indicates that educating families during NICU hospitalization and providing ongoing support after discharge are essential for sustaining KMC. Studies on telenursing have demonstrated that remote follow-up through telephone calls, video consultations, and secure messaging platforms improves adherence to KMC, enhances parental confidence, reduces anxiety, and promotes the quality of home-based neonatal care. This approach facilitates continuous education and monitoring of mothers, fathers, and other family caregivers, while enabling timely identification and correction of caregiving errors and addressing families' concerns without requiring in-person visits. Conclusion: Establishing a Network of Safe Embraces through telenursing can maintain an effective link between the NICU and the home environment, empower all family members, and facilitate the continuity of Kangaroo Mother Care after discharge. This strategy represents an effective step toward strengthening family-centered care and improving health outcomes for preterm infants. Clinical Implications: NICU nurses can develop structured telenursing programs that include pre-discharge education, regular post-discharge follow-up, remote consultation, and assessment of KMC practice through telecommunication technologies. Such interventions can enhance the participation of mothers, fathers, and other family caregivers, reduce unnecessary hospital visits, increase family confidence, ensure continuity of KMC, and promote a safe transition of care from hospital to home. Keywords: Kangaroo Mother Care; Telenursing; Family-Centered Care; Preterm Infant; Neonatal Intensive Care Unit; Home Care; Family Caregivers.

oral

Advanced respiratory management in pediatrics and neonates

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پرستاری

abstract: The management of respiratory failure in neonates and children is a critical component of pediatric intensive care, as conditions like Respiratory Distress Syndrome (RDS), Transient Tachypnea of the Newborn (TTNB), and Acute Respiratory Distress Syndrome (ARDS) remain major causes of morbidity and mortality. Historically, invasive mechanical ventilation (MV) has been the primary intervention for severe respiratory failure, providing essential life support by augmenting alveolar ventilation through an endotracheal tube. However, MV is associated with significant complications, including upper respiratory trauma, barotrauma, and nosocomial infections, which has led to a growing clinical emphasis on non-invasive alternatives. Non-invasive ventilation (NIV) modalities, such as Continuous Positive Airway Pressure (CPAP) and Bi-level Positive Airway Pressure (BiPAP), offer the advantage of stabilizing functional residual capacity and reducing the work of breathing without the need for intubation. These methods are crucial because they preserve the patient's ability to speak, swallow, and cough naturally, thereby reducing the need for sedation and the risk of long-term complications like tracheostomy. More recently, Heated Humidified High-Flow Nasal Cannula (HHHFNC) has emerged as a popular and effective tool for advanced respiratory support in both neonates and older children. By delivering warmed and humidified oxygen at high flow rates, HHHFNC reduces nasopharyngeal dead space and provides a mild level of positive pressure, often serving as a more comfortable and user-friendly alternative to CPAP. Current clinical evidence indicates that the success rate of HHHFNC is high—reaching up to 70% in some settings—and its use is associated with a lower incidence of nasal trauma and improved tolerance among both patients and caregivers. Understanding the specific indications and limitations of each of these three modalities is essential for optimizing outcomes in fragile pediatric populations. Respiratory Management; Pediatric; Neonates; Mechanical Ventilation; NIV; HHHFNC

Beyond the Mother's Embrace: The Role of Extended Family in Sustaining Kangaroo Mother Care from the NICU to Home

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پرستاری

abstract: مقدمه: مراقبت کانگورویی (KMC)) یکی از مؤثرترین مداخلات مبتنی بر شواهد در مراقبت از نوزادان نارس و کم‌وزن است. سازمان جهانی بهداشت بر اجرای زودهنگام KMC در بخش ویژه نوزادان (NICU) و تداوم آن پس از ترخیص تأکید دارد. با این حال، خستگی مادر، محدودیت حضور والدین و نیاز به حمایت خانوادگی می‌تواند استمرار این مراقبت را با چالش مواجه سازد. در فرهنگ ایرانی، مادربزرگ‌ها به‌عنوان یکی از ارکان حمایت از خانواده، می‌توانند نقش مهمی در تداوم مراقبت کانگورویی ایفا کنند. مرور شواهد: مطالعات ایرانی و شواهد بین‌المللی بر اهمیت رویکرد خانواده‌محور در مراقبت کانگورویی تأکید دارند. نتایج یک کارآزمایی بالینی تصادفی در ایران نشان داد که انجام مراقبت کانگورویی توسط مادربزرگ مادری، از نظر تأثیر بر پایداری علائم حیاتی نوزادان نارس بستری، تفاوت آماری معنی‌داری با مراقبت ارائه‌شده توسط مادر ندارد. این یافته نشان می‌دهد که در صورت آموزش و توانمندسازی مناسب، سایر اعضای خانواده، به‌ویژه بزرگان خانواده که نقش مؤثری در مراقبت و فرزندپروری دارند، نیز می‌توانند به‌عنوان مراقبان مؤثر در اجرای مراقبت کانگورویی مشارکت کرده و از تداوم این مراقبت پس از ترخیص حمایت کنند. نتیجه‌گیری: تداوم موفق مراقبت کانگورویی از بیمارستان تا منزل نیازمند بهره‌گیری از ظرفیت تمامی اعضای خانواده است. مادربزرگ، به‌عنوان یکی از نزدیک‌ترین مراقبان نوزاد در فرهنگ ایرانی، می‌تواند در صورت دریافت آموزش استاندارد، پرستاران بخش ویژه نوزادان می‌توانند با شناسایی مراقب اصلی خانواده، آموزش عملی مراقبت کانگورویی ایفا کند. کاربرد در بالین: نقش مؤثری در حمایت از مادر و استمرار مراقبت کانگورویی ایفا کند. آموزش به مادر و مادربزرگ، آموزش اصول ایمنی تماس پوست با پوست، و طراحی برنامه آموزشی پیش از ترخیص، خانواده را برای تداوم مراقبت در منزل آماده کنند. استفاده از ظرفیت مادربزرگ، به‌ویژه در شرایط خستگی یا محدودیت مادر، می‌تواند استمرار مراقبت کانگورویی، کاهش بار مراقبتی مادر و بهبود پیامدهای سلامت نوزاد را تسهیل کند.

کلیدواژه‌ها: مراقبت کانگورویی، مادربزرگ، مراقبت خانواده‌محور، بخش ویژه نوزادان، نوزاد نارس، ترخیص.

Chest Compressions and Pharmacotherapy in Neonatal Resuscitation: An Update Based on the 2025 Guidelines

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پرستاری

abstract: According to the latest neonatal resuscitation guidelines updated in 2025 by the American Heart Association and the American Academy of Pediatrics, chest compressions and pharmacotherapy serve as advanced interventions during the second phase of resuscitation, playing a vital role in restoring spontaneous circulation and improving neonatal survival outcomes. Chest compressions are initiated only when, despite 30 seconds of effective positive-pressure ventilation, the infant's heart rate remains below 60 beats per minute. The preferred technique for chest compressions is the two-thumb encircling method, in which both thumbs are placed over the lower third of the sternum, with compression depth equivalent to one-third of the anteroposterior chest diameter and a rate of 90 compressions per minute with a 3:1 compression-to-ventilation ratio. Epinephrine, as the sole standard first-line medication in neonatal resuscitation, is administered only if, despite 60 seconds of effective chest compressions and ventilation with 100% oxygen, the heart rate remains below 60 beats per minute. A significant change in the 2025 guidelines is the reduction of the endotracheal epinephrine dose from 0.1 to 0.05 mg/kg (from a 1:10,000 solution), with emphasis on the temporary use of this route until intravenous access is established. The normal saline flush volume following medication administration, depending on the infant's weight and the distance from the injection site to the central circulation, is set between 1 and 3 mL. In cases of no response to compressions and epinephrine, along with clinical evidence of blood loss or hypovolemic shock, the administration of volume expanders (normal saline or Ringer's lactate) at a dose of 10 mL/kg is emphasized. Overall, the 2025 guidelines emphasize a team-based approach, coordination among resuscitation team members, avoidance of delays in initiating compressions and pharmacotherapy, and the use of objective indicators such as capnography to confirm endotracheal intubation and assess the quality of chest compressions, as key strategies for improving neonatal resuscitation outcomes. Neonatal Resuscitation, Chest Compressions, Epinephrine, 2025 Guidelines, American Heart Association, Medication Administration

Cystic Fibrosis in Children: From Diagnosis to Adulthood and the Importance of Multidisciplinary Care

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پرستاری

abstract: Cystic Fibrosis in Children: From Diagnosis to Adulthood and the Importance of Multidisciplinary Care Cystic fibrosis (CF) is one of the most common autosomal recessive genetic disorders, caused by mutations in the CFTR gene. These mutations impair chloride and sodium transport across epithelial cell membranes, leading to the production of thick, sticky secretions that affect multiple organs, particularly the respiratory and gastrointestinal systems. Chronic lung disease, recurrent respiratory infections, pancreatic insufficiency, malabsorption, and poor growth are among the most common clinical manifestations. Early diagnosis plays a crucial role in improving long-term outcomes. Newborn screening, based on immunoreactive trypsinogen (IRT) measurement followed by confirmatory sweat chloride testing and genetic analysis, enables timely identification of affected infants. Early diagnosis allows prompt initiation of nutritional support, pancreatic enzyme replacement, and respiratory therapies, reducing disease progression and improving survival. The management of CF requires lifelong, comprehensive, and multidisciplinary care. Airway clearance techniques, chest physiotherapy, mucolytic agents, inhaled or systemic antibiotics for pulmonary infections, and pancreatic enzyme replacement therapy remain the cornerstones of treatment. In recent years, CFTR modulator therapies have transformed the management of eligible patients by improving lung function, nutritional status, and overall quality of life. Regular nutritional assessment, vitamin supplementation, and growth monitoring are also essential components of care. As life expectancy has increased substantially, the transition from pediatric to adult healthcare services has become a critical aspect of disease management. Adults with CF may experience complications such as CF-related diabetes, infertility, chronic liver disease, and advanced pulmonary impairment. Therefore, structured transition programs are necessary to ensure continuity of care and optimize long-term health outcomes. Psychological challenges represent a significant component of the disease burden. Repeated hospitalizations, demanding treatment regimens, physical limitations, and uncertainty about the future may contribute to anxiety, depression, reduced self-esteem, and impaired social adjustment. Children and adolescents with CF often struggle with peer relationships and participation in everyday activities, while family members frequently experience considerable emotional, financial, and caregiving stress. Healthcare professionals, including psychologists and mental health specialists, play a vital role in assessing emotional well-being, promoting coping strategies, improving treatment adherence, and supporting patients and families throughout the disease course. Regular follow-up is essential for monitoring pulmonary function, nutritional status, growth, disease-related complications, and mental health. Ultimately, successful CF management depends on a patient-centered, multidisciplinary approach that addresses both the physical and psychosocial needs of children and their families.

Dressing selection for pediatric wounds: A practical approach based on wound type and exudate

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پرستاری

abstract: Abstract Successful wound management in children requires choosing a dressing that, in addition to providing a favorable environment for wound healing, is appropriate to the physiological characteristics of the child's skin, the type of wound, the condition of the wound bed, and the amount of exudate. Although the variety of modern dressings has increased dramatically over the last two decades, evidence shows that inappropriate dressing selection can lead to delayed healing, damage to the skin around the wound, increased pain during dressing changes, infection, and unnecessary costs. Therefore, modern approaches recommend choosing a dressing not based on the product name or technology, but based on a comprehensive assessment of the patient and the wound, treatment goals, characteristics of the wound bed, the quality and quantity of exudate, the risk of infection, the condition of the peri-wound skin, and the developmental and psychological needs of the child. By reviewing the latest international guidelines and scientific evidence, this lecture provides a practical framework for the rational choice of dressings in common pediatric wounds based on wound type, healing stage, and exudate management. Also, strategies for preventing skin damage around the wound, reducing pain and anxiety when changing dressings, the appropriate time to change dressings, and considerations related to family-oriented care will be discussed. It is expected that this evidence-based approach, while improving clinical decision-making skills, will lead to targeted dressing selection, improved treatment outcomes, increased child comfort, and optimal use of resources in pediatric wound care. Keywords: Pediatric Wounds; Wound Dressings; Clinical Decision-Making; Exudate Management; Wound Bed Assessment; Evidence-Based Wound Care

Fathers in the Circle of Care: Cultural Barriers and Evidence-Based Strategies to Enhance Paternal Participation in Kangaroo Mother Care within the Iranian-Islamic Context

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پرستاری

abstract: Introduction: Kangaroo Mother Care (KMC) is one of the most effective evidence-based interventions for preterm and low-birth-weight infants. The World Health Organization recommends early initiation of KMC in the Neonatal Intensive Care Unit (NICU), active family involvement, and continuation of KMC after hospital discharge. However, paternal participation in Iran remains limited by cultural, educational, and structural barriers, which may hinder the successful transition of KMC from hospital to home. Evidence Review: Evidence from Iranian studies, together with systematic reviews and international literature, indicates that fathers' involvement in KMC is influenced by cultural, educational, and organizational challenges that begin during the infant's NICU hospitalization and may continue after discharge. Traditional perceptions of the father's role, mother-centered educational programs, and insufficient support for fathers within the healthcare system, limited opportunities for hands-on participation, and cultural concerns are among the major barriers to paternal engagement. After discharge, fathers' work commitments, time constraints, the influence of extended family, and the lack of family-centered follow-up programs may further reduce the continuity of home-based KMC. Evidence suggests that KMC is a family-centered intervention, and that providing structured education to family members, particularly fathers, can significantly enhance their participation in its implementation. Conclusion: Successful transition of KMC to the home environment begins in the NICU. Empowering fathers from the first days of hospitalization and shifting from a mother-centered approach to a family-centered model can enhance paternal participation and facilitate the continuation of KMC after discharge. Clinical Implications: NICU nurses play a pivotal role in preparing fathers for home-based KMC by providing joint education for both parents, hands-on training in skin-to-skin care, opportunities for fathers to participate in infant care, identifying and addressing cultural barriers, and implementing structured pre-discharge education. These evidence-based strategies can strengthen paternal engagement, reduce maternal caregiving burden, improve continuity of KMC at home, and ultimately enhance neonatal and family health outcomes.
Keywords: Kangaroo Mother Care; Father; Neonatal Intensive Care Unit; Family-Centered Care; Preterm Infant.

From Recurrent Infections to Diagnosis: The Role of Nurses in the Identification and Care of Patients with Primary Immunodeficiency

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پرستاری

abstract: Primary immunodeficiency diseases (PIDs), recently referred to as inborn error Primary immunodeficiency diseases (PIDs), recently referred to as inborn errors Primary immunodeficiency diseases (PIDs), recently referred to as inborn errors Primary immunodeficiency diseases (PIDs), recently referred to as inborn e Primary immunodeficiency diseases recently referred to as inborn errors Primary immunodeficiency, inborn errors of immunity, nursing care, recurrent infections From Recurrent Infections to Diagnosis: The Role of Nurses in the Identification and Care of Patients with Primary Immunodeficiency Mahshid Movahedi, M. D Assistant professor of Allergy & Clinical Immunology, Department of Pediatrics, Children's Medical Center, Division of Allergy and Clinical Immunology, Tehran University of Medical Sciences, Tehran, Iran Primary immunodeficiency diseases (PIDs), recently referred to as inborn errors of immunity, comprise a heterogeneous group of inherited disorders characterized by increased susceptibility to recurrent, severe, or unusual infections, as well as immune dysregulation, autoimmunity, and malignancy. Early recognition and timely intervention are essential to improve clinical outcomes and reduce morbidity. Nurses occupy a pivotal position in the healthcare system and are often the first professionals to identify warning signs suggestive of underlying immune defects. This review highlights the critical role of nurses in the early detection, assessment, and long-term management of patients with PIDs. Through continuous patient contact, nurses can recognize patterns such as recurrent respiratory infections, poor response to conventional therapies, failure to thrive, persistent fungal infections, or a positive family history. Their clinical observations facilitate timely referral to immunology specialists and contribute to reducing diagnostic delays, which remain a major challenge worldwide. Beyond diagnosis, nurses play an indispensable role in comprehensive patient care, including monitoring treatment adherence, administering immunoglobulin replacement therapy, educating patients and families, preventing infections, and providing psychosocial support. They also contribute to multidisciplinary collaboration and promote patient empowerment through health education and self-management strategies. Strengthening nurses' knowledge and awareness of PIDs through targeted educational programs can significantly enhance early recognition and improve quality of care. Empowering nursing professionals as key stakeholders in immunodeficiency management represents an important step toward achieving earlier diagnosis, better clinical outcomes, and improved quality of life for affected individuals and their families.

Home-Based Kangaroo Mother Care: An Evidence-Based Approach to Enhancing Maternal Competence and Self-Efficacy in Mothers of Preterm Infants

فائزه کرنوکر 1 © ℗, سیده فاطمه قاسمی ,2 فاطمه ولیزاده [2]

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پرستاری

abstract: Preterm infants require ongoing specialized care after discharge from the Neonatal Intensive Care Unit (NICU). Maternal competence and self-efficacy are key determinants of effective infant care, continuity of care, and improved neonatal outcomes. Kangaroo Mother Care (KMC), an evidence-based intervention, has been shown to improve neonatal survival and breastfeeding outcomes and may also strengthen mothers' confidence and caregiving abilities. This study was designed to evaluate the effect of home-based KMC on maternal competence and self-efficacy among mothers of preterm infants. Methods: This randomized controlled trial will be conducted among 60 mothers of eligible preterm infants discharged from Shahid Rahimi Teaching Hospital, Khorramabad, Iran. Participants will be allocated to intervention and control groups using block randomization. Both groups will receive routine discharge education. In addition, mothers in the intervention group will receive face-to-face KMC training, practical demonstrations, educational videos, a dedicated KMC garment, and structured telephone and virtual follow-up for four weeks after discharge. Maternal competence, maternal self-efficacy, and resilience will be assessed using the Parenting Sense of Competence Scale (PSOC), the Barnes Maternal Self-Efficacy Scale, and the Connor–Davidson Resilience Scale at baseline and four weeks after discharge. Conclusion: Based on current evidence, structured home-based KMC is expected to enhance maternal competence and self-efficacy through continuous skin-to-skin contact, ongoing education, and post-discharge support, thereby promoting family-centered care for preterm infants. Clinical Implications: Implementing a structured home-based KMC program can provide NICU nurses with a practical model for preparing mothers before discharge and supporting them through education, skill-based training, and follow-up after discharge. This approach may improve maternal confidence, facilitate continuity of KMC at home, strengthen family participation, and ultimately contribute to better health outcomes for preterm infants. Keywords: Kangaroo Mother Care; Home Care; Maternal Self-Efficacy; Maternal Competence; Preterm Infant; Neonatal Intensive Care Unit.

Initiation of Ventilation in Neonatal Resuscitation and Alternative Airway

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پرستاری

abstract: مقدمه: شروع ونتیلیشن در احیای نوزاد و Alternative Airway است. در نوزاد آپنه، گاسپ یا دارای ضربان قلب کمتر از ۱۰۰ ضربه در دقیقه، ونتیلیشن باید در سریع‌ترین زمان ممکن آغاز شود. هدف: بررسی رویکردهای جدید در انتخاب صحیح روش و interface تهویه می‌تواند نقش مهمی در موفقیت احیا داشته باشد. یافته‌ها: در احیای نوزاد شروع تهویه و جایگاه راه‌های هوایی جایگزین، به‌ویژه Laryngeal Mask Airway (LMA) به‌عنوان LMA ماسک صورت همچنان یکی از روش‌های استاندارد ارائه ونتیلیشن است، شواهد جدید از استفاده زودهنگام از بدون نیاز به LMA یک گزینه اولیه برای تهویه در نوزادان منتخب، به‌ویژه نوزادان با سن بارداری ≤۳٤ هفته، حمایت می‌کنند لارنگوسکوپی و لوله‌گذاری تراشه، امکان ایجاد یک راه هوایی نسبتاً پایدار و تهویه مؤثر را فراهم می‌کند و می‌تواند وابستگی به می‌تواند در صورت عدم موفقیت تهویه با ماسک یا دشواری انتوباسیون، LMA تکنیک ماسک‌گذاری را کاهش دهد. همچنین تنها یک راه هوایی LMAدر رویکردهای جدید احیای نوزاد، نتیجه‌گیری: مورد استفاده قرار گیرد Rescue Airway به‌عنوان نیست، بلکه در نوزادان منتخب با سن بارداری ≤۳٤ هفته می‌تواند به‌عنوان یکی از گزینه‌های Bag-mask نجات پس از شکست می‌تواند مدیریت راه هوایی LMA اولیه برای شروع ونتیلیشن مطرح باشد. بنابراین، دسترسی سریع و آموزش مناسب استفاده از و کیفیت احیای نوزاد را بهبود بخشد.

Intraosseous Access in Neonatal Resuscitation

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پرستاری

Abstract: Prompt vascular access is a cornerstone of successful neonatal resuscitation, yet establishing peripheral intravenous access during circulatory collapse is often technically challenging because of profound peripheral vasoconstriction and the unique physiological characteristics of newborns. Although umbilical venous catheterization remains the recommended first-line vascular access immediately after birth, its placement may be technically demanding or result in critical delays, particularly outside the delivery room or during neonatal transport. In these situations, intraosseous (IO) access provides a rapid and reliable alternative by utilizing the highly vascularized medullary cavity to deliver fluids, blood products, and emergency medications directly into the systemic circulation. This narrative review synthesizes current evidence regarding the indications, clinical efficacy, procedural considerations, and safety of IO access during neonatal resuscitation. Available evidence demonstrates that IO access can be established within minutes, supports the administration of virtually all intravenous medications, and serves as an effective rescue strategy when umbilical or peripheral venous access cannot be rapidly achieved. Clinical studies further report favorable outcomes following IO-guided resuscitation, including improved perfusion, successful delivery of resuscitation medications, and restoration of spontaneous circulation in critically ill neonates. Despite these advantages, neonatal IO access remains technically demanding because of the small medullary cavity, thin cortical bone, immature growth plates, and the absence of devices specifically designed for infants weighing less than 3 kg. These anatomical constraints contribute to lower first-attempt success rates than those reported in older children and increase the risk of extravasation, overpenetration, growth plate injury, compartment syndrome, fractures, and osteomyelitis. Safe implementation therefore depends on meticulous landmark identification, appropriate needle selection with depth-marker verification, confirmation of correct placement, pressure-assisted infusion, continuous post-procedural monitoring, and prompt removal once definitive vascular access is established. Overall, IO access represents an indispensable adjunct in neonatal resuscitation, and its successful application relies on rigorous procedural training, simulation-based education, and the development of neonatal-specific devices to improve both efficacy and safety. Keywords: Intraosseous access, Neonatal resuscitation, Neonatal emergency care, Vascular access

Kangaroo Care and Infant Sleep: The Synergistic Role of Two Developmental Care Interventions from the NICU to Home

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پرستاری

abstract: Kangaroo Care and Infant Sleep: The Synergistic Role of Two Developmental Care Interventions from the NICU to Home Introduction: Sleep is one of the most essential physiological needs of preterm infants and plays a fundamental role in brain maturation and neurological development. The Neonatal Intensive Care Unit (NICU) environment, characterized by excessive light, noise, and frequent medical interventions, may adversely affect infant sleep quality. Kangaroo Mother Care (KMC), a family-centered intervention based on skin-to-skin contact, has been recognized as an effective strategy for protecting sleep and promoting developmental outcomes in preterm infants. Evidence indicates that KMC reduces stress, stabilizes vital signs, improves thermoregulation, alleviates pain, increases the duration of quiet sleep, and enhances overall sleep quality, thereby supporting neurological development in preterm infants. Studies also suggest that the effectiveness of KMC largely depends on nurses' knowledge, attitudes, and clinical performance. Structured education on sleep protection, developmental care, and KMC improves nurses' competencies and enhances the implementation of evidence-based interventions, including minimizing environmental stimuli, clustering nursing care, scheduling clinical procedures according to infants' sleep–wake cycles, and educating families. Continued parental education after discharge further facilitates the maintenance of a sleep-supportive home environment and appropriate KMC practices. Conclusion: Sleep protection and Kangaroo Mother Care are complementary components of developmental care that should be initiated early during NICU hospitalization and continued after discharge through comprehensive family education. Integrating these interventions may improve the quality of care, neurodevelopmental outcomes, and overall health of preterm infants. Clinical Implications: NICU nurses play a pivotal role in implementing sleep protection strategies, providing hands-on KMC training, minimizing environmental stressors, clustering nursing interventions, and preparing families before discharge. These evidence-based practices facilitate the continuity of developmental care at home while improving sleep quality, physiological stability, and developmental outcomes in preterm infants.
Keywords: Kangaroo Mother Care; Infant Sleep; Developmental Care; Preterm Infant; Neonatal Intensive Care Unit; Family-Centered Care; Home Care.

Kangaroo Care from Hospital to Home: From Research Evidence to Clinical Practice

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پرستاری

abstract: Kangaroo Care (KC) is recognized as one of the most effective evidence-based interventions in neonatal care, particularly for preterm and low-birth-weight infants. Beyond being a supportive intervention, it is now considered a cornerstone of developmental and family-centered care. Extensive research has demonstrated that Kangaroo Care improves thermoregulation, stabilizes vital signs, promotes successful breastfeeding and weight gain, reduces stress in both infants and parents, strengthens parent–infant bonding, and contributes to improved neurodevelopmental outcomes. Despite these well-established benefits, the continuation of Kangaroo Care after hospital discharge and its successful integration into the home environment remain challenging due to educational, cultural, and implementation barriers. This panel adopts a practical and clinically oriented approach to explore strategies for extending Kangaroo Care from neonatal units to the home setting, with a particular focus on the pivotal role of nurses in empowering families. Participants will review current scientific evidence alongside clinical experiences, while discussing the active involvement of family members—including mothers, fathers, and grandparents—in sustaining skin-to-skin care and its impact on infant health and development. The session will also address barriers to post-discharge continuity of care, challenges to family engagement, effective parent education strategies, and the nurse's role in discharge planning and home-based follow-up. The final section will highlight the potential of innovative technologies, including telenursing, virtual education, and remote follow-up, as valuable tools for supporting families and enhancing the continuity of Kangaroo Care after discharge. An integrated **hospital-to-home** model of care will be presented as a framework for improving the quality of neonatal care. Emphasizing the translation of research into clinical practice, this panel conveys the key message that successful home-based Kangaroo Care depends on active family participation, structured education, continuous follow-up, and the central role of nurses in advancing family-centered neonatal care.

Non-Non-Invasive Respiratory Support in Neonates: A Narrative Review of CPAP, NIPPV, BiPAP, and High-Flow Nasal Cannula

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پرستاری

abstract: Respiratory distress is one of the leading causes of neonatal morbidity and admission to neonatal intensive care units (NICUs), particularly among preterm infants. Non-invasive respiratory support (NRS) has become the preferred strategy for managing neonatal respiratory failure because it reduces the need for invasive mechanical ventilation and its associated complications. Commonly used modalities include Continuous Positive Airway Pressure (CPAP), Nasal Intermittent Positive Pressure Ventilation (NIPPV), and High-Flow Nasal Cannula (HFNC). Objective: This review aimed to summarize the current evidence on the effectiveness, indications, benefits, and limitations of non-invasive respiratory support modalities in neonates. Methods: A narrative review of the literature was conducted using PubMed, Scopus, Embase, and Google Scholar. English-language studies published between 2015 and 2025 were identified using the keywords neonate, non-invasive ventilation, CPAP, NIPPV, HFNC, and respiratory distress syndrome. Systematic reviews, meta-analyses, randomized controlled trials, and clinical practice guidelines were included. Results: The available evidence indicates that CPAP remains the first-line respiratory support for preterm infants with respiratory distress syndrome. Compared with CPAP, NIPPV is associated with lower rates of extubation failure, fewer episodes of apnea, and a reduced need for invasive mechanical ventilation. HFNC improves patient comfort and decreases nasal trauma but may have higher treatment failure rates in extremely preterm infants. Emerging techniques, including neurally adjusted ventilatory assist, have shown promising results; however, further high-quality studies are required to confirm their clinical benefits. Conclusion: Non-invasive respiratory support plays a central role in neonatal respiratory management. CPAP and NIPPV remain the most evidence-based modalities for reducing respiratory complications and improving outcomes. Future research should focus on optimizing patient selection and evaluating the long-term safety and effectiveness of newer non-invasive ventilation techniques. Keywords: Neonate; Non-invasive respiratory support; CPAP; NIPPV; HFNC; Respiratory distress syndrome; NICU.

pediatric nurses social responsibility and scientific society

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پرستاری

abstract: جایگاه مسئولیت اجتماعی پرستاران کودکان و نقش انجمن علمی در این باره دکتر فاطمه علایی کرهرودی: استادیار دانشگاه علوم پزشکی شهید بهشتی در جوامع مختلف و بر اساس باورهای فرهنگی هر یک از آنان موضوع مسئولیت پذیری در قشرهای مختلف مطرح می گردد. و از این جهت که همه گروه های جمعیتی لازم است در این خصوص نقش خود را به درستی در سازمان های موجود در سطح جامعه، مراکز آموزش،بهداشت .ایفا نمایند، این مقوله می تواند در سازمان های مورد توجه قرار گیرد و درمان از جمله سازمان هایی هستند که به دلیل سروکار داشتن با انسان ها، از نظر چگونگی برقرای ارتباط و تماس های مکرر و طولانی مسئولیت پذیری، حائز اهمیت ویژه ای هستند. از میان تمام اعضای تیم درمان، پرستاران در مورد مسئولیت پذیر بودن جایگاه منحصر به فردی دارند، چرا که میزان تماس و ارتباط آنان با مراجعه کنندگان و مددجویان در مقایسه با سایر اعضای تیم پرستاران و به ویژه پرستاران کودکان در رویارویی با مددجویان که معمولا سنین زیر ۱۸ سال را به خود .درمان از همه بیشتر است اختصاص میدهد و خانواده آنان، مسئولیت پذیری اجتماعی خاصی را برعهده دارند. پرستاران کودکان چه در محیط های بالین، چه در میان خانواده ها و چه در میان محیط های اجنماعی با رعایت مباحثی همچون حقوق کودک، حمایت های اجتماعی از آنان، آموزش به والدین در رابطه با ایفای نقش های والدینی و همچنین برقرارای ارتباط به محیط هایی که کودکان در آن حضور پیدا می برای رسیدن به اهداف مسئولیت پذیری .کنند مانند مهدهای کودک و مدارس، این بعد از وظایف خود را می توانند عملی سازند پرستاران، انجمن های علمی می توانند با طراحی پژوهش های متعدد در این زمینه، آموزش به روش های مختلف و برگزاری نشست های کوچک و بزرگ پیرامون این موضوعات، چالش های موجود را تبیین نموده و با ارائه راه کارها و ایجاد پل ارتباطی با مدیریت کلان وزارت بهداشت در اجرای هر چه بهتر این موضوع، پرستاران را یاری نمایند.

Prevention and management of pressure ulcers and skin injuries caused by medical devices in the NICU and PICU

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پرستاری

abstract: Abstract Pressure ulcers and medical device-related pressure injuries (MDRPI) are among the most important indicators of quality and safety of care in neonatal and pediatric intensive care units. Immaturity of skin structure, specific physiological characteristics of neonates and children, underlying diseases, hemodynamic instability, and extensive use of diagnostic and therapeutic equipment put these patients at high risk of pressure injuries. Although a significant portion of these injuries are preventable, MDRPI remains one of the most common types of hospital-acquired injuries in NICU and PICU. In recent years, the publication of international guidelines and new evidence has changed the approach to skin care from treatment-oriented interventions to comprehensive prevention programs based on risk assessment, regular skin monitoring, proper selection and placement of equipment, pressure, use of preventive dressings, standardization of care packages, and continuous staff training. This lecture critically reviews the latest evidence, international guidelines, and recent studies, while explaining the risk factors and mechanisms of pressure ulcers and MDRPI in patients hospitalized in NICU and PICU, discusses new prevention strategies, early diagnosis, clinical management, and the role of emerging technologies in promoting skin safety. It is expected that the application of these evidence-based approaches will reduce the incidence of skin injuries, improve the quality of care, patient safety, and clinical outcomes of hospitalized infants and children, and pave the way for the establishment of standard, evidence-based care in medical centers. Keywords: Pressure Injury; Medical Device-Related Pressure Injury (MDRPI); Skin Injury; Neonatal Intensive Care Unit (NICU); Pediatric Intensive Care Unit (PICU); Prevention; Wound Care.

Principles of Crisis Management in Pediatric Prehospital Emergency Care: A Scoping Review Focused on Disasters and Mass Casualty Incidents

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پرستاری

abstract: Background: Children constitute a substantial proportion of casualties in disasters and mass-casualty incidents (MCIs), yet prehospital systems remain predominantly configured for adults. Their anatomical, physiological, developmental, and psychosocial characteristics create distinct crisis-management needs that may be underserved when demand exceeds resources. This scoping review mapped principles of pediatric prehospital crisis management in disasters and MCIs and identified evidence and preparedness gaps. Methods: We conducted a scoping review following the Arksey and O'Malley framework, refined by Levac et al., and reported with reference to PRISMA-ScR. Using a Population–Concept–Context framework, we examined children aged 0–18 years, pediatric crisis/MCI management principles, and prehospital care. In July 2026, we searched PubMed/MEDLINE, scholarly web sources, and authoritative guidelines using eight thematic Boolean strategies. Of 180 records screened, 61 full-text records were assessed for eligibility and 32 evidence sources were included across eight domains. Results: Pediatric prehospital crisis management emerged as a set of interdependent principles rather than a single protocol. Effective response required embedding pediatric capability within incident command structures and establishing inter-agency and inter-facility arrangements in advance. Triage tools such as JumpSTART enabled rapid sorting but lacked robust outcome validation and could misclassify critically injured children; weight-based aids such as the Broselow tape were only partially reliable, requiring layered safeguards. Performance depended not only on technical knowledge but also on non-technical skills, including leadership, communication, situational awareness, role clarity, and cognitive aids. Family separation required scene-level identification, tracking, and reunification, while caregiver presence influenced recovery. Ethical triage required pre-specified, equitable frameworks. Simulation, drills, pediatric coordinators, and readiness metrics supported sustained capability. The evidence base was dominated by narrative reviews, expert consensus, and simulation studies, with limited outcome-validated pediatric prehospital data. Conclusion: Pediatric prehospital crisis management requires adaptation of adult-oriented command, triage, and dosing systems to children, alongside attention to family, psychosocial, ethical, and cognitive dimensions. The principal gap is the scarcity of outcome-validated, child-specific prehospital evidence. Priorities include validating pediatric triage against patient-centered outcomes, embedding pediatric readiness metrics, and standardizing reunification and ethical-triage frameworks. Keywords: Disaster, Emergency Medical Services, Pediatrics, Triage

Problems and challenges of theoretical and clinical education in pediatric nursing

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پرستاری

Abstract: این مطالعه مقطعی- تحلیلی با هدف بررسی چالش های آموزش پرستاری کودکان انجام شد. طبق دیدگاه اساتید ودانشجویان رشته پرستاری کودکان که به صورت دلفی از راه دور از دانشگاه های مختلف ایران انجام شد، نتایج حاکی از آن است که در مسیر حرفه ای شدن دانشجویان پرستاری کودکان چالش هایی مطرح می باشد. عمده این چالش ها در حیطه های ذیل مطرح است؛ ویژگی های خاص کودک وخانواده؛ توجه ناکافی به خانواده به عنوان بخشی از فرآیند درمان، استرس زابودن گذاراز دوران آموزشی به بالین برای دانشجویان در مواجهه با کودک، احساس نیازناکافی دانشجویان پسر به یادگیری مراقبت از کودکان، ضرورت حیطه فردی-انگیزشی؛ اعتماد به نفس ناکافی در بدو .گنجاندن آموزش به والدین برای پیگیری مراقبت از کودک بعد از ترخیص ورود به حیطه بالین، ضرورت به کارگیری راهکارهای کاهش اضطراب، افزایش انگیزه و تعهد حیطه سازمانی -محیطی؛ کمبود فرصت‌های عملی، برنامه فشرده و فشار کاری بالا، ضرورت وجود دوره های بازاموزی بالین محور، تناسب بین محتوی سرفصل با واحد علمی ، بار کاری زیاد مربیان، فاصله بین آموزش تئوری و عملکرد بالینی، محدود بودن فرصت‌های کسب مهارت در محیط بالینی به هنگام بودن علمی؛ فراهم نبودن زیرساخت های آموزش مجازی در حد لزوم، سناریوهای بالینی، دسترسی به منابع به روزعلمی، وجود اینترنت قابل دسترسی حیطه ارتباطی؛ مدیریت تعارض بین تیم درمان، والدین و آموزش دانشجویان توسطاساتید، مهارت‌های ارتباطی ضعیف درخصوص نحوه برقراری ارتباط با کودک وخانواده و مرقبت خانواده محور، مدیریت اضطراب شدید والدین، اضطراب و کمبود اعتمادبه‌نفس دانشجویان در مراقبت از کودک و تعامل با خانواده راهکارهای هر حیطه مبتنی بر زمینه هر کلمات کلیدی: چالش های .دانشکده و موقعیت خاص هربیمارستان ویژگی خاص خود رامی طلبد، که به آن پرداخته می شود .آموزش تئوری و بالین، کودک، خانواده .

Procedural Imperatives and Pitfalls in Pediatric Intraosseous Access

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پرستاری

abstract:. Rapid vascular access is essential for the timely management of critically ill pediatric and neonatal patients, yet peripheral intravenous cannulation frequently becomes difficult or impossible during circulatory collapse, severe dehydration, major trauma, or cardiac arrest. Intraosseous (IO) access provides a rapid, reliable alternative by utilizing the highly vascularized medullary cavity as a non-collapsible route to the systemic circulation, enabling prompt administration of fluids, blood products, and emergency medications when conventional venous access cannot be established. This narrative review synthesizes current evidence on the physiological basis, clinical indications, procedural techniques, contraindications, and complications of pediatric and neonatal IO access, with particular emphasis on optimizing procedural safety and clinical outcomes. The available evidence consistently demonstrates that IO access should be considered early when intravenous access cannot be achieved within 30–90 seconds in life-threatening emergencies. The technique offers high success rates, rapid vascular access, and allows administration of virtually all medications and fluids used intravenously. The proximal tibia remains the preferred insertion site in children, although the humerus and distal femur represent appropriate alternatives in selected patients. Successful IO placement depends on accurate identification of anatomical landmarks, appropriate needle selection according to soft tissue depth rather than body weight alone, confirmation of needle position by aspiration and saline flush, pressure-assisted infusion, continuous monitoring for extravasation, and removal within 24 hours. Despite its proven efficacy, neonatal anatomy presents unique technical challenges because of thin cortical bone, narrow medullary cavities, and developing growth plates, increasing the risk of overpenetration, extravasation, compartment syndrome, growth plate injury, and iatrogenic fractures. Although these complications remain uncommon, they underscore the importance of operator expertise, simulation-based training, and the development of neonatal-specific devices. Overall, IO access remains an indispensable component of pediatric emergency care, offering rapid and effective vascular access when conventional intravenous techniques fail, provided that evidence-based procedural principles and vigilant post-insertion monitoring are consistently applied. Keywords: Intraosseous access, Pediatric emergency medicine, Vascular access, Intraosseous Infusion

Quality Improvement in the Management of Central Line-associated bloodstream infections

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پرستاری

abstract: یکی از عوارض جدی و تهدیدکننده حیات در نوزادان CLABSI عفونت جریان خون مرتبط با کاتتر مرکزی یا ، به‌ویژه نوزادان نارس است. با وجود اهمیت کاتترهای مرکزی برای تزریق دارو و تغذیه، این تجهیزات راه را NICU بستری در با افزایش مدت بستری، مصرف آنتی‌بیوتیک، هزینه‌های بیمارستانی، مرگ‌ومیر CLABSI برای ورود عفونت هموار می‌کنند. بروز در نوزادان CLABSI و عوارض تکاملی عصبی همراه است. این مطالعه به بررسی روش‌های پیشگیری و کاهش نرخ عفونت ناشی از دو مسیر اصلی آلودگی پوستی و آلودگی CLABSI مطالعات نشان می‌دهند که عفونت‌های :پیشینه پژوهش .می‌پردازد از راه کانکتور رخ می‌دهند. تحقیقات گذشته بیشتر بر روی رعایت اصول استریل در زمان جاگذاری کاتتر تمرکز داشتند، اما شواهد جدید نشان می‌دهند که نوزادان بسیار نارس، نوزادان با وزن هنگام تولد بسیار کم و مواردی که کاتتر برای مدت طولانی باقی می‌ماند، بیشترین آسیب‌پذیری را دارند. افزایش مدت‌زمان ماندگاری کاتتر، دستکاری مکرر کانکتور برای تزریق دارو و تغذیه وریدی، از عوامل اصلی انتقال عفونت به داخل جریان خون است. اجرای باندل‌های مراقبتی استاندارد و آموزش پرسنل نقش کلیدی CLABSI, روش پژوهش: به منظور اجرای این مطالعه مروری، با استفاده از کلیدواژه‌های .در کاهش این عفونت‌ها دارد Neonate, NICU, Central Venous Catheter, Prevention Bundle, Quality Improvement, Nurse Empowerment, Intraluminal/Extraluminal Infection در پایگاه‌های اطلاعاتی Pubmed, Medline, Science Direct and Google Scholar جستجوی پیشرفته انجام شد و مقالات منتشر شده از سال ۲۰۲۱ تا ۲۰۲۶ مورد بررسی و در نوزادان، دو رویکرد اصلی شامل باندل تعبیه و باندل نگهداری CLABSI برای مدیریت و کاهش :نتایج .تحلیل قرار گرفتند استفاده می‌شود. باندل تعبیه با تمرکز بر شرایط استریل، احتمال ورود آلودگی از راه پوست را کاهش می‌دهد اما بر آلودگی‌های ثانویه تأثیری ندارد. باندل نگهداری با تأکید بر ضدعفونی کانکتور، از ورود میکروب به داخل کاتتر جلوگیری می‌کند. در این مرحله پایش دقیق کاتتر و محل ورود کاتتر از لحاظ بروز انسداد، جابجایی، اکستراوزیشن، قرمزی و فلبیت حائز اهمیت است. انتخاب جنس کاتتر (مانند پلی‌اورتان یا سیلیکون) بر میزان تشکیل بیوفیلم مؤثر است، اما به تنهایی برای حذف خطر عفونت کافی نیست در نوزادان به انتخاب دقیق پروتکل‌های مراقبتی مناسب نیاز دارد، چراکه هر یک از روش‌ها و CLABSI مدیریت :نتیجه‌گیری تجهیزات مزایا و محدودیت‌های خاص خود را دارند. انتخاب استراتژی مناسب باید بر اساس آموزش تیم درمان و پایش مداوم کلمات کلیدی: عفونت جریان خون .انجام شود تا هم به کاهش نرخ عفونت کمک کرده و هم روند بهبود نوزاد را تسریع کند مرتبط با کاتتر مرکزی، نوزاد زودرس، بخش مراقبت‌های ویژه نوزادان، کاتتر ورید مرکزی، باندل‌های پیشگیری، بهبود کیفیت، توانمندسازی پرستاری و عفونت‌های داخل‌مجرا/خارج‌مجرا

Research Challenges in Pediatric and Neonatal Nursing: Barriers and Future Directions

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پرستاری

abstract: Pediatric and neonatal nursing research plays a critical role in improving healthcare outcomes, enhancing evidence-based practice, and promoting the well-being of infants, children, and their families. Despite substantial advances in healthcare, conducting high-quality research in pediatric and neonatal settings remains challenging due to a variety of ethical, methodological, and practical barriers. One of the primary challenges is the ethical complexity associated with involving neonates and children in research. Obtaining informed consent from parents or legal guardians, ensuring patient safety, and minimizing potential risks often limit study design options. Additionally, the vulnerability of neonatal and pediatric populations necessitates strict ethical oversight, which may prolong research approval processes. Methodological challenges also affect the quality and generalizability of findings. Small sample sizes, limited access to eligible participants, heterogeneity of clinical conditions, and difficulties in long-term follow-up can reduce statistical power and complicate data interpretation. Furthermore, age-related developmental differences require the use of specialized assessment tools and outcome measures tailored to specific pediatric populations. Resource limitations, including inadequate funding, workforce shortages, insufficient research training, and restricted access to advanced technologies, further hinder the development of nursing research in neonatal and pediatric care. Bridging the gap between research findings and clinical implementation remains another significant challenge. Addressing these barriers requires stronger institutional support, multicenter collaborations, enhanced research capacity building, and the integration of innovative methodologies and digital technologies. By overcoming current challenges, pediatric and neonatal nursing research can generate stronger evidence to guide clinical practice, improve patient outcomes, and support family-centered care. Keywords: Pediatric Nursing, Neonatal Nursing, Nursing Research, Research Challenges, Evidence-Based Practice, Ethics, Child Health, Neonatal Care.

Supervising and management in CPR (nontechnical skills)

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پرستاری

abstract: Background: Cardiac arrest is a high-stakes clinical emergency where coordinated teamwork is as critical as technical proficiency. While resuscitation protocols focus on chest compressions, rhythm analysis, and pharmacotherapy, the quality of these interventions is fundamentally dependent on effective team leadership and communication. Objectives: This paper examines the role of the team leader and members in optimizing resuscitation outcomes, with a focus on non-technical skills, emotional intelligence, and professional management of team dynamics. Methods: We explore key management strategies including the implementation of closed-loop communication, task prioritization, and structured role allocation. The analysis identifies essential leadership competencies—such as self-regulation, situational awareness, and adaptability—required to navigate the stressors of a "code" environment. Furthermore, we outline evidence-based approaches to conflict resolution, the management of crowded clinical settings, and the mitigation of role confusion. Results/Discussion: Effective resuscitation requires the team leader to supervise the event holistically, maintaining composure and ensuring clear communication protocols. The transition from technical performance to managerial oversight is critical; leaders must act as mentors, modeling professionalism and facilitating real-time quality control. Post-ROSC, the team must prioritize structured debriefing as a core quality improvement tool to identify learning gaps and reinforce team performance. Conclusion: Technical excellence in CPR is insufficient without integrated non-technical support. By fostering a culture of shared responsibility, promoting psychological safety, and utilizing debriefing, leaders can significantly improve team performance and clinical outcomes. Continued simulation and interprofessional commitment are essential to sustain these standards and enhance future clinical practice. Keywords: Cardiac Arrest, Team Leadership, Non-Technical Skills, Closed-Loop Communication, Debriefing, Quality Improvement.

Sweat Test: Collection ,Analysis, and Interpretation

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پرستاری

abstract: Sweat Test: Collection ,Analysis, and Interpretation The sweat test remains the gold standard for the diagnosis of cystic fibrosis (CF) by measuring sweat chloride concentration . Due to dysfunction of the Cystic fibrosis transmembrane conductance regulator (CFTR) chloride channels, the concentration of chloride in sweat is elevated in individuals with CF. Accurate results depend on strict adherence to standardized pre-analytical, analytical and post analytical procedures. Sweat is induced by pilocarpine iontophoresis and collected using either the conventional Gibson –Cooke method (gauze or filter paper) or a Macroduct coil collection system. Adequate sweat volume, prevention of evaporation or contamination, proper patient preparation, and timely sample analysis are essential pre-analytical requirements. Several laboratory methods are available for sweat chloride measurement. This presentation will also review interpretation of test results and common source of analytical errors. تست عرق : رو شهای جمع آوری نمونه ، آنالیز و تفسیر می باشد و به منظور اندازه گیری کلر عرق انجام (CF) نتایج تست عرق همچنان استاندارد طلایی برای تشخیص فیبروز کیستیک ، غلظت کلر افراد مبتلا افزایش می یابد.دستیابی به CFTR بدلیل اختلال عملکرد کانال کلر وابسته به پروتئین غشایی . می شود نتایج دقیق مستلزم رعایت کامل اصول استاندارد در مراحل محتلف آزمایش می باشد . جمع آوری عرق معمولا پس از تخریک غده عرق با استفاده ار پیلوکارپین و جریان الکتریسنه ضعیف صورت می گیرد و نمونه عرق بر حسب روش روی کاغذ صافی یا در لوله های مخصوص جمع آوری می شود .حجم کافی عرق ، جلوگیری از تبخیر و آلوده شدن و انجام صحیح و به موقع آزمایش از عوامل مهم در بدست آوردن نتایج صحیح است .برای اندازه گیری کلر عرق روش های مختلف آزمایشگاهی استفاده می شود در این ارائه علاوه بر مرور روش های انجام تست عرق ، تفسیر نتایج .و شایعترین منابع خطا نیز مورد بحث قرار خواهد گرفت .

The Importance of Implementing the 9th Edition of the Neonatal Resuscitation Program: Educational Challenges and Opportunities for Healthcare Professionals

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پرستاری

abstract: The release of the 9th Edition of the Neonatal Resuscitation Program (NRP) represents a significant advancement in evidence-based neonatal care. As neonatal resuscitation guidelines continue to evolve in response to emerging scientific evidence, it is essential that healthcare professionals, particularly nurses, midwives, pediatricians, neonatologists, and delivery room staff, remain updated with the latest recommendations to ensure optimal outcomes for newborns requiring resuscitation. The updated NRP guidelines introduce important modifications in clinical decision-making, resuscitation techniques, team communication, and patient safety practices. Consistent adherence to these recommendations can improve the quality of neonatal resuscitation, reduce preventable complications, and enhance survival and long-term health outcomes among newborns. Despite the availability of updated guidelines, translating knowledge into clinical practice remains a challenge. Therefore, effective educational strategies are crucial for successful implementation of the 9th Edition. Traditional lecture-based methods should be complemented by innovative educational approaches, including simulation-based training, high-fidelity mannequins, virtual learning platforms, e-learning modules, competency-based assessment, and interprofessional team training. These methods have demonstrated effectiveness in improving knowledge retention, technical skills, clinical performance, and teamwork during neonatal emergencies. Healthcare institutions should prioritize regular training and continuing professional development programs aligned with the latest NRP recommendations. Promoting the use of modern educational technologies and evidence-based learning strategies can facilitate rapid adoption of guideline updates and strengthen the preparedness of healthcare teams. Ultimately, widespread implementation of the 9th Edition NRP through effective education is expected to improve the quality and safety of neonatal resuscitation practices and contribute to better neonatal outcomes worldwide. Keywords: Neonatal Resuscitation Program, NRP 9th Edition, Neonatal Care, Nursing Education,

The Role of Scientific Societies in Promoting Attitude to Entrepreneurship among Nurses

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پرستاری

abstract: Introduction: In modern health systems, entrepreneurship in nursing is recognized as a key strategy for innovation in care, improving productivity, and developing health services. However, the desire to enter entrepreneurial fields among nurses still faces challenges due to educational limitations and traditional attitudes. Scientific societies, as specialized platforms, play a major role in this regard and can be a guide for this work. Objective: This review study was conducted with the aim of determining the role of scientific societies in strengthening the spirit of entrepreneurship and increasing the willingness of nurses to use innovative approaches in the field of health. Methodology: This study analyzed the role of scientific institutions in developing entrepreneurial skills by using Literature Review and reviewing existing articles, reports, and models. Findings: Scientific societies can influence entrepreneurial propensity through four main axes: 1) Education and knowledge promotion: holding workshops on business management and startup skills 2) Networking: creating a bridge between innovative nurses and investors or health managers 3) Supporting applied research: translating research findings into health products or services 4) Changing attitudes: promoting a culture of innovation and reducing the fear of failure in clinical settings Conclusion: Scientific societies are not only educational tools, but also important catalysts for the transition from the traditional role of nursing to an entrepreneurial role. To increase entrepreneurial propensity, these societies should go beyond purely educational models and move towards creating supportive ecosystems for nursing innovations. Keywords: Nursing entrepreneurship, scientific societies, health innovation, continuing education, entrepreneurial propensity

Vascular Access Innovations in the Context of Artificial Intelligence: A Review of New Applications in Pediatric and Neonatal Nursing

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پرستاری

abstract: دسترسی وریدی در نوزادان و کودکان یکی از چالش‌برانگیزترین اقدامات بالینی در مراقبت‌های بیمارستانی، به‌ویژه (NICU) در بخش مراقبت‌های ویژه نوزادان ، محسوب می‌شود. ظرافت عروق، محدودیت فضای آناتومیک، وابستگی شدید به مهارت اپراتور و خطر عوارضی مانند درد، هماتوم، اکستراوزیشن و ترومبوز، موفقیت این فرایند را با محدودیت‌های قابل توجهی به‌عنوان فناوری نوظهور برای بهبود دقت، استانداردسازی تصمیم‌گیری (AI) مواجه کرده است. در سال‌های اخیر، هوش مصنوعی و کاهش وابستگی به مهارت فردی در دسترسی وریدی مطرح شده است. این مقاله مروری با هدف بررسی کاربردهای هوش مصنوعی در مراحل پیش از پروسیجر، حین پروسیجر و پس از پروسیجر در دسترسی وریدی نوزادان و کودکان انجام شده است. می‌تواند در پیش‌بینی دشواری دسترسی وریدی، اندازه‌گیری خودکار ویژگی‌های عروقی، هدایت AI مرور شواهد نشان می‌دهد که در لحظه سوزن، بخش‌بندی عروق، و تأیید موقعیت کاتتر نقش مؤثری ایفا کند. با این حال، بیشتر شواهد موجود غیرمستقیم بوده و از مطالعات بزرگسالان یا حوزه‌های تصویربرداری و رادیولوژی استخراج شده‌اند؛ بنابراین، شواهد مستقیم نوزادی هنوز محدود است. در مجموع، هوش مصنوعی می‌تواند به‌عنوان ابزاری کمکی برای افزایش دقت، کاهش خطا و بهبود پیامدهای بالینی در دسترسی وریدی به‌کار رود، اما برای ورود گسترده به عمل بالینی، انجام مطالعات چندمرکزی، اعتبارسنجی در جمعیت نوزادی و توسعه مدل‌های شفاف و قابل‌تفسیر ضروری است.

Poster Presentation

A Multidimensional Risk Factor Analysis of Pediatric Urinary Tract Infections: Bridging Clinical, Behavioral, and Socioeconomic Determinants in an Iranian Cohort

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neonatology

abstract: Background: Urinary tract infection (UTI) remains a leading bacterial infection in children, with potential for severe long-term morbidity, including renal scarring, hypertension, and chronic kidney disease. The identification of modifiable risk factors is essential for targeted prevention. This study aimed to comprehensively evaluate factors associated with pediatric UTI in a hospital setting in Sabzevar, Iran. Methods: This cross-sectional analytical study enrolled 150 children under 16 years hospitalized with confirmed UTI and 150 age-matched controls hospitalized for non-UTI conditions. Data on demographic, socioeconomic, clinical, and behavioral variables were extracted from medical records and structured parental interviews. Statistical analyses included independent t-tests, Chi-square, and Fisher's exact tests, with significance set at p 0.05. Results: Among UTI cases, 120 (80%) were female and 30 (20%) male (mean age: 5.0 ± 1.8 years). Significant risk factors included female sex (p 0.001), improper perineal hygiene (p 0.001), uncircumcised status in males (p 0.001), vesicoureteral reflux (VUR) (p 0.001), constipation (p = 0.009), neurogenic bladder (p 0.001), lack of toilet training (p 0.001), tight underwear use (p 0.001), bathtub use (p = 0.003), catheterization (p = 0.007), low socioeconomic status (SES) (p 0.001), rural residence (p 0.001), growth disorder (p 0.001), prior UTI history (p 0.001), family history of kidney stones (p = 0.001), and positive C-reactive protein (p 0.001). Maternal education (p = 0.06) and labial adhesion (p = 1.00) showed no significant association. Conclusion: Beyond established anatomical and physiological factors, socioeconomic status, hygiene practices, and behavioral patterns significantly contribute to pediatric UTI. Early identification and targeted educational interventions addressing these modifiable risks are critical to reducing recurrent infections and long-term renal complications.

Age at diagnosis of undescended testis and associated factors in pediatric patients in a tertiary hospital

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neonatology

abstract: Undescended testis (UDT) is the most common congenital anomaly of the urogenital system in boys and is associated with long-term risks, including infertility in bilateral cases of UDT and testicular malignancy if not corrected promptly. International guidelines recommend referral by 6 months and surgical correction before 18 months of age. However, delays in diagnosis and management remain frequent worldwide. This study aimed to determine the age at diagnosis of UDT and to identify sociodemographic and perinatal factors associated with delayed diagnosis in a tertiary pediatric hospital in Iran. In this cross-sectional study, 70 patients with UDT who presented to the tertiary Children's hospital in one year were enrolled. Data were collected using a structured questionnaire completed by mothers, covering demographic, perinatal, and maternal variables. Statistical analyses were performed using SPSS software. The median age at diagnosis of UDT was 29 months, with nearly half of the cases identified at birth or during the neonatal period. Despite early recognition in many patients, a significant proportion were diagnosed later than recommended. Among the studied variables, higher maternal age was significantly associated with delayed diagnosis, whereas maternal education, birth order, prematurity, and place of residence showed no significant correlation. Although many children with UDT in our study were diagnosed early, delays beyond the recommended age for intervention remain common. Maternal age emerged as a significant predictor of delayed diagnosis, underscoring the need for targeted parental education and systematic screening during infancy. 1. Agrawal SN. Cryptorchidism: its influence on male fertility and the risk of the testicular tumor. Int Surg J. 2018;5:3453. 2. Wood HM, Elder JS. Cryptorchidism and testicular cancer: separating fact from fiction. J Urol. 2009;181:452–61. 3. Shin J, Jeon GW. Comparison of diagnostic and treatment guidelines for undescended testis. Clin Exp Pediatr. 2020;63:415–21. 4. Shreyas K, Rathod KJ, Sinha A. Management of high inguinal undescended testis: a review of literature. Ann Pediatr Surg. 2021;17:1–9. 5. Hadziselimovic F. On the descent of the epididymo-testicular unit, cryptorchidism, and prevention of infertility. Basic Clin Androl. 2017;27:21. 6. Rifqiawan MZ, Prawira AZ, Rofifa Undescended testis Cryptorchidism Pediatric Tertiary hospital Associated factors Risk factors Pediatric urology

Antibiotic Resistance, A Analysis of Bacterial Cultures in a Pediatric Hospital

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neonatology

abstract: Antibiotic Resistance, A Analysis of Bacterial Cultures in a Pediatric Hospital Antimicrobial resistance (AMR) is one of the top global public health and development threats. It is estimated that bacterial AMR was directly responsible for 1.27 million global deaths in 2019 and contributed to 4.95 million deaths. The misuse and overuse of antimicrobials in humans, animals and plants are the main drivers in the development of drug-resistant pathogens. AMR affects countries in all regions and at all income levels. Its drivers and consequences are exacerbated by poverty and inequality, and low- and middle-income countries are most affected. AMR puts many of the gains of modern medicine at risk. It makes infections harder to treat and makes other medical procedures and treatments – such as surgery, caesarean sections and cancer chemotherapy – much riskier. The world faces an antibiotics pipeline and access crisis. There is an inadequate research and development pipeline in the face of rising levels of resistance, and urgent need for additional measures to ensure equitable access to new and existing vaccines, diagnostics and medicines. In addition to death and disability, AMR has significant economic costs. The World Bank estimates that AMR could result in US$ 1 trillion additional healthcare costs by 2050, and US$ 1 trillion to US$ 3.4 trillion gross domestic product losses per year by 2030. Pediatric patients are particularly vulnerable to antibiotic-resistant infections, as children are often exposed to antibiotics and have immature immune systems. Furthermore, bacteriemia is a leading cause of mortality among pediatric patients, and its treatment is threatened by the alarming increase in the prevalence of AMR.Therefore, it is crucial to understand the prevalence and patterns of antibiotic resistance in pediatric hospital settings. Global antibiotic consumption experienced a 65% increase worldwide between 2000 and 2015, showing an inverse correlation with the decline in deaths caused by infectious diseases. However, the extensive use of antibiotics has led to the emergence of antibiotic-resistant bacterial strains, complicating infection management and limiting the effectiveness of available antibiotics. Researchers predict millions of deaths due to bacterial AMR, highlighting the urgent need for action. To address this issue, implementing AMR surveillance systems is crucial to collect antimicrobial resistance data. This data can be used to develop empirical therapy and establish local and national antibiotic treatment guidelines. Priorities to address AMR in human health include preventing all infections, which may result in inappropriate use of antimicrobials; ensuring universal access to quality diagnosis and appropriate treatment of infections; and strategic information and innovation, for example

surveillance of AMR and antimicrobial consumption/use, and research and development for novel vaccines, diagnostics and medicines. In the present study, our aim is to increase the awareness of antimicrobial resistance among children by providing a description of the epidemiology and the antimicrobial resistance rate of the main isolated bacterial pathogens in children admitted to Ali ebne Abi Talib Hospital in Zahedan in 2022 to 2024. Table 1 Distribution of the isolated specimen types and top three pathogens. Isolates No. (Percent) Species Pathogen 1 Pathogen 2 Pathogen 3 Urine 65(22.33%) Escherichia coli (50) Klebsiella spp. (9) Coagulase-negative Staphylococci (1) Respiratory tract 83(28.52%) Pseudomonas spp. (39) Acinetobacter (27) Klebsiella spp. (10) Blood 132 (45.36%) Coagulase-negative Staphylococci (40) Pseudomonas spp. (27) Escherichia coli (27) Stool 11 (3.78%) Shigella (6) Escherichia coli (5) Table 2 Bacterial Species/Specimen Type Sensitive Resistant Escherichia coli (Urine) Amikacin Ceftazidime Klebsiella spp. (Urine) Meropenem Ceftriaxon Coagulase-negative Staphylococci(Urine) Vancomycin Clindamycin Pseudomonas spp. (Respiratory tract) Colistin Imipenem Acinetobacter (Respiratory tract) Colistin Meropenem Klebsiella spp. (Respiratory tract) Amikacin Imipenem Coagulase-negative Staphylococci (Blood) Vancomycin Co-trimoxazole Pseudomonas spp(Blood) Amikacin Meropenem Escherichia coli (Blood) Ciprofloxacin Ceftazidime Shigella(Stool) Ciprofloxacin Ceftazidime The pattern of AMR in the top three bacteria isolated.

Applications of Artificial Intelligence-Based Tools in Enhancing Learning, Clinical Reasoning, and Assessment Among Medical Students: A Narrative Review

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neonatology

abstract: Background: Medical education is continuously challenged by the rapid expansion of biomedical knowledge, increasing demands for personalized learning, and the need to develop higher-order skills such as clinical reasoning and decision-making among medical students. Traditional educational approaches may not always provide immediate feedback, adaptive learning experiences, or sufficient opportunities for repeated clinical practice. Artificial intelligence (AI), including machine learning algorithms, generative AI models, large language models (LLMs), intelligent tutoring systems, and virtual patient simulations, has introduced new opportunities to transform medical education by providing personalized educational support, real-time feedback, and interactive learning environments. This narrative review aimed to summarize current evidence regarding the applications of artificial intelligence in medical student education and to discuss their implications for learning performance, clinical reasoning development, and assessment practices. Methods: A narrative literature review was conducted by searching PubMed/MEDLINE, Scopus, Web of Science, and ERIC for English-language publications from January 2018 to 2026, using combinations of the terms "Artificial Intelligence," "Generative Artificial Intelligence," "Large Language Models," "ChatGPT," "Medical Education," "Medical Students," and "Clinical Reasoning." Relevant systematic reviews, scoping reviews, and primary studies addressing AI-based educational interventions, virtual patients, intelligent tutoring systems, and AI-assisted assessment among undergraduate medical students were selected and synthesized narratively. Results: Recent evidence indicates that AI-based tools are increasingly embedded across medical education, driven largely by the widespread availability of large language models since 2022. This shift has prompted an updated scoping review that screened more than 3,000 publications and ultimately included 310 studies on AI in undergraduate medical education. A systematic review focusing specifically on clinical-reasoning assessment identified a smaller body of controlled evidence, in which four studies involving 423 undergraduate medical students and five clinical experts evaluated AI interventions, including automated formative feedback systems, AI-simulated patients, and AI-generated assessment tools. Across these studies, AI-mediated feedback produced learning outcomes comparable to expert-generated feedback, with one quasi-experimental study suggesting accelerated reasoning development among novice learners. Consistent with this, a randomized controlled trial comparing ChatGPT-generated feedback with expert feedback on clinical reasoning questions, along with a separate study examining the effect of clinical decision support systems on students' case-solving performance, has contributed further controlled evidence in this area. Beyond assessment, broader reviews describe AI applications spanning personalized tutoring, immersive simulations, virtual patient encounters, and automated

administrative and research support. One structured narrative review and an expert panel analysis identify 10 domains of application across curriculum development, teaching, assessment, clinical training, and student affairs. At the same time, evidence highlights important concerns: a recent systematic review raised the possibility that AI use among medical students may contribute to deskilling and upskilling inhibition, whereby automation reduces practice opportunities or limits skill development in ways that could impair clinical reasoning, and called for further research into the long-term effects of AI on students' independent clinical judgment. Reviewers also point to persistent limitations across the field, noting that evidence on educational and clinical outcomes remains limited despite promising early applications, and that AI systems' "black box" nature obscures the reasons behind errors when they occur due to limited transparency in decision-making. A recent analysis further emphasizes that structured governance frameworks, combined with institutional oversight and cross-sector collaboration, are needed to guide implementation so that AI enhances learning outcomes while preserving the humanistic foundations of medical practice. Springer + 4 Conclusion: Current evidence suggests that artificial intelligence represents a promising complementary technology for enhancing medical education by supporting personalized learning, strengthening clinical reasoning, and improving assessment processes. However, the evidence base remains uneven, with concerns about deskilling, limited long-term outcome data, and inadequate transparency of AI systems. AI-based tools should be considered as educational assistants that augment, rather than replace, the role of medical educators. Future research should focus on longitudinal evaluation of learning outcomes, the development of evidence-based governance frameworks, the improvement of assessment validity, and the preparation of medical students and educators for the responsible and ethical use of artificial intelligence in medical education. Keywords: Artificial Intelligence; Medical Education; Education, Medical, Undergraduate; Machine Learning; Natural Language Processing; Clinical Competence; Educational Measurement

Artificial Intelligence in Long-Term Video-EEG Monitoring for Children With Epilepsy: A Review of Clinical Applications

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abstract: According to the World Health Organization (WHO), Epilepsy affects more than 50 million people worldwide. Children represent one of the largest patient populations requiring epilepsy diagnosis and long-term management. During the past two decades, long-term video-EEG monitoring (LTVEM) has become an essential tool for the diagnosis, classification, and management of epilepsy. However, interpretation of LTVEM is time-consuming and dependent on the expertise of pediatric neurophysiologist. Incorporating artificial intelligence (AI) in different aspect of medical area are increasing exponentially, while it is far from practical using in clinic by neurophysiologists. This study is a review that aims to explore the clinical application of AI in the interpretation of LTVEM in epileptic children. Methods: For this purpose, we followed PRISMA guidelines and searched Embased, and PubMed, database from 2020-2026. We using terms related to epilepsy, electroencephalography, artificial intelligence, machine learning, and deep learning. Eligible studies include human pediatric subjects, English text, full text available, scalp EEG, pediatric population, adaptive to long-term EEG setup in clinics. Findings: Initially we identified 508 records and 111 studies met the eligibility criteria. Studies were categorized according to clinically relevant neurophysiology applications. We found that about 70% of studies focused on seizure and ictal interpretation with AI. Among seizure related studies about 90% used AI for automatic seizure detection task. From all studies only 16 studies investigated AI for interictal epileptiform discharge (IED) detection. Other clinical applications including presurgical evaluation, pre and post ictal, seizure type classification were considerably underrepresented. Most of the studies (56%) used only public dataset that CHB-MIT dataset is more popular than others. for training and evaluating of AI algorithms. The sample size of studies ranged from 4 to 12,439 cases. Only 26 studies were developed exclusively using pediatric datasets and other studies incorporated both pediatric and adult populations. Conclusion: Most published AI studies focused on used AI for ictal detection and a many clinical important areas such as EEG background, sleep, IPS (Intermittent Photic Stimulation), HV (hyper ventilation), epilepsy syndrome classification, and pre-surgical evaluation were less notices. Greater development and validation using multicenter pediatric datasets are needed to improve the clinical generalizability of AI models. For future studies we suggest that, pre-surgical evaluation, semiology classification, syndrome classification with regional pediatric datasets that reflect specific features of region should be considered for assisting pediatric neurophysiologist and epileptologist in interpreting LTVEM of epileptic children.

Association Between Fever and Pyuria in Children

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abstract: Background: Fever is a common complaint among pediatric patients, often leading to hospital visits. Urinary tract infections (UTIs), which can be detected by the presence of pyuria, are a frequent cause of fever in children. This study aims to investigate the association between fever and pyuria in hospitalized children. Fever occurs as the body reacts to the release of internal pyrogens during infections, inflammatory processes, rheumatism, malignancies.fever in children is one of the most frequent reasons parents seek medical care for their children in pediatric clinics. Methods: This case-control study included 202 children aged 12 to 144 months, hospitalized at Ali Ibn Abi Talib Hospital. The children were divided into two groups: 101 with fever and 101 without. The study analyzed data from medical records and laboratory results, using statistical tools to determine the association between fever and pyuria. Data were collected from medical records and laboratory results, and statistical analysis was performed using SPSS software. Results: Among the 202 children aged between 12 to 144 months, 101 had fever and 101 did not. There was no significant difference in the incidence of pyuria between the febrile and afebrile groups. The results showed no significant difference in the incidence of pyuria between febrile and afebrile children. Specifically, 5.8% of the febrile group and 3.9% of the non-febrile group exhibited pyuria, a difference that was not statistically significant (p=1.000). Further, the correlation coefficient between fever and pyuria was -0.010 (p=0.914), indicating no significant correlation. Conclusion: the study found no significant association between fever and pyuria in hospitalized children, underscoring the importance of considering other diagnostic factors beyond pyuria when evaluating febrile pediatric patients. This approach can help improve the accuracy of UTI diagnoses and optimize patient care. Hooker JB, Mold JW, Kumar S. Sterile pyuria in patients admitted to the hospital with infections outside of the urinary tract. J Am Board Fam Med. 2014 Jan-Feb;27(1):97-103. doi: 10.3122/jabfm.2014.01.130084. PMID: 24390891. Mohajeri S, Hemmati P, Sedehi M. The association between fever and pyuria in children older than one month.J Renal Inj Prev. 2019; 8(3): 240-242. DOI: 10.15171/jrip.2019.45. Fever Pyuria Children Urinary Tract Infection

Cardiac Involvement in Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19: A Systematic Review

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abstract: Background: Multisystem inflammatory syndrome in children (MIS-C) is a rare but severe post-infectious complication of SARS-CoV-2, typically emerging 2–6 weeks after exposure. Cardiac manifestations represent a major prognostic factor, ranging from subclinical biomarker elevations to myocardial dysfunction, coronary artery abnormalities, arrhythmias, and shock. This systematic review synthesizes the spectrum, frequency, and short-term outcomes of cardiac involvement in MIS-C to inform early recognition and management. Objectives: To systematically evaluate the prevalence, characteristics, and clinical course of cardiac manifestations in pediatric patients with MIS-C associated with COVID-19, including myocardial dysfunction, coronary artery involvement, conduction abnormalities, and valvular or pericardial disease. Methods: A systematic search was conducted in major databases (PubMed, Scopus, Web of Science) for observational studies, case series, and cohort studies reporting cardiac findings in children (0–18 years) meeting WHO, CDC, or RCPCH criteria for MIS-C, published between 2020 and 2025. Eligible studies included quantitative or qualitative descriptions of cardiac enzymes, echocardiography, electrocardiography, or advanced imaging. Two reviewers independently screened records, extracted data, and assessed study quality using the Newcastle–Ottawa Scale. Narrative synthesis was performed due to heterogeneity in reporting. Results: Seventy-one studies comprising over 4300 pediatric MIS-C cases were included. Cardiac involvement was documented in a substantial proportion of patients (up to 67–80%), with frequent findings including elevated NT-proBNP and troponin levels, left ventricular systolic dysfunction (often mild to moderate, with LVEF 50% in many cohorts), coronary artery dilation or aneurysms (reported in 6–26% of cases), pericardial effusion, valvular regurgitation (particularly mitral and tricuspid), and electrocardiographic abnormalities such as conduction delays, ST-T changes, and arrhythmias. Many patients presented with shock requiring intensive care. Short-term follow-up indicated resolution of most abnormalities with immunomodulatory therapy (IVIG, corticosteroids) and supportive care, though persistent mild changes were noted in subsets of patients. Strengths include the large pooled number of cases from diverse geographic regions and consistent identification of cardiac involvement as a hallmark feature. Limitations encompass observational study designs with variable severity definitions, heterogeneous biomarker and imaging protocols, and limited long-term data in many reports. Risk of bias was generally moderate, primarily related to retrospective data collection and selection. Conclusion: Cardiac

involvement is common and clinically significant in MIS-C associated with COVID-19, underscoring the need for routine cardiac evaluation at presentation (biomarkers, ECG, echocardiography). Most abnormalities resolve in the short term with prompt treatment, but structured follow-up is essential. These findings support early multidisciplinary management and highlight priorities for future prospective studies with standardized cardiac assessment. Keywords: Cardiac Involvement, Multisystem Inflammatory Syndrome in Children, COVID-19

Children Admitted with Acute Post-Streptococcal Glomerulonephritis: A 5-Year Study

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abstract: Acute post-streptococcal glomerulonephritis (APSGN) is one of the leading causes of acquired kidney injury in children. It manifests with hematuria, edema, hypertension, and, in severe cases, acute kidney failure. While APSGN is generally self-limiting, long-term outcomes, especially in children, require further evaluation. This study aimed to assess the five-year outcomes in children admitted with APSGN, focusing on recovery, complications, and factors influencing prognosis. Acute post-streptococcal glomerulonephritis (APSGN) commonly presents in school-aged children with hematuria, proteinuria, edema, and hypertension, often following a throat infection. Prognosis is generally favorable with supportive care, and most studies identify serum markers and renal function at presentation as key indicators, while severe complications and dialysis are uncommon. A retrospective study was conducted on 56 children diagnosed with APSGN. Medical data, including clinical presentations, laboratory results, and recovery patterns, were analyzed. Statistical tests were used to evaluate associations between clinical factors (e.g., age, hypertension, proteinuria) and outcomes. The most common symptom was hematuria (76.8%), followed by edema and hypertension. A sore throat preceded APSGN in 62.5% of cases. Most children (89.3%) recovered without severe complications, while 10.7% experienced acute renal failure, and only 3.6% required dialysis. Neither age (P-Value=0.17) nor gender (P-Value=0.48) was a significant predictor of hypertension development in APSGN cases in this study.: Although APSGN in children generally resolves well with proper care, a few may develop hypertension or kidney complications, requiring long-term monitoring. Our findings highlight the importance of timely diagnosis, effective management, and follow-up, particularly in resource-limited settings. 1. Balasubramanian R, Marks SD. Post-infectious glomerulonephritis. Paediatrics and international child health. 2017 Oct 2;37(4):240-7. 2. Brant Pinheiro SV, de Freitas VB, de Castro GV, Rufino Madeiro BC, de Araújo SA, Silva Ribeiro TF, Simões e Silva AC. Acute post-streptococcal glomerulonephritis in children: a comprehensive review. Current Medicinal Chemistry. 2022 Oct 1;29(34):5543-59. 3. Carapetis JR, Steer AC, Mulholland EK, Weber M. The global burden of group A streptococcal diseases. The Lancet infectious diseases. 2005 Nov 1;5(11):685-94. Glomerulonephritis, Streptococcus, Child, Immune Complex Diseases

Children's Food Packaging: The Interplay of Visual Elements, Taste Perception, and Safety

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abstract: مقدمه: بسته‌بندی مواد غذایی برای کودکان هم‌زمان دو کارکرد حیاتی دارد: از یک سو به عنوان ابزاری روان‌شناختی بر ادراک، ترجیح و انتخاب غذایی آنان اثر می‌گذارد، و از سوی دیگر به عنوان سد ایمنی در برابر مخاطراتی مانند خفگی، مسمومیت و آسیب‌های فیزیکی عمل می‌کند. شواهد نشان می‌دهد که عناصر بصری بسته‌بندی مانند شخصیت‌های کارتونی و طراحی‌های جذاب، اثری قوی بر ترجیح کودکان دارند، اما این تأثیر می‌تواند به قیمت تضعیف ادراک سلامت و افزایش انتخاب محصولات کم‌ارزش تغذیه‌ای تمام شود . هم‌زمان، بسته‌بندی ناایمن می‌تواند منجر به آسیب‌های جدی مانند خفگی ناشی از قطعات کوچک قابل جدا شدن، بلع تصادفی محتویات، و سوختگی با مایعات داغ شود. جستجوی جامع در پایگاه‌های داده PubMed ، Web of Science ،Scopus و PsycINFO انجام شد. متدولوژی: این مطالعه به صورت مرور روایتی (Narrative Review) با ترکیبی از کلیدواژه‌های مرتبط با بسته‌بندی مواد غذایی، روان‌شناسی کودک، ادراک طعم، ایمنی و رفتار مصرف‌کننده انجام شد. تمرکز جستجو بر مطالعات تجربی و مرورهای نظام‌مندی بود که به بررسی مکانیسم‌های روان‌شناختی تأثیر بسته‌بندی بر کودکان و هم‌زمان جنبه‌های ایمنی بسته‌بندی پرداخته بودند. مطالعات کلیدی شامل کارآزمایی‌های تجربی با اندازه‌گیری‌های رفتاری (مانند قدرت در دست گرفتن) و مطالعاتی که ابعاد روان‌شناختی مانند تکانشگری و کنترل بازداری را بررسی کرده بودند، وارد تحلیل شدند. نتایج: یافته‌ها نشان داد که بسته‌بندی می‌تواند اثر ادراکی طعم در کودکان ایجاد کند. در مطالعه‌ای روی ۱۷۹ کودک ۸ تا ۱۰ ساله، محصولات غذایی از نظر عینی یکسان بودند، اما بسته‌بندی دارای شخصیت‌های کارتونی نه تنها بالاترین امتیاز طعم را دریافت کرد، بلکه کودکان برای به دست آوردن آن تلاش فیزیکی بیشتری (قدرت در دست گرفتن بالاتر) صرف کردند. این یافته نشان می‌دهد که بسته‌بندی می‌تواند بر انگیزش رفتاری کودکان اثر بگذارد، نه فقط بر ترجیح ذهنی آنان. از منظر روان‌شناختی، ویژگی‌های خلقی کودکان مانند تکانشگری و کنترل بازداری بر میزان تأثیرپذیری آنان از بسته‌بندی اثرگذار است؛ کودکان با تکانشگری بالاتر احتمالاً بیشتر تحت تأثیر عناصر جذاب بسته‌بندی قرار می‌گیرند. در بعد ایمنی، مرور مطالعات نشان داد که شخصیت‌های کارتونی قوی‌ترین و مستمرترین شواهد تأثیر بر انتخاب و مصرف کودکان را دارند، در حالی که برچسب‌گذاری تغذیه‌ای کمترین اثربخشی را نشان داده است . از سوی دیگر، داده‌های ایمنی نشان می‌دهد که آسیب‌های ناشی از اجسام خارجی (خفگی، آسپیراسیون، بلع) در کودکان ۱ تا ۲ ساله (۴۰٪) و بالای ۳ سال (۴۷.۵٪) شایع‌تر است، و بسته‌بندی‌های ناایمن به عنوان استاندارد جهانی برای کاهش مسمومیت‌ها و بلع تصادفی (CRP) عامل مهمی در این آسیب‌ها هستند. بسته‌بندی مقاوم به کودک نتیجه‌گیری: بسته‌بندی مواد غذایی کودکان در تقاطع دو حوزه حیاتی . طراحی شده است، اما باید متعادل با دسترسی‌پذیری بزرگسالان باشد قرار دارد: روان‌شناسی مصرف و ایمنی فیزیکی. عناصر بصری جذاب اگرچه می‌توانند برای ترویج غذاهای سالم به کار روند، اما در حال حاضر عمدتاً برای محصولات کم‌ارزش تغذیه‌ای استفاده می‌شوند و ادراک سلامت را مختل می‌کنند . هم‌زمان، بسته‌بندی ناایمن خطر آسیب‌های فیزیکی جدی را افزایش می‌دهد. طراحی بسته‌بندی باید به‌طور هم‌زمان بر مکانیسم‌های روان‌شناختی (مانند اثر ادراک طعم و نقش تکانشگری) و الزامات ایمنی (مانند مقاومت به کودک، جلوگیری از قطعات قابل جدا شدن) متمرکز شود. مطالعات آینده باید بررسی کنند که چگونه می‌توان عناصر بصری جذاب را با ویژگی‌های ایمنی یکپارچه کرد تا ضمن حفظ جذابیت، ایمنی و انتخاب‌های تغذیه‌ای سالم‌تر برای کودکان تضمین شود.

کلیدواژه‌ها: بسته‌بندی کودکان، روان‌شناسی مصرف‌کننده، ادراک طعم، ایمنی، بسته‌بندی مقاوم به کودک

Clinical Performance of Artificial Intelligence in Pediatric Disease Diagnosis: A Systematic Review and Meta Analysis Across Neurological, Dental, and Cardiovascular Applications

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abstract: Artificial intelligence (AI) has emerged as a promising tool for improving diagnostic accuracy in pediatric medicine. Applications include electroencephalography interpretation, dental imaging analysis, and congenital heart disease detection. However, evidence regarding the overall diagnostic performance of AI in pediatric diseases remains fragmented across specialties. This systematic review and meta analysis synthesizes evidence regarding the diagnostic accuracy of AI based models in pediatric disease detection. Literature from major biomedical databases including PubMed, Web of Science, Embase, and Cochrane Library was reviewed with emphasis on systematic reviews and meta analyses involving pediatric populations or pediatric datasets. Diagnostic performance indicators such as sensitivity, specificity, and area under the receiver operating characteristic curve (AUC) were extracted and interpreted using principles of diagnostic test accuracy meta analysis. Evidence shows strong performance of AI systems in several pediatric diagnostic contexts. In pediatric epilepsy detection using electroencephalography, deep learning models demonstrated pooled sensitivity of approximately 0.89 and specificity of 0.91 in validation datasets. In pediatric dentistry, pooled diagnostic performance of AI systems showed sensitivity and specificity around 0.89 and 0.91 respectively. Machine learning approaches for congenital heart disease diagnosis demonstrated pooled sensitivity and specificity close to 0.90 across multiple studies. AI based diagnostic tools show promising accuracy in pediatric medicine, particularly in image and signal based diagnostics. However, widespread clinical adoption requires improved external validation, multicenter datasets, bias assessment, and transparent reporting standards. Future research should focus on robust validation frameworks and integration with clinical decision support systems. artificial intelligence; pediatric disease; machine learning; deep learning; diagnostic accuracy; systematic review; meta analysis.

Co-Occurrence Of Neonatal Familiar Cleidocranial Dysplasia With Carrier Phenotype Of CFTR Gene; A Case Report From Iran

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abstract: The cooccurrence of cleidocranial dysplasia (CCD) and cystic fibrosis (CF), with two distinct genetic etiologies and inheritance patterns, is theoretically possible in large chromosomal deletion syndromes, although it has not been previously reported. Reporting a very rare case of genetic concurrence in a neonate presenting with respiratory distress highlights the importance of multidisciplinary consultations and enriches the systematic statistical data. This case emphasizes the importance of early clinical diagnosis, lifelong multidisciplinary care, and systematic data collection in rare disease registries. The case presented is a 36-week-old male neonate born with a low Apgar score following maternal abruption and spotting, admitted to the NICU with a diagnosis of respiratory distress. On physical examination, both the anterior and posterior fontanelles were found to be very wide, and failure of the two ends of the right clavicle to connect at the midline was noted. The clinical history revealed similar manifestations in the neonate's father, and genetic testing confirmed the diagnosis of cleidocranial dysplasia with deletion of exons 4 and 5 of the RUNX2 gene in both the father and neonate. Additionally, the neonate carried the carrier phenotype for the c.1521_1523del variant of the CFTR gene, which had been previously identified in the parents. This co-occurrence necessitates further specialized investigations, including complete genome sequencing and evaluation of chromosomal deletion syndromes in the family members. Neglecting clinical genetics results in undetected rare diseases and hinders the advancement of medical support for affected populations. Multilateral and specialized collaboration within the treatment team enables timely identification and necessary interventions.
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Common Gastrointestinal Disorders in Preterm Infants After Discharge

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abstract: Common Gastrointestinal Disorders in Preterm Infants After Discharge Preterm infants commonly experience gastrointestinal (GI) problems after discharge from the neonatal intensive care unit (NICU) because their digestive system is still maturing. Most issues improve with age, but some require medical evaluation. Common GI problems in preterm infants after discharge are gastroesophageal reflux (GER), feeding difficulties especially poor suck-swallow coordination, constipation, delayed gastric emptying and abdominal colic. The prevalence and severity of these problems depend on factors such as gestational age, birth weight, underlying medical conditions. Gastroesophageal reflux (GER) is the most common gastrointestinal disorder in preterm infants after discharge from the neonatal intensive care unit (NICU). It primarily results from the immaturity of the gastrointestinal tract, including transient lower esophageal sphincter relaxations, delayed gastric emptying, and impaired esophageal motility. Common clinical manifestations include regurgitation, vomiting, feeding difficulties, irritability during feeding, poor weight gain, and occasional aspiration. The risk is higher in extremely preterm and very low birth weight infants, particularly those with bronchopulmonary dysplasia, prolonged tube feeding, or a history of necrotizing enterocolitis. Diagnosis is mainly clinical, while further investigations are reserved for severe or persistent symptoms. Current evidence (2024–2026) recommends conservative management as the first-line approach, including smaller, frequent feeds, appropriate positioning after feeding, and continued breastfeeding when possible. Routine use of acid-suppressive medications is discouraged because of limited efficacy and increased risks of necrotizing enterocolitis, sepsis, pneumonia, and gut microbiome alterations. Most infants experience spontaneous symptom resolution by 12–18 months corrected age as gastrointestinal maturation progresses. Dr. Setareh Sagheb Associate Professor of Neonatology. TUMS

comparative analysis of outcomes of one stage versus staged surgical repair in esophageal atresia

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abstract: مقدمه: آترزی مری یکی از ناهنجاری‌های مادرزادی دستگاه گوارش است که با اختلال در تکامل مری همراه بوده و همراه می‌شود. دو روش جراحی اصلی برای درمان این ناهنجاری شامل جراحی (TEF) اغلب با فیستول تراکئوازوفاژیال یک‌مرحله‌ای و چندمرحله‌ای است. با توجه به تفاوت‌های احتمالی در پیامدها و عوارض این دو روش، این مطالعه با هدف مقایسه مواد .نتایج و عوارض جراحی یک‌مرحله‌ای و دو مرحله‌ای در بیماران مبتلا به آترزی مری در بیمارستان مطهری ارومیه انجام شد و روش ها: این مطالعه به‌صورت توصیفی-تحلیلی و گذشته‌نگر بر روی پرونده‌های بیماران مبتلا به آترزی مری تحت عمل جراحی در بیمارستان مطهری ارومیه از سال ۱۳۹۶ تا ۱۴۰۲ انجام شد. داده‌های دموگرافیک، نوع عمل جراحی، عوارض پس از عمل و یافته ها: از ۱۱۵ بیمار مورد مطالعه، ۶۸ مورد تحت .نسخه ۲۱ تحلیل شد SPSS وضعیت ترخیص بیماران جمع‌آوری و با نرم‌افزار جراحی یک‌مرحله‌ای و ۴۷ مورد تحت جراحی دو مرحله‌ای قرار گرفتند. نتایج نشان داد که نوع آترزی مری به‌طور معناداری با انتخاب روش جراحی مرتبط بود. همچنین، جراحی دو مرحله‌ای بیشتر در بیماران با آترزی مری با فاصله طولانی و (P0.001) نوزادان دختر انجام شد. اگرچه تفاوت معناداری در میزان بقای کلی بین دو روش مشاهده نشد، اما شیوع تنگی آناستوموز در گروه نتیجه گیری: این مطالعه نشان داد که انتخاب روش جراحی به‌طور قابل‌توجهی تحت تأثیر نوع آترزی مری .چندمرحله‌ای بالاتر بود و جنسیت بیمار قرار دارد. با وجود نتایج مشابه در میزان بقا، نظارت دقیق بر عوارض پس از عمل به‌ویژه تنگی آناستوموز در روش .دو مرحله‌ای ضروری است

Design, Implementation, and Achievements of the LIFE Campaign: A Multifaceted Program for the Prevention of Iatrogenic Pain and Anxiety in Children (Performance Report from November 2024 to June 2026) and Preliminary Results on the Awareness and Attitudes

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abstract: یک برنامه چندبخشی برای پیشگیری از درد و اضطراب ایاتروژنیک در LIFE: طراحی، اجرا و دستاوردهای کمپین کودکان (گزارش عملکرد آبان ۱۴۰۳ تا خرداد ۱۴۰۵) و نتایج اولیه وضعیت آگاهی و نگرش ارائه‌دهندگان مراقبت در حوزه کودکان در این زمینه چکیده زمینه و مسئله: درد و اضطراب ایاتروژنیک (ناشی از اقدامات کادر درمان) در کودکان، یکی از شایع‌ترین و در عین حال قابل‌پیشگیری‌ترین انواع درد در محیط‌های درمانی است. مطالعات بین‌المللی نشان داده‌اند که کودکان بستری به طور مکرر در معرض اقدامات دردناک قرار می‌گیرند؛ به‌گونه‌ای که در یک مطالعه در برزیل، ۷۵ کودک در یک بازه شش‌ساعته، مجموعاً ۳۵۱ اقدام دردناک را تجربه کردند. در ایران، علیرغم وجود و دسترسی به پروتکل‌های معتبر جهانی و همچنین در دسترس بودن ابزارهای مؤثر دارویی و غیردارویی، آگاهی کافی و نگرش مناسب در میان ارائه‌دهندگان مراقبت وجود ندارد. مطالعه‌ای در سال ۲۰۱۷ بر روی ۱۵۷ نفر از کادر درمان در بخش‌های مراقبت ویژه نوزادان ایران نشان داد که نمره مدیریت درد از دیدگاه پرستاران و پزشکان دو سوم نمره کل بوده است که در سطح متوسط قرار دارد. این در حالی است که برای گروه سنی بالای یک ماه، نه تنها پروتکل مدونی وجود ندارد، بلکه آموزش‌های مرتبط در کوریکولوم آموزشی و امتحانات بورد و ارتقای رزیدنت‌های اطفال نیز دیده نمی‌شود. پژوهش‌های کیفی انجام‌شده در ایران، موانع متعددی را در مدیریت درد کودکان شناسایی کرده‌اند که شامل موانع سازمانی، محدودیت‌های مرتبط با ویژگی‌های کودک و موانع مرتبط با ماهیت بیماری و درمان‌های آن است. این شکاف میان شواهد علمی و اجرای بالینی، نقض آشکار اصل اخلاقی «عدم ضررسانی» محسوب می‌شود و نوعی «آزار ایاتروژنیک کودکان» را رقم می‌زند. را از آبان ۱۴۰۳ تا خرداد ۱۴۰۵، به عنوان یک ابتکار LIFE هدف: این گزارش، روند شکل‌گیری، تکامل و دستاوردهای کمپین اخلاق‌محور و حرفه‌ای برای پر کردن این شکاف از طریق آگاه‌سازی، حمایت‌گری، اجرای بالینی و تعامل با سیاست‌گذاران، توصیف می‌کند. روش‌ها: این کمپین با همکاری باشگاه اتیکس (کلاب اتیکز) و با مشارکت انجمن علمی دانشجویی پزشکی ایران (ایمسا) شکل گرفت. فعالیت‌ها شامل: تدوین اساسنامه و ساختار سازمانی (شورای عالی و هشت کمیته تخصصی)، تهیه پروتکل‌های دارویی و غیردارویی فارسی‌زبان توسط گروه ۲۷ نفره از متخصصان بالینی، اجرای پروژه‌های پایلوت (مانند «مرهم فرشتگان کوچک») در

بخش‌های انکولوژی بیمارستان‌های علی‌اصغر و حکیم، برپایی سه میز متوالی معرفی کمپین در کنگره‌های ملی در سال ۱٤۰٤ (کنگره دکتر قریب، کنگره بین‌المللی اطفال و کنگره اورژانس‌های کودکان)، ارائه پوستر علمی «نه به آزار ایاتروژنیک کودکان» در سی‌وهفتمین کنگره بین‌المللی و هفتمین نمایشگاه بیماری‌های کودکان (مرکز طبی کودکان)، برگزاری کارگاه‌های آموزشی متعدد برای پزشکان، پرستاران و فراگیران در بیمارستان‌های تخصصی و همچنین در انجمن علمی اطفال، و تعامل با سیاست‌گذاران (معاونت بهداشت وزارت بهداشت، اداره سلامت کودکان، مرکز جوانی جمعیت، یونیسف و معاونت درمان دانشگاه علوم پزشکی تهران) بوده است. یافته‌ها: نتایج اولیه نظرسنجی از بازدیدکنندگان میز کمپین در طی سه کنگره ملی نشان می‌دهد که تنها حدود ٤ تا ٥ درصد از پاسخ‌دهندگان معتقدند مدیریت و پیشگیری از درد و اضطراب کودکان در کشور به‌طور مستمر و نظام‌مند انجام می‌شود. حدود ۱۷ درصد از شرکت‌کنندگان اظهار داشتند که همواره از روش‌های پیشگیری و مدیریت درد استفاده می‌کنند، در حالی که حدود ۱۷ درصد هرگز از این مداخلات استفاده نکرده‌اند. حدود ۷۰ درصد از پاسخ‌دهندگان تاکنون هیچ‌گونه آموزش رسمی در این زمینه دریافت نکرده‌اند و حدود ۲۰ درصد نیز با هیچ‌یک از روش‌های دارویی کنترل درد و اضطراب کودکان آشنایی ندارند. این یافته‌ها نشان‌دهنده شکاف عمیق میان دانش و عمل است و ضرورت مداخلات آموزشی هدفمند و برنامه‌های ترویجی نظام‌مند را در میان ارائه‌دهندگان خدمات سلامت حوزه کودکان دوچندان می‌سازد. دستاوردهای کلیدی کمپین: ۱. جذب نیروی دانشجویی و تدوین اساسنامه و چارچوب عملیاتی جامع با چشم‌انداز تبدیل شدن به مرجع ملی و الگوی منطقه‌ای و جهانی در پیشگیری و مدیریت درد کودکان. ۲. تهیه پروتکل‌های دارویی و غیردارویی فارسی‌زبان برای پیشگیری از درد کودکان. ۳. اجرای موفق پروژه‌های پایلوت در دو بیمارستان بزرگ کودکان تهران (علی‌اصغر و حکیم). ٤. گنجاندن مدیریت درد کودکان در دستورکار کمیته راهبردی اداره سلامت کودکان وزارت بهداشت و آغاز فرآیند تدوین گایدلاین ملی. ٥. شروع مشارکت با یونیسف، دانشگاه علوم پزشکی تهران و انجمن علمی اطفال ایران. ٦. تهیه پیش‌نویس طرح پژوهشی پسادکتری برای ارزیابی اجرای ملی پیشگیری از درد ایاتروژنیک. ۷. برگزاری کارگاه‌های آموزشی

Determining Specialists' Criteria for Treatment Prescription in Infants with Positional Plagiocephaly Using Digital three-dimensional Models

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abstract: Abstract Objective: To determine specialists' criteria for prescribing type of treatment in infants with positional plagiocephaly using digital three-dimensional models. Design: Cross sectional. Setting: Craniofacial rehabilitation centers and children's hospitals. Participants: Eighty-four specialists—including pediatricians, neonatologists, pediatric neurologists, and pediatric neurosurgeons—were participated in this study. Interventions: N/A. Main outcome measures: A total of 144 scenarios were designed, each including three dimensional images of infants aged 3, 6, and 8 months with varying degrees of plagiocephaly. Variables such as sex, presence/absence of torticollis, parental concern, the cranial vault asymmetry index (CVAI), and developmental status were incorporated into the scenarios, and the specialists selected the type of treatment (orthosis, physiotherapy and repositioning, referral or no intervention) based on these characteristics. Results: A total of 415 treatment decisions were included in the final analysis. Referral to another specialist was the most frequently selected option (43.6%). A significant association was found between the presence of torticollis, developmental status, and the CVAI and the orthosis prescription (P 0.05). Furthermore, greater years of clinical experience among specialists were associated with a lower likelihood of prescribing orthosis, whereas prior experience in prescribing orthoses significantly increased the likelihood of selecting this treatment (P 0.05). Conclusion: Among pediatricians and neonatologists, considerable variability was observed in treatment selection, with referral to a pediatric neurologist representing the most common approach. The relatively limited use of anthropometric indices in treatment decision-making suggests an opportunity to enhance the integration of objective measurements into clinical practice and to develop standardized clinical guidelines. Keywords: Plagiocephaly, Digital 3D models , Treatment decision making, Orthosis, Helmet therapy, Cranial deformities, Parental concern

Effect of preterm infant oral motor intervention (PIOMI) with swallowing exercise on feeding progression of premature infants: a randomized controlled trial

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abstract: Background: This study aimed to explore the clinical effect of preterm infant oral motor intervention (PIOMI) combined with swallow exercises performed with finger feeding and oral support on feeding progression of premature infants. Method: This study is a two-block randomization and a double-blind randomized Clinical Trial design, with the code IRCT20250728066658N1, obtained from the Iranian Registry of clinical trials.the study was approved by the Research Ethics Committee of Children's Medical Center- Tehran University of Medical Sciences (IR.TUMS.CHMC.REC.1404.099). 62 Premature infants with post-menstrual ages between 32 to 36+6days weeks were included in the study. To minimize the confounding effect of gestational age, preterm infants were first stratified into two age groups (32-33+6 days and 34-36+6 days weeks). Within each age group, infants were then randomly assigned in blocks of two to either the PIOMI-only group or the combined intervention group (PIOMI + swallowing exercise), such that for every block of two infants, one received PIOMI alone and the other received PIOMI with additional swallowing exercises The participants of the two groups were compared based on weight gain, feeding progression, Preterm Oral Feeding Readiness Scale (POFRAS), milk volume and length of hospitalization. Results: Both groups showed significant improvements in POFRAS scores from phase 1 to phase 3 (p 0.001), with large effect sizes (η^2 = 0.61–0.63); the second group had clinically higher scores, but between-group differences were not statistically significant ($p = 0.09$ on day 7). Milk intake volume significantly increased only in the combined group ($p = 0.001$), while time to achieve full oral feeding, transition times, weight gain rate, and length of hospital stay did not differ significantly between groups. Conclusion: Both the PIOMI-only and combined interventions significantly improved oral feeding readiness (POFRAS scores) in preterm infants. The addition of swallowing exercises provided supplementary benefits in milk intake volume, suggesting a potential clinical advantage despite the lack of statistical significance in between-group comparisons. Further research with larger sample sizes is warranted. Keywords: Preterm infants, oral feeding, speech therapy, PIOMI, swallowing exercise, NICU, Feeding readiness

Effects of GLP-1 receptor agonists on body composition in children and adolescents with obesity: A systematic review and meta-analysis

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abstract: Background and objective: Childhood and adolescent obesity represent a growing global epidemic, significantly increasing the risk of type 2 diabetes, cardiovascular disease, and impaired quality of life. While lifestyle modification remains the cornerstone of treatment, achieving sustainable weight loss in this population is notoriously challenging. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have emerged as promising pharmacological options, yet comprehensive evidence synthesizing their impact specifically on body composition in pediatric populations remains limited. This systematic review and meta-analysis aimed to evaluate the efficacy and safety of GLP-1 RAs on body composition outcomes in children and adolescents with obesity. Methods: This study was conducted following PRISMA guidelines. A systematic literature search was performed across PubMed (n=183), Scopus (n=373), and Web of Science (n=242), yielding a total of 798 initial records. After removing duplicates and screening titles, abstracts, and full texts against predefined eligibility criteria, 10 randomized controlled trials (RCTs) were ultimately included in the final analysis. Collectively, these studies comprised over 1,100 participants aged 6 to 18 years with obesity or severe obesity. The evaluated interventions included once-weekly semaglutide (2.4 mg), once-daily liraglutide (3.0 mg), and extended-release or twice-daily exenatide. Data extraction focused on changes in body mass index (BMI), BMI standard-deviation score (BMI-SDS), body weight, waist circumference, and adverse events. A random-effects model was used for meta-analytic synthesis where applicable, and the Cochrane Risk of Bias tool was utilized for quality assessment. Results: The analysis demonstrated that all GLP-1 RAs significantly reduced adiposity metrics compared to placebo, albeit with varying magnitudes of effect. Semaglutide (STEP TEENS trial) showed the most substantial reductions, with an estimated treatment difference in percentage change in BMI of -16.7 percentage points (95% CI, -20.3 to -13.2; P0.001). Liraglutide also demonstrated significant efficacy, with a treatment difference of -7.4 percentage points (95% CI, -11.6 to -3.2; P0.001) in children (6–12 years) and -4.64 percentage points (95% CI, -7.14 to -2.14) in adolescents (12–18 years). Exenatide produced more modest effects, with estimated BMI reductions ranging from -2.7% to -4.1%. Notably, over 44% of adolescents treated with semaglutide achieved reclassification to a normal-weight or overweight BMI category (Odds Ratio: 22.7; 95% CI, 7.6 to 67.9). Clinically meaningful reductions were also observed in BMI-SDS and waist circumference across all active treatment groups. Emerging evidence from secondary analyses also demonstrated improvements in insulin sensitivity (HOMA-IR reductions of up to 35%), alanine aminotransferase (ALT) levels, and

cardiometabolic risk factors with semaglutide. The most common adverse events were gastrointestinal (nausea, vomiting, diarrhea), occurring in up to 80% of liraglutide-treated children and 62% of semaglutide-treated adolescents, though these were predominantly mild to moderate in severity and transient. No significant effects on growth or pubertal development were reported. However, weight regain was consistently observed following treatment cessation, reinforcing obesity's chronic nature. Conclusion: GLP-1 receptor agonists, particularly semaglutide and liraglutide, are highly effective interventions for reducing BMI and improving body composition in children and adolescents with obesity. They offer substantial potential to downgrade obesity severity categories when combined with lifestyle therapy. Beyond weight loss, these agents demonstrate additional metabolic benefits including improved insulin sensitivity and hepatic enzyme profiles. Nevertheless, the high incidence of gastrointestinal side effects warrants careful patient monitoring. The observed weight regain after discontinuation underscores the need for long-term treatment strategies and further research to evaluate the durability of these effects, optimal treatment duration, and broader generalizability across diverse racial and ethnic populations. PROSPERO: CRD420261454701. Keywords: GLP-1 Receptor Agonists, Pediatric Obesity, Semaglutide, Liraglutide, Exenatide, Body Mass Index, Systematic Review, Meta-Analysis, Adolescents, Children, Body Composition, Insulin Sensitivity

Electrolyte and Blood Gas Abnormalities in Children With Complicated Versus Uncomplicated Pneumonia

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abstract: Pneumonia is a major cause of hospitalization and mortality in children worldwide. Complicated pneumonia is associated with increased morbidity, and electrolyte abnormalities and arterial blood gas changes may reflect disease severity. Pneumonia remains a major cause of hospitalization and mortality among children worldwide (1). Early recognition of complicated pneumonia and its associated complications is essential for improving clinical outcomes (2). Laboratory findings such as hyponatremia, electrolyte disturbances, and arterial blood gas abnormalities may serve as useful indicators of disease severity in pediatric pneumonia (3). This study was a descriptive analytic study that enrolled children under 18 years old admitted for pneumonia. Children were categorized into complicated and uncomplicated pneumonia using radiological and ultrasonography assessments. Exclusion criteria included congenital heart disease, immunodeficiency disorders, neurological, metabolic, and renal disorders. Data on demographic information and laboratory findings on admission, including serum sodium, potassium, urea, creatinine, and ABGs (pH, PCO_2, PO_2, HCO_3, and base excess), were obtained from medical records. Hyponatremia was defined as serum sodium levels less than 135 mEq/L. The study included 163 children; 86 (52.8%) with complicated pneumonia and 77 (47.2%) with uncomplicated pneumonia. Hyponatremia occurred in 67.5% of children with complicated pneumonia and 54.7% of children with uncomplicated pneumonia (P=0.170). Serum sodium, potassium, urea, and creatinine levels were comparable between complicated and uncomplicated pneumonia groups (P0.05). However, acid–base status showed a significant association with pneumonia type (P=0.047), with alkalosis being more frequent in complicated pneumonia. Hyponatremia was more common in children with complicated pneumonia. Electrolyte and arterial blood gas abnormalities were associated with pneumonia type and may help assess disease severity. Meyer Sauteur PM. Childhood community-acquired pneumonia. Eur J Pediatr. 2024;183(3):1129-1136. 2. Moustafa AN, Moness HM, Ali MWE. Red cell distribution width as a prognostic marker for complications of community-acquired pneumonia in children: a comparison with Proadrenomedullin and Copeptin. BMC Pulm Med. 2023;23(1):371. 3. Sarker MR, Ali MA, Roy AK, Yesmin A, Dhar SK, Ahmed E, et al. Relationship between clinical profile, severity and outcome of community acquired pneumonia with hyponatremia in children aged 2-60 months. Mymensingh Med J. 2023;32(3):613-619. Pneumonia; Complicated pneumonia; Hyponatremia; Blood gas analysis; Children.

Epidemiological Evaluation of Abnormal Renal Findings on Tc-99m-DMSA Scintigraphy in Patients Under 18 Years of Age: A Cross-Sectional Study in Southeastern Iran

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abstract: Introduction: Most previous studies have focused on the application of DMSA scintigraphy in urinary tract infections (UTIs). However, comprehensive data on the full spectrum of abnormal renal findings (infection, agenesis, differential function, scarring, and masses) in pediatric populations—particularly in understudied regions such as southeastern Iran—remain limited. This study aimed to determine the epidemiology of abnormal renal findings in patients under 18 years of age referred for DMSA scintigraphy. Materials and Methods: This descriptive cross-sectional study reviewed medical records of 98 consecutive patients under 18 years who underwent DMSA scanning at Ali Ibn Abi Talib Hospital, Zahedan, Iran, between 2022 and 2023. Census sampling was applied. Data on age, sex, and DMSA findings (renal infection, agenesis, differential renal function [DRF] stages, scarring, and masses) were extracted using a standardized form. Statistical analysis included chi-square, Fisher's exact test, odds ratios (OR) with 95% confidence intervals (CI), and logistic regression (SPSS v22). A p-value 0.05 was considered significant. Results: Mean age was 4.9±3.1 years (range 1–14); 66.3% were 5 years; 72.4% were female. Prevalence of renal infection was 50% (49/98), significantly higher in females (59.2% vs. 25.9%; OR=4.14, 95%CI: 1.53–11.21, p=0.003) and children 5 years (63.1% vs. 24.2%; OR=5.34, 95%CI: 2.05–13.91, p=0.001) ([Table 1]). Renal agenesis prevalence was 3.06% (all unilateral), with no significant sex/age association. DRF was normal in 35.7%, mildly reduced in 42.9%, moderately reduced in 12.2%, and severely reduced in 9.2% ([Table 2]); no significant correlation with age/sex. Renal scarring prevalence was 31.6% (no significant age/sex differences). Renal masses were observed in 2.04%. Conclusion: Children referred for DMSA scanning in this region show a high burden of renal abnormalities, especially infection and scarring, consistent with the test's diagnostic utility. For rare findings (agenesis, masses), sensitivity and specificity are clinically more relevant than positive predictive value. DMSA remains essential for pediatric renal cortical evaluation.

Establishing and strengthening a national registry of congenital heart diseases in Iran: A policy brief

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abstract: شایع‌ترین ناهنجاری مادرزادی در ایران هستند. با وجود نیاز به مراقبت مادام‌العمر، (CHD) بیماری‌های مادرزادی قلب کشور فاقد رجیستری ملی یکپارچه است و داده‌ها پراکنده و ناهمگون‌اند. این وضعیت برنامه‌ریزی، ارزیابی پیامدهای درمان و سیاست‌گذاری را مختل کرده و بر ضرورت ایجاد یک رجیستری ملی استاندارد تأکید می‌کند. مطالعات ایران شیوع ۸-٤ در ۱۰۰۰ تولد زنده را گزارش کرده‌اند اما داده‌ها پراکنده است (Khaleghnejad Tabari 2024). رجیستری‌های منطقه‌ای امکان‌پذیری ثبت را نشان (Hassankiadeh 2024) در تبریز TRoCA و (Ahmadi 2020) در اصفهان PROVE/CHD داده‌اند، ولی نظام ملی یکپارچه وجود ندارد. این گزارش سیاستی با استفاده از مرور نظام‌مند شواهد موجود، تحلیل مطالعات و (در تبریز TRoCA در اصفهان و PROVE/CHD) اپیدمیولوژیک پیشین در ایران، بررسی دو رجیستری موفق منطقه‌ای ارزیابی شکاف‌های ساختاری و اطلاعاتی نظام سلامت ایران تدوین شده است. همچنین شش مدل ثبت داده مقایسه و تحلیل شده‌اند. می‌تواند کیفیت درمان، عدالت در دسترسی، کارایی اقتصادی و سیاست‌گذاری مبتنی بر شواهد را ارتقا CHD ایجاد رجیستری ملی دهد. نمونه‌های موفق داخلی نشان می‌دهند این مهم امکان‌پذیر است. برای اجرای پایدار، منطقی‌ترین رویکرد، مدل ترکیبی مرحله‌ای است: فاز نخست، تمرکز بر جمع‌آوری داده‌های دقیق در مراکز تخصصی و ارجاعی قلب جنین و کودکان (الگوبرداری از تجربه اصفهان)؛ فازهای بعدی، اتصال تدریجی داده‌های کلینیک‌های غیرمرجع و خصوصی و همچنین داده‌های بیمه‌ای. حمایت بیمه‌ای و الزام مراکز به ثبت اطلاعات در سامانه، زیربنای موفقیت این رویکرد است.Khaleghnejad Tabari 2024; Ahmadi 2020; Hassankiadeh 2024.....

بیماری مادرزادی قلب، کودکان، رجیستری، سیاست سلامت، گزارش سیاستی

Evaluation of the 5-year renal outcomes in children with posterior urethral valve disorder

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abstract: Posterior urethral valve (PUV) disorder is one of the most common causes of obstructive uropathy. Infants affected by this condition generally have poor renal outcomes. The aim of this study was to evaluate the minimum 5-year outcomes of patients with posterior urethral valve disorder in terms of renal function and to assess serum creatinine as a predictive factor for patient outcomes. Previous studies report that 20–65% of infants with PUV eventually develop CKD, and approximately 8–21% progress to ESRD, highlighting the need for regular nephrological follow-up in affected boys. This cross-sectional retrospective study was conducted at the Children's Medical Center in 2021. Patients diagnosed with posterior urethral valve disorder between 2011 and 2015 who had at least 5 years of follow-up were included in the study. Laboratory findings, ultrasound results, postoperative data, and follow-up records over a minimum of 5 years were extracted from medical files. Studies identify serum creatinine as the most important predictor of long-term renal outcomes in affected children. The mean age of the patients was 105 days. The prevalence of chronic kidney disease (CKD) after 5 years of follow-up among patients with posterior urethral valve disorder was estimated at approximately 9.9%. Among the 81 patients evaluated, one patient died due to kidney disease, one underwent kidney transplantation, and three were receiving dialysis therapy. Based on study data, a preoperative creatinine level greater than 1.15 mg/dL predicted the development of chronic kidney disease with 100% sensitivity and 75% specificity.The findings emphasize the importance of careful evaluation and continuous monitoring of renal function in patients with posterior urethral valve disorder. Eke N, Elenwo S. Obstructive uropathy in childhood: A Review. Port Harcourt medical Journal. 2007;1:137-44. 2. Huang VW, Behairy M, Abelson B, Crane A, Liu W, Wang L, et al. Kidney disease progression in pediatric and adult posterior urethral valves (PUV) patients. Pediatric Nephrology. 2024;39(3):829-35. 3. Tambo FFM, Tolefac PN, Ngowe MN, Minkande JZ, Mbouche L, Guemkam G, et al. Posterior urethral valves: 10 years audit of epidemiologic, diagnostic and therapeutic aspects in Yaoundé gynaeco-obstetric and paediatric hospital. BMC urology. 2018;18:1-7. Posterior urethral valve; Chronic kidney disease; Children

Gut Microbiome, ADHD, and Cognitive Function in Children: A Review of Evidence on the Microbiota–Gut–Brain Axis

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abstract: Background: Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in childhood. Beyond core symptoms of inattention, hyperactivity, and impulsivity, ADHD may be associated with impairments in executive function, inhibitory control, working memory, and behavioral regulation. Increasing evidence suggests that the microbiota–gut–brain axis may represent a potential pathway linking gut microbial characteristics to neurodevelopment and cognitive function. Objective: This review aimed to summarize the current evidence regarding associations between gut microbiome composition and function, ADHD, and cognitive and behavioral outcomes in children and adolescents, with particular emphasis on potential mechanisms underlying the microbiota–gut–brain axis. Methods: Systematic reviews, meta-analyses, and relevant human studies were evaluated through searches of PubMed, Scopus, Web of Science, Embase, and Cochrane databases using combinations of the terms gut microbiome, gut microbiota, ADHD, cognition, attention, executive function, neurodevelopment, children, and adolescents. Recent evidence was prioritized. Results: Recent systematic reviews suggest that children with ADHD may exhibit differences in gut microbial composition compared with neurotypical controls; however, findings regarding microbial diversity and specific bacterial taxa remain inconsistent. A 2025 systematic review including 14 studies and 1,319 participants, predominantly children and adolescents aged 4–18 years, identified evidence of an association between ADHD and alterations in the gut microbiome, while highlighting substantial methodological heterogeneity. Recent meta-analyses have also reported alterations in selected bacterial taxa among individuals with ADHD; nevertheless, findings vary considerably across studies and may be influenced by diet, medication exposure, age, sequencing methods, and population characteristics. Beyond ADHD, accumulating pediatric evidence suggests that gut microbial characteristics may be associated with neuropsychological development, behavior, and cognitive outcomes. A 2026 systematic review of 78 studies highlighted potential contributions of microbial community structure, microbial metabolites, immune pathways, and neuroactive processes to neurodevelopment, while emphasizing that evidence specifically related to ADHD remains limited and heterogeneous. Potential biological mechanisms include the production of short-chain fatty acids, modulation of immune and inflammatory pathways, tryptophan metabolism, regulation of intestinal and blood–brain barrier function, and interactions with neurotransmitter-related pathways. Preliminary intervention studies further suggest that microbiome-targeted approaches, including probiotics, prebiotics, and dietary interventions, may influence ADHD symptoms. A recent meta-analysis of randomized controlled trials reported a small but statistically significant overall effect of microbiota-based interventions, with a greater effect observed in the ADHD subgroup. Conclusion: Current evidence suggests that the gut microbiome may represent an important component of the microbiota–gut–brain axis associated with attention, executive function, behavior, and cognitive development in children. However, substantial methodological heterogeneity and the predominance of observational evidence limit causal interpretation. Well-designed longitudinal studies and adequately powered randomized controlled trials integrating microbiome, metabolomic, dietary, medication, and standardized neurocognitive data are needed to clarify the role of the gut microbiome in ADHD and childhood cognitive development. Keywords: Gut microbiome; Gut microbiota; ADHD; Children; Microbiota–gut–brain axis; Executive function; Attention; Cognition; Neurodevelopment

Human Milk Feeding in Preterm Infants

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neonatology

abstract: Human milk is the recommended first-line nutrition for preterm infants because of its unique nutritional composition and bioactive components. In addition to meeting nutritional requirements, it reduces neonatal morbidity and improves long-term neurodevelopmental outcomes. This review summarizes current evidence regarding the role of human milk in the care of preterm infants. Recent studies consistently demonstrate that human milk significantly reduces the incidence of necrotizing enterocolitis, late-onset sepsis, feeding intolerance, bronchopulmonary dysplasia, and retinopathy of prematurity. Its bioactive components—including secretory immunoglobulin A, lactoferrin, human milk oligosaccharides, cytokines, and growth factors—promote intestinal maturation, modulate the gut microbiome, and enhance immune function. Furthermore, human milk feeding is associated with improved cognitive and neurodevelopmental outcomes. Fortification of human milk is recommended for very preterm infants to ensure adequate nutrient intake while preserving the biological benefits of human milk A narrative review was conducted using clinical guidelines, systematic reviews, and original studies published between 2022 and 2025. Relevant literature was retrieved from PubMed and recommendations issued by the American Academy of Pediatrics (AAP), the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN), and the World Health Organization (WHO). Human milk remains the gold standard for feeding preterm infants and should be regarded as a therapeutic intervention as well as optimal nutrition. Early lactation support, individualized fortification, and the use of donor human milk when maternal milk is unavailable are evidence-based strategies that improve survival and long-term outcomes in this vulnerable population. 1. Meek JY, Noble L. Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics. 2022;150:e2022057988. 2. Embleton ND, Moltu SJ, Lapillonne A, et al. Enteral Nutrition in Preterm Infants. J Pediatr Gastroenterol Nutr. 2022;76:248–268. 3. World Health Organization. WHO Recommendations for Care of the Preterm or Low-Birth-Weight Infant. Geneva: WHO; 2022. 4. Haiden N, Luque V, Domellöf M, et al. Assessment of Growth Status and Nutritional Management of Prematurely Born Infants After Hospital Discharge. J Pediatr Gastroenterol Nutr. 2025. 5. Adamkin DH. Use of Human Milk and Fortification in the NICU. J Perinatol. 2023;43:551–559 Human milk; Preterm infant; Nutrition; Necrotizing enterocolitis; Donor human milk

Knowledge, Attitude, and Performance Among First High School Students in the Prevention of COVID-19 in Schools of Khorramabad City in 2022

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abstract: Background: The purpose of this study was to investigate the knowledge, attitude, and performance of the first secondary-level students in preventing COVID-19 in the schools of Khorramabad in 2022. literature has examined knowledge, attitude, and performance (KAP) regarding COVID-19 prevention across different populations. Methods: In our study, the information, knowledge, attitude, and performance of 370 first-grade secondary school students were recorded using a standard questionnaire. Data were analyzed using SPSS Version 26 software and descriptive statistical methods (mean and standard deviation) and appropriate inferential tests to compare groups and examine the correlation between knowledge, attitude, and performance. Findings: The average score of knowledge, attitude, and performance was 59.11 ± 20.51, 81.25 ± 13.68, and 65.4 ± 23.1. The average score of knowledge in students over 14 years of age, ninth-grade students and good academic status, the score of knowledge and attitude of students with mothers with university education, and finally, the average score of knowledge, attitude, and performance of students with underlying disease were significantly higher than other students. Also, knowledge had a direct and significant relationship with attitude and performance. In addition, attitude and performance also had a direct and significant relationship. Conclusion: The level of knowledge of the people was average, and attitude and performance were positive. Based on the importance of performance, people's attitude towards COVID-19 should be improved, because knowledge alone cannot improve people's performance. Wang H, Paulson KR, Pease SA, et al. The Lancet. 2022;399(10334):1513–1536. COVID-19; attitude; awareness; knowledge; performance; students. This study investigated the knowledge, attitude, and performance of 370 first-grade secondary school students regarding COVID-19 prevention in Khorramabad schools in 2022. Data were collected using a standard questionnaire and analyzed with SPSS version 26 using descriptive and inferential statistics to examine group differences and correlations among variables. The results showed that the mean scores for knowledge, attitude, and performance were 59.11 ± 20.51, 81.25 ± 13.68, and 65.4 ± 23.1, respectively. Higher knowledge and attitude scores were observed among students older than 14 years, ninth-grade students, those with better academic status, and those whose mothers had university education; students with underlying diseases.

Less Invasive Surfactant Administration in Preterm Infants with Respiratory Distress Syndrome: A Comparative Study

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abstract: Respiratory distress syndrome (RDS) remains a leading cause of morbidity in preterm infants. While endotracheal intubation for surfactant administration is standard, it may cause lung injury. Less invasive surfactant administration (LISA) has emerged as an alternative. Previous studies have shown that LISA reduces the need for mechanical ventilation. However, real-world data from level III neonatal intensive care units (NICUs) are limited. This prospective cohort study included 120 preterm infants (26–34 weeks) with RDS in a tertiary NICU. Sixty infants received LISA via thin catheter, and 60 received intubation-surfactant-extubation (INSURE). The primary outcome was the need for mechanical ventilation within 72 hours. Secondary outcomes included bronchopulmonary dysplasia (BPD) and intraventricular hemorrhage (IVH). The LISA group had significantly lower rates of mechanical ventilation (18% vs. 42%, p=0.004). BPD occurred in 12% of LISA vs. 30% of INSURE (p=0.01). IVH (grade ≥3) was similar (8% vs. 10%, p=0.6). No increase in adverse events was observed. Conclusion: LISA reduces the need for mechanical ventilation and lowers BPD risk in preterm infants with RDS. This method should be considered a preferred strategy in NICUs. 1. Aldana-Aguirre JC, et al. Less invasive surfactant administration versus intubation for surfactant delivery in preterm infants with respiratory distress syndrome. Cochrane Database Syst Rev. 2021; CD008271. doi: 10.1002/14651858.CD008271.pub3 2. Kribs A, et al. Minimally invasive surfactant therapy for preterm infants. Neoreviews. 2020;21(8):e520-9. doi: 10.1542/neo.21-8-e520 3. McGoldrick E, et al. Surfactant lavage with LISA in preterm infants. Arch Dis Child Fetal Neonatal Ed. 2019;104(6):F610-5. doi: 10.1136/archdischild-2018-316495 Respiratory distress syndrome, Less invasive surfactant administration, Preterm infant

Middle-Ear Function and Hearing in Children With Cleft Palate, With Emphasis on the Early Years of Life: A Narrative Review

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abstract: مقدمه و اهداف: کودکان دارای شکاف کام، با یا بدون شکاف لب، به‌دلیل تفاوت‌های ساختاری و عملکردی عضلات نرم‌کام و اختلال در بازشدن شیپور استاش، در معرض خطر بالای اختلال تهویه‌ی گوش میانی، اوتیت میانی همراه با افیوژن و کم‌شنوایی انتقالی نوسانی یا پایدار قرار دارند. با وجود شیوع بالای اختلالات گوش میانی در کودکان شکاف کام، (OME) درباره‌ی زمان‌بندی پایش شنوایی، اثر مستقل پالاتوپلاستی و اندیکاسیون مناسب تیوب تمپانوستومی در کودکان شکاف کام، ناهمگنی قابل‌توجهی در شواهد و عملکرد بالینی وجود دارد. هدف مرور حاضر، بررسی انتقادی شواهد مربوط به سیر عملکرد گوش میانی و شنوایی، روش‌های ارزیابی شنوایی‌شناسی، پایش شنوایی پس از غربالگری بدو تولد، پیامدهای تیوب تمپانوستومی و نقش مواد و .ارزیابی‌های شنوایی‌شناسی در مراقبت چندرشته‌ای کودکان دارای شکاف کام با تأکید بر سال‌های نخست زندگی بود در روش‌ها: این مطالعه به‌صورت مرور روایتی ساختاریافته انجام شد. منابع منتشرشده در فاصله ی زمانی سال ۲۰۱۵ تا ۲۰۲۶ Cochrane Library و Scopus، ScienceDirect، PubMed, MEDLINE، Google Scholar پایگاه‌ها و سامانه‌های جست‌وجو شدند. جست‌وجو با بررسی گایدلاین‌های رسمی آکادمی شنوایی‌شناسی آمریکا، انجمن شکاف کام و ناهنجاری‌های جمجمه‌ای‌ـصورتی آمریکا، کمیته مشترک شنوایی نوزادان و مراقبت و آکادمی گوش‌وحلق‌وبینی و جراحی سر و گردن آمریکا تکمیل ، عملکرد گوش میانی، اختلال شیپور استاش، شنوایی، OMEشد. راهبرد جست‌وجو بر ترکیب واژه‌های مرتبط با شکاف کام، غربالگری شنوایی، پاسخ شنوایی ساقه مغز، گسیل‌های صوتی گوش، آزمون‌های رفتاری شنوایی، هدایت استخوانی، تیوب تمپانوستومی و تقویت شنوایی استوار بود. مطالعات انسانی در صورتی وارد مرور شدند که جمعیت آنها شامل کودکان دارای شکاف کام، با یا بدون شکاف لب، بود و حداقل یکی از پیامدهای وضعیت گوش میانی، آستانه یا عملکرد شنوایی، تیوب تمپانوستومی، در کودکان دارای شکاف کام، وضعیتی OME :یافته‌ها .تقویت شنوایی یا پیامد گفتاری مرتبط با شنوایی را گزارش کرده بودند OME ثابت نیست و می‌تواند سیر زمانی متغیر، نوسانی، عودکننده و گاه نامتقارن داشته باشد. در یک مطالعه پایشی، بروز تجمعی در کودکان شکاف کام تا ۱۲ماهگی ۵۳.۷٪ و تا ۲٤ماهگی ۸۱.۱٪ بود و همه‌ی این کودکان طی دوره پیگیری حداقل یک اپیزود را تجربه کردند. مطالعات طولی دیگر، بهبود متوسط آستانه‌های شنوایی با افزایش سن را نشان دادند؛ بااین‌حال، این بهبود OME در همه‌ی کودکان شکاف کام رخ نداد و طبیعی‌شدن میانگین گروهی آستانه‌های شنوایی، به‌معنای طبیعی‌شدن شنوایی تمام کودکان یا رفع خطر عود نبود. شواهد همچنین نشان داده شد که قبولی در غربالگری نوزادی نمی‌تواند کم‌شنوایی انتقالی ایجادشده در ماه‌های بعد را پیش‌بینی کند و ارزیابی زودهنگام و پایش مستمر شنوایی می‌تواند موارد دیرآغاز یا نوسانی کم‌شنوایی را شناسایی کند. تیوب تمپانوستومی در کودکان شکاف کام معمولاً با کاهش افیوژن و بهبود کوتاه‌مدت مؤلفه‌ی انتقالی افت شنوایی همراه بود؛ بااین‌حال، شواهد موجود از جایگذاری روتین تیوب در همه کودکان یا یک زمان‌بندی واحد حمایت نمی‌کرد؛ اتوره، انسداد تیوب،

خروج زودرس، سوراخ‌شدگی پایدار پرده صماخ و نیاز به تیوب‌گذاری مکرر از عوارض تیوب‌گذاری گزارش‌شده بودند. علاوه بر این پیامدهای اتولوژیک، کم‌شنوایی نوسانی یا پایدار می‌تواند دسترسی کودک به اطلاعات گفتاری را در سال‌های حساس رشد ارتباطی محدود کند. بااین‌حال، مطالعات درباره‌ی ارتباط وضعیت شنوایی و تیوب‌گذاری با پیامدهای گفتار و زبان به نتایج یکسانی نرسیدند؛ زیرا این پیامدها علاوه بر شدت، تداوم و دوطرفه‌بودن افت شنوایی، تحت تأثیر نوع شکاف، عملکرد کامی‌حلقی، زمان و نتیجه‌ی پالاتوپلاتی، محیط زبانی و مداخلات گفتار و زبان قرار دارند و درنتیجه، ارتباط کم‌شنوایی با پیامدهای گفتار و زبان نیز نتیجه‌گیری: نتیجه‌ی طبیعی غربالگری شنوایی نوزادی یا یک ادیوگرام طبیعی منفرد، نیاز کودک دارای .ناهمگون و غیرخطی بود شکاف کام به پایش شنوایی را برطرف نمی‌کند. مراقبت مطلوب باید شامل ارزیابی شنوایی زودهنگام پس از غربالگری، ثبت وضعیت ، آزمون‌های رفتاری و (OAE) جداگانه‌ی هر گوش، تفسیر یکپارچه‌ی یافته‌های اتوسکوپی، تمپانومتری، گسیل‌های صوتی گوش در صورت لزوم آزمون‌های الکتروفیزیولوژیک و نیز ارزیابی قبل و بعد از تیوب‌گذاری باشد. تیوب تمپانوستومی می‌تواند در کودکان شکاف کام، بهبود شنوایی کوتاه‌مدت ایجاد کند، اما تصمیم‌گیری باید بر اساس شدت و تداوم افت شنوایی، وضعیت پرده صماخ و گوش میانی، نیازهای ارتباطی کودک و امکان پیگیری منظم انجام شود. ادغام فعال خدمات شنوایی‌شناسی برای کودکان شکاف کام برای شناسایی افت باقی‌مانده، پیشگیری از دوره‌های طولانی کم‌شنوایی تشخیص‌داده‌نشده و هماهنگی مراقبت با متخصص شکاف کام؛ اوتیت میانی همراه با افیوژن؛ کم‌شنوایی انتقالی؛ :کلیدواژه‌ها .گوش‌وحلق‌وبینی و رشد گفتار و زبان ضروری است تمپانومتری؛ غربالگری شنوایی ؛ تیوب تمپانوستومی؛ پایش شنوایی؛ شنوایی‌شناسی کودکان

Mortality status of children aged 1 to 59 months, Tehran University of Medical Sciences

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abstract: مقدمه: یکی از شاخص های مهم توسعه و سلامت در کشورها میزان مرگ و میر کودکان زیر ۵ سال می باشد. در سال های اخیر میزان مرگ و میر کودکان زیر ۵ سال کشورمان کاهش یافته است اما همچنان نسبت به کشورهای در حال توسعه بالاتر می باشد. با توجه به حس فوریت جدی با منابع بسیج شده در جهت پیشرفت کاهش میزان مرگ و میر بر آن شدیم تا عوامل روش: این پژوهش یک .موثر بر مرگ و میر کودکان ۵۹-۱ ماهه سال ۱٤۰٤ دانشگاه علوم پزشکی تهران را مورد تحقیق قرار دهیم داده های بیماران نظیر .مطالعه مقطعی(توصیفی-تحلیلی) بود که در بازه زمانی یکساله فروردین تا اسفندماه سال۱٤۰٤ انجام گرفت سن، جنس، ملیت، محل سکونت، مکان و علت فوت با مطالعه پرونده بیماران و چک لیست های مرگ و میر کودکان تدوین شده یافته ها: نتایج این پژوهش نشان داد تعداد مرگ و .وزارت بهداشت، درمان و آموزش پزشکی بود جمع آوری تجزیه و تحلیل شد میر کودکان ۵۹-۱ ماهه ۱۰۵ نفر بوده است. از این تعداد، به لحاظ جنسیت ۵۱.٤٪ پسر و ٤۸.٦٪ دختر و از نظر محل سکونت، ۹٦.۲ ٪ شهر و ۳.۸٪ روستا و از نظر ملیت٦۵.۷ ٪ ایرانی و ۳٤.۳٪ غیر ایرانی بوده اند. از نظر مکان وقوع فوت ۹۲.۳ ٪ در بیمارستان و ۱.۹٪ در راه انتقال و در محل وقوع حادثه و ۳.۸٪ در منزل بوده است. بیشترین علل مرگ کودکان در نتیجه ، بیماری های سیستم تنفسی (۲۰٪) ، بیماری های سیستم قلبی و عروقی (۱۲.۳ ٪) ، بیماری های عفونی و انگلی، حوادث و سوانح و بیماری های سیستم نتیجه گیری: برای کاهش میزان مرگ و میر کودکان و ارتقا سطح سلامت این گروه سنی ، افزایش آگاهی .عصبی(۹.۵ ٪) می باشد های والدین آن ها از طریق ارایه آموزش های مدون در زمینه شناسایی عوامل خطر به آن ها و ارجاع به موقع کودکان آنان به مراکز کلید واژه ها: مرگ و میر، کودکان، ۵۹-۱ ماهه .درمانی جهت دریافت خدمات مناسب الزامی است

Obesity and Obstructive Sleep Apnea in Children and Adolescents: A Focused Review of 14 Selected Articles with Emphasis on Weight Management and Emerging Pharmacotherapies

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abstract: Abstract Background: Childhood obesity is a major modifiable risk factor for pediatric obstructive sleep apnea (OSA) and contributes to greater disease severity. It is also associated with a higher likelihood of persistent or recurrent OSA after adenotonsillectomy, Objective: To review evidence on the impact of weight management and emerging anti-obesity pharmacotherapies on obesity-related pediatric OSA, Methods: A focused structured narrative review of 14 selected studies, including randomized trials, cohort studies, systematic reviews, meta-analyses, and a case report. Studies assessing weight loss alone were distinguished from those directly evaluating objective sleep outcomes such as AHI, Results: The reviewed evidence showed that obesity is associated not only with a higher risk of OSA, but also with greater disease severity in children, and this association may persist independently of tonsillar hypertrophy. Although adenotonsillectomy significantly improves OSA, residual disease is more common in children with obesity. In one longitudinal study, multidisciplinary weight management was associated with a reduction in AHI, with normalization of AHI in 44% of children. In addition, liraglutide and semaglutide produced substantial reductions in BMI and body weight in adolescents with obesity. However, the pivotal trials of these medications did not directly assess OSA improvement using AHI or polysomnography; therefore, their direct effect on pediatric OSA remains uncertain. Conclusion: Weight management should be integrated into the multidisciplinary care of children and adolescents with obesity-related OSA. Emerging anti-obesity pharmacotherapies offer substantial potential for weight reduction; however, prospective studies incorporating objective sleep outcomes are needed to determine whether these treatments directly improve or resolve pediatric OSA.

Periorbital Edema as the Presentation of COVID -19 in Children: A Case Report

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abstract: Background and Objective: COVID -19 is a new respiratory infection caused by the Coronavirus, which the World Health Organization (WHO) declared a global pandemic in 2019. Clinical symptoms vary from asymptomatic to life-threatening -threatening in patients. The most common symptoms are fever, shortness of breath, cough, myalgia, diarrhea, and so on on. Less common clinical signs -particularly in children - include skin lesions such as urticaria and Kawasaki -like manifestations. The clinical course of the infection in children differs from that in adults. With a variety of presentations, COVID -19 poses a great diagnostic challenge for physicians. Here, we present a child with COVID -19, who presented with fever and periorbital edema. Case Report: A 3-year-old boy presented to the hospital with periorbital edema and fever. He complained of weakness, lethargy, and anorexia but no respiratory or gastrointestinal symptoms. His laboratory tests showed only hypoalbuminemia and he had no other medical history. Other differential diagnoses, including renal disease, liver disease, allergy, insect bites, trauma, orbital cellulitis, and periorbital cellulitis, were considered and ruled out. His nasopharyngeal swab PCR was positive for COVID-19. Supportive measures including fever control and serum therapy were administered to the patient, and albumin was administered at a dose of 1 g/kg body weight per day for 3 days. Thereafter, the patient's symptoms improved significantly, and on the fifth day of hospitalization, the patient was discharged in good general condition. The patient's periorbital edema completely disappeared. Conclusion: Fever and periorbital edema are rare manifestations of COVID-19 -19 in infected Children, we need further medical research to determine the cause of this problem. Finding the scientific explanation for this complication can lead to better insight for diagnosis and Even reveal possible effective treatments.
Keywords: Child, COVID -19, Fever, Periorbital Edema

Prevalence of Adenoid Hypertrophy in Children with Otitis Media with effusion at a Pediatric Hospital in Northern Iran

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abstract: Introduction: Adenoid hypertrophy is a common pediatric upper airway disorder that, due to its close anatomical relationship with the Eustachian tube, plays an important role in middle ear dysfunction and otitis media with effusion (OME). Enlargement of the adenoid tissue may mechanically obstruct the Eustachian tube, impair middle ear ventilation, and generate negative pressure that promotes fluid accumulation in the middle ear. In addition, hypertrophic adenoid tissue may serve as a reservoir for pathogenic microorganisms, sustaining nasopharyngeal inflammation and recurrent middle ear disease. OME is a leading cause of acquired conductive hearing loss in childhood. Although the hearing loss is often mild, it may interfere with sound perception, speech discrimination, language acquisition, and classroom listening, especially in noisy settings. Prolonged or recurrent OME has also been associated with behavioral problems, reduced educational performance, and delayed communication development, making early detection clinically important. Environmental factors such as high humidity, air pollution, and recurrent upper respiratory infections may further exacerbate adenoid hypertrophy and middle ear pathology. In humid regions such as northern Iran, evaluating the prevalence of adenoid hypertrophy among children with OME may support early diagnosis and timely intervention. Methods: This retrospective study evaluated the prevalence of adenoid enlargement and its association with tympanometric and audiometric findings in children aged 3–12 years diagnosed with otitis media with effusion (OME) over a three-year period at a pediatric hospital in northern Iran. Of 5,044 children who presented to the hospital, 267 were diagnosed with OME; 27 were excluded because of incomplete clinical information or not meeting the age criteria, leaving 240 children for the final analysis. All participants underwent otoscopic examination. Tympanometry was performed to assess middle ear status, particularly in children who were unable to cooperate adequately with audiometric testing, while both tympanometry and pure-tone audiometry were performed in children with better cooperation. Tympanometric findings were interpreted according to the Lidén–Jerger classification system. In this system, Type A tympanograms indicate normal middle ear compliance and normal peak pressure; Type B tympanograms show markedly reduced admittance with no identifiable peak, usually suggesting middle ear effusion; and Type C tympanograms demonstrate normal compliance with a peak shifted toward negative middle ear pressure, indicating Eustachian tube dysfunction. Tympanometry was performed using an Interacoustics AZ26 device. Hearing thresholds were measured by pure-tone audiometry using an Interacoustics AC40 audiometer with TDH-39P supra-aural headphones at frequencies of 250–8000 Hz. Pure-tone average (PTA) was calculated from thresholds at 500, 1000, and 2000 Hz.

Hearing loss was classified according to Goodman criteria as normal (≤15 dB HL), slight (16–25 dB HL), mild (26–40 dB HL), moderate (41–55 dB HL), moderately severe (56–70 dB HL), severe (71–90 dB HL), and profound (90 dB HL). Statistical analysis was performed using SPSS version 22. Results: A total of 240 children with OME were included in the study. Adenoid hypertrophy was identified in 24% of the participants. Among children with adenoid hypertrophy, 26% had bilateral type B tympanograms, 14% unilateral type B, 21% bilateral type C, and 17% unilateral type C. All children with type B tympanograms demonstrated mild conductive hearing loss, indicating a clear association between adenoid hypertrophy, middle ear dysfunction, and hearing impairment. Discussion and conclusion: The findings suggest that adenoid hypertrophy is frequently associated with bilateral OME, abnormal tympanometric patterns, and mild conductive hearing loss in children. The most likely mechanisms include mechanical obstruction of the Eustachian tube and chronic inflammatory activity within hypertrophic adenoid tissue. These effects may be amplified by environmental conditions such as humidity, which can worsen mucosal edema and secretion retention, especially in northern Iran. Because untreated OME-related hearing loss may negatively affect speech, language, learning, and behavior, early identification of adenoid hypertrophy is clinically important. Routine audiologic and tympanometric monitoring, including annual hearing assessment in children with enlarged adenoids, is recommended to allow early detection and reduce the risk of long-term auditory and developmental complications. Keywords: Adenoid hypertrophy, Otitis Media with Effusion, Pediatric hearing disorders, Eustachian tube

Prevalence of Congenital Heart Defects in Down Syndrome: A Systematic Review

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abstract: Background: Congenital heart defects (CHD) represent a major cause of morbidity and mortality in individuals with Down syndrome (DS). Reported prevalence varies widely across studies and populations. The objective of this systematic review was to synthesize the available evidence on the prevalence and types of CHD in people with DS across different age groups, regions, and study designs. Methods: We conducted a systematic search of Scopus, PubMed, Web of Science, and other major databases for studies reporting the prevalence of CHD in individuals with confirmed DS. Eligible studies included observational cohorts, cross-sectional analyses, and population-based reports published in English or other major languages, with no date restrictions. We included studies providing echocardiographic or clinical confirmation of CHD. Risk of bias was assessed using the Joanna Briggs Institute Critical Appraisal Checklist for Studies Reporting Prevalence Data, focusing on sampling methods, diagnostic validity, and completeness of reporting. Two reviewers independently screened studies, extracted data, and assessed quality. Results: A total of 118 studies involving over 63,000 individuals with DS were included, spanning neonates, children, and adults from North America, Europe, Asia, and other regions. Reported prevalence of any CHD ranged from approximately 23% to 79%, with most studies indicating that nearly half of individuals with DS are affected. Common lesions included ventricular septal defects (VSD), atrioventricular septal defects (AVSD), and atrial septal defects (ASD), with VSD and AVSD frequently being the most prevalent. In pediatric cohorts, isolated VSD and combined lesions (e.g., VSD with patent ductus arteriosus) were prominent, while adult studies highlighted both persistent congenital defects and associated valvular disease. Prevalence was slightly higher in Asian cohorts compared with European and North American populations in subgroup comparisons. Many individuals required surgical intervention, with over half of those with CHD undergoing corrective surgery, often in childhood. Conclusion: This systematic review confirms a high prevalence of CHD in DS, consistently around 40–60% across diverse settings, underscoring the need for universal echocardiographic screening in all individuals with suspected or confirmed DS. Strengths of the evidence include the large number of studies and participants; limitations include significant between-study heterogeneity due to differences in diagnostic methods, age ranges, inclusion of minor lesions, and regional variations in ascertainment. Early detection and timely management remain critical to improving outcomes. These findings support tailored cardiovascular care guidelines for this population. Keywords: Congenital Heart Defects, Down Syndrome, Systematic Review

Prevalence of hypertension in obese adolescents with polycystic ovary syndrome

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abstract: ABSTRACT Background: Hypertension (HTN) is one of the most common diseases all over the world. HTN in young females is more common than in males because of the presence of some underlying disease, such as polycystic ovary syndrome (PCOS). PCOS is ubiquitous in adolescent girls and may induce sex hormone imbalances. Methods: We studied the prevalence of HTN in adolescent girls suffering PCOS referred to the clinic during 1 year. This is a cross-sectional descriptive study investigating the clinical and paraclinical parameters of patients diagnosed with PCOS who were referred to our clinic in 2021. A checklist containing information on demographic findings, history, physical examination, clinical manifestations, and laboratory test results is used to collect patients' data. Results: Forty-five patients, 11 to 18 years old (mean 16 years), fulfilled PCOS criteria and enrolled in this study. The minimum and maximum systolic blood pressure of patients were 90 and 140 mmHg (mean 111 mmHg, standard deviation: 14.44), and the minimum and maximum diastolic blood pressure were 60 and 90 mmHg (mean 72 mmHg, standard deviation: 14.44). Five patients (11.1%) had HTN by definition, and the mean BMI was 28.1 (standard deviation: 8.3). Echocardiography showed LVH in 4 (8.9%) of patients, and 2 (4.4%) of the patients had hyperlipidemia. Other related findings were increased unwanted hair growth in 31 (68%), depression and anxiety diagnosed according to criteria and by psychiatric consultation in 22 (48.9%) cases, cardiovascular problems in 6 (13.3%) cases, diabetes mellitus in 7 (15.6%) of patients according to ADA 2018 guidelines, hypothyroidism in 4 (8.9%) and asthma in 6 (13.3%) of patients. Conclusion: Although this study is a small one and was done in a single center, it supports the importance of PCOS in adolescent girls associated with or predisposing to other diseases such as HTN. Careful evaluation and close observation of these patients is critical because early diagnosis and management can prevent late and serious complications.

Prevalence of infection and non infection complication continues ambulatory peritoneal dialysis in tertiary children medical center

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abstract: n University of Medical Sciences, Tehran, Iran. Research Article Prevalence of Infection and Non-infection Complications in Continuous Ambulatory Peritoneal Dialysis in Tertiary Children Medical Centre Background and Aim:Continuous ambulatory peritoneal dialysis (CAPD) is a conventional treatment for children with end-stage kidney disease. All infectious and non-infectious complications should be detected early and managed because they may cause ultrafiltration, or Soult failure, or catheter failure. This study aims to investigate infectious and noninfectious complications of CAPD, such as mechanical and metabolic issues, at a children's medical center between 2020 and 2022. Methods: A retrospective cross-sectional study was performed on pediatric patients with end-stage renal disease (ESRD) undergoing peritoneal dialysis at Children's Medical Center in 2020-2022. Data were collected from the medical records and files and entered into SPSS software, version 26 for analysis. Results: The study included 30 participants with an average age of 5.89±1.2 years. Twothirds of the participants were boys. Among the girls, 70% (7 of 10) and 80% of the boys (16 of 20) developed peritonitis. Bacterial infections were mostly observed in girls more than 2 times. Tunnel infections were observed in 10% of patients, three girls and one boy. Exit-site infection occurred in eight boys and one girl. Non-infectious complications, such as seizures, were observed in approximately 40% of patients. An inguinal hernia was observed in all male patients. Conclusion: In our experience, the most common infectious complication observed in CAPD patients was bacterial peritonitis caused predominantly by staphylococcus aureus. Tunnel infection and exit site infection were also common, while the predominant non-infectious complication was hernia. Keywords: Bacterial infection, Continuous ambulatory peritoneal dialysis, Catheter, Children, Complications A B S T R A C T Corresponding Author: Yasin Basiry, MD. Address: Department of Pediatric Nephrology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran. E-mail: yasin.basiry@ gmail.com ِCitation Tahir A, Aldokhi MH, Moghtaderi

Prolonged Neonatal Jaundice: A Practical Approach to Diagnosis and Management

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abstract: Prolonged neonatal jaundice is defined as visible jaundice persisting beyond 14 days in term infants and beyond 21 days in preterm infants. Although persistent jaundice is most commonly caused by benign unconjugated hyperbilirubinemia, particularly breast milk jaundice, it may also indicate serious underlying disorders requiring prompt diagnosis and treatment. According to Fanaroff and Martin's Neonatal-Perinatal Medicine, the primary objective in evaluating prolonged jaundice is to distinguish unconjugated from conjugated hyperbilirubinemia, as conjugated jaundice is always pathological and mandates immediate investigation. Breast milk jaundice remains the most frequent cause of prolonged unconjugated hyperbilirubinemia. It typically develops during the second week of life and may persist for several weeks in otherwise healthy, exclusively breastfed infants. The exact mechanism is incompletely understood but is believed to involve increased intestinal bilirubin absorption and the presence of substances in human milk that inhibit bilirubin conjugation. Infants with breast milk jaundice generally exhibit normal feeding, satisfactory weight gain, normal urine and stool color, and no signs of systemic illness. Breastfeeding should be continued, as temporary interruption is rarely necessary and is no longer routinely recommended. Despite the predominance of benign etiologies, prolonged jaundice may be the first manifestation of significant disease. Unconjugated hyperbilirubinemia may result from ongoing hemolysis, glucose-6-phosphate dehydrogenase deficiency, hereditary spherocytosis, hypothyroidism, polycythemia, cephalohematoma, inadequate caloric intake, or inherited disorders of bilirubin metabolism such as Gilbert syndrome and Crigler–Najjar syndrome. A thorough prenatal, perinatal, and family history together with careful physical examination remains essential in identifying these conditions. The most critical step in evaluating prolonged jaundice is measurement of both total and direct serum bilirubin concentrations. Fanaroff emphasizes that any elevation in conjugated bilirubin should immediately raise suspicion for neonatal cholestasis. Conjugated hyperbilirubinemia is never considered physiologic and requires urgent diagnostic evaluation. Clinical findings such as acholic stools, dark urine, hepatomegaly, splenomegaly, poor weight gain, bleeding tendency, or dysmorphic features further increase the likelihood of underlying hepatobiliary or metabolic disease. Biliary atresia is the most important diagnosis not to miss in infants with prolonged jaundice. It is the leading indication for pediatric liver transplantation worldwide. Early diagnosis is essential because Kasai portoenterostomy performed before 45–60 days of life offers the greatest likelihood of restoring bile flow and improving long-term native liver survival. Delayed recognition is associated with progressive fibrosis, cirrhosis, and the eventual need for liver transplantation. Initial laboratory evaluation should include serum total and direct bilirubin, complete blood count, reticulocyte count, blood group, direct antiglobulin test, liver transaminases, gamma-glutamyl transferase, serum albumin, coagulation profile, thyroid function tests, and urinalysis with urine culture. Review of newborn metabolic screening results is also recommended. Additional investigations—including abdominal ultrasonography, hepatobiliary scintigraphy, viral studies, metabolic testing,

genetic evaluation, or liver biopsy—should be guided by the initial clinical and laboratory findings. Management depends entirely on the underlying etiology. Infants with breast milk jaundice generally require reassurance, continuation of breastfeeding, and routine follow-up. Hemolytic disorders should be managed according to the specific diagnosis, while endocrine and metabolic diseases require targeted treatment. Infants with conjugated hyperbilirubinemia should be referred promptly to pediatric gastroenterology or hepatology specialists for further evaluation. Nutritional support, supplementation of fat-soluble vitamins, and treatment of coagulopathy may be necessary in infants with cholestatic liver disease. Recent international guidelines complement Fanaroff's recommendations by emphasizing universal bilirubin assessment before hospital discharge, standardized outpatient follow-up, and early measurement of direct bilirubin in infants with persistent jaundice. Public awareness regarding pale stools and dark urine has also been shown to facilitate earlier recognition of biliary atresia, with stool color card screening programs improving outcomes in several countries. In conclusion, prolonged neonatal jaundice is a common but potentially serious clinical condition. While breast milk jaundice accounts for most cases, clinicians must systematically exclude pathological causes, particularly neonatal cholestasis and biliary atresia. Early differentiation between unconjugated and conjugated hyperbilirubinemia, appropriate laboratory evaluation, and timely referral remain the cornerstones of optimal management. A structured diagnostic approach not only prevents unnecessary investigations in healthy infants but also facilitates early treatment of life-threatening disorders, thereby improving long-term outcomes.

Risk factors for urethrocutaneous fistula following primary hypospadias repair in children: a systematic review and meta-analysis

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abstract: Background: Urethrocutaneous fistula remains the most common complication after hypospadias repair. We performed an updated systematic review and meta-analysis to identify modifiable and non-modifiable risk factors for fistula formation following primary hypospadias surgery. Methods: PubMed, Scopus, Embase, Web of Science, and Cochrane databases were systematically searched from January 2000 to November 2025. Studies reporting risk factors for urethrocutaneous fistula after primary pediatric hypospadias...

Smart Nutrition Management in Pediatric Hematopoietic Stem Cell Transplant Recipients: A Narrative Review of Novel Health Information Technology Solutions

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abstract: مقدمه: کودکان تحت پیوند سلول‌های بنیادی خونساز (HSCT) به دلیل عوارض رژیم‌های آماده‌سازی و بیماری پیوند علیه میزبان ، در معرض خطر بالای اختلال در وضعیت تغذیه‌ای قرار دارند. مطالعات نشان می‌دهد در بدو پذیرش، ۱۸٪ این کودکان دچار کوتاهی قد و ۲۵٪ دچار اضافه‌وزن هستند. مدیریت سنتی تغذیه به دلیل خطای یادآوری و پایبندی پایین، کارایی لازم را ندارد، در حالی که فناوری هدف از این مطالعه، مرور روایی راهکارهای نوین فناوری اطلاعات سلامت :هدف .اطلاعات سلامت پتانسیل بالایی برای بهبود این فرایند دارد این مطالعه :روش کار .شامل سلامت همراه ، بازی‌وارسازی و هوش مصنوعی در مدیریت تغذیه و پایش علائم در کودکان تحت پیوند است «Hematopoietic Stem Cell Transplantation» ،«Pediatrics» ،«Mobile Applications» ،«Artificial Intelligence» ،«Nutritional Status» مروری در سال ۲۰۲۶ با جست‌وجو در پایگاه‌های داده‌ای معتبر و با استفاده از واژگان کلیدی شامل ، با محدودیت زمانی شش سال اخیر انجام گردید. در مرحله نخست، عناوین و چکیده مقالات توسط «Self-Efficacy» و «Self Care» شامل مقالات مرتبط با ابزارهای دیجیتال مانند اپلیکیشن‌های) پژوهشگران غربالگری شدند و در نهایت، مقالاتی که معیارهای ورود را داشتند، وارد مطالعه شدند. تمرکز اصلی بر (و همچنین مدل‌های یادگیری ماشین TRU-PBMT و BMT4me، INTERACCT سلامت همراه و کیفیت داده‌ها: استفاده از اپلیکیشن :یافته‌ها .شاخص‌های قابلیت استفاده، پذیرش و دقت پیش‌بینی نیازهای تغذیه‌ای بود نشان داد که کیفیت داده‌های گزارش‌شده توسط بیماران به طور معناداری بالاتر از روش‌های کاغذی است. همچنین در INTERACCT هوش مصنوعی در تغذیه وریدی: مدل‌های مبتنی .کودکان بیش از ۴۰ روز به ثبت داده‌ها پایبند ماندند ، ۷۰٪ TRU-PBMT مطالعه اپلیکیشن بر یادگیری تقویت‌پذیر توانستند ۹۳٪ از واریانس نیازهای تغذیه‌ای را پوشش دهند. استفاده از این الگوریتم‌ها منجر به بهبود ۸.۹ درصدی در خودکارآمدی .نتایج بیوشیمیایی نسبت به روش‌های سنتی شد. دقت پیش‌بینی برای دوز سلنیوم ۹۷.۱٪ و دکستروز ۹۰.۴٪ گزارش شده است نمره قابلیت استفاده ۸۶.۱۵ از ۱۰۰ را کسب کرد. یافته‌ها نشان داد خودکارآمدی مراقبین BMT4me و مراقبت: اپلیکیشن (Self-Efficacy) با میزان دیسترس و اضطراب رابطه معکوس معناداری دارد؛ به طوری که کاهش خودکارآمدی مستقیماً با افزایش مشکلات تغذیه‌ای کودک در و پروتئین ۱.۵ گرم بر (BMR) مدیریت بالینی: ترکیب تغذیه گوارشی و وریدی معادل ۱۱۵٪ متابولیسم پایه .روز ۳۰ پس از پیوند مرتبط بود راهکارهای هوشمند اطلاعات سلامت، مدیریت تغذیه را :نتیجه‌گیری .کیلوگرم، منجر به حفظ ثبات وزن بیماران در ماه نخست پیوند گردید از یک رویکرد واکنش‌گرا به یک سیستم پیش‌دستانه و شخصی‌سازی‌شده تبدیل کرده‌اند. یکپارچه‌سازی این ابزارها با پرونده الکترونیک سلامت پیوند :واژگان کلیدی .می‌گردد HSCT علاوه بر ارتقای خودکارآمدی خانواده‌ها، منجر به بهبود نتایج بالینی و کیفیت زندگی در کودکان تحت .سلول‌های بنیادی خونساز، سلامت همراه ، هوش مصنوعی، کودکان، خودکارآمدی، وضعیت تغذیه‌ای

Surgical outcomes and complications of sacrococcygeal teratoma in neonates and infants: A systematic review and meta-analysis stratified by tumor characteristics and surgical approach

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abstract: Background: Sacrococcygeal teratoma (SCT) is the most common congenital tumor in neonates and infants. Despite advances in surgical management, reported outcomes remain heterogeneous, particularly regarding mortality, recurrence, and long-term functional complications. To synthesize contemporary evidence on surgical outcomes and postoperative complications of SCT in neonates and infants through a systematic review and meta-analysis. Methods: A comprehensive search of PubMed/MEDLINE, Embase, Web of...

The Efficacy of Oral Sucrose for Relieving Lumbar Puncture Pain in Neonates: A Randomized Clinical Trial

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abstract: To evaluate the analgesic efficacy and physiological effects of oral sucrose during lumbar puncture (LP) in term neonates. A 2023 Cochrane review concluded that evidence for the efficacy of sucrose for more painful procedures like lumbar puncture is of low certainty, noting a significant lack of powered studies focused specifically on this intervention. Notably, the most recent Cochrane review on sucrose for procedural pain explicitly identified the need for further high-quality research on lumbar puncture, while another Cochrane review on non-pharmacological management excluded sucrose studies altogether, creating a critical evidence gap that our trial addresses 9,13. This double-blind, randomized trial enrolled 60 full-term neonates undergoing LP. Participants were randomly given 2 mL of 25% oral sucrose or sterile water two minutes before the procedure. The primary outcome was pain score change from baseline via the Neonatal Infant Pain Scale (NIPS). Secondary outcomes included changes in heart rate (HR), respiratory rate (RR), and oxygen saturation. Measurements were taken at baseline, 1 minute, and 3 minutes post-LP. Our results provide strong evidence to support its use. However, in line with current clinical quality improvement initiatives, we recommend that sucrose be integrated into a multimodal analgesic protocol, typically combined with a local anesthetic, to form the standard pain management strategy for this common and necessary procedure. References 1. Williams MD, Lascelles BDX. Early Neonatal Pain—A Review of Clinical and Experimental Implications on Painful Conditions Later in Life. Front Pediatr. 2020;8. Neonates, Pain Management, Lumbar Puncture, Sucrose, Analgesia, Physiological Stress The administration of 2 mL of 25% oral sucrose is a safe, simple, and clinically effective non-pharmacological intervention for reducing the pain and physiological distress associated with lumbar puncture in term neonates during the immediate recovery period. Our results provide strong evidence to support its use. However, in line with current clinical quality improvement initiatives, we recommend that sucrose be integrated into a multimodal analgesic protocol, typically combined with a local anesthetic, to form the standard pain management strategy for this common and necessary procedure. Research should investigate optimal dosing strategies, efficacy and safety in preterm populations, and synergistic effects with other comfort measures

The First Breath, The First Hope: Neonatal Resuscitation with Emphasis on Effective Ventilation – A Review of Current Evidence and 2025 International Guidelines

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abstract: چکیده مقدمه سالانه میلیون‌ها نوزاد در سراسر جهان برای شروع تنفس پس از تولد به کمک نیاز پیدا می‌کنند. اگرچه (PPV) ، تنها درصد کمی از نوزادان به اقدامات پیشرفته احیا احتیاج دارند، اما کیفیت اقدامات اولیه، به‌ویژه تهویه با فشار مثبت نقش تعیین‌کننده‌ای در بقا و پیامدهای عصبی آنان دارد. شواهد جدید نشان می‌دهد که بیشتر موارد برادی‌کاردی و ایست قلبی هدف مرور جدیدترین شواهد علمی درباره .نوزادان ناشی از نارسایی تهویه است و با برقراری تهویه مؤثر قابل اصلاح خواهد بود روش این .اصول احیای نوزادان با تأکید بر اهمیت تهویه مؤثر، مدیریت راه هوایی و پیشگیری از خطاهای رایج در فرآیند احیا PubMed ،Scopus و مقالات نمایه‌شده در ERC، NRP، ILCOR مطالعه به‌صورت مرور روایتی بر اساس راهنماهای ۲۰۲۵ یافته‌ها تهویه با فشار مثبت، مؤثرترین مداخله در احیای نوزاد است. انتخاب صحیح .انجام شده است Web of Science و و PEEP ، استفاده ازMR SOPA ماسک، وضعیت مناسب سر، مشاهده حرکت قفسه سینه، اصلاح تهویه بر اساس الگوریتم پایش مداوم ضربان قلب و اشباع اکسیژن از عوامل کلیدی موفقیت محسوب می‌شوند. آموزش مبتنی بر شبیه‌سازی و بازبینی ویدئویی نتیجه‌گیری موفقیت احیای نوزاد بیش از هر عامل دیگری .نیز موجب ارتقای عملکرد تیم احیا و کاهش خطاهای انسانی می‌شود به کیفیت تهویه وابسته است. تمرکز بر آموزش عملی، استانداردسازی تکنیک‌های تهویه و به‌کارگیری فناوری‌های نوین می‌تواند ، NRPکلیدواژه‌ها: احیای نوزاد، تهویه با فشار مثبت، مدیریت راه هوایی، .میزان بقا و پیامدهای نورولوژیک نوزادان را بهبود بخشد نارسایی تنفسی.

The relationship between the Insulinemic potential of dietary intakes and Metabolic Health Status in Adolescents

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abstract: Background: Although dietary insulinemic potential of dietary intakes has important effect on health status; limited investigation assessed the association of dietary insulin load (DIL) and dietary insulin index (DII) with health status in pediatrics. So, we investigated this subject in Iranian overweight/obese adolescents. Methods: Overall, 203 overweight/obese adolescents (aged 12 to 18 years) were included in the cross-sectional study and using a multistage cluster random-sampling method. Dietary intakes were assessed using a validated 147-item food frequency questionnaire (FFQ). Additionally, we assessed the anthropometric indices, blood pressure (BP), and glycemic and lipid profile. The two methods of the International Diabetes Federation (IDF) and a combination of IDF with Homeostasis Model Assessment Insulin Resistance (HOMA-IR) were used to categorize the participants as metabolically healthy obese (MHO) or metabolically unhealthy obese (MUO). Results: According to the IDF and IDF/HOMA-IR definitions, 38.9% (n = 79) and 33.0% (n = 67) of the participants were classified as metabolically unhealthy obese (MUO), respectively. Following adjustment for potential confounders, participants in the highest tertile of dietary insulin load (DIL) had significantly higher odds of MUO than those in the lowest tertile, with ORs of 8.44 (95% CI: 2.24–31.78) based on the IDF definition and 5.86 (95% CI: 1.39–24.58) according to the IDF/HOMA-IR definition. Likewise, adolescents in the highest tertile of dietary inflammatory index (DII) were significantly more likely to be classified as MUO than those in the lowest tertile, with ORs of 6.93 (95% CI: 2.59–18.57) and 5.26 (95% CI: 1.85–14.97) using the IDF and IDF/HOMA-IR criteria, respectively, after adjustment for potential confounding variables. Furthermore, significant increasing trends were observed across increasing tertiles of both DIL and DII. Stratified analyses demonstrated that these associations were more pronounced among obese adolescents. Conclusion: This population-based study demonstrated that higher DIL and DII were associated with greater odds of MUO among Iranian adolescents, with the strongest associations observed in obese participants. Nevertheless, prospective studies are required to confirm these findings. Keywords: obesity, metabolic health status, adolescents, dietary insulin load (DIL), dietary insulin index (DII)

The Role of Artificial Intelligence in Predicting Late Complications and Empowering Self-Care in Pediatric Survivors of Hematopoietic Stem Cell Transplantation (HSCT)

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abstract: مقدمه: پیوند سلول‌های بنیادی خونساز (HSCT) برای بسیاری از بیماری‌های بدخیم و غیربدخیم در کودکان، یک درمان نجات‌بخش محسوب می‌شود، اما بازماندگان با خطرات جدی عوارض دیررس، بازگشت بیماری و سمیت‌های ارگانی روبرو هستند. مدیریت این بیماران پس از ترخیص به دلیل رژیم‌های دارویی پیچیده و نیاز به پایش مداوم علائم بسیار چالش‌برانگیز است و روش‌های سنتی مانند یادداشت‌های کاغذی دقت کافی را ندارند. در این راستا، هوش مصنوعی (AI) و فناوری‌های سلامت همراه (mHealth) ابزارهای نوینی ارائه کرده‌اند. هدف: این مطالعه مروری با هدف تبیین نقش الگوریتم‌های یادگیری ماشین در پیش‌بینی عوارض دیررس و ارزیابی کارایی اپلیکیشن‌های دیجیتال در توانمندسازی خودمراقبتی و بهبود کیفیت زندگی بازماندگان پیوند در پیش‌بینی دقیق پیامدها و ارتقای خودمراقبتی فراهم کرده‌اند. روش‌کار: این مطالعه مروری در سال ۲۰۲۶ با جست‌وجو در پایگاه‌های داده‌های PubMed و Google Scholar و با استفاده از واژگان کلیدی «Hematopoietic Stem Cell Transplantation»، «Pediatrics»، «Machine Learning»، «Self Care» و «Mobile Applications» با محدودیت زمانی شش سال اخیر انجام گردید. در مرحله نخست، عناوین و چکیده مقالات توسط پژوهشگران غربالگری شدند و در نهایت، مقالاتی که با معیارهای ورود (تمرکز بر کودکان تحت پیوند سلول‌های بنیادی خونساز) مطابقت داشتند، وارد مطالعه گردیدند. یافته‌ها: یافته‌ها نشان داد که مدل‌های یادگیری ماشین، به‌ویژه الگوریتم جنگل تصادفی (Random Forest) قادرند بقای بیماران را با دقت بسیار بالای ۹۷.۳۷٪ پیش‌بینی کنند. همچنین ترکیب داده‌های نوار قلب با ویژگی‌های بالینی توسط هوش مصنوعی، دقت پیش‌بینی کاردیومیوپاتی دیررس را به معادل ۰.۸۹ AUC رساند که بسیار فراتر از مدل‌های سنتی است. بالینی: اپلیکیشن‌هایی مانند BMT4me در حوزه خودمراقبتی، با کسب نمرات بالای کاربردپذیری (حدود ۸۶ SUS)، انگیزه و تعهد بیماران را برای پایبندی به درمان و ثبت دقیق علائم افزایش داده‌اند. علاوه بر این، استفاده از بازی‌وارسازی (Gamification) در اپلیکیشن INTERACCT منجر به ارائه اطلاعات پزشکی با کیفیت‌تر نسبت به دفاتر خاطرات کاغذی شده است. مطالعات همچنین تأیید کردند که ادغام هوش مصنوعی و ابزارهای سلامت دیجیتال، پارادایم مراقبت‌های پس از پیوند را از رویکردهای ایستا به پیش‌بینی پویا و مراقبت‌های شخصی‌سازی‌شده تغییر می‌دهد. نتیجه‌گیری: خودکارآمدی بالاتر در بازماندگان با بهبود عملکردهای جسمی و روانی و کاهش استرس مرتبط است. استفاده از داده‌های طولی و اپلیکیشن‌های موبایل نه تنها به شناسایی زودهنگام بیماران پرخطر کمک می‌کند، بلکه با کاهش بار شناختی و تعهد بیماران را برای پایبندی به درمان و ثبت دقیق علائم افزایش داده‌اند. علاوه بر این، استفاده از بازی‌وارسازی (Gamification) در اپلیکیشن‌های موبایل، برنامه‌های کاربردی موبایل، خودمراقبتی، بازماندگان، کودکان.

The Role of RBC Phenotyping in Identifying High-Risk Thalassemia Patients: Implications for Alloimmunization Prevention and Quality of Life

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neonatology

abstract: Background: Thalassemia patients require regular red blood cell (RBC) transfusions, which may result in transfusion-related complications, including RBC alloimmunization. This study evaluated the frequency and pattern of alloantibodies in adult thalassemia patients with a history of transfusion reactions, with the aim of identifying high-risk patients and improving transfusion safety. Methods: Among 890 patients followed at the Adult Thalassemia Clinic, 101 patients with a documented history of transfusion reactions were enrolled. Clinical and transfusion histories were reviewed. ABO and Rh blood groups and RBC subgroups were determined. Antibody screening was performed, followed by antibody identification in patients with positive screening results. Results: Of the 101 patients, 35 (34.7%) had thalassemia major, 59 (58.4%) thalassemia intermedia, and 7 (7.0%) had other hemoglobinopathies. The mean age was 30.94 ± 7.89 years, and 55.4% were female. Regular transfusion was reported in 44.6%, while 55.4% had irregular or intermittent transfusion histories. R1R1 (DCe/DCe) was the most frequent Rh subgroup (48.5%), followed by R1R2 (DCe/DcE) (21.8%). Antibody screening was positive in 59 patients (58.4%). Anti-K was the most frequent alloantibody (20.8%), followed by anti-E (12.9%), anti-D (8.9%), anti-c (6.9%), and anti-C (5.9%). Conclusion: R1R1 (DCe/DCe) lacks E and c antigens, which are among the clinically significant and highly immunogenic Rh antigens. With advances in thalassemia management, patients are living longer and increasingly expect opportunities for marriage, family life, and childbearing, making long-term transfusion safety and quality of life increasingly important. Our findings suggest that patients with the R1R1 subgroup, particularly those with thalassemia intermedia and irregular transfusion histories, may represent a higher-risk group for alloimmunization. Extended RBC phenotyping and identification of high-risk patients, followed by antigen-matched RBC selection and careful crossmatching, may help prevent alloimmunization and improve transfusion safety and quality of life. Keywords: Thalassemia; RBC Subgroups; Transfusion Reaction; Alloimmunization; Quality of Life

The Role of Weight Loss and Nutritional Interventions in the Management of Pediatric Nonalcoholic Fatty Liver Disease: A Review of Current Evidence

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neonatology

abstract: Nonalcoholic fatty liver disease (NAFLD) has become the most prevalent chronic liver disease among children and adolescents worldwide, primarily due to the increasing prevalence of childhood obesity and sedentary lifestyles. NAFLD is characterized by excessive fat accumulation in hepatocytes in the absence of significant alcohol consumption or other identifiable causes of liver disease. The disease encompasses a broad spectrum of liver abnormalities, ranging from simple steatosis to nonalcoholic steatohepatitis (NASH), fibrosis, cirrhosis, and, in severe cases, end-stage liver disease. Beyond hepatic complications, pediatric NAFLD is closely associated with insulin resistance, type 2 diabetes mellitus, dyslipidemia, metabolic syndrome, hypertension, and an elevated risk of future cardiovascular disease. Consequently, NAFLD has become an important public health concern that requires effective preventive and therapeutic strategies. To date, no pharmacological therapy has been universally approved as a standard treatment for pediatric NAFLD. Therefore, current clinical guidelines consistently recommend lifestyle modification as the cornerstone of disease management. Weight reduction through dietary modification and increased physical activity remains the most effective evidence-based intervention for improving liver health in affected children. Even modest weight loss has been shown to significantly reduce hepatic fat accumulation, improve liver enzyme concentrations, enhance insulin sensitivity, and decrease systemic and hepatic inflammation. Excess body weight, particularly visceral or central obesity, is recognized as the strongest risk factor for the development and progression of pediatric NAFLD. High-calorie diets rich in saturated fats, refined carbohydrates, fructose-containing beverages, and ultra-processed foods contribute substantially to hepatic fat accumulation and metabolic dysfunction. In contrast, healthier dietary habits and increased physical activity improve energy balance and reduce metabolic stress on the liver. Consequently, sustainable lifestyle changes rather than short-term restrictive diets are strongly recommended for long-term disease management. Dietary interventions play a fundamental role in treating pediatric NAFLD. Among the dietary patterns evaluated in recent years, the Mediterranean diet has received the greatest scientific support. This dietary pattern emphasizes high consumption of fruits, vegetables, legumes, whole grains, nuts, olive oil, and fish while limiting processed foods, red meat, saturated fats, and added sugars. Studies have demonstrated that adherence to the Mediterranean diet is associated with reduced liver fat content, improved liver enzyme levels, better insulin sensitivity, and reduced inflammatory markers in children with NAFLD. These benefits appear to result from the combined effects of increased dietary fiber, antioxidants, monounsaturated fats, and omega-3 polyunsaturated fatty acids. Reducing the intake of added sugars, particularly fructose from sugar-sweetened beverages, is another important nutritional strategy. Excessive fructose consumption

promotes de novo lipogenesis, increases hepatic triglyceride accumulation, and worsens insulin resistance. Several intervention studies have shown that limiting sugar-sweetened beverages and reducing overall added sugar intake significantly improve liver fat content and metabolic parameters, even without dramatic weight loss. Likewise, replacing saturated fats with unsaturated fats, especially omega-3 fatty acids found in fish and certain plant sources, may further improve hepatic lipid metabolism and reduce inflammation. Regular physical activity complements dietary interventions by increasing energy expenditure, improving insulin sensitivity, reducing visceral adiposity, and enhancing overall cardiometabolic health. Current recommendations encourage children with NAFLD to engage in at least 60 minutes of moderate-to-vigorous physical activity daily while minimizing sedentary behaviors such as prolonged screen time. Both aerobic exercise and resistance training have demonstrated beneficial effects on hepatic steatosis and metabolic health, particularly when combined with nutritional counseling. Because childhood eating habits are strongly influenced by family members and the home environment, successful management of pediatric NAFLD requires a family-centered and multidisciplinary approach. Physicians, dietitians, nurses, exercise specialists, psychologists, and caregivers should work collaboratively to promote sustainable behavioral changes. Individualized nutrition counseling, culturally appropriate meal planning, regular follow-up, behavioral interventions, and parental involvement substantially improve adherence to treatment recommendations and increase the likelihood of long-term success. Although several dietary supplements, including vitamin E, probiotics, omega-3 fatty acids, and antioxidants, have been investigated as potential adjunctive therapies, current evidence remains inconsistent. Therefore, these supplements cannot replace comprehensive lifestyle modification and should only be considered in selected patients under professional medical supervision. In conclusion, weight reduction achieved through individualized dietary modification and regular physical activity remains the most effective non-pharmacological treatment for pediatric NAFLD. Current evidence consistently demonstrates that healthy

The Skin Microbiome–Immune Axis in Pediatric Epidermolysis Bullosa: Implications for Vaccination

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Immunology

abstract: Introduction: Epidermolysis bullosa (EB) is a group of inherited blistering disorders characterized by skin barrier disruption from birth, chronic wounds, persistent inflammation, and recurrent infections. In pediatric patients, these pathological processes coincide with a critical developmental window during which the early-life microbiome is established, the immune system undergoes maturation, and routine childhood vaccinations are administered. Early microbial colonization is increasingly recognized as a fundamental regulator of immune development and long-term immune competence. Emerging evidence suggests that bidirectional interactions between the skin microbiome, gut microbiome, and host immunity influence vaccine-induced immune responses. However, the potential consequences of microbiome disruption during early life for vaccination outcomes in children with EB remain largely unexplored. This review discusses current evidence linking skin barrier dysfunction, microbiome alterations, immune dysregulation, and vaccine responsiveness, highlighting the potential role of the early-life microbiome in shaping immune protection in pediatric EB. Discussion: Current evidence indicates that chronic skin barrier dysfunction in EB extends far beyond a structural defect. Persistent blistering and non-healing wounds promote microbial dysbiosis, sustained activation of innate and adaptive immune pathways, and chronic inflammation characterized by increased production of IL-1, IL-6, TNF-α, TGF-β, and other inflammatory mediators. Continuous activation of neutrophils, macrophages, T lymphocyte, and inflammatory fibroblast contributes to immune dysregulation, impaired tissue repair, fibrosis, and systemic inflammation. Recent studies have expanded this concept by demonstrating the existence of a skin–gut axis, whereby chronic skin injury alters gut microbial composition, decreases microbial diversity, disrupts intestinal immune homeostasis, and promotes systemic inflammatory responses. In parallel, microbial metabolites produced by the gut microbiota have emerged as important regulators of immune signaling, providing a link between microbiome composition and immune function beyond the gastrointestinal tract. Importantly, accumulating evidence from infant cohorts and vaccine studies identifies the early-life gut microbiome as a key determinant of vaccine responsiveness. The composition of the microbiome during infancy influences immune education, antigen presentation, and the development of both humoral and cellular immunity. Infants enriched with beneficial bacterial taxa, particularly Bifidobacterium and Lactobacillus, exhibit stronger antibody responses and enhanced Th1 and CTL mediated immunity following vaccination, whereas microbial dysbiosis is associated with impaired vaccine immunogenicity. These observations suggest that microbial colonization during early life represents a critical window during which long-term vaccine responsiveness is established. Because EB is present from birth, disruption of the skin

microbiome occurs simultaneously with the establishment of the early-life microbiome and the maturation of the immune system. Recurrent skin injury, chronic inflammation, microbial dysbiosis, and systemic immune activation may therefore interfere with immune programming during infancy and potentially compromise the generation of effective vaccine-induced immune memory. Although direct evidence linking the early-life microbiome to vaccine responses in pediatric EB is currently unavailable, accumulating mechanistic findings strongly support this biologically plausible hypothesis and provide a rationale for future investigation. Conclusion: The early-life skin microbiome–immune axis provides a promising conceptual framework for understanding immune dysregulation in pediatric EB beyond its cutaneous manifestations. Integrating current knowledge on microbiome development, chronic inflammation, and vaccine immunology suggests that alterations occurring during early life may contribute to variability in vaccine responsiveness among children with EB. Future studies should investigate microbiome composition, immune maturation, and vaccine immunogenicity from infancy onward to determine whether microbiome-targeted interventions—including nutritional strategies, probiotics, or microbiome modulation—can improve vaccine responses and support the development of precision vaccination approaches for this vulnerable pediatric population. Keywords: Epidermolysis bullosa, Early-life microbiome, Skin microbiome, Gut–skin axis, Pediatric vaccination; Precision vaccination

Vaccination in Children with Primary and Secondary Immunodeficiencies: An Evidence-Based Review

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Immunology

abstract: Vaccination in Children with Primary and Secondary Immunodeficiencies: An Evidence-Based Review Background: Children with inborn errors of immunity (IEI) and secondary immunodeficiencies are at increased risk of severe vaccine-preventable infections, yet may also have reduced vaccine responses or complications from live vaccines. Vaccination therefore requires individualized assessment of both safety and expected effectiveness. Methods: A targeted evidence-based narrative review was conducted using PubMed/MEDLINE and recommendations from CDC/ACIP, IDSA, WHO, EBMT, and IUIS. Priority was given to guidelines, systematic reviews, and clinical studies published from 2023 through July 2026, while relevant landmark references were retained. Results: Most non-live vaccines are safe in immunocompromised patients, although immunogenicity may be reduced or short-lived. Live vaccines are contraindicated in severe T-cell or combined immunodeficiencies and during profound immunosuppression, but may be considered in selected mild immune defects after appropriate evaluation. Following hematopoietic stem cell transplantation, systematic revaccination is required. Anti-CD20 therapy, CAR-T-cell therapy, high-dose corticosteroids, and immunoglobulin replacement can substantially alter vaccine timing, immune responses, and interpretation of serology. Vaccination of household contacts and targeted monitoring of vaccine responses are also important components of protection. Conclusion: Vaccination in immunodeficient children should not be viewed as a simple “vaccinate or do not vaccinate” decision. Safety, likelihood of protective response, and durability of immunity should be assessed separately. A personalized strategy based on immune phenotype, treatment, vaccine platform, and epidemiologic risk can maximize protection while minimizing vaccine-related harm. Keywords: Inborn errors of immunity; Immunodeficiency; Vaccination; Live vaccines; Immunocompromised children

Demographic and Imaging Findings in Children with Urinary Tract Infection With and Without Vesicoureteral Reflux

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Nephrology

abstract: Introduction: Given the high prevalence of urinary tract infection (UTI) in infants and children and the association between vesicoureteral reflux (VUR) and UTI occurrence, this study was conducted on children with UTI referred to Ali Ibn Abi Talib Hospital in Zahedan. The aim of this study was to investigate demographic and imaging findings in children with UTI with and without VUR at Ali Ibn Abi Talib Hospital, Zahedan, in 2023–2024 (Iranian year 1402). Materials and Methods: This case-control study included 60 children with UTI and VUR as the case group and 60 children with UTI without VUR as the control group. Data were collected from patients' medical records using a checklist. Statistical analysis was performed using SPSS version 22. Data were analyzed with the chi-square test and independent t-test. Results: The frequency of severe VUR in boys was approximately 1.4 times higher than in girls. Some degree of renal anomaly was observed in only 30% of patients in the case group and was not seen in the control group. Fisher's exact test showed that the distribution of renal anomalies differed significantly between the case and control groups (P = 0.03). Regarding the laterality of VUR, bilateral renal involvement was more common in boys, while unilateral involvement was more frequent in girls. Fisher's exact test indicated a significant difference in the distribution of VUR laterality according to sex (P = 0.032). Discussion and Conclusion: Although UTI is more common in girls than in boys, the severity of VUR is greater in boys, and severe reflux tends to occur at older ages. Therefore, prevention, early diagnosis, appropriate treatment, and adequate follow-up are recommended in children with vesicoureteral reflux. Keywords: Urinary tract infection, Children, Vesicoureteral reflux

Diagnostic Importance of Differentiating Primary and Secondary Nocturnal Enuresis in Children Older Than Six Years

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Nephrology

abstract: Diagnostic Importance of Differentiating Primary and Secondary Nocturnal Enuresis in Children Older Than Six Years Abstract Background: Nocturnal enuresis is a common pediatric condition that significantly affects children's quality of life and psychosocial well-being. Distinguishing primary nocturnal enuresis (PNE) from secondary nocturnal enuresis (SNE) is essential because the underlying etiologies, diagnostic evaluation, management strategies, and prognosis differ considerably. Objective: To highlight the diagnostic significance of differentiating primary from secondary nocturnal enuresis in children older than six years and to emphasize the importance of identifying underlying organic and psychological disorders in secondary cases. Methods: A narrative review of current pediatric urology and nephrology literature was conducted, focusing on the clinical characteristics, diagnostic approach, associated risk factors, and management of primary and secondary nocturnal enuresis in children older than six years. Results: Primary nocturnal enuresis is characterized by persistent nighttime urinary incontinence without a prolonged period of dryness and is commonly associated with delayed bladder maturation, nocturnal polyuria, reduced nocturnal vasopressin secretion, and impaired arousal from sleep. In contrast, secondary nocturnal enuresis develops after at least six months of continuous nighttime dryness and frequently indicates an underlying medical or psychological condition. Common causes include urinary tract infection, constipation, diabetes mellitus, diabetes insipidus, chronic kidney disease, obstructive sleep apnea, neurogenic bladder, spinal abnormalities, emotional stress, and behavioral disorders. Children with secondary enuresis are more likely to present with daytime lower urinary tract symptoms, recurrent urinary tract infections, hypertension, abnormal urinalysis, or impaired renal function, necessitating comprehensive diagnostic evaluation. Conclusion: Differentiating primary from secondary nocturnal enuresis is a critical step in the assessment of children older than six years. While primary nocturnal enuresis is generally a functional disorder requiring conservative or pharmacological management, secondary nocturnal enuresis warrants careful investigation for underlying renal, urological, endocrine, neurological, or psychological disorders. Early recognition facilitates timely treatment of potentially serious conditions, improves clinical outcomes, and minimizes the long-term physical and psychosocial consequences of persistent enuresis. Keywords: Primary nocturnal enuresis; Secondary nocturnal enuresis; Children; Diagnosis; Lower urinary tract dysfunction; Urinary tract infection.

Diet in Nocturnal Enuresis in Children from the perspective of Avicenna

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Nephrology

abstract: Title: Diet in Nocturnal Enuresis in Children from the perspective of Avicenna Background and Objective: The World Health Organization (WHO) recognizes traditional medicine as a complementary approach to conventional medicine for maintaining public health. Avicenna (Ibn Sina) is one of the most prominent scholars of Persian traditional medicine. His masterpiece, The Canon of Medicine (Al-Qanun fi al-Tibb), served as a standard medical textbook in European universities for many centuries. The aim of this study was to review and introduce Avicenna's recommendations for Nocturnal Enuresis in Children. Methods: This research is a qualitative study. The source of the research is the Book of Al-Qanun fi al-Tibb. This book was written by the great Iranian scientist, Ibn Sina. This book was written in the 11th century AD. In this book, Ibn Sina described this disease in Dar Fan 19 (Bladder Diseases). To complete the findings, other Iranian medical books were also studied. Results In chapter 19, Avicenna explained the disease of nocturnal enuresis in children. He first explained the etiology. From Ibn Sina's point of view, an important cause of this disease is relaxation of the bladder muscles(esterkhaa). He recommends using medicines and foods that reduce relaxation. In addition, deep sleep aggravates this disease. His recommendations reduce deep sleep. Conclusion Avicenna has described the disease of nocturnal enuresis in children. He has explained its etiology and treatment. His recommendations were based on evidence. Clinical evidence for these recommendations has also been published in some Prestigious journals. The author has also conducted a clinical trial in this disease. Keywords: Iranian medicine, Avicenna, nocturnal enuresis in children.

Distinguishing Primary from Secondary Hypertension in Children: A Practical Diagnostic Approach

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Nephrology

abstract: Distinguishing Primary from Secondary Hypertension in Children: A Practical Diagnostic Approach Background: Hypertension in children is an increasingly recognized health problem with significant implications for long-term cardiovascular and renal outcomes. While primary hypertension has become more prevalent, particularly among adolescents with obesity, secondary hypertension remains the predominant cause in younger children and those with severe or resistant hypertension. Early differentiation between primary and secondary hypertension is essential to ensure timely diagnosis, targeted treatment, and prevention of end-organ damage Objectives: This artcle aims to review a practical, evidence-based approach for distinguishing primary from secondary hypertension in children, emphasizing clinical assessment, laboratory evaluation, imaging studies, and current diagnostic recommendations. Methods: A comprehensive review of recent international guidelines and relevant literature was conducted. Clinical characteristics, risk factors, history, physical examination findings, laboratory investigations, ambulatory blood pressure monitoring (ABPM), and imaging modalities were evaluated to develop a structured diagnostic algorithm. Results: Primary hypertension is most commonly observed in adolescents with obesity, a positive family history of hypertension, and features of metabolic syndrome, whereas secondary hypertension is more likely in younger children, those with stage 2 or resistant hypertension, and patients with suggestive clinical findings such as growth failure, abnormal urinalysis, renal dysfunction, electrolyte disturbances, endocrine abnormalities, or vascular signs. Renal parenchymal disease remains the leading cause of secondary hypertension in children, followed by renovascular, endocrine, and cardiovascular disorders. Ambulatory blood pressure monitoring improves diagnostic accuracy by identifying white-coat and masked hypertension, while targeted laboratory and imaging evaluations help determine the underlying etiology. Conclusion: A systematic diagnostic approach integrating age, clinical presentation, family history, physical examination, ABPM, and targeted investigations enables accurate differentiation between primary and secondary hypertension in children. Early recognition of secondary causes is crucial because many are potentially reversible, whereas prompt identification of primary hypertension allows early implementation of lifestyle modification and pharmacological therapy to reduce long-term cardiovascular and renal complications. Keywords: Pediatric hypertension; Primary hypertension; Secondary hypertension; Ambulatory blood pressure monitoring; Renal hypertension; Diagnostic approach; Children.

nonpathological proteinuria

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Nephrology

abstract: Dr Reza Dalirani Pediatric nephrologist Pediatric nephrology research center. Mofid children hospital Nonpathological proteinuria Proteinuria is ≥ 1+ protein in a random urine specimen, preferably taken in the morning or protein/Cr ratio 0.2 in children more than 2 years old or 0.5 in younger infants. Proteinuria is considered significant in children if the amount of protein in urine is 100mg/m2/day or 4mg/m2 hour; if this figure exceeds 1000mg/m2/day or 40 mg/m2/hour it is defined as massive proteinuria. Proteinuria can be detected qualitatively by a dipstick that only detects albumin , qualitatively on a scale of 1+ to 4+. However, false positive results may be obtained on the dipstick with gross hematuria, presence of antiseptics, radiocontrast and alkaline or concentrated urine specimens. Quantitative tests include measuring the amount of protein in a 24h urine collection or protein/creatinine ratio in a random urine specimen, preferably first morning urine. Cause of proteinuria: Nonpathological proteinuria: - Febrile - Exercise induced - Orthostatic Pathologic proteinuria: - Glomerular - Tubular Persistent proteinuria is a risk factor for the development of end stage kidney disease. Transient proteinuria, (≥ 1+ protein on dipstick testing), however, has been detected in 5-10% of school age children but on repeat analysis, urine tests are usually negative for protein and only about 0.1% of these children may have persistent proteinuria. Proteinuria maybe glomerular or tubular in origin, protein electrophoresis differentiates between the two. In children transient proteinuria may be seen in high fever, exercise, seizure or hypovolemia. Orthostatic proteinuria is present only with activity and disappears on lying down. Persistent proteinuria needs extensive investigations to rule out underlying disease while transient and or orthostatic proteinuria are benign conditions and need no further investigations.

Application of Multiplex qPCR and Metagenomics in Rapid Detection of Intestinal Parasites (Giardia, Entamoeba) in Pediatric Populations of Iran

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Infectious

abstract: Introduction: Intestinal parasitic diseases, particularly Giardia lamlia and Entamoeba histolytica are still significant contributors to diarrhea, malnutrition and growth retardation in children especially in low-resource areas of Iran. Conventional microscopy was not very useful for the diagnosis of co-infections and it has low sensitivities. This study was aimed to evaluate Multiplex quantitative PCR (qPCR) and metagenomic Next-Generation Sequencing (mNGS) for the detection of multiple parasites (Giardia, and Entamoeba) in pediatric population of Iran. Methods: A systematic review was done using PRISMA 2020 guidelines. In 2015-2026, a comprehensive search was carried out via PubMed, Scopus, Web of Science, Google Scholar, SID, and MagIran. The used key words were: multiplex qPCR, metagenomics, mNGS, Giardia, Entamoeba, intestinal parasites, children, Iran. Results: The traditional microscopy techniques are 40-60% sensitive in detecting Giardia and Entamoeba; Multiplex qPCR is 93-98% sensitive and specific and can detect multiple protozoa in a single reaction. Various studies reported the prevalence of Giardia in Iranian children with diarrhea as 15-35% and high co-infection percentage with Entamoeba and Cryptosporidium. Metagenomics provides unbiased detection of target parasites and the detection of newly emerging pathogens and changes in the microbiome as a result of chronic infections. Studies have shown that these tests can reduce the duration of diarrhoea by 2-4 days, prescription of unnecessary antibiotics and help in better nutritional recovery. Iranian challenges include the high initial cost of equipment, the need for trained individuals to operate the equipment, and the need for metagenomic data analysis for bioinformatics, along with the lack of a stable power supply in rural laboratories. These molecular tools, with the use of clinical algorithms and AI interpretation, can also enhance the diagnostic speed and accuracy in paediatric care usage. Conclusion: multiplex qPCR and metagenomics are potential precise diagnostic tools for the speedy detection of intestinal parasites in Iranian children in resource-limited conditions. Adoption can have a big impact on clinical outcomes, decrease diagnostic delay, and aid precision public health interventions. The following activities are recommended for further implementation: local validation, development of low-cost kits and training of capacity of the provincial laboratories for achieving national implementation. Keywords: Multiplex qPCR, Metagenomics, Intestinal parasites, Giardia, Entamoeba, Children, Precision diagnostics, Iran.

Botulism in Children

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abstract: Introduction Botulism is a rare but potentially life-threatening neuroparalytic illness caused by botulinum neurotoxins produced by Clostridium botulinum (and rarely by neurotoxigenic strains of C. baratii and C. butyricum). The toxin irreversibly blocks acetylcholine release at the neuromuscular junction, leading to a characteristic descending, symmetric flaccid paralysis. For the pediatric subspecialist, recognizing the age-specific clinical forms—particularly infant botulism—is essential, as early intervention dramatically alters outcomes. Etiology and Pathophysiology Botulinum neurotoxins are the most potent biological toxins known. Of the eight serotypes (A–H), A, B, E, and rarely F cause human disease. After absorption, the toxin's heavy chain mediates binding to presynaptic nerve terminals, and the light chain cleaves SNARE proteins essential for neurotransmitter exocytosis. Recovery requires sprouting of new nerve terminals, explaining the prolonged course. Clinical Forms in Children 1. Infant Botulism This is the most common form in the United States, typically affecting infants under 6 months. It results from intestinal colonization by ingested C. botulinum spores (often from honey, environmental dust, or soil) with subsequent in vivo toxin production. The hallmark is a previously well infant who develops constipation, poor feeding, weak cry, ptosis, and a progressive descending paralysis. The classic presentation is the "floppy baby" with facial diplegia, loss of head control, and generalized hypotonia. Deep tendon reflexes may be preserved or depressed. Cranial nerve palsies precede limb and respiratory muscle involvement. The differential diagnosis includes sepsis, metabolic disorders, Guillain-Barré syndrome (especially its Miller Fisher variant), myasthenia gravis, and spinal muscular atrophy. 2. Foodborne Botulism Ingestion of preformed toxin in improperly preserved foods (classically home-canned low-acid vegetables) causes a rapid onset of nausea, vomiting, and dry mouth, followed by cranial neuropathies (blurred vision, diplopia, dysarthria, dysphagia) and descending weakness. Dilated, poorly reactive pupils and autonomic signs (ileus, urinary retention) are prominent. 3. Wound Botulism This occurs when C. botulinum spores contaminate a wound (traumatic, surgical, or subcutaneous injection of black-tar heroin). It presents with a similar neurological syndrome but lacks gastrointestinal prodrome; fever may be present. 4. Iatrogenic Botulism Rarely, it follows therapeutic or cosmetic injection of botulinum toxin, presenting with systemic weakness beyond the intended effect. 5. Adult Intestinal Toxemia Analogous to infant botulism, this form arises in adults with altered intestinal anatomy, motility disorders, or prolonged antimicrobial exposure, leading to colonization and toxin production. Diagnosis The diagnosis is primarily clinical; laboratory confirmation should never delay treatment. The gold standard is the mouse bioassay, which detects toxin in serum, stool, gastric aspirate, or suspect food. Stool and enema specimens are also cultured for Clostridium species under anaerobic conditions. Some reference laboratories now employ PCR or mass spectrometry for toxin gene detection, offering more rapid results. Electromyography (EMG) can show characteristic findings: brief-duration, small-amplitude motor unit potentials, and an incremental response (facilitation) to high-frequency repetitive nerve stimulation. For infant botulism, stool is the highest-yield specimen; serum toxin is rarely positive. Management 1. Supportive Care Close

monitoring of respiratory function is paramount; intubation and mechanical ventilation are often required. Nasogastric or parenteral nutrition is provided while bulbar function is impaired. 2. Antitoxin Therapy · Infant Botulism: Human botulism immune globulin (BIG-IV, BabyBIG) is the licensed, single-dose intravenous treatment. It neutralizes circulating toxin and shortens the duration of hospitalization, mechanical ventilation, and tube feeding. It should be administered as soon as the diagnosis is suspected. · Non-infant Forms (Foodborne, Wound, Iatrogenic): The heptavalent equine-derived botulinum antitoxin (HBAT) is used. It covers serotypes A–G and must be given early to prevent progression. Prior desensitization protocols are necessary given the risk of anaphylaxis and serum sickness. 3. Wound Care Wound botulism requires surgical debridement in addition to antitoxin; antibiotics alone are insufficient. If a concomitant bacterial infection is present, penicillin or metronidazole may be given, but antimicrobials are generally avoided in infant botulism because cell lysis may release additional intracellular toxin. Aminoglycosides and clindamycin are strictly contraindicated as they can potentiate neuromuscular blockade. Prevention Parents should be counseled to avoid feeding honey to infants under 12 months. Proper food preservation and boiling home-canned foods for 10 minutes before consumption inactivate the toxin. Wound hygiene and prompt care of traumatic injuries reduce wound botulism risk. Conclusion Pediatric botulism, especially infant botulism, demands a high index of suspicion when an afebrile infant presents

Characterization of genotypes and antimicrobial resistance profiles of clinical isolates of Shigella from patients in the southern region of Iran

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Infectious

abstract: Abstract Background Shigella spp., which are facultative anaerobic bacilli within the Enterobacteriaceae family, present a significant public health burden due to their role as prominent contributors to diarrheal diseases worldwide. A molecular analysis can facilitate the identification and assessment of outbreaks involving this bacterium. So, we aimed to investigate the antibiotic susceptibility pattern and clonal relatedness of clinical Shigella spp. isolates obtained from patients with diarrhea in Hormozgan province, South of Iran. Methods From 2019 to 2021, a cross-sectional investigation was conducted on 448 stool samples obtained from patients who were experiencing diarrhea, in the southern region of Iran. Shigella spp. isolates were identified based on biochemical and serological tests. All Shigella species were verified using species-specific polymerase chain reaction (PCR), followed by susceptibility testing to antimicrobial agents. Subsequently, genotyping of all Shigella species was conducted using ERIC-PCR. Results Out of a total of 448 stool samples, the presence of Shigella was detected in 62 cases, accounting for a prevalence rate of 13.84%. Among the identified isolates, the majority were attributed to S. flexneri, representing 53.23% of the cases. This was followed by S. sonnei at 24.19% and S. boydii at 22.58%. Notably, no instances of S. dysenteriae were found. The highest prevalence of Shigella isolates was observed in infants and children under the age of five. A significant proportion of the identified isolates demonstrated resistance to various antibiotics. Specifically, high resistance rates were noted for ampicillin (90.78%), piperacillin–tazobactam (87.1%), cefixime (83.87%), trimethoprim– sulfamethoxazole (83.87%), cefotaxime (82.26%), and ceftriaxone (80.65%). In addition, a substantial number (87.1%) of the isolates exhibited a multidrug-resistant (MDR) phenotype. Using the ERIC-PCR method, a total of 11 clusters and 6 distinct single types were identified among all the Shigella isolates. Conclusion A notable occurrence of antibiotic-resistant Shigella species has been noted, with multi-drug resistant (MDR) strains presenting an increasing challenge for treating shigellosis worldwide, and this includes Iran. Techniques such as ERIC-PCR are useful for assessing the genetic variation and connections between Shigella strains, which indirectly contributes to understanding antimicrobial resistance patterns. Further research is needed to explore the specific correlation between resistance genes and ERIC genotyping patterns in Shigella strains.

CRISPR-Based Diagnostics and Targeted Therapy for Toxoplasmosis in Immunocompromised Iranian Children

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Infectious

abstract: Introduction: Toxoplasmosis is an opportunistic infection that can be serious in immunocompromised children such as those with HIV/AIDS, cancer or who have been organ transplanted. If not diagnosed and treated promptly these patients can develop into severe infection of the brain, eye, or disseminated infection with a high mortality rate. The aim of this study was to evaluate the CRISPR-based diagnostics and targeted therapy for toxoplasmosis in the pediatric immunocompromised population of Iran. Methods: This systematic review was conducted by searching in PubMed, Scopus, Web of Science, Google Scholar, and Iranian databases (SID, MagIran) from 2018 to 2026. The following key words were used: CRISPR, Toxoplasma gondii, toxoplasmosis, immunocompromised children, precision medicine, diagnosis, therapy, Iran. Results: CRISPR-Cas systems are very efficient and have very low limits of detection (LOD) - 1-10 copies/µL for T. gondii DNA in clinical samples, such as blood, CSF and aqueous humour. These methods are more specific, and can give results in less than 1 hour, compared to the traditional PCR. In Iranian studies, prevalence of toxoplasmosis in immunocompromised children is 12-28% and the most severe form of toxoplasmosis is cerebral toxoplasmosis. To reduce hematologic toxicity, pharmacogenomic-guided therapy (PGT) uses two polymorphisms, CYP2C9 and VKORC1, for pyrimethamine dosing. Treatment with targeted combination drugs of pyrimethamine, sulfadiazine and leucovorin, based on molecular strain typing (Type I, II or III) has been found to be more effective and relapse rates have been lower. The technology of integrating point-of-care (POC) CRISPR testing into AI-powered clinical decision support systems will help speed up the diagnosis and tailor treatments individually. The preclinical studies of this type of gene editing in T. gondii with the CRISPR system on genes involved in virulence, including ROP18 and GRA15, show that this approach may be useful for therapeutic purposes in the future. Conclusion: CRISPR diagnostics as a novel approach in combination with precision targeted therapy is a valuable approach in the management of toxoplasmosis in immunocompromised Iranian children. These technologies can lead to significant decrease in diagnostic delay, increased survival and fewer complications related to the treatment. Keywords: CRISPR, Toxoplasmosis, Immunocompromised Children, Precision Medicine, Targeted Therapy, Iran.

Managing Chronic Giardiasis in Pediatric Patients of Iran by Microbiome Modulation as a Precision Strategy

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Infectious

abstract: Introduction: Giardiasis is a common intestinal parasitic disease in children which is due to Giardia lamblia and is very prevalent in developing countries such as Iran. This parasitic infection leads to chronic diarrhoea, malnutrition, growth failure and gut microbiota dysbiosis in children. The aim of this study was to investigate the role of microbiome modulation in treatment of chronic giardiasis in pediatric patients of Iran. Methods: PRISMA 2020 guidelines were followed in conducting this a systematic review. The keywords used for searching in the PubMed, Scopus, Web of Science, Google Scholar, SID, and MagIran databases were: Giardia, microbiome, dysbiosis, probiotics, children, precision medicine, and Iran, between 2015 and 2026. Results: Several studies have shown that Giardia infection can greatly impact the microbial diversity, affecting beneficial taxa (Bifidobacterium, Lactobacillus and Faecalibacterium) as well as increase the relative abundance of opportunistic pathogens (Klebsiella and Enterococcus). There is a correlation between chronic giardiasis and micronutrient deficiencies in Iranian children. Probiotics, with lactobacilli, decrease the intensity of parasites, restore gut barrier function and increase nutrient absorption. The results are promising for refractory cases with (fecal microbiota transplantation) FMT and specific prebiotics. The metabolomic results show altered bile acids and short chain fatty acids (SCFA) pathways. Personalized interventions with precision approaches and combination of host genetics and microbiome profiling. Iran has challenges such as high prevalence in rural areas, access to advanced sequencing is not easy and malnutrition co-exists. Eradication rates are higher and recurrence is lower with combined therapy (metronidazole + probiotics). Conclusions: This is a potential precision medicine strategy to treat chronic giardiasis in children through modulation of the host's microbiome. The confirmation of these protocols by large scale Iranian clinical trials is necessary to integrate the cost-effective protocols in the national health programs of children. Keywords: Microbiome modulation, Giardiasis, Precision medicine, Children, Iran

Precision Medicine for Helicobacter pylori Eradication in Pediatric Populations of Iran

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Infectious

abstract: Introduction: Helicobacter pylori infection is one of the most prevalent chronic infections around the world and is very common in the Iranian children, especially with from 40% to more than 70% in different parts of the country. Standard eradication regimens have become less effective due to the increased antibiotic resistance particularly to clarithromycin and metronidazole. The aim of this study was to evaluate the precision medicine strategies as a potential solution that can address these challenges and lead to increased eradication rates of H. pylori infection in pediatric populations of Iran. Methods: In this systematic review, all published articles (2017-2026) were collected by referring to PubMed, Google Scholar, Elsevier, Scopus, MagIran, and SID. Search keywords included: Helicobacter pylori, children, precision medicine, antibiotic resistance, pharmacogenomics, eradication, Iran, and pediatric. Results: Primary resistance rates have been consistently reported as high in Iranian children (resistance to clarithromycin 25–45%, resistance to metronidazole 45–70% and resistance to levofloxacin 15–30%). The use of culture-based susceptibility testing and PCR-based detection of resistance mutations (23S rRNA for clarithromycin, rdxA/frxA for metronidazole) greatly enhances eradication success, increasing from 65–75% (empiric therapy) to 90% (tailored regimens). In resistant strains, Bismuth quadruple therapy (PPI + bismuth + tetracycline + metronidazole) or concomitant therapy has proven to be more effective. CYP2C19 polymorphisms are a focus point of pharmacogenomic studies of proton pump inhibitors (PPIs), with poor metabolizers showing higher eradication rates with standard doses, and rapid metabolizers showing higher efficacy with increased doses and/or alternative PPIs such as vonoprazan. In Iranian paediatric cohorts, reinfections are also high (10–20% per year) and are related to poor sanitation and family clustering. Personalised risk stratification is possible through integration of precision tools like next generation sequencing (NGS) for strain typing and host genetic profiling. Conclusion: precision medicine is a crucial breakthrough in the H. pylori eradication in children of Iran. Molecular susceptibility testing and pharmacogenomics-based treatment protocols can significantly enhance clinical results and decrease unnecessary antibiotic consumption and the spread of antibiotic resistance. A large-scale multicenter study in Iran are required to prepare national protocols based on evidence. Keywords: Helicobacter pylori, Precision Medicine, Antibiotic Resistance, Pharmacogenomics, Children, Iran

Vaccination in Special Conditions: Challenges and Solutions in the National Immunization Program

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Infectious

abstract: Vaccination in special conditions like immunodeficiency and pregnancy poses major challenges, requiring specific guidelines within Iran's updated national immunization program. Numerous published studies consistently show that immunocompromised individuals face significantly higher severe infection risks and exhibit weaker seroconversion responses to standard vaccine schedules. With growing patient numbers on biological therapies, these clinical challenges have intensified considerably. Iran's Blue Book and National Committee guidelines specifically address this issue. Moreover, WHO and CDC strongly advocate inactivated vaccines for particularly immunodeficient patients and timely routine vaccination during pregnancy. This systematic review searched PubMed, Scopus, and Iranian national guidelines for studies from 2020 to 2026 on vaccination in immunocompromised, pregnant, and transplant patients. Extracted data underwent qualitative thematic analysis. The review reveals that inactivated vaccines are consistently safe and recommended for immunocompromised patients, while live-attenuated vaccines are mostly contraindicated. Pregnant women benefit significantly from timely pertussis and influenza vaccination. Transplant recipients show diminished seroconversion, necessitating additional booster doses. Coverage rates remain suboptimal in special groups due to provider hesitation and lack of specific protocols. Finally, updated national guidelines and targeted healthcare education are urgently needed to address these gaps effectively. This review draws on Iran's National Immunization Guide (1403 edition), the Blue Book of Vaccination, WHO and CDC guidelines, and peer-reviewed articles from PubMed (2020–2026) on vaccination in immunodeficiency, pregnancy, transplantation, and chronic diseases. Vaccination, Special Conditions, Immunization, Immunodeficiency, Pregnancy, National Vaccination Program, High-Risk Groups, Inactivated Vaccines, Immunogenicity, Clinical Guidelines. Iran's latest national vaccination program, revised in 1403, is a highly effective public health intervention against vaccine-preventable diseases. However, vaccination in special clinical conditions—including primary and secondary immunodeficiencies, pregnancy, chronic liver and kidney diseases, and organ transplantation—presents major challenges due to altered immune responses, diminished immunogenicity, and differing safety profiles. This article examines these challenges, reviews current clinical principles and evidence-based guidelines, and proposes practical strategies to enhance immunization coverage and overall effectiveness for vulnerable populations. It underscores the critical need for developing specific national protocols, updating existing guidelines, and strengthening healthcare worker training to effectively address these complex clinical scenarios.

A Clinical Guide to Specialized Therapeutic Formulas in Infancy: Indications and Selection Criteria

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Gastroenterology

abstract: Breast milk remains the gold standard for infant nutrition, and no commercial infant formula can fully replicate its unique nutritional, immunological, and bioactive properties. Nevertheless, in a subset of infants with gastrointestinal diseases, food allergies, metabolic disorders, growth failure, liver disease, pancreatic disorders, or prematurity, the use of specialized therapeutic formulas is an indispensable component of management to meet nutritional requirements and improve clinical outcomes. Under these circumstances, formula is not merely a source of nutrition but a therapeutic intervention, and its appropriate selection can influence disease course, growth, and ultimately, quality of life. Over the past two decades, advances in nutritional science have led to the development of a new generation of infant formulas in which one or more major components—including protein, carbohydrates, fat, energy, micronutrients, and functional ingredients such as human milk oligosaccharides (HMOs), probiotics, prebiotics, and postbiotics—have been modified to address the specific nutritional needs of different patient populations. Therefore, specialized formulas should not be classified solely by their brand names but rather by understanding which component has been modified, the rationale behind that modification, and the patient population most likely to benefit from it. Protein is one of the principal determinants of the therapeutic properties of an infant formula. In cow's milk protein allergy (CMPA), the primary objective is to reduce protein allergenicity through hydrolysis or complete elimination of the offending protein. Partially hydrolyzed formulas (pHF), although easier to digest than standard formulas, retain antigenic peptides and therefore have no role in the treatment of cow's milk protein allergy. In contrast, extensively hydrolyzed formulas (eHF) are considered the treatment of choice for most affected infants, whereas amino acid-based formulas are reserved for severe conditions such as anaphylaxis, food protein-induced enterocolitis syndrome (FPIES), severe enteropathy, or refractory eosinophilic gastrointestinal disorders. As protein molecular size decreases, allergenicity is reduced; however, osmolality, cost, and occasionally poor palatability increase. These factors should be carefully considered when selecting the most appropriate formula. Carbohydrates are not merely an energy source but also play a pivotal role in intestinal physiology. In addition to providing energy, lactose enhances calcium absorption, promotes the growth of bifidobacteria, and facilitates the production of short-chain fatty acids. Consequently, lactose should be eliminated only in well-defined conditions such as galactosemia, congenital lactase deficiency, or selected cases of severe lactose intolerance. Modification of fat composition represents another key feature of therapeutic formulas. Increasing the proportion of medium-chain triglycerides (MCTs) enhances fat absorption in conditions such as cholestasis, pancreatic insufficiency, cystic fibrosis, intestinal lymphangiectasia, and short bowel syndrome because the absorption of these fatty acids is less dependent on bile salts and pancreatic lipase. However, MCTs are not an adequate source of essential fatty acids, and

prolonged use without sufficient long-chain fatty acid supplementation may result in nutritional deficiencies as well as impaired visual and neurological development. This consideration should always be taken into account when prescribing MCT-enriched formulas. In recent years, the incorporation of bioactive components into infant formulas has opened a new horizon in clinical nutrition. Human milk oligosaccharides (HMOs), probiotics, prebiotics, synbiotics, and postbiotics have been incorporated with the aim of making formula functionally more similar to human milk. Although current evidence suggests that these components exert beneficial effects on gut microbiota development, immune maturation, and the reduction of certain infections and functional gastrointestinal disorders, no infant formula can fully reproduce the biological complexity of human milk. Furthermore, many commercial claims regarding these products remain insufficiently supported by robust scientific evidence. Today, the spectrum of specialized formulas extends well beyond products intended for cow's milk protein allergy and includes anti-reflux formulas, high-energy formulas, formulas for preterm infants, lactose-free formulas, MCT-enriched formulas, and disease-specific formulas for inherited metabolic disorders such as phenylketonuria, maple syrup urine disease, tyrosinemia, and other inborn errors of metabolism. The unifying principle underlying all of these products is the targeted modification of one or more nutritional components to address a specific metabolic or pathophysiological requirement. Ultimately, the selection of an appropriate specialized formula should not be based on advertising, price, or brand name, but rather on the integration of nutritional knowledge, a thorough understanding of formula composition, and the pathophysiology of the underlying disease.

Infantile Cholestasis

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Gastroenterology

abstract: **Abolfazl Iranikhah** **Associate Professor in Pediatric Gastroenterology** **Qom University of Medical Sciences** **Infantile Cholestasis: Clinical Priorities and Diagnostic Urgency** Infantile cholestasis constitutes a critical medical emergency that demands a comprehensive, high-speed evaluation. The primary clinical imperative is the rapid and precise differentiation between intrahepatic conditions—encompassing a broad spectrum of metabolic, genetic, and infectious disorders—and extrahepatic etiologies. While intrahepatic causes frequently necessitate highly specialized medical therapy or supportive management, extrahepatic causes, particularly those involving anatomical obstruction, mandate immediate surgical intervention to prevent catastrophic and permanent liver damage. Distinguishing these etiologies remains the most significant diagnostic challenge in pediatric hepatology, primarily due to overlapping clinical presentations, including prolonged jaundice, acholic stools, dark urine, and hepatomegaly, which often mask the underlying pathology during the critical early weeks of infancy. Extrahepatic Biliary Atresia (EHBA) represents the most critical diagnostic consideration in this patient population. As an aggressive, progressive fibro-inflammatory obliteration of the biliary tree, EHBA demands immediate recognition and absolute prioritization. The pathophysiological window for therapeutic success is exceptionally narrow; long-term patient outcomes are inextricably linked to the infant's chronological age at the precise time of surgical intervention. The Kasai hepatoportoenterostomy (KASAI), when performed during the optimal early neonatal period, provides the highest probability of restoring bile flow and significantly delaying the inevitable, rapid progression to biliary cirrhosis, portal hypertension, and subsequent liver failure. Failure to achieve timely surgical decompression inevitably leads to irreversible structural liver damage, portending a dismal prognosis and frequently necessitating urgent liver transplantation. Consequently, a standardized, aggressive diagnostic workup—incorporating high-resolution ultrasound, specific biochemical liver function profiles, and early histopathological assessment—is mandatory to expedite surgical referral. Clinicians must prioritize the absolute exclusion of EHBA within the first weeks of life. Any delay in surgical management remains the leading factor contributing to post-operative failure. Establishing a definitive diagnosis and initiating the Kasai procedure before the onset of severe, irreversible fibrosis is the essential strategy to improve long-term native liver survival and clinical outcomes in infants presenting with cholestatic jaundice.

Cutaneous Manifestations of Childhood-Onset Systemic Lupus Erythematosus

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Rheumatology

abstract: Cutaneous Manifestations of Childhood-Onset Systemic Lupus Erythematosus: An Updated Review Abstract Childhood-onset systemic lupus erythematosus (cSLE) is a severe autoimmune disease characterized by multisystem involvement and a higher disease burden than adult-onset SLE. Mucocutaneous manifestations occur in approximately 70–85% of pediatric patients and frequently represent one of the earliest clinical presentations, making them crucial for timely diagnosis and disease monitoring. Recent evidence highlights that several cutaneous lesions closely parallel systemic disease activity and may precede major organ involvement. Cutaneous manifestations are broadly categorized into lupus-specific and lupus-nonspecific lesions. Lupus-specific lesions include acute cutaneous lupus erythematosus (ACLE), subacute cutaneous lupus erythematosus (SCLE), and chronic cutaneous lupus erythematosus (CCLE). ACLE, particularly the classic malar rash, is the predominant subtype in children and demonstrates a strong association with active systemic disease. SCLE is relatively uncommon in pediatric patients and typically presents with annular or papulosquamous photosensitive eruptions. Chronic lesions, including discoid lupus erythematosus, lupus panniculitis, chilblain lupus, and hypertrophic lupus, are less frequent than in adults but may lead to permanent scarring and pigmentary changes if diagnosis is delayed. Lupus-nonspecific manifestations encompass photosensitivity, painless oral and nasal ulcers, diffuse non-scarring alopecia, cutaneous small-vessel vasculitis, livedo reticularis, Raynaud phenomenon, periungual telangiectasia, nail-fold infarcts, urticarial vasculitis, purpura, and calcinosis. These lesions often indicate active inflammation and should prompt comprehensive evaluation for renal, hematologic, neurologic, and cardiovascular involvement. Recent studies further emphasize the diagnostic value of nail-fold capillaroscopy and standardized assessment using the Cutaneous Lupus Erythematosus Disease Area and Severity Index (CLASI) for monitoring treatment response and disease progression. Diagnosis relies on detailed clinical examination supported by serological investigations, including antinuclear antibodies (ANA), anti-double-stranded DNA antibodies, complement levels, antiphospholipid antibodies when indicated, and histopathological examination with direct immunofluorescence in atypical cases. Differential diagnosis includes juvenile dermatomyositis, rosacea, psoriasis, seborrheic dermatitis, photodermatoses, viral exanthems, and primary vasculitides. Current management focuses on early recognition, strict photoprotection, topical corticosteroids, and topical calcineurin inhibitors for localized lesions. Hydroxychloroquine remains the cornerstone of systemic therapy and is recommended for nearly all patients unless contraindicated. Moderate-to-severe cutaneous disease may require systemic corticosteroids and steroid-sparing immunomodulators, including mycophenolate mofetil, methotrexate, azathioprine, or biologic agents such as belimumab in refractory disease. Emerging therapeutic strategies targeting interferon signaling pathways, Janus kinase (JAK) inhibition, and plasmacytoid dendritic cell activation may further improve outcomes in pediatric lupus. Early identification of cutaneous manifestations enables prompt diagnosis, facilitates assessment of disease activity, reduces irreversible skin damage, and ultimately improves long-term prognosis and quality of life in children with systemic lupus erythematosus.

Recurrent Cardiac Neonatal Lupus: A Case-Based Journey from Antenatal Surveillance to Postnatal Pacemaker Implantation

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Rheumatology

abstract: Abstract Title: Recurrent Cardiac Neonatal Lupus: A Case-Based Journey from Antenatal Surveillance to Postnatal Pacemaker Implantation Background: Neonatal Lupus Erythematosus (NLE) is a rare passive autoimmune disease caused by the transplacental transfer of maternal anti-Ro/SSA and/or anti-La/SSB antibodies. While cutaneous and hematological manifestations are transient, cardiac NLE (primarily congenital heart block [CHB] and endocardial fibroelastosis [EFE]) carries significant morbidity and mortality. The recurrence risk in subsequent pregnancies increases up to 20%, demanding strict surveillance and preventive strategies. Case Presentation: We report a G2P1 mother whose first child was diagnosed with NLE presenting with annular rash, hepatomegaly, and dilated cardiomyopathy. Post-delivery, the asymptomatic mother tested positive for anti-Ro/SSA and anti-La/SSB, subsequently developing early Sjogren's syndrome. In her second pregnancy, hydroxychloroquine (HCQ) 400 mg/day was initiated preconceptionally. Fetal echocardiography was performed weekly starting from gestational week 16. At week 20, early signs of fetal cardiac injury emerged with prolonged mechanical PR interval and intermittent second-degree AV block. Oral dexamethasone (4 mg/day) was immediately added. Despite therapy, by week 23, echocardiography revealed bright endocardial lining indicating evolving EFE and mild biventricular dysfunction. At week 27, the conduction delay progressed to irreversible complete (third-degree) AV block with a fetal heart rate of 50–55 bpm. The neonate was delivered at 37 weeks in a tertiary center. Postnatal ECG confirmed complete AV block (HR ~50 bpm) accompanied by mild respiratory distress, hepatomegaly, and echocardiographic signs of EFE with depressed ventricular function. Initial stabilization in the NICU included chronotropic support with isoproterenol infusion as a bridge therapy, followed by successful permanent pacemaker implantation. Discussion: This case highlights the challenges in managing recurrent cardiac NLE. Although HCQ reduces recurrence and fluorinated corticosteroids (dexamethasone) are indicated for early-stage conduction blocks (1st and 2nd degree) or active myocarditis/EFE, established third-degree AV block remains irreversible. Close multidisciplinary collaboration between maternal-fetal medicine, pediatric cardiology, and rheumatology is crucial for timely delivery planning and postnatal pacing. Conclusion: A history of NLE warrants aggressive preconception counseling, early HCQ administration, and weekly fetal echo monitoring. When complete AV block is established, postnatal management focuses on hemodynamic stabilization and prompt permanent pacing. Keywords: Neonatal Lupus, Congenital Heart Block, Endocardial Fibroelastosis, Hydroxychloroquine, Pacemaker.

Successful Limb Salvage in Pediatric Nicolau Syndrome Following Intramuscular Benzathine Penicillin: A Case Report and Review of Literature

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PICU

abstract: Abstract Nicolau syndrome, also known as emboli cutis medicamentosa, is a rare but potentially severe complication of parenteral drug administration that may lead to acute pain, livedoid discoloration, and cutaneous or subcutaneous necrosis(1). We report the case of a 4-year-old boy who developed Nicolau syndrome shortly after intramuscular administration of benzathine penicillin for streptococcal pharyngitis. He presented with sudden severe pain, pallor, mottling, and livedoid changes involving the injected limb and adjacent regions. Prompt recognition and multidisciplinary conservative management, including anticoagulation, topical vasodilator therapy, corticosteroids, limb elevation, and intensive monitoring, were associated with progressive clinical improvement and preservation of limb function(2). This case highlights the importance of early diagnosis and timely supportive intervention in preventing severe ischemic complications of Nicolau syndrome (2). Keywords: Nicolau syndrome; embolia cutis medicamentosa; intramuscular injection; benzathine penicillin; pediatric; limb ischemia.

Surviving Sepsis Campaign International Guidelines for the Management of Sepsis and Septic Shock in Children 2026

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PICU

abstract: Abstract: Antimicrobial Therapy and Source Control in Pediatric Sepsis Background: Prompt and appropriate antimicrobial administration alongside effective source control are critical pillars in the management of pediatric sepsis and septic shock to reduce mortality and prevent antimicrobial resistance. Key Recommendations: Antimicrobial Initiation & Coverage: Blood cultures should be obtained before initiating antimicrobial therapy provided it does not cause substantial delay. Broad-spectrum empiric antimicrobials must be administered as soon as possible-ideally within 1 hour of recognition for children with septic shock, and within 3 hours for those with probable sepsis without shock. For patients with immune compromise or high risk of multidrug-resistant pathogens, empiric multidrug therapy is suggested. Specialist Consultation: Routine infectious disease or medical microbiology consultation is suggested for hospitals managing children with documented bloodstream infections (such as Staphylococcus aureus, Candida, or Enterococcus species) to optimize treatment outcomes. De-escalation & Biomarkers: Timely de-escalation or cessation of antimicrobials is recommended once infection is excluded or pathogens are identified and sensitivities are available. However, the routine use of procalcitonin to guide de-escalation is currently not recommended due to insufficient certainty of benefit. Source Control: Emergent source control interventions—including appropriate diagnostic testing, specialist advice (surgical or infectious diseases), and the prompt removal of infected or contaminated intravascular access devices— should be performed as soon as possible after the source of infection is identified. Conclusion: Optimizing pediatric sepsis outcomes requires a structured approach centered on rapid, targeted antimicrobial administration, specialist infectious disease consultation, biomarker-informed de-escalation strategies, and timely physical source control interventions.

Accuracy of Pediatric Prehospital Triage Systems in Predicting Critical Outcomes: A Systematic Review with Narrative Synthesis

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Emergency

abstract: Background: Accurate prehospital triage of injured children is essential to ensure timely access to life-saving care while minimizing inappropriate use of limited trauma resources. Multiple pediatric-specific and adult-adapted triage tools (e.g., JumpSTART, Pediatric Triage Tape, MPTT-24, Battlefield Casualty Drills sieve, and the Sheffield Paediatric Triage Tool) are used in routine trauma care and mass-casualty incidents; however, their ability to predict critical outcomes in children remains uncertain. Methods: We conducted a PRISMA-compliant systematic review with narrative synthesis. PubMed, Embase, Scopus, and Web of Science were searched from January 1, 2015 to December 31, 2024 for peer-reviewed studies evaluating prehospital triage tools in pediatric patients (18 years). Eligible studies reported diagnostic performance against outcome-based reference standards, including life-saving interventions, major trauma (ISS 15), intensive care unit admission, or mortality. Data on sensitivity, specificity, and under- and over-triage were extracted. Methodological quality was assessed using QUADAS-2. Owing to substantial clinical and methodological heterogeneity, findings were synthesized narratively. Results: Twenty studies met inclusion criteria. Pediatric-specific tools such as JumpSTART and the Pediatric Triage Tape consistently demonstrated low to moderate sensitivity, frequently under-triaging critically injured children, particularly in younger age groups. Adult-adapted, physiology-based tools (including MPTT-24, the Battlefield Casualty Drills sieve, and the Sheffield Paediatric Triage Tool) generally achieved higher sensitivity for identifying children requiring urgent or life-saving interventions, but at the cost of markedly increased over-triage. No evaluated triage system consistently met recommended benchmark standards for pediatric trauma triage. Conclusion: Current prehospital pediatric triage tools show important limitations. Pediatric-specific algorithms tend to under-triage, whereas adult-adapted tools improve sensitivity but substantially increase over-triage. No single tool demonstrates an optimal balance between sensitivity and specificity. These findings highlight the need for prospective validation studies and refinement of pediatric triage strategies to improve early identification of critically injured children while maintaining system efficiency.
Keywords: Pediatric triage; Prehospital care; Trauma; Mass casualty incident; Life-saving interventions; Triage accuracy; JumpSTART; Pediatric Triage Tape; MPTT-24; SPTT; Battlefield Casualty Drills (BCD); Under-triage; Over-triage; Sensitivity; Emergency medical services

Advanced Respiratory Management in Neonates and Children: Focus on Effective Positive Pressure Ventilation

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Emergency

abstract: چکیده مقدمه نارسایی تنفسی مهم‌ترین علت ایست قلبی در نوزادان و کودکان است و کیفیت تهویه مؤثر، مهم‌ترین عامل موفقیت در احیا محسوب می‌شود. برخلاف بزرگسالان که ماساژ قلبی اهمیت بیشتری دارد، در نوزادان و کودکان اکثر موارد ایست قلبی در اثر هیپوکسی ایجاد می‌شود؛ بنابراین ارائه صحیح تنفس مصنوعی نقش کلیدی در پیشگیری از مرگ و آسیب‌های عصبی دارد. این مطالعه با هدف مرور جدیدترین شواهد در زمینه مدیریت پیشرفته تنفسی و ارائه راهکارهای عملی برای بهبود روش مطالعه حاضر یک مرور روایتی است که بر اساس آخرین دستورالعمل‌های AHA، ILCOR .کیفیت تهویه انجام شد یافته‌ها مهم‌ترین .انجام شد Web of Science و Scopus، PubMed و مقالات منتشر شده در پایگاه‌های ERC و NRP مناسب ماسک، ارزیابی حرکت Seal عوامل موفقیت در تهویه شامل انتخاب مناسب وسیله تهویه، وضعیت صحیح راه هوایی، ایجاد ، مانیتورینگ ضربان قلب، اشباع اکسیژن وMR SOPA قفسه سینه، استفاده از فشار دم مناسب، اصلاح تهویه با الگوریتم نتیجه‌گیری .است. همچنین آموزش مبتنی بر شبیه‌سازی و تمرین مداوم سبب کاهش خطاهای تهویه می‌شود Capnography تهویه مؤثر مهم‌ترین مداخله در احیای نوزادان و کودکان است. رعایت اصول استاندارد ارائه تنفس مصنوعی و آموزش مستمر تیم کلیدواژه‌ها: .درمان موجب کاهش مرگ‌ومیر و عوارض نورولوژیک خواهد شد Neonatal Resuscitation، Positive Pressure Ventilation، Pediatric Airway، Respiratory Support، NRP، PALS

Pediatric Trauma: Current Evidence, Diagnostic Challenges, and Management in Emergency Settings – A Systematic Review

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Emergency

abstract: Background: Trauma remains a leading cause of morbidity and mortality among children worldwide. Unique anatomical and physiological characteristics—including a larger head-to-body ratio, compliant thoracic cage, and immature spine—make pediatric trauma particularly challenging to diagnose and manage. Recent advances in imaging modalities, clinical decision rules, and trauma system organization continue to shape pediatric emergency care. Methods: A systematic review was conducted following PRISMA 2020 guidelines. Four major databases (PubMed, Embase, Scopus, Web of Science) were searched for studies published between 2015 and 2025. Eligible studies included randomized trials, observational cohorts, and systematic reviews reporting diagnostic accuracy, imaging utilization, resuscitation practices, clinical outcomes, or trauma system factors in pediatric trauma. Two reviewers independently screened records, extracted data, and assessed methodological quality using RoB2, the Newcastle–Ottawa Scale, and QUADAS-2. Results: Thirty-one studies met inclusion criteria, encompassing more than 25,000 pediatric trauma patients. PECARN clinical decision rules demonstrated near-perfect sensitivity (~99–100%) for clinically important traumatic brain injury and intra-abdominal injury. FAST ultrasound showed low sensitivity (~35%) but high specificity (~95%) for intra-abdominal injury, whereas contrast-enhanced ultrasound exhibited substantially higher diagnostic accuracy (sensitivity 88–90%, specificity 98–99%). Updated guidelines for pediatric solid organ injury and severe traumatic brain injury supported non-operative management and emphasized prevention of secondary brain injury. Trauma systems with dedicated pediatric trauma centers and high emergency department readiness were consistently associated with lower mortality and improved outcomes. Conclusion: Significant progress has been made in pediatric trauma diagnostics, imaging strategies, and trauma system readiness. However, challenges persist, including limited sensitivity of FAST, variability in CT utilization, gaps in evidence for thoracic and spinal trauma, and global disparities in access to pediatric trauma care. Further pediatric-specific research is needed to refine imaging pathways, optimize resuscitation protocols, and strengthen trauma systems worldwide. Keywords: pediatric trauma; emergency medicine; traumatic brain injury; PECARN; FAST ultrasound; contrast-enhanced ultrasound; blunt abdominal injury; pediatric trauma systems; resuscitation; emergency department readiness

Clinical Performance of Artificial Intelligence in Pediatric Disease Diagnosis: A Systematic Review and Meta Analysis Across Neurological, Dental, and Cardiovascular Applications

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Neurology,Psychiatry,Physical....

abstract: Artificial intelligence (AI) has emerged as a promising tool for improving diagnostic accuracy in pediatric medicine. Applications include electroencephalography interpretation, dental imaging analysis, and congenital heart disease detection. However, evidence regarding the overall diagnostic performance of AI in pediatric diseases remains fragmented across specialties. This systematic review and meta analysis synthesizes evidence regarding the diagnostic accuracy of AI based models in pediatric disease detection. Literature from major biomedical databases including PubMed, Web of Science, Embase, and Cochrane Library was reviewed with emphasis on systematic reviews and meta analyses involving pediatric populations or pediatric datasets. Diagnostic performance indicators such as sensitivity, specificity, and area under the receiver operating characteristic curve (AUC) were extracted and interpreted using principles of diagnostic test accuracy meta analysis. Evidence shows strong performance of AI systems in several pediatric diagnostic contexts. In pediatric epilepsy detection using electroencephalography, deep learning models demonstrated pooled sensitivity of approximately 0.89 and specificity of 0.91 in validation datasets. In pediatric dentistry, pooled diagnostic performance of AI systems showed sensitivity and specificity around 0.89 and 0.91 respectively. Machine learning approaches for congenital heart disease diagnosis demonstrated pooled sensitivity and specificity close to 0.90 across multiple studies. AI based diagnostic tools show promising accuracy in pediatric medicine, particularly in image and signal based diagnostics. However, widespread clinical adoption requires improved external validation, multicenter datasets, bias assessment, and transparent reporting standards. Future research should focus on robust validation frameworks and integration with clinical decision support systems. artificial intelligence; pediatric disease; machine learning; deep learning; diagnostic accuracy; systematic review; meta analysis.

Comparing the effect of cinnarizine with placebo, cinnarizine with coenzyme Q10, and cinnarizine with riboflavin in preventing headache attacks in children aged 5-15 years with migraine.

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Neurology,Psychiatry,Physical....

abstract: Introduction: Migraine headaches are the most important and common headache in the pediatric age group, occurring in 10.6% of children aged 5-15 years. In order to prevent migraine headaches, various combinations are used, but there is no consensus on the preferred drug and single protocol. This study was conducted to investigate and compare the effect of cinnarizine with placebo and the combination of cinnarizine with coenzyme Q10 and riboflavin with cinnarizine in preventing migraine headache attacks in children. Methods: The type of study is a randomized clinical trial, in which children between 5 and 15 years of age with migraine headaches were studied. Sampling was available until the sample size was completed. Initially, children who, based on the history, physical examination, and clinical judgment of a pediatric neurologist, have migraine headaches and have been consecutively referred to the Pediatric Neurology Clinic of Shahid Sadoughi University of Medical Sciences in Yazd since July 2025 and have recurrent headaches (more than once a week) or debilitating headaches (PedMIDAS score more than 20) that require migraine headache prevention treatment, were included in this study after interviewing and obtaining parental consent and declaring their cooperation. Then, the children were randomly divided into three groups. The method of randomizing the children studied and selecting the type of medication to be given to the child was by using a random number table. Results: In this study, 38 children (42.2%) were girls and 52 children (57.8%) were studied. The most frequent age of onset of headaches was 7 years of age, with a frequency of 13 (14.4%). The highest frequency of headaches per month was obtained at the age of 10 with a frequency of 15 children (16.7%), followed by the highest frequency at the age of 6 with a frequency of 14 children (15.6%). The average number of headaches before and after all three groups was significantly reduced. The level of disability due to headaches was significantly reduced in all three groups (P value: 0.000). The severity of headaches was significantly reduced in all three groups (P value: 0.000). Conclusion: The results showed that the use of these supplements, especially riboflavin, along with cinnarizine, significantly reduces the frequency, severity, and duration of migraine attacks. This effectiveness was more impressive compared to the use of cinnarizine with placebo. Keywords: Migraine headache, children, riboflavin,

Approach to wheezing in infants and children

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pulmonary disease

abstract: Approach to wheezing in infants and children Rouhollah Rohani, Pediatric pulmonologist, children medical center, TUMS Definition and physiology of wheezing – A wheeze is a continuous musical sound heard during chest auscultation that lasts longer than 250 msec. It is produced by the oscillation of opposing walls of an airway narrowed almost to the point of closure. It can be high pitched or low pitched, consist of single or multiple notes, occur during inspiration or expiration or biphasic, and originate from airways of any size. ●Causes – Wheezing is a common presenting symptom of respiratory disease in children. It may be either a benign, self-limited process or the presenting symptom of a significant respiratory disease . •Acute-onset wheezing – In addition to asthma, acute onset of wheezing in a child is most often caused by infection or foreign body aspiration (FBA). •Chronic or recurrent wheezing – The most likely diagnosis in children with recurrent wheezing is asthma. However, not all patients with asthma wheeze, and other diseases can present with chronic or episodic wheezing. The differential diagnosis is broad and includes structural abnormalities of the tracheobronchial tree or other thoracic structures (eg, vascular rings and slings, mediastinal masses). Nonstructural (functional) causes include aspiration syndromes (from gastroesophageal reflux [GER] and dysphagia), bronchopulmonary dysplasia, vocal cord dysfunction (including inducible laryngeal obstruction [ILO; historically known as paradoxical vocal fold movement (PVFM)] in older children), abnormal immunologic defense mechanisms, bronchiolitis obliterans (BO), and interstitial lung disease (ILD). ●Evaluation – Clinical history and physical examination often allow accurate diagnosis . Additional diagnostic tools are helpful in establishing the underlying etiology of wheezing in select patients. •Clinical history – When a patient presents with a history of wheezing, it is crucial to ask the patient or the caregivers to describe what they actually are experiencing or hearing (or demonstrate it with a home video or audio recording taken on a mobile phone). On many occasions, the word "wheezing" is used as a general term to describe noisy breathing, including snoring, congestion, gurgling noises, or stridor. Two important aspects of the medical history include the patient's age at the onset of wheezing and the course of onset (acute versus gradual). Certain clinical features favor the diagnosis of asthma or suggest another diagnosis. •Physical exam – General examination of a wheezy child should include measurement of weight and height; vital signs including oxygen saturation; digital inspection for the presence of cyanosis or clubbing; a complete chest examination; and cardiac, skin, and nasal examinations. •Imaging – Anteroposterior (AP) and lateral chest radiographs are suggested in children with new-onset wheezing of undetermined etiology or chronic, persistent wheezing not responding to therapies. Other radiologic studies such as computed tomography (CT) scan and magnetic resonance angiography (MRA) may be helpful in selected cases. •Pulmonary function testing – Pulmonary function tests (PFTs) are an important component of the diagnostic evaluation of a wheezy child.

In older children who are cooperative, PFT with inspiratory and expiratory flow-volume loops is helpful in determining the presence, degree, and location of airway obstruction, as well as the response to bronchodilators. •Endoscopy – When suspected, endoscopy can help identify FBA or structural abnormalities. •Response to treatment – For patients suspected of having asthma, a trial of inhaled bronchodilators with or without glucocorticoids can be used to confirm the diagnosis prior to initiating a more extensive work-up. Further work-up is indicated if the response to therapy is inadequate. •Laboratory studies – There are few laboratory investigations that are useful in the initial evaluation of the wheezy child. Any studies obtained beyond chest radiographs and PFTs should be based upon the suspected diagnosis. These studies include tests to examine for viral, bacterial, or fungal infections; sweat chloride test to diagnose cystic fibrosis (CF), work-up for primary ciliary dyskinesis, evaluation for immunodeficiency or allergy, and work-up for GER if indicated.

The Role of Inhaled Budesonide (Pulmicort) in the Management of Respiratory Manifestations in Patients with Cystic Fibrosis

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pulmonary disease

abstract: Cystic fibrosis (CF) is a chronic multisystem genetic disorder characterized by abnormal ion transport, persistent airway inflammation, and recurrent respiratory infections. Although inhaled corticosteroids are not considered a standard therapy for all patients with CF, they are frequently prescribed in clinical practice, particularly in patients with concomitant asthma, bronchial hyperreactivity, or significant airway inflammation. Budesonide (Pulmicort) is an inhaled corticosteroid with potent local anti-inflammatory effects and relatively limited systemic exposure. Objective: To review the potential role of inhaled budesonide (Pulmicort) in the management of respiratory manifestations in patients with cystic fibrosis and to evaluate the current evidence regarding its clinical benefits and limitations. Methods: A review of the available literature was performed focusing on studies evaluating inhaled corticosteroids, particularly budesonide, in patients with CF. Relevant outcomes included pulmonary function, respiratory symptoms, frequency of pulmonary exacerbations, airway inflammation, and potential adverse effects. Results: Current evidence does not support the routine use of inhaled corticosteroids in all patients with CF in the absence of another clear indication. However, budesonide may have a role in selected patients with CF who have coexisting asthma, bronchial hyperresponsiveness, or other steroid-responsive airway disease. Potential benefits include reduction of airway inflammation and improvement in respiratory symptoms in appropriately selected patients. Nevertheless, concerns regarding long-term corticosteroid exposure, including potential effects on growth, bone health, and susceptibility to infection, should be considered. The available evidence remains heterogeneous, and the efficacy of inhaled corticosteroids as a routine component of CF therapy has not been firmly established. Conclusion: Pulmicort may be beneficial in selected patients with cystic fibrosis, particularly those with concomitant asthma or steroid-responsive airway inflammation, but current evidence does not justify its routine use in all patients with CF. Treatment should therefore be individualized according to clinical phenotype and associated airway disease. Further well-designed prospective studies are needed to clarify the role of budesonide in CF management.

The Last Mile of Genomics: Beyond Algorithms in Pediatric Precision Medicine

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Genetics

abstract: The rapid evolution of genomic technologies, artificial intelligence (AI)-assisted analytical platforms, and large-scale biomedical resources are reshaping pediatric precision medicine. These advances have substantially expanded access to genomic information and improved analytical capabilities. However, translating genomic findings into clinically meaningful diagnoses and management decisions remains a complex process that extends beyond data generation and automated interpretation. The increasing availability of AI-supported genomic interpretation represents an important step toward more accessible precision medicine. Nevertheless, as with previous waves of genomic innovation, broader access to advanced technologies alone does not guarantee appropriate clinical application. Selecting the most informative genetic test, defining the underlying clinical question, and interpreting complex genomic findings within the appropriate phenotypic context continue to require specialized clinical and genomic expertise. Without such integration, diagnostic pathways may become less efficient, potentially increasing unnecessary investigations, healthcare costs, and delays in reaching clinically actionable conclusions. Genomic interpretation requires the integration of molecular findings with detailed phenotypic evaluation, knowledge of disease mechanisms, variant classification frameworks, and evolving clinical evidence. Within this process, medical geneticists and molecular geneticists play complementary roles by guiding appropriate test selection, critically evaluating genomic evidence, and collaborating with disease specialists to determine whether identified variants support clinically relevant therapeutic opportunities. AI-based analytical platforms should therefore be regarded as decision-support technologies that augment, rather than replace, expert clinical and molecular judgment. In pediatric disorders, where early molecular diagnosis may directly influence prognosis, clinical management, and access to mechanism-informed therapeutic options, successfully addressing the "last mile" of genomics is particularly important. The future of pediatric precision medicine is therefore likely to depend on a collaborative human-AI model in which computational intelligence enhances multidisciplinary expertise, enabling individualized, evidence-informed diagnostic strategies and more precise therapeutic decision-making rather than routine, one-size-fits-all management. Keywords: Pediatric Precision Medicine; Clinical Genomics; Artificial Intelligence; Human–AI Collaboration; Variant Interpretation; Translational Genomics

**Beyond Variant Classification: Clinical Interpretation of the HBB c.396G>C Variant in a Couple Undergoing Prenatal Genetic Counseling

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Genetics

abstract: ۱. مقدمه آزمایش‌های ژنتیکی به‌عنوان یکی از ابزارهای مهم در مشاوره ژنتیک پره‌ناتال، به‌ویژه در مواردی که یکی از زوجین ناقل بتا تالاسمی است، کاربرد گسترده‌ای دارند. با این حال، گزارش یک واریانت با عنوان «احتمالاً بیماری‌زا» لزوماً به تفسیر صحیح واریانت‌های ژنتیکی نیازمند بررسی همزمان یافته‌های مولکولی، فنوتیپ .معنای وجود بیماری بالینی در فرد نیست هماتولوژیک، نتایج بررسی هموگلوبین، الگوی توارث و شواهد موجود در منابع علمی و پایگاه‌های اطلاعاتی است. این موضوع در مشاوره ژنتیک دوران بارداری اهمیت ویژه‌ای دارد؛ زیرا تفسیر نادرست یک واریانت می‌تواند موجب نگرانی غیرضروری والدین مواد و روش‌ها یک زوج در ماه ششم بارداری برای دریافت مشاوره ژنتیک . .و تصمیم‌گیری نامناسب در دوران بارداری شود در بررسی همسر، سابقه میکروسیتوز و هیپوکرومی وجود داشت. شاخص‌های .مراجعه کردند. زن، ناقل شناخته‌شده بتا تالاسمی بود HBB خونی، سابقه بالینی و نتایج آزمایش‌های موجود بررسی شد. با توجه به احتمال وجود یک اختلال هموگلوبین، توالی‌یابی ژن واریانت شناسایی‌شده با استفاده از منابع علمی و پایگاه‌های اطلاعاتی واریانت‌ها مورد بررسی قرار گرفت و شواهد .انجام شد مربوط به اهمیت بالینی و ارتباط ژنوتیپ با فنوتیپ ارزیابی شد.نتایج یافته‌های هماتولوژیک در همسر، شاخص‌های گلبول قرمز در :پس از دریافت مکمل آهن، شاخص‌های گلبول قرمز بهبود یافتند MCV = 73 fL MCH = 23 pg :گذشته به صورت زیر بود :MCVقبل از مکمل آهن :طراحی کن Before / After این قسمت را حتماً به صورت MCV = 87 fL MCH = 27.1 pg ، HBB یافته مولکولی در توالی‌یابی ژن MCV: 87 MCH: 27.1پس از مکمل آهن ⬇مکمل آهن ⬇ 73 MCH: 23 احتمالاً » :این واریانت در گزارش آزمایشگاه با عنوان HBB c.396GC p.Gln132His (Q132H) :واریانت زیر شناسایی شد اما بررسی بیشتر منابع علمی و پایگاه‌های اطلاعاتی نشان داد که این .گزارش شده بود «بیماری‌زا (Likely Pathogenic) مرتبط است؛ یک واریانت ساختاری هموگلوبین که در گزارش اولیه آن، تظاهر Silver Springs واریانت با هموگلوبین بنابراین، صرف طبقه‌بندی «احتمالاً بیماری‌زا» برای تعیین وضعیت بالینی .هماتولوژیک قابل‌توجهی در افراد حامل گزارش نشده بود .فرد و نتیجه‌گیری درباره خطر جنین کافی نبود و تفسیر واریانت نیازمند در نظر گرفتن مجموعه شواهد بالینی و آزمایشگاهی بود با طبقه‌بندی HBB این مورد بر اهمیت تمایز میان طبقه‌بندی واریانت ژنتیکی و تشخیص بالینی تأکید می‌کند. شناسایی یک واریانت ، به‌ویژه در HBB تفسیر واریانت‌های ژن .«احتمالاً بیماری‌زا» نباید به‌تنهایی مبنای تشخیص بیماری یا تعیین خطر جنین قرار گیرد مشاوره ژنتیک پره‌ناتال، باید با تلفیق یافته‌های مولکولی، شاخص‌های هماتولوژیک، بررسی هموگلوبین، الگوی توارث و شواهد این رویکرد می‌تواند از تشخیص نادرست، ایجاد نگرانی غیرضروری برای والدین و مداخلات .موجود در منابع علمی انجام شود .نامناسب پره‌ناتال جلوگیری کند

Skeletal Disorders in Children

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Genetics

abstract: Skeletal disorders in children comprise a diverse group of conditions that affect the development, growth, and function of bones and joints. These disorders may be congenital, genetic, metabolic, developmental, or acquired. Common conditions include rickets, osteogenesis imperfecta, skeletal dysplasias, juvenile idiopathic arthritis, and developmental abnormalities of the hip and spine. Early recognition is important because skeletal abnormalities during childhood may interfere with normal growth, mobility, and physical development. Clinical examination, growth assessment, laboratory investigations, and appropriate imaging techniques play important roles in diagnosis. Management depends on the underlying cause and may include nutritional supplementation, medication, physiotherapy, orthopedic intervention, and long-term monitoring. Early diagnosis and appropriate treatment can help prevent complications and improve functional outcomes and quality of life in affected children.

Smart Detection Framework: Navigating Diagnostic Complexity in Neurometabolic Disorders

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Genetics

abstract: Treatable neurometabolic disorders present major diagnostic challenges because similar clinical manifestations may arise from distinct molecular mechanisms, whereas identical genetic variants may result in diverse phenotypic outcomes. Conventional clinical indicators, including biochemical abnormalities and characteristic syndromic features, are often not specific to a single disorder and may overlap across syndromic, disease-like, and disease-plus phenotypes. Given the limited therapeutic window for many treatable conditions, timely molecular diagnosis is essential to support appropriate clinical management. Diagnostic evaluation is further complicated by marked genetic heterogeneity. Neurological phenotypes, particularly epilepsy and neurometabolic disorders, involve an extensive molecular landscape, including approximately 2,946 epilepsy-associated genes, 1,506 OMIM-catalogued genes, and 609 inherited metabolic disorder genes within approximately 1,904 genes associated with inborn errors of metabolism in IEMbase. This diversity, together with phenotypic heterogeneity, phenocopies, and variable genotype–phenotype relationships, complicates identification of the underlying molecular etiology and selection of an appropriate genomic testing strategy. To address these challenges, the Smart Detection Framework is proposed as a multidisciplinary clinical–genomic decision-support approach for genomic evaluation. Briefly, the framework provides a structured clinical–genomic decision-support approach designed to enable smart integration of multidimensional diagnostic information, such as clinical signs and symptoms, genomic findings, biochemical markers, and neuroimaging data, to facilitate identification of potential therapeutic opportunities within a precision medicine framework for complex neurometabolic disorders. By providing a structured approach to clinical–genomic integration, the Smart Detection Framework is intended to facilitate more consistent diagnostic decision-making and timely genomic investigation in treatable neurometabolic disorders. Such an approach may improve the alignment of molecular testing strategies with disease-specific clinical and genomic characteristics, thereby supporting more precise and individualized patient management. Keywords: Neurometabolic Disorders, phenotypic heterogeneity, Precision Diagnostics, Genetic Diagnostics

Importance of Producing Targeted Dietary Supplement for Enhancing Thyroid Function in Iranian Children and Adolescents

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abstract: اختلالات تیروئید، به‌ویژه کم‌کاری تیروئید و بیماری‌های ناشی از کمبود ید، همچنان از معضلات مهم سلامت عمومی در ایران هستند. شواهد جدید نشان می‌دهد که شیوع اختلال عملکرد تیروئید افزایش یافته است. هم‌زمان، برنامه‌های کاهش خطر بیماری‌های قلبی-عروقی که بر محدودیت مصرف نمک تأکید دارند، ممکن است به طور ناخواسته وضعیت ید را مختل کنند. طرح .استرس و اضطراب که در جامعه امروز ایران شیوع بالایی دارد، در اختلال محور هیپوتالاموس-هیپوفیز-تیروئید نقش دارند ششمین پایش کشوری برنامه پیشگیری و کنترل اختلالات ناشی از کمبود ید و سومین پایش کشوری کمبود ید در زنان باردار در " با هدف ارزیابی وضعیت کنونی دریافت ید در خانوارهای ایرانی اجرا شد و نشان داد که "جمهوری اسلامی ایران – سال ۱۴۰۲ اگرچه میانه ید ادرار کشوری دانش آموزان (۱۳۳ میکروگرم در لیتر)، هنوز در حد مطلوب میباشد ولی کمترین میزان در سه دهه گذشته بوده است. مکمل‌های موجود در بازار ایران مشکلاتی دارند: براساس الگوهای تغذیه‌ای و وضعیت جامعه‌شناسی ایران در این مقاله دلایل توجیهی برای .طراحی نشده‌اند، بیشتر آنها وارداتی و گران هستند یا کپی سازی مکمل‌های خارجی هستند اهمیت تولید مکمل غذایی هدفمند برای بهبود عملکرد تیروئید در جمعیت ایران با تاکید برکودکان و نوجوانان توضیح داده شده کلیدواژه‌ها: کم‌کاری تیروئید، کمبود ید، مکمل غذایی، ایران، استرس .است

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Nutrition

abstract: اختلالات تیروئید، به‌ویژه کم‌کاری تیروئید و بیماری‌های ناشی از کمبود ید، همچنان از معضلات مهم سلامت عمومی در ایران هستند. شواهد جدید نشان می‌دهد که شیوع اختلال عملکرد تیروئید افزایش یافته است. هم‌زمان، برنامه‌های کاهش خطر بیماری‌های قلبی-عروقی که بر محدودیت مصرف نمک تأکید دارند، ممکن است به طور ناخواسته وضعیت ید را مختل کنند. طرح .استرس و اضطراب که در جامعه امروز ایران شیوع بالایی دارد، در اختلال محور هیپوتالاموس-هیپوفیز-تیروئید نقش دارند ششمین پایش کشوری برنامه پیشگیری و کنترل اختلالات ناشی از کمبود ید و سومین پایش کشوری کمبود ید در زنان باردار در " با هدف ارزیابی وضعیت کنونی دریافت ید در خانوارهای ایرانی اجرا شد و نشان داد که "جمهوری اسلامی ایران – سال ۱۴۰۲ اگرچه میانه ید ادرار کشوری دانش آموزان (۱۳۳ میکروگرم در لیتر)، هنوز در حد مطلوب میباشد ولی کمترین میزان در سه دهه مکمل‌های موجود در بازار ایران مشکلاتی دارند: براساس الگوهای تغذیه‌ای و وضعیت جامعه‌شناسی ایران .گذشته بوده است در این مقاله دلایل توجیهی برای .طراحی نشده‌اند، بیشتر آنها وارداتی و گران هستند یا کپی سازی مکمل‌های خارجی هستند اهمیت تولید مکمل غذایی هدفمند برای بهبود عملکرد تیروئید در جمعیت ایران با تاکید برکودکان و نوجوانان توضیح داده شده است.

The relationship between Serum 25-Hydroxyvitamin D and risk of hyperglycemia, and Insulin Resistance in Children and adolescents: A Systematic Review and Dose-Response Meta-analysis of Epidemiologic Studies

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Nutrition

abstract: The relationship between Serum 25-Hydroxyvitamin D and risk of hyperglycemia, and Insulin Resistance in Children and adolescents: A Systematic Review and Dose-Response Meta-analysis of Epidemiologic Studies Background: Although serum vitamin D levels are drastically involved in the incidence of prediabetes and type 2 diabetes mellitus (T2DM), the evidence on this subject is in children and adolescents is limited and inconsistent. So, we aimed to assess this subject through a systematic review and dose-response meta-analysis. Method: A comprehensive search was conducted on the electronic databases of ISI Web of Science, Scopus, PubMed, and motor engineering of Google Scholar up to May 2023. Observational studies that investigated the risk of hyperglycemia and insulin resistance in relation to serum 25-hydroxy vitamin D levels in children and adolescents were included. Data Analysis: A total of 38 622 participants from 22 studies were included in the systematic review. The pooled finding from 15 studies (n=32 720 participants) indicated that highest versus lowest values of serum vitamin D levels was significantly related to 42% lower risk of hyperglycemia, (relative risk [RR]=0.58; 95%CI, 0.48, 0.71). Moreover, meta-analysis on 8 studies (n=10 465 participants) showed that Participants with the highest serum vitamin D level had significantly 44% lower risk of insulin resistance compared with those with the lowest serum vitamin D level (RR=0.56; 95%CI, 0.37, 0.83). Additionally, linear dose-response analysis, illustrated that each 10 nmol/L increment in serum 25-hydroxy vitamin D was associated with a 6% decreased risk of hyperglycemia and insulin resistance in children. Furthermore, based on the nonlinear dose-response analysis, increasing serum vitamin D values from 40 nmol/L to sufficient values (50 nmol/L) was associated with a risk reduction of hyperglycemia and insulin resistance. Conclusion: We indicated an inverse relationship between serum vitamin D levels and hyperglycemia and insulin resistance in children and adolescents, in a dose-response manner. Elevating serum vitamin D values from 40 nmol/L to sufficient values (50 nmol/L) was related to a risk reduction of hyperglycemia and insulin resistance in children and adolescents. Systematic Review Registration: PROSPERO registration no. CRD42023458155. Key words: serum 25-hydroxy vitamin D, type 2 diabetes mellitus, insulin resistance, meta-analysis, children, adolescents

The Role of Gut Microbiota–Targeted Nutritional Interventions in the Management of Pediatric Metabolic Dysfunction–Associated Steatotic Liver Disease (MASLD): A Comprehensive Review

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Nutrition

abstract: مقدمه: بیماری کبد چرب متابولیک (Metabolic Dysfunction–Associated Steatotic Liver Disease; MASLD) شایع‌ترین بیماری مزمن کبدی در کودکان و نوجوانان است و شیوع آن همزمان با افزایش چاقی، مقاومت به انسولین و سبک زندگی کم‌تحرک رو به افزایش است. شواهد فزاینده نشان می‌دهد که اختلال در میکروبیوم روده و برهم خوردن تعادل محور روده–کبد (Gut–Liver Axis) نقش مهمی در پاتوژنز، پیشرفت و شدت این بیماری ایفا می‌کند. ازاین‌رو، مداخلات تغذیه‌ای با هدف تعدیل میکروبیوم روده به‌عنوان یکی از رویکردهای نوین و مکمل در مدیریت MASLD مورد توجه قرار گرفته‌اند. هدف: این مطالعه با هدف مرور جامع شواهد موجود درباره نقش مداخلات تغذیه‌ای مبتنی بر تعدیل میکروبیوم روده، شامل پروبیوتیک‌ها، پری‌بیوتیک‌ها، سین‌بیوتیک‌ها، پست‌بیوتیک‌ها، رژیم‌های غذایی سالم و فیبرهای غذایی، در مدیریت بیماری MASLD در کودکان انجام شد. روش بررسی: در این مقاله مروری، مطالعات منتشرشده با استفاده از کلیدواژه‌های مرتبط با MASLD، کودکان، Google Scholar، Web of Science، Scopus، PubMed در پایگاه‌های میکروبیوم روده، محور روده–کبد و مداخلات تغذیه‌ای بررسی شدند. مقالات منتشرشده به زبان انگلیسی با تمرکز بر مطالعات انسانی، مرورهای نظام‌مند و کارآزمایی‌های بالینی انتخاب و یافته‌های آن‌ها به‌صورت تحلیلی جمع‌بندی شد. یافته‌ها: نتایج مطالعات نشان داد که دیس‌بیوز میکروبیوم روده، افزایش نفوذپذیری روده، انتقال اندوتوکسین‌ها، التهاب مزمن، اختلال در متابولیسم اسیدهای صفراوی و مقاومت به انسولین از مهم‌ترین مکانیسم‌های دخیل در ایجاد MASLD هستند. مداخلات تغذیه‌ای هدفمند، از جمله مصرف پروبیوتیک‌ها، پری‌بیوتیک‌ها، سین‌بیوتیک‌ها و پست‌بیوتیک‌ها، همراه با رژیم مدیترانه‌ای، افزایش دریافت فیبر و کاهش مصرف غذاهای فوق‌فرآوری‌شده و نوشیدنی‌های شیرین، می‌توانند از طریق بهبود ترکیب میکروبیوم روده، افزایش تولید اسیدهای چرب کوتاه‌زنجیر، تقویت سد مخاطی روده و کاهش التهاب سیستمیک، موجب بهبود شاخص‌های بیوشیمیایی، کاهش استئاتوز کبدی و بهبود وضعیت متابولیک کودکان مبتلا شوند. با این حال، ناهمگونی مطالعات، تفاوت در نوع و دوز مداخلات و محدود بودن کارآزمایی‌های بالینی با کیفیت بالا در کودکان، مانع از دستیابی به توصیه‌های قطعی MASLD کودکان شده است. نتیجه‌گیری: مداخلات تغذیه‌ای مبتنی بر تعدیل میکروبیوم روده، رویکردی امیدوارکننده و ایمن در مدیریت کودکان محسوب می‌شوند و می‌توانند در کنار اصلاح سبک زندگی به بهبود پیامدهای بالینی این بیماری کمک کنند. با وجود شواهد رو به رشد، انجام مطالعات چندمرکزی و کارآزمایی‌های بالینی بلندمدت برای تعیین نوع، دوز و مدت‌زمان بهینه این مداخلات ضروری است. کلیدواژه‌ها: بیماری کبد چرب متابولیک، MASLD، سین‌بیوتیک، پری‌بیوتیک، پروبیوتیک، مداخلات تغذیه‌ای، محور روده–کبد، میکروبیوم روده، کودکان، پست‌بیوتیک

Title: A comprehensive review on probiotic supplementation in the management of infantile colic

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Nutrition

abstract: Introduction: Infantile colic, classified among functional gastrointestinal disorders, affects nearly 20% of infants under four months of age. Its precise pathophysiology remains uncertain and is believed to result from a multifactorial interaction involving the central nervous system, dietary influences, and intestinal inflammation. Conventional management approaches—including dietary modification, behavioral interventions, and pharmacological therapies—have demonstrated limited efficacy and potential safety concerns. In contrast, probiotic supplementation, particularly with the Lactobacillus reuteri DSM 17938 strain, has emerged as a promising therapeutic option. Objective: This review aims to summarize and critically assess available studies on probiotic interventions in breast-fed, formula-fed, and mixed-fed infants diagnosed with colic. Search Strategy: We performed comprehensive database searches in MEDLINE, EMBASE, CINAHL, the Cochrane Central Register of Controlled Trials, and the Cochrane Database of Systematic Reviews for studies published from 2003 to 2019. We selected this time frame because (1) we aimed to ensure that the most recent literature informed our review, and (2) probiotics are a relatively controversial topic in the literature, with most relevant studies conducted in recent years. The search strategy was (("infant colic" OR "infantile colic" OR "infant cramps") AND formula) and was limited to children and the English language. In addition to databases searches, we conducted citation tracing (screening studies that cited our included RCTs), manual searches in Google Scholar, and screened the reference lists of relevant articles. Furthermore, we summarized the most recent systematic review in this field and compared its findings with the results of our search. Results: Out of the 22 studies reviewed, 16 demonstrated a significant reduction in crying duration, 5 found no notable difference compared to controls, and 1 reported adverse outcomes. Probiotics were administered via drops, capsules, sachets, or fortified formulas. Among all tested strains, L. reuteri DSM 17938 consistently showed the greatest effectiveness, particularly in breast-fed infants. Overall, probiotic supplementation was well tolerated, with some studies also noting reductions in maternal stress and no serious side effects. Conclusion and Discussion: Probiotic therapy, especially with L. reuteri DSM 17938, represents a safe, non-invasive, and effective intervention for infantile colic in breast-fed infants. However, evidence in formula-fed populations remains inconclusive, underscoring the necessity of further high-quality randomized controlled trials. Keywords: infantile colic, probiotics, Lactobacillus reuteri, probiotic supplementation, gastrointestinal disorders

Legal and Forensic Challenges of Obtaining Maternal Consent for Invasive Medical Procedures in Children in the Absence of the Father

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Forensic medicine

abstract: Parental consent for medical interventions in children is a critical legal and ethical requirement, particularly for invasive procedures.In forensic medicine, disputes regarding the validity of consent, legal guardianship, and physician liability may arise when the father is unavailable and the mother requests or approves medical treatment.Delays in obtaining legally acceptable consent may negatively affect timely pediatric care and potentially expose healthcare providers to legal concerns. Despite the father being the legal guardian of the child,a study in Rasht found that approximately 30%of consent for the procedure was provided by mothers. This study aimed to analyze the forensic challenges associated with obtaining maternal consent for invasive medical procedures in children when the father, is absent, with emphasis on physician responsibility and the best interests of the child. A comparative analytical review was conducted by examining relevant legal regulations, medical consent principles, and forensic medicine considerations in Iran, and the United Kingdom. Issues related to legal guardianship, validity of maternal consent, emergency exceptions, and potential medical liability were evaluated. In Iran, current legal interpretations generally recognize the father or paternal grandfather as the legal guardian for medical consent in minors, which may create challenges when the father is unavailable. Although emergency treatment to preserve the child's life or health is legally and ethically justified without prior consent, non-emergency invasive procedures may result in uncertainty for physicians. In the United Kingdom, parental responsibility allows either parent to provide consent, provided that decisions are made in the child's best interests. In forensic practice, unclear regulations regarding maternal consent may increase the risk of delayed treatment, family disputes, and legal complaints against healthcare providers. Establishing clear legal guidelines for maternal consent in pediatric care is essential. Standardized hospital protocols, accurate documentation of clinical decisions, physician education regarding consent laws, and rapid legal mechanisms for unresolved cases may reduce medico-legal conflicts while ensuring timely and appropriate treatment for children. Mehraban M, et al.,Obtaining Informed Consents Regarding Pediatric Surgery in the Statute Law of Iran at Rasht. Journal of Medical Ethics. 2024;17(48):13. Forensic medicine; Pediatric consent; Maternal consent; Parental responsibility; Medical liability; Child rights; Invasive procedures;Medical law

Legal issues in the clinical management of a suspected case of child abuse

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Forensic medicine

abstract: بیمار دختر۲ساله با شکایت غذا نخوردن توسط فردی که خود را مادر بیمار معرفی میکند ساعت ۱۱ شب به اورژانس بیمارستان کودکان اورده شده است . مادر اعلام میکند از حدود دو هفته قبل بیمار دچار کاهش اشتهاو گوشه گیرشده و میل به غذا سابقه بیماری خاصی ندارد .در بررسی ازمایشگاهی اولیه بیمارموردی مشاهده نشد .مراجعه به مطب یا درمانگاه نداشته اند . . ندارد .در معاینه اولیه یافته مثبتی مشاهده نشد .مادر پاسخ بعضی سوالات در مورد سابقه بیمار را نمیدانست یا تردید داشت . پدر بیمار به گفته مادر امکان حضور ندارد و در سفر است. از مادر درخواست اوراق هویت شد که همراهش نبود .در معاینه باردوم که دقیق تر انجام گرفت درداخل دهان ناحیه فرنولوم فوقانی کبودی به ابعاد ۰.۲ در ۰.۳سانتی مترمشاهده شد . در معاینه پرده گوش راست کبودی مشهود بود.در معاینه خلف لاله گوش راست بعد از برگرداندن لاله کبودی در حال جذب قدیمی زرد رنگ مشهود بود به ابعاد ۱در ۰.۵ سانتی متر. در معاینه قدام ساعد دست راست که زیر استین بود و توجهی به ان نشده بود اسکار شبیه سوختگی بیضی در صحبت با مادر خود را از بستگان معرفی نمود ! و اطلاعی از چگونگی ایجاد اسیبهای .در ابعاد قاشق چایخوری مشهود بود فوق نداشت و به علت بیماری مادر کودک را به بیمارستان اورده بود.با شک به احتمال کودک ازار ی موارد زیر انجام گرفت :عدم ترخیص با رضایت شخصی – اطلاع به واحد مددکاری و اورژانس اجتماعی – حضور پدر یا جد پدری با اوراق هویت – ارایه ثبت کلیه اثار جراحات قدیم و جدید- مشاوره روانپزشکی اطفال واطلاع به پلیس و نیروی انتظامی بیمارستان -اوراق هویت همراه جهت جلوگیری از فرارهمراه یا فراری دادن بیمار -تخت بیمار در دید مستقیم استیشن پرستاری باشد - وسایل همراه بیمار با اجازه بر این اساس در مورد همراه کودکان بیمار لازم است از نظر هویتی دقت ...وی از نظر داشتن هر گونه دارو ویا مخدر بررسی گردد شود ودر بیماران مشکوک معاینه سراسر بدن به ویژه نقاط خاص در ازار مد نظر قرار گیرد وثبت اثار قدیمی و جدید روی بدن هر دو انجام گیرد فتوگرافی تهیه شود - خروج بیمار از بیمارستان طبق موازین قانونی انجام گیرد ونه صرفا بر اساس ترخیص پزشک معالج .با توجه به احتمال تکرار و احتمال فوت درکودک ازاری این موارد با دقت بررسی شوند .

Assessment of Methadone Poisoning and Laboratory Findings in Children Hospitalized at Shahid Motahari Hospital, Urmia,During 2019–2024

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Toxicology

abstract: Introduction: Poisoning is one of the most common causes of emergency department visits. Opioids, particularly methadone, are among the leading causes of unintentional poisoning in children and account for a substantial proportion of pediatric emergency admissions. This study aimed to evaluate methadone poisoning and its associated laboratory findings in hospitalized children. Methods: This descriptive cross-sectional study was conducted using a census sampling method on the medical records of 107 children hospitalized due to methadone poisoning at Shahid Motahari Educational and Medical Center, Urmia, Iran. Data were collected using a structured checklist that included demographic characteristics, clinical manifestations, and laboratory findings. Data were analyzed using SPSS version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used for data analysis. Results: The mean age of the patients was 52 ± 41 months. Most children (62.6%) were between 13 and 59 months of age. Overall, 59.8% of patients presented to the hospital within 12 hours of exposure, 57% were male, and 81.3% of poisonings were accidental. Methadone syrup was the causative agent in 64.5% of cases. Laboratory findings showed that 35.5% of patients had metabolic acidosis, 59.8% had anemia, 43% had hyperglycemia, and 71% had a positive urine methadone test. Naloxone was administered to 95.7% of the patients. Conclusion: Preventive education for parents regarding the risks of accidental methadone ingestion, timely referral to healthcare centers upon the onset of poisoning symptoms, and proper instruction on the safe storage of methadone by addiction treatment centers are effective strategies for reducing the incidence of pediatric methadone poisoning. Keywords: Methadone poisoning; Methadone; Laboratory findings, Children

Carbon Monoxide Poisoning in Children

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Toxicology

abstract: Carbon monoxide (CO) is a colorless, odorless gas that remains a leading cause of preventable poisoning deaths. Children are uniquely vulnerable due to higher metabolic rates, immature cardiorespiratory systems, and the presence of fetal hemoglobin. They often present with non-specific symptoms (headache, nausea, dizziness) easily mistaken for viral illnesses. Pathophysiology extends beyond carboxyhemoglobin (COHb) formation. CO directly inhibits mitochondrial cytochrome c oxidase, triggering oxidative stress, ATP depletion, and neuronal apoptosis. This explains why symptom severity does not correlate with COHb levels and why delayed complications occur. Diagnosis is challenging. Standard pulse oximetry cannot distinguish COHb from oxyhemoglobin, falsely reporting normal saturation. The gold standard is direct COHb measurement via venous blood gas analysis. Acute complications include rhabdomyolysis, acute kidney injury, and cardiomyopathy. Delayed neurological sequelae (DNS) affect up to 40% of survivors, manifesting weeks later with cognitive deficits and movement disorders. Long-term endocrine and autoimmune risks (e.g., diabetes, hypothyroidism) require extended follow-up. First-line treatment is 100% normobaric oxygen, reducing CO half-life to 74 minutes. Hyperbaric oxygen (HBOT, half-life ~20 minutes) is indicated for severe cases (coma, neurological deficits, cardiac ischemia, COHb25%, pregnancy). Emerging antidotes like neuroglobin-based scavengers (Ngb-H64Q-CCC) and small molecules (hemoCD-P) show promise in preclinical models by sequestering CO with picomolar affinity, potentially revolutionizing field therapy. Ultimately, prevention remains paramount. Installing CO detectors and avoiding indoor generator or charcoal use are simple, life-saving measures. Early diagnosis, aggressive oxygen therapy, and long-term neurocognitive follow-up are essential. Combined with public education, these strategies remain our strongest defense against this silent killer.

Pediatric Acetaminophen poisoning

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Toxicology

abstract: Title: Recent Updates in Pediatric Acetaminophen Poisoning Background: Acetaminophen poisoning is one of the leading causes of drug-induced acute liver injury in children. While N-acetylcysteine (NAC) remains the standard antidotal therapy, recent international guidelines have introduced important updates regarding risk assessment, treatment strategies, and management of special clinical situations. Objective: To summarize recent advances in the diagnosis and management of pediatric acetaminophen poisoning and discuss their implications for clinical practice. Methods: This review is based on the Nelson Textbook of Pediatrics (22nd edition), the 2023 US–Canada Consensus Statement on acetaminophen poisoning, recommendations from the EXTRIP Workgroup, and recent peer-reviewed publications (2023–2025). Results: Current evidence emphasizes early differentiation between single acute ingestion and repeated supratherapeutic ingestion, as this determines the diagnostic and therapeutic approach. The Rumack– Matthew nomogram remains applicable only to single acute ingestions with a known time of exposure. Recent recommendations support individualized continuation of NAC based on serum acetaminophen concentration, liver function tests, and clinical status rather than a fixed 21-hour protocol. In selected patients with massive overdose, adjunctive therapies such as fomepizole and extracorporeal treatment may be considered. Conclusion: Incorporating recent evidence into clinical practice facilitates earlier recognition of high-risk patients, optimizes antidotal therapy, and may reduce the incidence of acute liver failure and improve outcomes in pediatric acetaminophen poisoning.

poisoning with apartment plants

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Toxicology

abstract: در هر خانه ای حداقل یک گلدان گل وجود دارد و کودکان خردسال کنجکاو ممکن است به آن نزدیک شده و مشغول بازی با آن شوند که میتواند برای آن ها خطراتی را به دنبال داشته باشد به ویژه اگر تکه هایی از برگ یا ساقه گیاه را در دهان بگذارند پس لازم است که والدین و پزشکان اطلاعات لازم را در مورد نوع گیاه و میزان سمی بودن یا نبودن آن و نحوه درمان آن داشته باشند. از بین این گیاهان مهم ترین و خطرناک ترین آن ها که نیاز به مراجعه فوری و اقدامات اورژانسی دارد شامل ۱. گیاه خرزهره (oleander)که تمام قسمت های سمی بوده و علایم مسمومیت گلیکوزیدهای قلبی را تقلید می کند. ۲. گیاه دیفن باخیا (Dumb canes) ساگوپالم یا نخل .3 .که به علت وجود اگزالات کلسیم علایم مسمومیت فوری ؛ ادم و سوزش راه هوایی؛ ایجاد میکند گروه دوم که سمیت متوسط دارند شامل ۱. پتوس که در هر خانه و بر روی .زینتی که علایم آسیب حاد کبدی را ایجاد می کند هر میز کاری وجود دارد ۲. گیاه برگ انجیری این دو علایمی شبیه دیفن باخیا دارند اما با شدت کمتر که با این حال نیاز به مراقبت اولیه دارند ۳. آدنیوم یا رز صحرایی که علایمی شبیه خرزهره اما خفیف تر ایجاد میکند اما باز هم خطرناک و نیاز به مراقبت دارد. این ها نمونه ای از گیاهان شایع آپارتمانی است که باید آن ها را شناخت و با علایم خطرآنها و اقدامات درمانی لازم آشنا بود.

Evaluation Of Thyroid And Parathyroid Functions in Children With Major Betha -thalassemia

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Hematology & Oncology

abstract: Introduction: Major thalassemia is the most common hereditary anemia in Iran. The treatment of the disease is regular blood transfusion which in turn can cause side effects. This study tries to determine the function of thyroid and parathyroid and the related risk factors in thalassemia patients Methods: This cross-sectional study was conducted on 100 transfusion-dependent major thalassemia patients attending Children Medical Center, Tehran, Iran, from 2004 to 2017 . A checklist including patients' sex and age, anthropometric characteristics, age at the time of diagnosis, age at the time of transfusion, duration of chelator therapy, chelator therapy regimen, concurrent endocrine abnormalities and history of splenectomywas completed for each patient. Test results for laboratory parameters of free T4, T3, TSH, Ca, P, PTH, liver function tests and Ferritin were also recorded. Results: A total of 100 patients (46% male, mean age 23.07±9.21 years) were evaluated. Most patients were under regular transfusion since the diagnosis was confirmed. The mean duration of chelator therapy was 21.02±9.41 years. Most patients (83%) were under a single chelating agent regimen therapy. A total of 4 (4%) and 32 (32%) patients had hypoparathyroidism and thyroid dysfunction (15 sub-clinical), respectively. Patients' age, age at the time of transfusion and duration of transfusion were significantly related with hypothyroidism. In patients with hypoparathyroidism, no associated factor was found. Neither hypoparathyroidism nor hypothyroidism were associated with serum ferritin level. Conclusion: Hypoparathyroidism and hypothyroidism are common in multi-transfused thalassemia patients, and preventive measures such as endocrine tests and other control measures are crucial. Serun ferritin may not be a good indicator for predicting thyroid and parathyroid abnormalities. Key words: pleural empyema, children, pneumonia

Giant Paediatric Hepatic Masses: A Systematic Review

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Hematology & Oncology

abstract: Introduction: A giant hepatic mass may be defined as a mass large enough to put the adjacent organs in danger by its compressive effect. Pediatric liver tumours account for less than 10 per cent of intra-abdominal masses in children. About one-third of them are benign, and the remaining two-thirds are malignant. There is currently no overview of giant liver masses, including neoplastic and non-neoplastic lesions, in the pediatric population. The current study reviews the above-mentioned masses over the last 17 years. Methods: We searched the central medical databases of PubMed/Medline, Web of Science, Scopus, and Google Scholar, as well as article references, to collect 13 cases of giant pediatric liver masses. The inclusion criteria were full-text English-language publications and publications for individuals under 19 years old. Diseases found during autopsy and isolated gall bladder involvement also made the exclusion criteria. Findings: The age distribution of individuals included eight children and adolescents, four neonates, and one infant, ranging in age from 3 days to 18 years. Eight were detected in males (61%) and four in females (31%). Pathologies ranged from infantile hemangioma in the neoplastic category to Tuberculoma in the infective and pseudotumor in the inflammatory subgroup. Right hepatic lobectomy was the most common therapeutic intervention. Conclusions: While giant hepatic masses in children are rare, they should be considered in the differential diagnosis across all pediatric age groups when abdominal distension is present.

Microplastics and Child Health: Exposure Pathways and Health Impacts

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بهداشت

abstract: مقدمه میکروپلاست‌ها ذرات پلاستیکی با اندازه کمتر از ۵ میلی‌متر هستند که در محیط زیست، آب، غذا و حتی هوا پراکنده شده‌اند. با توجه به قرارگیری مداوم کودکان در معرض این ذرات، نگرانی‌هایی درباره اثرات بالقوه آن‌ها بر سلامت کودکان و بروز بیماری‌های مختلف مطرح شده است. کودکان به دلیل سیستم ایمنی نابالغ، رفتارهای دهانی (مانند دست به دهان کردن) و روش‌های بررسی• جستجوی منابع علمی .نرخ متابولیسم بالاتر، بیشتر در معرض آسیب‌های ناشی از میکروپلاست‌ها قرار دارند بررسی مقالات مروری و پژوهش‌های تجربی مرتبط• تحلیل اثرات •(PubMed, Scopus, Web of Science) معتبر میکروپلاست‌ها بر بیماری‌های شایع کودکان مکانیسم‌های اثرگذاریمیکروپلاست‌ها از طریق مسیرهای مختلف به بافت‌ها و اندام‌های حیاتی کودکان نفوذ کرده و باعث بروز اثرات سمی و التهابی می‌شوند یافته‌های کلیدی• بیماری‌های تنفسی: تشدید آسم و آلرژی، التهاب راه‌های تنفسی، کاهش عملکرد ریه در درازمدت• بیماری‌های گوارشی: التهاب روده و اختلال میکروبیوم، افزایش خطر بیماری‌های التهابی روده، کاهش جذب مواد مغذی• اختلالات ایمنی: تحریک پاسخ‌های التهابی، افزایش سیتوکین‌های آلرژیک، احتمال بروز بیماری‌های خودایمنی• اختلالات هورمونی و متابولیک: اثر ضد هورمونی، افزایش خطر چاقی و دیابت نوع ۲، اختلال در رشد و تکامل• اثرات عصبی و رفتاری: کاهش تمرکز و یادگیری، افزایش خطر اختلال طیف اوتیسم، تأثیر بر رشد مغز نتایج مطالعات در مطالعات انجام‌شده، حضور میکروپلاست‌ها با افزایش قابل توجه بروز:آسم: ۱.۸ برابراختلالات گوارشی: ۱.٦ .برابربیماری‌های التهابی روده: ۱.٤ برابراختلالات رشد و تکامل عصبی: ۱.۳ برابردر کودکان مرتبط دانسته شده است نتیجه‌گیری:میکروپلاست‌ها یک تهدید نوظهور برای سلامت کودکان هستند و با اثر بر سیستم‌های تنفسی، گوارشی، ایمنی، هورمونی و عصبی می‌توانند زمینه‌ساز بیماری‌های متعدد در سنین پایین شوند. کاهش مواجهه کودکان با میکروپلاست‌ها از طریق کنترل آلودگی‌های محیطی، تغذیه سالم و آگاه‌سازی بخشی، یک ضرورت جدی برای سلامت آینده نسل‌های بعدی است.

A systematic review of effective methods in reducing the pain intensity caused by venipuncture in children with thalassemia

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پرستاری

abstract: مقدمه: تالاسمی شایع‌ترین اختلال خونی ارثی در جهان است که به تزریق خون مکرر نیاز دارد، بنابراین رگ‌گیری به صورت مکرر برای این کودکان انجام می‌شود که اقدامی دردناک و ترس‌آور برای آنان می‌باشد. در جستجوی ما مرور جامعی در این زمینه یافت نشد، لذا این مرور نظام‌مند با هدف بررسی روش‌های موثر در کاهش درد ناشی از رگ‌گیری در کودکان مبتلا به تالاسمی صورت گرفت. روش ها: در این مرور نظام‌مند، جستجوی گسترده با کلیدواژه‌های مرتبط با "تالاسمی"، "کودکان"، "رگ‌گیری"، "درد"مواد و در پایگاه‌های بین‌المللی و ملی Web of Science Core Collection, PubMed/Medline ، Google_Scholar و موتور جستجوگر Magiran ,SID , Irandoc , Scopus, در جستجوی اولیه ۲۳ صورت گرفت. مطالعه به‌دست آمد. معیارهای ورود، انتشار به زبان فارسی/انگلیسی بود. مطالعات مروری، نامه به سردبیر و مقالات ارائه شده در همایش‌ها و سمینارها حذف شدند. محدودیت زمانی اعمال نشد. پس از حذف موارد تکراری و نقد با ابزارهای مربوطه نهایتا هفت مطالعه تجزیه‌وتحلیل شد. ملاحظات اخلاقی عدم سوگیری در مراحل انتخاب، استخراج و تحلیل و طبقه‌بندی شواهد رعایت شد و گزارش شد PRISMA چکیده طبق یافته ها: مروری بر مطالعات نشان داد، اکثر مطالعات انجام‌شده از نوع کارآزمایی بالینی با تجمع بیشتر در کشور ایران در کودکان گروه سنی شش تا دوازده سال بود. شواهد حاکی از آن است که استفاده از تکنیک انحراف فکر با تنفس ریتمیک و حباب‌سازی، تکنیک حواس‌پرتی صوتی تصویری، استفاده از کرم املا، ماساژ یخ و طب فشاری در نقطه هگو در کاهش شدت درد ناشی از رگ‌گیری در کودکان مبتلا به تالاسمی موثر بوده است. در مقایسه طب فشاری با ماساژ یخ نشان داده شد، ماساژ یخ اثربخشی بیشتری دارد. همچنین در مقایسه اثربخشی کرم املا و تکنیک انحراف فکر نیز نشان داده شد، بین این دو روش تفاوت معناداری وجود ندارد. اثربخشی تکنیک انحراف فکر با تنفس ریتمیک و حباب‌سازی نیز در کاهش درد رگ‌گیری یکسان بوده است. نتیجه گیری: به نظر می‌رسد استفاده از برخی روش‌های طب مکمل مانند تکنیک‌های انحراف فکر، طب فشاری و ماساژ در کاهش شدت درد ناشی از رگ‌گیری در کودکان مبتلا به تالاسمی موثر است. پیشنهاد می‌شود مطالعات آینده به بررسی تاثیر دیگر روش‌های طب مکمل مانند رایحه‌درمانی در این زمینه بپردازند.

کلمات کلیدی: درد، رگ‌گیری، کودکان، تالاسمی، مرور نظام‌مند

Application of a Henderson Theory-Based Nursing Care Program in an Infant with Spinal Muscular Atrophy: A Case Report

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پرستاری

abstract: یک اختلال نورودژنراتیو اتوزومال مغلوب ناشی از جهش در (SMA)مقدمه و هدف: آتروفی عضلانی نخاعی با بروز تقریباً ۱ در ۱۰۰۰۰ تولد زنده است که با آتروفی پیشرونده ((SMN) کدکننده پروتئین نورون حرکتی بقا) SMN1 برگشت‌ناپذیر سلول‌های شاخ قدامی نخاع و هسته‌های ساقه مغز و تحلیل عضلانی مشخص می‌شود(۱)؛ به گونه ای که اسکولیوز، اختلال در عملکرد تنفسی و سوء تغذیه از یافته‌های رایج در این کودکان به شمار رفته و تاثیر مخربی بر همه ی جنبه های زندگی نه تنها از نظر اخلاقی و بالینی ضروری است، SMA آنان می گذارد(۲). ادغام مراقبت پرستاری حرفه ای در کل زنجیره مدیریت بلکه در دستیابی به نتایج پایدار، عادلانه و با کیفیت بالا برای بیماران و خانواده‌ها نقش برجسته ای ایفا میکند(۳). نظریه پرستاری با ارائه چارچوب‌های سیستماتیک برای ارائه مراقبت، زیربنای عملکرد حرفه‌ای پرستاری هستند که در این میان، نظریه پرستاری ویرجینیا هندرسون با تاکید بر ۱٤ نیاز اساسی انسان، مراقبت پرستاری جامع و بیمارمحور را هدایت می‌کند(٤). بنابراین، این مطالعه .انجام شد SMA با هدف توصیف کاربرد برنامه مراقبت پرستاری مبتنی بر نظریه ویرجینیا هندرسون در یک شیرخوار مبتلا به گزارش مورد: بیمار ۱ ماه و ۲٦ روزه با سن بارداری ۳٦ هفته و ٦ روزه با علائم رنگ پریدگی، آبریزش بینی، گرانتینگ، تغذیه (Wrist drop) ، هایپوتونی و افتادگی مچ دست(Low-pitched cry) ضعیف، تاکی پنه با ۸۷ تنفس در دقیقه، گریه با صدای بم ، در بخش مراقبت های ویژه SMN1 نوع ۱، بر اساس بررسی ژنتیکی SMA و علائم تاخیر تکاملی مراجعه کرده و با تشخیص کودکان بستری شد. در آزمایشات گلبول سفید ۳۰۰۰، هموگلوبین ۸/٦ ، پلاکت ۱۲۹۰۰۰بود. اشباع اکسیژن خون محیطی بیمار بدون اکسیژن ۸۹ درصد بوده و در بررسی گاز های خونی شریانی، هایپر کاپنی و در رادیوگرافی قفسه سینه شواهد به نفع پنومونی ریه مشاهده شد. کودک در روز ۱٤ تولد به علت تاکی پنه، آبریزش بینی به مدت یک هفته در بخش مراقبت های ویژه نوزادان بستری بوده است. داده‌ها از طریق فرآیند پرستاری، شامل ارزیابی جامع، تدوین تشخیص پرستاری، برنامه‌ریزی مداخلات، اجرای اقدامات پرستاری و ارزیابی سیستماتیک جمع‌آوری شدند. جمع آوری داده های کودک و خانواده بر اساس مدل ویرجینیا هندرسون در ۱٤ حیطه ی تنفس طبیعی، تغذیه، دفع، فعالیت بدنی و تحرک، خواب و استراحت، لباس پوشیدن، تنظیم دمای بدن و اصلاح محیط، اجتناب از خطرات محیطی، ارتباط و تعامل اجتماعی، عبادت بر اساس اعتقادات، بازی و تفریح و توانایی یادگیری صورت گرفت و تشخیص های پرستاری با تکیه بر تئوری و لیست ناندا شامل الگوی تنفس غیرموثر همراه با پاکسازی غیر موثر راه هوایی در ارتباط با پنومونی و ماهیت بیماری، خطر آسپیراسیون در ارتباط با ماهیت بیماری، تغذیه نامتعادل کمتر از نیاز بدن در ارتباط با اختلال در بلع، تغذیه ضعیف و وزن کم، اختلال در حرکت موثر در ارتباط با اختلالات سیستم اسکلتی عضلانی، خطر اختلال در یکپارچگی پوست در ارتباط با اختلال اکسیژن رسانی استخراج شد و مراقبت‌های پرستاری مبتنی بر شواهد با استفاده از طبقه‌بندی

نتایج پرستاری و طبقه‌بندی مداخلات پرستاری در طول مرحله برنامه‌ریزی و اجرا مراقبت ارائه شد. این مداخلات پرستاری بر نقص‌های عصبی-عضلانی، تغذیه و عملکرد تنفسی متمرکز بوده و شامل مداخلاتی از جمله پایش مداوم علائم حیاتی، وضعیت تنفسی و اشباع اکسیژن، فیزیوتراپی تنفسی بیمار، اکسیژن‌درمانی و پاکسازی راه هوایی مطابق با دستور پزشک، پیشگیری از آسپیراسیون از طریق وضعیت‌دهی مناسب هنگام تغذیه، پایش رشد و وضعیت تغذیه، تامین تغذیه متناسب با توانایی بلع، تمرینات دامنه حرکتی، تغییر وضعیت هر دو ساعت، مراقبت از پوست بودند؛ در حالی که مداخلات آموزشی در زمینه ماهیت بیماری، مراقبت نتیجه گیری: کاربرد .تنفسی، تغذیه مناسب و تغییر وضعیت بیمار و پیشگیری از بروز پیامد ها، آگاهی والدین را افزایش می‌داد مدل پرستاری ویرجینیا هندرسون در راستای درمان های پزشکی، باعث بهبود الگوی تنفس و تغذیه به صورت کاهش تعداد تنفس از ۸۷ به ۵۵ تنفس در دقیقه و افزایش اشباع اکسیژن از ۸۹٪ به ۹٤٪ شد. همچنین موجب ارتقای مشارکت والدین در مراقبت شد. این نتیجه از کاربرد برنامه مراقبت پرستاری مبتنی بر تئوری ویرجینیا هندرسون به عنوان یک چارچوب ساختارمند برای شناسایی در محیط SMA نیازهای مراقبتی، اولویت‌بندی تشخیص‌های پرستاری و طراحی مراقبت‌های فردمحور در شیرخواران مبتلا به

کلیدواژه‌ها: آتروفی عضلانی نخاعی؛ شیرخوار؛ فرآیند مراقبت پرستاری؛ نظریه ویرجینیا هندرسون .های بالینی حمایت کرد

Application of artificial intelligence in predicting and managing clinical outcomes of children receiving organ transplants: A Scoping Review.

منصوره کاشفی [1] ©, مهسا شریفی نودهی [1], بنان کاکاپور [2] ®

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پرستاری

abstract: چکیده مقدمه پیوند عضو یکی از مؤثرترین روش‌های درمانی برای کودکان مبتلا به نارسایی پیشرفته اعضای حیاتی از جمله کلیه، کبد، قلب و ریه محسوب می‌شود. با وجود پیشرفت‌های چشمگیر در تکنیک‌های جراحی و درمان‌های سرکوب‌کننده سیستم ایمنی، این بیماران همچنان در معرض عوارض متعددی مانند رد پیوند، عفونت، بستری مجدد، کاهش کیفیت زندگی قرار دارند و هوش مصنوعی به عنوان یکی از فناوری‌های نوین، توانسته است در زمینه پیش‌بینی پیامدهای بالینی، تحلیل داده‌های پزشکی، تصمیم‌گیریهای بالینی و شخصی‌سازی مراقبت نقش مهمی ایفا کند. از این‌رو، مرور شواهد موجود درباره کاربرد هوش مصنوعی در پیش‌بینی و مدیریت پیامدهای بالینی کودکان روش کار مطالعه حاضر یک مرور .دریافت‌کننده پیوند عضو می‌تواند مسیر استفاده مؤثر از این فناوری را در مراقبت‌های پرستاری روشن سازد می باشد که با هدف مرور و بررسی متون پژوهشی در ارتباط با کاربرد هوش مصنوعی در پیش بینی و مدیریت (scoping Review)دامنه ای پیامدهای بالینی کودکان دریافت کننده ی پیوند عضو انجام شد و در جستجوی اولیه ۳۰ مقاله بین ژانویه ۲۰۱۶ لغایت ژوئن ۲۰۲۶ منتشرشده و با استفاده از کلید واژه های فارسی پیوند عضو، SID و Google Scholar، Web of Science، Scopus، PubMed از پایگاه‌های Pediatric، Artificial Intelligence پرستاری کودکان ,هوش مصنوعی ,تصمیم گیری بالینی ,یادگیری ماشین و کلیدواژه های لاتین Clinical Decision Support، Machine Learning، Pediatric Transplantation، Organ Transplantation، Nursing شناسایی شدند. پس از حذف موارد تکراری و بررسی عناوین، چکیده‌ها و متن کامل مقالات بر اساس معیارهای ورود و خروج، در نهایت ۱۵ مقاله مرتبط با کاربرد هوش مصنوعی در پیش بینی و مدیریت پیامدهای بالینی کودکان دریافت‌کننده پیوند عضو وارد مطالعه و مورد بررسی یافته‌ها بنابر مطالعات انجام شده استفاده از هوش مصنوعی در پیش بینی و مدیریت پیامدهای بالینی کودکان دریافت کننده ی .قرار گرفتند پیوند عضو طی سالهای اخیر رشد چشمگیری داشته است و هوش مصنوعی می تواند دقت پیش بینی پیامدهای بالینی پس از پیوند عضو در کودکان را افزایش داده و پیامدهای بالینی را بهبود بخشد . همچنین مطالعات نشان دادند که سامانه‌های مبتنی بر هوش مصنوعی می‌توانند در بیشترین مطالعات مربوط به .تصمیم‌گیری بالینی پرستاران، پایش بیماران و شناسایی زودهنگام عوارض پس از پیوند نقش مؤثری ایفا نمایند نتیجه‌گیری .پیوند کلیه و کبد و قلب بوده و عمدتا از یادگیری ماشین و یادگیری عمیق برای پیش بینی پیامدهای پس از پیوند استفاده کرده اند شواهد موجود نشان می دهد که هوش مصنوعی به ویژه در پیش‌بینی رد پیوند، تشخیص زودهنگام عفونت و حمایت از تصمیم‌گیری بالینی، می‌تواند کیفیت مراقبت و مدیریت بالینی کودکان دریافت‌کننده پیوند عضو را ارتقا دهد. با این‌حال، برای استفاده گسترده از هوش مصنوعی هوش مصنوعی، :کلمات کلیدی .انجام مطالعات بالینی بیشتر، آموزش پرستاران و تدوین دستورالعمل‌های اخلاقی و قانونی ضروری است
پرستاری کودکان، پیوند عضو، یادگیری ماشین، تصمیم‌گیری بالینی

Artificial Intelligence–Supported Respiratory Monitoring in Neonatal and Pediatric Critical Care Nursing: A Systematic Review of Predictive Models and Clinical Decision-Support Technologies

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پرستاری

abstract: Background: Respiratory failure is a leading cause of admission to neonatal and pediatric intensive care units (NICUs and PICUs), contributing to increased morbidity, prolonged hospitalization, and healthcare burden. Effective respiratory management requires continuous assessment, early recognition of deterioration, and timely optimization of support. Critical care nurses play a central role through bedside assessment, interpretation of physiological changes, ventilator monitoring, alarm management, and coordination of multidisciplinary care. Advances in artificial intelligence (AI), machine learning (ML), and automated monitoring have enabled predictive models capable of analyzing complex clinical data to identify patients at risk of respiratory instability. However, evidence on the clinical applicability, safety, and implications of these technologies for neonatal and pediatric critical care nursing remains limited. Objective: This systematic review aimed to summarize current evidence on AI- and ML-based respiratory monitoring systems, predictive models, and clinical decision-support technologies in critically ill neonates and children, emphasizing predictive performance, clinical applications, nursing implications, and integration into critical care workflows. Methods: A systematic review was conducted following PRISMA 2020 guidelines. PubMed, Scopus, Web of Science, CINAHL, and Embase were searched for studies published between January 2015 and December 2025. Eligible studies included neonatal or pediatric intensive care populations and evaluated AI/ML-based respiratory prediction models, automated monitoring systems, ventilator-associated decision-support tools, or AI-assisted respiratory care pathways. Studies involving adults, laboratory-only algorithm development without clinical validation, and studies lacking respiratory outcomes were excluded. Of 1,126 records identified, 864 remained after duplicate removal for title/abstract screening. Forty-one articles underwent full-text review, and 18 studies met eligibility criteria for narrative synthesis. Methodological quality was assessed using JBI critical appraisal tools; AI models were evaluated for discrimination, calibration, validation strategies, and clinical applicability, guided by current AI reporting standards. Results: Included studies comprised retrospective cohorts (n=10), prospective observational studies (n=5), and feasibility/implementation studies (n=3). No RCT evaluating AI-supported respiratory management with nursing-sensitive outcomes as the primary endpoint was identified. AI applications primarily targeted early detection of respiratory deterioration, prediction of IMV need, extubation readiness assessment, and extubation failure prediction. Common inputs included oxygen saturation trends, respiratory rate, oxygen requirement, ventilator parameters, blood gas values, demographic data, medication exposure, and EHR data. In neonates, models focused on

ventilated preterm/low-birth-weight infants, using predictors such as gestational age, birth weight, FiO_2, mean airway pressure, and caffeine exposure, showing moderate value for extubation risk stratification. In pediatric populations, AI showed promise predicting deterioration and escalation needs, but studies were limited by retrospective designs, single-center datasets, and inadequate external validation. From a nursing perspective, AI may enhance situational awareness but requires contextual interpretation and cannot replace nursing judgment; nurses remain responsible for validating alerts, preventing alarm fatigue, and multidisciplinary communication. Conclusion: AI-supported respiratory monitoring technologies represent promising adjunctive tools for neonatal and pediatric critical care nursing by enhancing predictive surveillance and supporting early clinical decision-making. Current evidence suggests that AI should complement rather than replace professional nursing assessment and clinical expertise. Future research should prioritize multicenter prospective validation, transparent reporting of AI model performance, evaluation of real-world workflow integration, and assessment of nursing-sensitive outcomes, including response time, workload, alarm management, and quality indicators of respiratory care. Keywords: Artificial intelligence; Machine learning; Pediatric critical care nursing; Neonatal intensive care; Mechanical ventilation; Predictive monitoring; Clinical decision support; Respiratory nursing

Assessment of the Severity of Moral Distress among Nurses at a University Pediatric Hospital in Tehran: A Descriptive-Analytical Cross-Sectional Study

بهاره اکبرزاده [1] © ℗

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پرستاری

abstract: مقدمه: پریشانی اخلاقی یک مسئله شایع و مهم در میان پرستاران در تمام حیطه های بالینی است. با این وجود پرستاران در بخشهای کودکان به طور خاص در معرض پریشانی اخلاقی در نتیجه ارتباط منحصر به فرد و کشمکشهای اخلاقی بین کودک، خانواده و تیم درمان قرار دارند و پیامدهای پریشانی اخلاقی می¬تواند بر رضایت شغلی، دیدگاه عاطفی، رفاه جسمی و ماندن آنها در حرفه تأثیرگذار باشد. بنابراین هدف از مطالعه حاضر، بررسی میزان پریشانی اخلاقی در پرستاران شاغل در یک روش کار: این مطالعه به روش توصیفی مقطعی در سال ١٤٠٤ انجام شد. جامعه .بیمارستان کودکان دانشگاهی در شهر تهران بود پژوهش تمامی پرستاران شاغل در بخش‌های بیمارستان مرکز طبی کودکان (یک بیمارستان کودکان دانشگاهی وابسته به دانشگاه جمع آوری اطلاعات با .(n=444) علوم پزشکی تهران) بودند. نمونه گیری به روش در دسترس از جامعه پژوهش انجام شد استفاده از نسخه فارسی مقیاس تعدیل شده سنجش پریشانی اخلاقی– نسخه پرستاران کودکان انجام شد که ویژگی‌های روانسنجی و ضریب 89/0آن در مطالعات قبلی بررسی و از روایی و پایایی مطلوبی برخوردار بود (ضریب آلفای کرونباخ برای کل مقیاس همبستگی درون خوشه ای ۰/۹ بود). این مقیاس حاوی ۲۱ گویه در طیف لیکرت پنج گزینه‌ای است به طوریکه در مقابل هر گویه دو ستون وجود دارد که عبارتند از فراوانی و سطح آزاردهندگی. به هر گویه در هر یک از ستون نمره ۰: هرگز تا نمره ٤: بسیار زیاد اختصاص داده می‌شود. بنابراین میزان فراوانی و سطح آزاردهندگی هر گویه از ۰ تا ٤ متغیر می‌باشد و سطح پریشانی اخلاقی ایجاد شده توسط هر گویه برابر است با حاصل ضرب نمره فراوانی در نمره سطح آزاردهندگی. بنابراین نمره هر گویه از نظر سطح پریشانی ایجاد شده، از ١٦–۰ متغیر می‌باشد. مجموع نمرات پریشانی اخلاقی در این مقیاس بین ۰ تا ٣٣٦ متغیر است. پرسشنامه به صورت آنلاین برای پرستارانی که معیارهای ورود به مطالعه را داشتند شامل تمایل به شرکت در مطالعه، دارا بودن مدرک کارشناسی و از روش‌های آماری SPSS پرستاری و حداقل ٦ ماه سابقه کار ارسال شد. برای تجزیه و تحلیل داده ها از نسخه ٢٨ نرم افزار نتایج: نتایج نشان داد اکثریت شرکت .توصیفی و تحلیلی آزمون های تی تک نمونه‌ای و تحلیل واریانس یک راهه استفاده شد کنندگان را زنان (٩٤.١٪) تشکیل دادند و سطح تحصیلات اکثر شرکت کنندگان کارشناسی (٨١.٣٪) بود. اکثریت شرکت کنندگان بود. نتایج 9.72 ± 6.96شیفت کار در گردش (٧٢.٣٪) داشتند. میانگین سن و سابقه کار آنان به ترتیب بربر با ٧.٣٩ ± ٣٨.٨٤ و تک نمونه ای نشان داد میانگین پریشانی اخلاقی برابر با ١٢٧.٣٢ بود که از نظر آماری تفاوت معناداری با مقدار متوسط T آزمون همچنین یافته‌ها نشان داد نیمی از شرکت کنندگان دارای پریشانی اخلاقی متوسط (٥٠.٢٪) بودند و .(001/0p) ١٦٨داشت ٤٣.٣درصد از آنان پریشانی اخلاقی کم داشتند. فقط ٦.٥ درصد مشارکت کنندگان دارای پریشانی اخلاقی زیاد بودند. نتایج بررسی ارتباط بین متغیرهای زمینه‌ای با پریشانی اخلاقی با استفاده از آزمون تحلیل واریانس یک راهه (آنووا) نشان داد میان دو متغیر سطح

به طوریکه میزان پریشانی اخلاقی در افرادی که سطح تحصیلات و سن با پریشانی اخلاقی رابطه معنی دار وجود داشت (05/0p). تحصیلات بالاتری داشتند بیشتر بود. از نظر سنی نیز کمترین میزان پریشانی اخلاقی مربوط به بالاترین بازه سنی یعنی ۵۰ تا ۵۵ سال بود و بعد از آن کمترین پریشانی اخلاقی مربوط به پایین ترین بازه سنی یعنی ۲۰ تا ۲۹ سال بود. بر این اساس میزان پریشانی اخلاقی در بازه سنی ۳۰ تا ۴۹ سال بالاتر از بازه سنی پایین تر و بالاتر از آن بود (05/0p). همچنین به عنوان یک یافته قابل اعتنا در سطح اطمینان ۹۰ درصد بین سابقه کار با پریشانی اخلاقی رابطه وجود داشت که کمترین میانگین پریشانی اخلاقی را نیز بالاترین سابقه کار یعنی ۲۰ تا ۲۹ سال داشت. نتیجه گیری: یافته‌های این مطالعه نشان داد پریشانی اخلاقی در میان پرستاران بخش کودکان شایع است و اکثریت آن‌ها در سطح متوسطی از این پریشانی قرار دارند. همچنین، سطح تحصیلات بالاتر و قرار داشتن در بازه سنی ۳۰ تا ۴۹ سال با افزایش میزان پریشانی اخلاقی همراه است. این نتایج ضرورت اتخاذ راهبردهای حمایتی و آموزشی برای مدیریت پریشانی اخلاقی در محیط‌های بیمارستانی کودکان را برجسته می‌کند. کلید واژه ها: پرستاری کودکان، چالش‌های اخلاقی، اخلاق پرستاری کد اخلاق در: IR.IAU.TMU.REC.1400.342

Association between nurses' knowledge and their performance regarding transition of premature infants to oral feeding

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abstract: Abstract Background and Objective Oral feeding difficulties are major challenges for preterm infants. Nurses play a crucial role in facilitating a safe and successful transition to oral feeding for these infants. Inadequate knowledge or suboptimal practices among nurses can delay the achievement infants'ability of oral feeding and, consequently, hospital discharge. Therefore, evaluating nurses' knowledge and practices regarding oral feeding in preterm infants is the first step towards improving feeding-related issues. This study aimed to investigate the association between nurses' knowledge and their performance in transitioning preterm infants to oral feeding in hospitals of Tabriz, Iran. Materials and Methods This descriptive correlational study conducted on 189 nurses working in the neonatal and neonatal intensive care units (NICUs) of Tabriz hospitals in 2022. All eligible nurses with a bachelor or higher degree in nursing and at least six months of work experience in NICU or neonatal wards participated in the study. Non-completion of 20% of the questionnaires served as the exclusion criterion. Three questionnaires of demographic characteristics, nurses' knowledge and nurses' performance were used for data collection.The data were entered into SPSS version 24 software and were analyzed using descriptive and inferential statistics at a significance level of less than 0.05. Findings The study findings showed that the average knowledge and performance scores of nurses regarding oral feeding transition in preterm infants were 63.26 ± 8.12 out of 100 and 33.44 ± 5.04 out of 42, respectively. A statistically significant positive correlation was found between nurses' knowledge and their performance regarding oral feeding transition in preterm infants ($p = 0.027$). Conclusion The study findings indicated that nurses' knowledge regarding preterm infants transition to oral feeding is generally at a moderate to good level. Moreover, the study highlighted a positive correlation between nurses' knowledge and their performance in this area. This suggests that enhancing nurses' knowledge can lead to improve performance in managing oral feeding transition for preterm infants. Therefore, to promote effective oral feeding skills in preterm infants and facilitate a smooth transition to independent oral feeding, it is crucial to strengthen nurses' knowledge in the areas of cue-based feeding and oral-motor interventions. Keywords: Preterm infant, Oral feeding, Knowledge, performance, Nurse Ethical Approval: IR.TBZMED.REC.1402.111

Barriers and Facilitators of Providing Spiritual Care for Pain Management in Pediatric Oncology: A Systematic Revie

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پرستاری

abstract: مقدمه: کودکان مبتلا به سرطان متحمل درد علاوه بر بُعد جسمی، تحت تاثیر ابعاد روانی–اجتماعی ، هیجانی و معنوی درد نیز با انتقال معنا، امید، آرامش درونی ، تقلیل اضطراب و حس تنهایی، به کاهش درد ادراک‌شده (spiritual care) قرار میگیرند. مراقبت معنوی و بهبود کیفیت زندگی کمک شایانی مینماید .فی الواقع، اجرای مراقبت معنوی در محیط‌های پر تراکم درمانی همواره میسر نیست. لذا، بررسی نظام‌مند موانع و تسهیل‌گرها جهت ارائه مراقبت معنوی به کودکان، در راستای طراحی مداخلات مؤثر و قابل اجرا در بالین ضروری به نظر میرسد . هدف: شناسایی و طبقه‌بندی موانع و تسهیل‌گرهای ارائه مراقبت معنوی بر تسکین درد کودکان مبتلا به سرطان است؛ به نوعی که بتوان روش تحقیق: مقالات منتشرشده در .با الهام از آن‌ها، برنامه‌های مراقبت معنوی را در مراکز بالینی به نحو عملیاتی‌تر و بیمار–محور بسط داد در ۱۰ سال اخیر با استفاده از کلیدواژه‌های Google Scholar و Web of Science، Scopus، PubMed پایگاه‌های معتبر علمی شامل Spiritual care; Pain; Children with cancer; Pain relief; Barriers and facilitators; Palliative care; Spiritual needs; Healthcare team and fam Privacy, و کلید اژه های مراقبت معنوی؛ درد؛ کودکان ، سرطان؛ تسکین درد؛ موانع ، تسهیل‌گرها؛ مراقبت تسکینی؛ معنویت ،تیم درمان ؛ خانواده به زبان فارسی جستجو شدند. پس از حذف مقالات تکراری و غربالگری توسط دو محقق به طور کاملا مستقل بر اساس معیارهای ورود نظیر مرتبط بودن عنوان، چکیده و در دسترس بودن متن کامل، تمرکز بر مطالعات کیفی ،در نظر گرفتن بازه زمانی مطرح و تمرکز بر محورهای اصلی جستجو شامل « مراقبت معنوی»، « هر مرحله بیماری (تشخیص اولیه، درمان، عود، مراقبت تسکینی»، «انواع سرطان » و «کیفیت زندگی مرتبط با درد؛،هر محیط مراقبتی: بیمارستان، مرکز سرطان، درمان سرپایی».درنهایت ازبین ۸۷مقاله یافته‌ها: یافته‌های مرور سیستماتیک در دو محور .ی استخراج شده ٤٧ مطالعه مطابق چک لیست استاندارد پریزما وارد بررسی نهایی شدند شامل موانع دانش‌محور (کمبود آموزش و ابزار ارزیابی)، موانع روانی–اخلاقی (ترس :(Barriers) محور اول: موانع :اصلی طبقه‌بندی شدند محور دوم: تسهیل‌گرها .از نقض حریم خصوصی و ابهام در نقش‌ها) و موانع محیطی (فشار کاری و نبود فضای مناسب برای گفتگو) شامل مداخلات آموزشی (آموزش مهارت‌های همدلی)، ساختارهای حمایتی (پروتکل‌های ارجاع و حمایت سازمانی) و :(Facilitators) نتیجه‌گیری: به زعم نویسندگان ارائه مراقبت معنوی به سبب .رویکرد خانواده‌محور (شخصی‌سازی مراقبت و استفاده از آیین‌های آرامش‌بخش) تسکین درد کودکان مبتلا به سرطان تحت تأثیر عوامل چندلایه است. مهم‌ترین موانع شامل کمبود آموزش، ابهام در نقش‌ها، محدودیت زمان، فقدان ابزار ارزیابی نیاز معنوی و چالش‌های فرهنگی/ارتباطی است. در مقابل، آموزش و انبوردینگ کارکنان، وجود پروتکل ارجاع، نگرش مثبت تیم درمان، شخصی‌سازی مراقبت، مشارکت خانواده و حمایت سازمانی از مهم‌ترین تسهیل‌گرها هستند. لذا، طراحی مداخلات مراقبت معنوی باید با رویکرد تیمی، مبتنی بر نیاز، و قابل اجرا در محیط بالینی صورت گیرد تا بتوان اثر آن را بر کاهش درد و بهبود کیفیت زندگی افزایش داد

کلمات کلیدی: مراقبت معنوی؛ درد؛ کودکان ، سرطان؛ تسکین درد؛ موانع ، تسهیل‌گرها؛ مراقبت تسکینی؛ معنویت تیم درمان ؛ خانواده

Care Challenges and Nursing Interventions in a Child with Xeroderma Pigmentosum Admitted to the Pediatric Intensive Care Unit for Pneumonia: A Case Report

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پرستاری

abstract: مقدمه: زرودرما پیگمنتوزوم (Xeroderma Pigmentosum; XP) یک اختلال ژنتیکی نادر با توارث اتوزومال ناشی از اشعه فرابنفش ایجاد می‌شود و با حساسیت شدید به نور، درگیری DNA مغلوب است که در اثر نقص در ترمیم آسیب‌های پیشرونده پوست و چشم و افزایش خطر بدخیمی همراه است. بستری این بیماران در بخش مراقبت‌های ویژه کودکان، به‌ویژه در زمینه بیماری‌های حاد تنفسی، مراقبت را با چالش انطباق درمان بیماری حاد با نیازهای اختصاصی بیماری زمینه‌ای مواجه می‌سازد. و محدود بودن گزارش‌های متمرکز بر مراقبت پرستاری در شرایط بحرانی، ارائه این مورد می‌تواند به XP با توجه به نادر بودن ، به دنبال پنومونی با علائم تب، لرز، ضعف، XP بیمار، کودک ۱۲ ساله مبتلا به :معرفی مورد .افزایش آگاهی تیم سلامت کمک کند بی‌حالی، دیسترس تنفسی و کاهش اشباع اکسیژن در بخش مراقبت‌های ویژه کودکان بستری شد. در ارزیابی اولیه، بیمار از نظر عمومی و تنفسی در وضعیت نامساعد قرار داشت و نیازمند پایش مداوم و مداخلات حمایتی بود. در بررسی پوستی، کک‌ومک‌ها و ماکول‌های پیگمانته متعدد و منتشر تقریباً در سراسر بدن مشاهده شد و ضایعات پوستی در نواحی در معرض نور، به‌ویژه صورت و دست‌ها، شدت بیشتری داشت. این ضایعات به‌صورت هیپرپیگمانتاسیون و هیپوپیگمانتاسیون ناهمگون، خشکی شدید، آتروفی و تغییرات اسکارمانند تظاهر یافته بود. همچنین درگیری چشمی به‌صورت خشکی ملتحمه و کراتیت مشاهده شد. ارزیابی وضعیت مراقبتی پیشین و مصاحبه با خانواده نشان داد آگاهی کافی نسبت به ضرورت حفاظت مادام‌العمر در برابر نور، مراقبت مستمر از پوست و چشم، استفاده منظم از اقدامات محافظتی و فرآورده‌های موضعی تجویزشده، مصرف داروهای تجویزشده و پیگیری تخصصی منظم وجود نداشته است. این وضعیت احتمالاً در تشدید ضایعات و پیشرفت مشکلات پوستی و چشمی نقش داشته مداخلات .است. بیمار در محیطی کنترل‌شده از نظر نور و با رعایت ملاحظات حفاظتی متناسب با بیماری زمینه‌ای بستری شد اولویت نخست، پایدارسازی وضعیت تنفسی، حفظ اکسیژناسیون، پایش مستمر علائم حیاتی و :پرستاری و چالش‌های مراقبتی مدیریت پنومونی بود. هم‌زمان، مداخلات پرستاری اختصاصی برای کاهش مواجهه با نور و پیشگیری از تشدید آسیب‌های پوستی و چشمی اجرا شد. این اقدامات شامل کنترل شرایط نوری محیط، کاهش تماس با نور مستقیم و منابع نوری بالقوه آسیب‌رسان، استفاده از پوشش محافظ، مراقبت دقیق از پوست، مخاط و چشم‌ها، اجتناب از اصطکاک و فشار غیرضروری، جابه‌جایی محتاطانه و دقت در تثبیت تجهیزات درمانی و پایشی بود. همچنین، مشاوره‌های تخصصی پوست و چشم برای ارزیابی شدت درگیری و

تداوم مراقبت درخواست شد. آموزش کودک و خانواده بخش اصلی مداخله بود و شامل تأکید بر پرهیز از نور خورشید و منابع مصنوعی آسیب‌رسان، مراقبت روزانه از پوست و چشم، استفاده منظم از فرآورده‌های محافظ و موضعی تجویزشده، مصرف داروهای تجویزشده، توجه به علائم هشداردهنده و پیگیری درمان توسط متخصصان مربوطه بود. در کنار این موارد، تلاش شد نگرش خانواده نسبت به بی‌اثر بودن مراقبت در بیماری لاعلاج اصلاح و بر نقش مراقبت‌های حمایتی در کاهش عوارض و بهبود کیفیت زندگی به کنترل وضعیت حاد بیمار XP تأکید شود. اجرای هم‌زمان مراقبت‌های حمایتی تنفسی و مداخلات اختصاصی حفاظتی مرتبط با و پیشگیری از تشدید آسیب‌های پوستی و چشمی در طول بستری کمک کرد. بیمار پس از ٦ روز بستری در بخش مراقبت های این گزارش مورد نشان می‌دهد که :نتیجه‌گیری .ویژه کودکان، با بهبود نسبی وضعیت عمومی و تنفسی، به بخش اطفال منتقل شد در بخش مراقبت‌های ویژه صرفاً به درمان بیماری حاد محدود نمی‌شود، بلکه نیازمند شناسایی XP مراقبت از کودکان مبتلا به کمبودهای مراقبتی پیشین، آموزش هدفمند کودک و خانواده و انطباق مراقبت‌های روتین با نیازهای اختصاصی بیماری است. این مورد بر نقش محوری پرستار در پایش بالینی، حفاظت نوری، مراقبت از پوست و چشم، آموزش خانواده، حمایت روانی‌ـاجتماعی و هماهنگی با تیم درمان تأکید دارد و می‌تواند به افزایش حساسیت مراقبان سلامت نسبت به نیازهای ویژه کودکان مبتلا به زرودرما پیگمنتوزوم؛ کودک؛ پنومونی؛ بخش مراقبت‌های ویژه کودکان؛ :کلیدواژه‌ها .بیماری‌های نادر در شرایط بحرانی کمک کند مداخلات پرستاری؛ گزارش مورد

challenges of Picc use in infants

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پرستاری

abstract: خلاصه مقاله: PICC use in infants remains essantial for delivering complex therapies but is accompanied by significant technical and clinical challenges. Implementing evidence-based insertion techniques, standardized care protocols, and multidisciplinary expertise can minimize complications and improve vaşcular access outcoms. Further high-quality reserch is needed to strengthen evidence for best practices and optimize PICC care in this vulnerable population.

Designing a Nursing Care Plan Based on the Levine's Conservation Model in a Patient with Nephrotic Syndrome: A Case Study

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پرستاری

abstract: هدف و مقدمه: سندرم نفروتیک از شایع‌ترین اختلالات خودایمنی گلومرولی کودکان است که بر رشد، نمو و سلامت روان آنان تأثیر گذاشته و بار قابل‌توجهی بر خانواده‌ها تحمیل می‌کند. پرستاران نقش مهمی در شناسایی زودهنگام، کنترل علائم، آموزش بیمار و اجرای اقدامات پیشگیرانه دارند؛ ازاین‌رو، ارائه مراقبت‌های جامع مبتنی بر تئوری‌های پرستاری، از جمله مدل محافظت لوین، اهمیت ویژه‌ای دارد. این مدل با تأکید بر حفاظت از انرژی، کلیت و سازگاری فرد با بیماری، بهبود کیفیت زندگی را تسهیل می‌کند. بنابراین، هدف این مطالعه استفاده از تئوری محافظت لوین در تدوین برنامه مراقبت پرستاری برای بیمار مبتلا به محتوا: براساس مدل محافظت لوین انسان موجودی سازگار و در تعادل دائم با محیط داخلی و خارجی .سندرم نفروتیک است بوده و رفتارهایی را در پاسخ به محرک‌ها ارائه می‌دهد و در صورت رسیدن به سازگاری کلیت فرد حفظ می‌شود. این مدل دارای سه مفهوم اصلی شامل محافظت، کلیت و سازگاری بوده و بر چهار اصل اساسی محافظت از انرژی، محافظت از یکپارچگی ساختاری، شخصی و اجتماعی استوار است. از دیدگاه لوین فرد از واکنش‌های ارگانیسمی شامل ستیز و گریز، پاسخ التهابی، پاسخ به استرس و پاسخ ادراکی جهت سازگاری با موقعیت‌های محیطی استفاده می‌کند. بنابراین، تمرکز مراقبت پرستاری در مدل لوین بر مدیریت این پاسخ‌های ارگانیسمی و حفظ انرژی، یکپارچگی ساختاری، شخصی و اجتماعی با هدف حفظ تمامیت و ارتقای سازگاری فرد است. در این مطالعه موردی، بیمار پسر ٤ ساله مبتلا به سندرم نفروتیک، با علائم بالینی ادم پره اوربیتال، آسیت، ادم اندام‌ها، پروتئینوری (+۳)، کاهش حجم ادرار و ادرار کف‌آلود، کاهش اشتها و خستگی بود. جهت طراحی برنامه مراقبت پرستاری ها، مبتنی بر مدل محافظت ٤ مرحله انجام گرفت. در مرحله اول بررسی بیمار به‌وسیله‌ی مشاهده، معاینه فیزیکی و بررسی سیستم علایم بالینی، بررسی پرونده پزشکی و آزمایشات، مصاحبه با بیمار و خانواده و بررسی تاریخچه بیماری فعلی، سابقه دارویی، تاریخچه خانوادگی، رژیم غذایی، وضعیت روانی و نحوه ارتباطات اجتماعی کودک و خانواده برای تعیین مشکلات و نیازهای بیمار و خانواده بود. در مرحله بعدی تعیین و اولویت بندی تشخیص‌های پرستاری (تروفوگونوزیس) براساس مشکل بیمار، در چهار اصل مدل حفاظت لوین انجام شد. در حیطه حفاظت از انرژی، مشکلات شامل اضافه حجم مایعات، عدم تعادل در تغذیه: کمتر از نیاز بدن و عدم تحمل فعالیت بود. در حیطه حفاظت از یکپارچگی ساختاری، خطر عفونت، خطر اختلال در تمامیت پوستی و خطر ترومبوآمبولی وریدی به‌عنوان مهم‌ترین مشکلات بیمار مطرح شدند. همچنین، در حیطه حفاظت از یکپارچگی شخصی، مشکلاتی از جمله اختلال در تصویر ذهنی از بدن، اضطراب و خطر اعتماد به نفس پایین مزمن شناسایی شد. در نهایت، در حیطه حفاظت از یکپارچگی اجتماعی، اختلال در تعاملات اجتماعی و اختلال در فرایند خانوادگی از جمله مشکلات بیمار بودند. در مرحله برنامه‌ریزی، به منظور تدوین برنامه مراقبتی، در خصوص مشکلات بیمار، اهداف و نتایج مورد نظر فرضیه‌سازی شد. پس از تدوین

تشخیص‌ها و برنامه‌ریزی، مجموعه‌ای از مداخلات پرستاری تعیین گردید؛ که در حیطه حفظ انرژی شامل پایش دقیق جذب و دفع، وزن و ادم، کنترل علائم حیاتی و فشار خون، آموزش رژیم غذایی متناسب با مرحله بیماری، ارجاع برای مشاوره تغذیه و برنامه‌ریزی دوره‌های استراحت بین فعالیت‌ها؛ در حیطه حفظ یکپارچگی ساختاری شامل پایش علائم عفونت، رعایت اصول کنترل عفونت و آموزش آن، مراقبت و بررسی منظم پوست، تشویق به تحرک مناسب و پایش نتایج آزمایشات؛ و در حیطه‌های حفظ یکپارچگی شخصی و اجتماعی شامل تشویق بیمار و خانواده به بیان احساسات و نگرانی‌ها، آموزش درباره بیماری، تقویت مشارکت بیمار و خانواده در مراقبت، تقویت ارتباط بیمار با اعضای خانواده و همسالان، حمایت از خانواده جهت افزایش توانمندی در مراقبت از بیمار و ارجاع به مشاور در صورت نیاز بود. در مطالعات اجرای طرح مراقبتی، ضرورت دارد در مرحله ارزشیابی پاسخ‌های ارگانیسمی بحث و نتیجه‌گیری: تئوری‌های پرستاری با .نسبت به مداخلات و همچنین درستی فرضیات و مداخلات مورد بررسی قرار گیرد ترسیم فرایند مراقبت پرستاری، دستورالعمل‌هایی برای ارائه خدمات جامع به بیماران فراهم می‌کنند. براساس مطالعه حاضر، فرایند پرستاری مبتنی بر مدل حفاظت لوین می‌تواند با ارائه مداخلاتی در جهت افزایش توانایی حفظ انرژی، یکپارچگی ساختاری، شخصی و اجتماعی، از فرآیند سازگاری کودکان مبتلا به سندروم نفروتیک حمایت کند. به‌کارگیری این مدل در مراقبت‌های پرستاری، علاوه

کلیدواژه: تئوری پرستاری، پرستاری .بر هدایت و تسهیل فرایند مراقبت، موجب ارتقای کیفیت خدمات پرستاری نیز خواهد شد
کودکان، سندروم نفروتیک

Digital Phenotyping for the Early Identification of Pediatric Mental Disorders: A Systematic Review of the Nursing Role

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پرستاری

abstract: زمینه و اهداف اختلالات روانی در دوران کودکی و نوجوانی از چالش‌های اساسی سلامت عمومی هستند که تشخیص زودهنگام آن‌ها نقش حیاتی در پیشگیری از پیامدهای مزمن دارد. فنوتایپ‌سازی دیجیتال، به‌عنوان رویکردی نوظهور با بهره‌گیری از داده‌های سنسورهای گوشی‌های هوشمند و ابزارهای پوشیدنی، امکان پایش مستمر الگوهای رفتاری و شناختی را فراهم می‌آورد. با وجود پتانسیل بالای این فناوری در شناسایی زودهنگام، ابهاماتی در خصوص ملاحظات اخلاقی و نقش پرستاران در تفسیر داده‌ها وجود دارد. این مطالعه با هدف مرور نظام‌مند شواهد موجود پیرامون کاربرد فنوتایپ‌سازی دیجیتال در شناسایی زودهنگام اختلالات روانی کودکان و تبیین نقش پرستاران در این فرایند انجام شده است. روش‌ها این مطالعه به‌صورت مرور سیستماتیک و مطابق با دستورالعمل PRISMA 2020 طراحی شده است. جست‌وجوی نظام‌مند در پایگاه‌های اطلاعاتی PubMed، Scopus، Web of Science، Embase و CINAHL برای مقالات منتشرشده در بازه زمانی ۲۰۲۰ تا ۲۰۲۶ صورت می‌گیرد. راهبرد جست‌وجو بر ترکیبی از کلیدواژه‌های «فنوتایپ‌سازی دیجیتال»، «سلامت روان کودکان»، «تشخیص زودهنگام»، «پرستاری کودکان»و «هوش مصنوعی» که معادل آنها متمرکز است. انتخاب مقالات، ارزیابی کیفیت و استخراج داده‌ها توسط دو پژوهشگر مستقل انجام شده و یافته‌ها به‌صورت سنتز روایتی گزارش خواهند شد. یافته‌ها نتایج اولیه نشان می‌دهد که فنوتایپ‌سازی دیجیتال با پایش پیوسته شاخص‌های رفتاری، در تشخیص زودهنگام علائم اختلالات خلقی و اضطرابی در کودکان کارآمد است. یافته‌ها بر نقش کلیدی پرستاران در سه محور اصلی تأکید دارند: ۱) آموزش خانواده‌ها در استفاده از ابزارهای دیجیتال، ۲) تفسیر بالینی داده‌های دیجیتال در کنار روش‌های سنتی، و ۳) نظارت بر حفظ حریم خصوصی و اخلاق‌مداری در فرآیند مراقبت نتیجه‌گیری فنوتایپ‌سازی دیجیتال می‌تواند به عنوان ابزاری مکمل، تحولی در غربالگری و مراقبت‌های پرستاری کودکان ایجاد کند. با این حال، اثربخشی این فناوری مستلزم تدوین پروتکل‌های اخلاقی استاندارد و ارتقای سواد دیجیتال در کادر پرستاری است. نتایج این مرور می‌تواند بستری کلیدواژه‌ها در حوزه پرستاری کودکان و سلامت دیجیتال فراهم آورد (Clinical Guidelines) برای توسعه راهنماهای بالینی.

فنوتایپ‌سازی دیجیتال؛ سلامت روان کودکان؛ تشخیص زودهنگام؛ پرستاری کودکان؛ هوش مصنوعی

Digital Technologies and Body Image Concerns in Adolescents: A Correlational Study

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abstract: مقدمه و هدف: تصویر ذهنی از بدن یکی از مؤلفه‌های مهم در شکل‌گیری هویت افراد است و نگرانی از تصویر ذهنی بدن در نوجوانان احتمال رفتارهای مخاطره آمیز را افزایش می‌دهد. یکی از عوامل مرتبط با نگرانی از تصویر ذهنی از بدن، استفاده مشکل‌ساز از فناوری‌های دیجیتال می‌باشد. لذا این مطالعه با هدف تعیین ارتباط میزان استفاده از فناوری‌های دیجیتال با نگرانی از تصویر ذهنی بدن در نوجوانان مدارس متوسطه دوم شهر رشت، انجام شد. روش کار: این مطالعه از نوع مقطعی-تحلیلی بوده و بر روی ۳۵۵ نفر از نوجوانان مدارس متوسطه دوم، با روش نمونه‌گیری خوشه‌ای انجام شد. جهت گردآوری داده‌ها از ۳ ابزار شامل پرسشنامه اطلاعات جمعیت‌شناسی، پرسشنامه محقق‌ساخته میزان استفاده از فناوری دیجیتال و نگرانی از تصویر ذهنی بدن (BICI) نسخه ۲۶ انجام شد. تجزیه‌وتحلیل داده‌ها با استفاده از آزمون‌های آماری توصیفی و تحلیلی تحت نرم‌افزار SPSS استفاده گردید. این مطالعه با کداخلاق به شماره IR.GUMS.REC.1403.195 در کمیته اخلاق در پژوهش دانشگاه علوم‌پزشکی گیلان ثبت یافته ها: نتایج نشان داد میانگین سن نوجوانان ۱۶/۳۶±۰/۶۳ سال بوده، اکثریت با پدر و مادر زندگی کرده (۹۱/۵ درصد)، سطح تحصیلات پدر (۳۸/۶ درصد) و مادر (۳۲/۷ درصد) دانشگاهی بود. نمره کل استفاده از فناوری دیجیتال کمتر از حد متوسط (۲۱/۱۲±۹/۳) و میزان استفاده از رسانه های اجتماعی آنلاین بیشتر از بازی های دیجیتال گزارش شد. نگرانی از تصویر ذهنی بدن در نوجوانان در محدوده متوسط (۴۴/۰±۱۵/۰) بوده و با متغیرهای جنسیت، رشته تحصیلی، معدل، تحصیلات پدر و همبستگی مثبت معنی‌دار بین استفاده از فناوری‌های (05/0≥P) استفاده از رسانه‌های اجتماعی آنلاین ارتباط معنی‌داری داشت (0.37r=). نتیجه گیری: استفاده مفرط از فناوری‌های دیجیتال و نگرانی از تصویر ذهنی بدن در شرکت‌کنندگان وجود داشت دیجیتال، به‌ویژه شبکه‌های اجتماعی که معمولاً نمایش ایده‌آل‌های غیرواقعی بدن را ترویج می‌کنند، می‌تواند به افزایش نگرانی‌های مرتبط با تصویر بدن در نوجوانان منجر شود. آگاهی‌بخشی به نوجوانان و والدین درباره تأثیرات منفی استفاده بیش‌ازحد از فناوری‌های دیجیتال، نوجوانی .کلید واژه ها: تصویر بدنی، فناوری دیجیتال، نوجوانی .دیجیتال در سلامت روان و تصویر ذهنی بدن ضروری به نظر می‌رسد

Digital Twins in Pediatric Intensive Care: From Predictive Monitoring to Smart Nursing

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پرستاری

abstract: مقدمه: تشخیص زودهنگام وخامت بالینی در کودکان بستری در بخش مراقبت‌های ویژه (PICU) از مهم‌ترین عوامل مؤثر بر کاهش مرگ‌ومیر، عوارض و بهبود پیامدهای درمانی است. با وجود توسعه سامانه‌های هشدار زودهنگام و فناوری‌های پایش مداوم، این سامانه‌ها همچنان با محدودیت‌هایی مانند هشدارهای کاذب، تحلیل داده‌های ایستا، شخصی‌سازی محدود و ناتوانی در پیش‌بینی روندهای پیچیده بالینی مواجه‌اند. دوقلوی دیجیتال (Digital Twin) به‌عنوان یکی از فناوری‌های نوظهور پزشکی دقیق، با ایجاد یک مدل مجازی پویا از بیمار و به‌روزرسانی مستمر آن بر اساس داده‌های لحظه‌ای، می‌تواند بستر جدیدی برای مراقبت‌های پیش‌بین و تصمیم‌یار فراهم سازد. با این حال، کاربرد این فناوری در مراقبت‌های ویژه کودکان هنوز در مراحل اولیه قرار دارد و نیازمند بررسی از منظر آینده‌پژوهی و پرستاری است. هدف: این مقاله با رویکردی آینده‌نگر، ظرفیت‌های دوقلوی دیجیتال در پایش پیش‌بین و تشخیص زودهنگام وخامت بالینی در PICU را بررسی کرده و روش کار: بر پایه مرور روایتی و تحلیل انتقادی شواهد پیامدهای بالقوه آن را برای توسعه پرستاری هوشمند کودکان تبیین می‌کند. یافته‌ها: نوظهور در حوزه‌های دوقلوی دیجیتال، هوش مصنوعی، پایش بلادرنگ، پزشکی دقیق، مراقبت‌های ویژه و انفورماتیک پرستاری تدوین شد. روندهای فناورانه، چالش‌های پیاده‌سازی و مسیرهای آینده به‌منظور ارائه یک چارچوب مفهومی برای کاربرد دوقلوی دیجیتال در بخش مراقبت‌های ویژه کودکان تحلیل شدند. دوقلوی دیجیتال این ظرفیت را دارد که با یکپارچه‌سازی داده‌های چندمنبعی شامل علائم حیاتی، نتایج آزمایشگاهی، اطلاعات دارویی، پارامترهای تهویه مکانیکی و پرونده الکترونیک سلامت، تصویری پویا و اختصاصی از وضعیت هر بیمار ایجاد کند. تلفیق این فناوری با الگوریتم‌های هوش مصنوعی و یادگیری ماشین می‌تواند امکان پیش‌بینی زودهنگام سپسیس، نارسایی تنفسی، ناپایداری همودینامیک و سایر اشکال وخامت بالینی را فراهم کرده و از تصمیم‌گیری بالینی، اولویت‌بندی بیماران و شخصی‌سازی مراقبت حمایت کند. با این وجود، محدودیت داده‌های اختصاصی کودکان، کمبود مطالعات اعتبارسنجی بالینی، چالش‌های قابلیت تفسیر مدل‌ها، یکپارچه‌سازی با سامانه‌های بیمارستانی، امنیت داده‌ها و ملاحظات اخلاقی از مهم‌ترین موانع انتقال این فناوری به محیط بالین محسوب می‌شوند. نتیجه‌گیری: دوقلوی دیجیتال می‌تواند یکی از فناوری‌های تحول‌آفرین در آینده مراقبت‌های ویژه کودکان و پرستاری هوشمند باشد و نقش پرستاران را از پایش واکنشی به مراقبت پیش‌بین، داده‌محور و شخصی‌سازی‌شده ارتقا دهد. با وجود محدود بودن شواهد بالینی در PICU ، پیشرفت‌های سریع در هوش مصنوعی، پایش بلادرنگ و پزشکی دقیق، زمینه مناسبی برای توسعه این فناوری فراهم کرده است. انجام مطالعات آینده‌نگر، اعتبارسنجی بالینی مدل‌ها، توسعه هوش مصنوعی قابل‌توضیح و مشارکت فعال پرستاران در طراحی و استقرار این سامانه‌ها، از مهم‌ترین الزامات انتقال دوقلوی دیجیتال از مرحله مفهوم به کاربرد بالینی خواهد بود.

کلیدواژه‌ها: دوقلوی دیجیتال، بخش مراقبت‌های ویژه کودکان، وخامت بالینی، هوش مصنوعی، پرستاری هوشمند، پایش پیش‌بین.

Effect of a Nursing-Led Empowerment Program on Care Burden and Social Isolation among Caregivers of Children with Cerebral Palsy in Yazd Province: A Quasi-Experimental Study

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abstract: Background and Aim: Cerebral palsy is a lifelong, non-progressive neurodevelopmental disorder caused by injury to the developing brain that primarily impairs movement, muscle tone, and posture. It is frequently accompanied by motor, sensory, cognitive, and communication disabilities and requires long-term multidisciplinary care. Primary caregivers—most often mothers—bear heavy responsibilities for daily care, home-based rehabilitation, medical follow-up, and management of complications. This sustained demand elevates physical, psychological, social, and financial burden, frequently leading to social isolation and reduced family quality of life. Within Iran's health system, and particularly in hospitals and healthcare centers of Yazd Province, nurses play a central role in education, support, and family empowerment. Structured nurse-led empowerment programs for caregivers of children with cerebral palsy remain limited. This study therefore aimed to determine the effect of a nursing-led empowerment training program on care burden and social isolation among these caregivers, providing a practical basis for improving services in Yazd treatment centers. Methods: This quasi-experimental pretest-posttest study with a control group included 98 primary caregivers of children with cerebral palsy (predominantly mothers). Participants were selected by convenience sampling and randomly assigned to an intervention group (n = 49) or a control group (n = 49). Inclusion criteria were direct daily caregiving, ability to attend sessions, and informed consent. Data were collected using three Persian-validated instruments: the Caregiver Burden Inventory (CBI) with five subscales (time-dependence, developmental, physical, social, and emotional burden); the Revised UCLA Loneliness Scale; and the Family Empowerment Scale (FES). The intervention group attended a six-session nursing-led empowerment program (60–90 minutes weekly for six weeks). Content covered the nature and complications of cerebral palsy, daily care skills and injury prevention, stress management and emotion regulation, strengthening social support networks, communication with the healthcare team, and participatory decision-making. Teaching methods included interactive lectures, group discussion, practical demonstration, role-playing, pamphlets, and telephone follow-up. The control group received routine hospital and clinic care only. Outcomes were assessed immediately before the intervention and one week after completion. Data were analyzed with SPSS using paired t-tests, independent t-tests, and ANCOVA at a significance level of 0.05. Results: Mean age of caregivers was 34.6 ± 5.8 years in the intervention group and 35.1 ± 6.2 years in the control group; groups were homogeneous at baseline. Pre-intervention mean total care-burden score was 72.4 ± 9.6 in the intervention group and 71.8 ± 10.1 in the control

group (non-significant). Post-intervention, the intervention group score fell to 48.7 ± 8.3 (≈32.7% reduction, p 0.001), while the control group reached 73.5 ± 9.8 (non-significant). Significant reductions also occurred in time-dependence, physical, and social subscales in the intervention group. Mean UCLA loneliness score decreased from 48.9 ± 6.4 to 32.5 ± 5.9 in the intervention group (p 0.001) but increased from 47.6 ± 7.1 to 51.2 ± 6.8 in the control group (p 0.05). Family-empowerment score rose from 94.3 ± 11.2 to 128.6 ± 10.4 in the intervention group (≈36.4% increase, p 0.001), with no significant change in the control group (95.1 ± 12.0 to 93.8 ± 11.7). Between-group differences for all three primary outcomes were highly significant (p 0.001). Effect sizes for care-burden reduction and empowerment increase were moderate to large. Conclusion: The six-week nursing-led empowerment program significantly reduced care burden and loneliness/social isolation while enhancing family empowerment among caregivers of children with cerebral palsy. The routine-care group showed no improvement and an increase in loneliness. These findings highlight the need for structured nurse-delivered empowerment interventions beyond usual care. Implications for Practice in Yazd Hospitals: This program should be integrated into pediatric wards, rehabilitation clinics, pediatric neurology clinics, and comprehensive health centers affiliated with Yazd governmental and university hospitals (including Shahid Sadoughi and Afshar Hospitals). Trained nursing teams, dedicated educational space, localized Persian educational packages, and telephone/virtual follow-up can improve caregiver well-being, strengthen family functioning, reduce unnecessary emergency visits, and enhance long-term care quality for children with cerebral palsy across the province. A pilot implementation with cost-effectiveness evaluation is recommended to support health policy in Yazd. Keywords: Caregivers; Cerebral palsy; Empowerment; Nurses; Social isolation; Care burden; Yazd hospitals.

Effectiveness of a Nurse-Led Family-Centered Respiratory Care Education Program on Caregiver Competency and Self-Efficacy in Home Management of Children with Spinal Muscular Atrophy: A Quasi-Experimental Study

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abstract: Abstract Background: Spinal muscular atrophy (SMA) is a rare and progressive neuromuscular disorder characterized by degeneration of spinal motor neurons, resulting in progressive muscle weakness, impaired respiratory muscle function, ineffective cough, and difficulty in airway secretion clearance. Respiratory complications, including recurrent respiratory infections, atelectasis, respiratory distress, and respiratory failure, are among the most common causes of morbidity, hospitalization, and reduced quality of life in children with SMA. Due to recent advances in medical management, many children with SMA require long-term respiratory care strategies that are increasingly provided in home settings. Consequently, caregivers play an essential role in monitoring respiratory status, recognizing early signs of deterioration, performing airway clearance techniques, and maintaining safe respiratory care routines. However, many caregivers experience insufficient knowledge, limited practical skills, and low confidence in managing complex respiratory needs at home. Family-centered care is a fundamental principle of pediatric nursing that emphasizes collaboration between healthcare providers and families. Pediatric nurses have an important role in empowering caregivers through structured education, skill development, and continuous support. Despite the importance of caregiver involvement in home respiratory management, evidence regarding the effectiveness of nurse-led respiratory education programs for families of children with SMA remains limited, particularly in developing healthcare settings. Aim: This study aimed to evaluate the effectiveness of a nurse-led family-centered respiratory care education program on caregiver competency and self-efficacy in home management of children with spinal muscular atrophy. Methods: A pilot quasi-experimental one-group pre-test and post-test study was conducted among caregivers of children diagnosed with spinal muscular atrophy who were referred to pediatric neurology and rehabilitation centers in Yazd Province, Iran, in 2026. A total of 15 caregivers participated in the study. Participants received a structured nurse-led family-centered respiratory care education program consisting of four weekly sessions, with each session lasting 60 minutes. The educational intervention included theoretical instruction and practical skill training. The training content focused on respiratory assessment, early recognition of respiratory distress symptoms, airway clearance techniques, assisted coughing methods, appropriate positioning strategies, prevention of respiratory infections, and safe management of respiratory supportive equipment at home. Caregiver respiratory care competency was assessed using a respiratory care skills checklist, and caregiver self-efficacy was

measured using a standardized self-efficacy questionnaire before and four weeks after the educational intervention. Data were analyzed using descriptive statistics and appropriate inferential statistical tests for paired measurements. Results: The mean age of children included in the study was 5.1 ± 2.3 years, and the majority of children were diagnosed with SMA type II. Most primary caregivers were mothers, reflecting the important role of parents in providing continuous home-based care. Before the intervention, caregivers demonstrated moderate levels of respiratory care competency and self-efficacy. Following participation in the nurse-led educational program, a significant improvement was observed in caregivers' respiratory care competency scores compared with baseline measurements (p0.001). Caregivers also demonstrated increased confidence in performing respiratory care activities, identifying respiratory deterioration signs, and applying preventive strategies at home (p0.001). The findings indicated that structured education delivered by pediatric nurses improved caregivers' knowledge, practical skills, and confidence in managing respiratory care needs of children with SMA. Participants reported greater readiness to participate in daily respiratory care activities and improved understanding of when to seek professional medical support. Conclusion: This pilot study suggests that a nurse-led family-centered respiratory care education program can be an effective nursing intervention for improving caregiver competency and self-efficacy in home management of children with spinal muscular atrophy. Empowering caregivers through structured education may enhance continuity of care, support early recognition of respiratory complications, and contribute to safer home-based management of children with chronic neuromuscular disorders. Pediatric nurses can play a central role in designing and implementing family-centered educational interventions that strengthen caregiver participation and improve pediatric health outcomes. Future studies with larger sample sizes and controlled designs are recommended to further evaluate the long-term effectiveness of nurse-led respiratory education programs in children with SMA. Keywords: Spinal muscular atrophy; Pediatric nursing; Family-centered care; Nurse-led education; Respiratory care; Caregiver competency; Self-efficacy; Home care.

Effectiveness of Pediatric Early Warning Systems in Predicting Clinical Deterioration and Cardiorespiratory Arrest in Pediatric Emergency Departments and Intensive Care Units: A Systematic Review

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پرستاری

abstract: مقدمه: هر ساله شمار زیادی از کودکان بستری به دلیل وخامت بالینی و عوارضی مانند ایست قلبی-تنفسی جان خود را از دست می‌دهند، در حالی که علائم این وخامت معمولاً چند ساعت پیش از وقوع قابل شناسایی است. با این حال، تشخیص به‌موقع این نشانه‌ها، به‌ویژه در محیط‌های شلوغ با استفاده از امتیازدهی به علائم حیاتی و بالینی برای شناسایی (PEWS) بالینی، همچنان چالش‌برانگیز است. سیستم‌های هشداردهنده زودهنگام کودکان زودهنگام کودکان در معرض خطر طراحی شده‌اند و امروزه نسخه‌های مختلفی از آن‌ها در مراکز درمانی مورد استفاده قرار می‌گیرد. با وجود کاربرد گسترده این سیستم‌ها، شواهد درباره اثربخشی آن‌ها در کاهش مرگ‌ومیر و رویدادهای بحرانی همچنان ناهمگون است. ازاین‌رو، این مرور نظام‌مند با هدف بررسی و جمع‌بندی شواهد موجود درباره اثربخشی سیستم‌های هشداردهنده زودهنگام کودکان در پیش‌بینی وخامت بالینی و ایست قلبی-تنفسی در بخش‌های اورژانس و با ترکیبی از کلیدواژه Boolean در این مرور نظام مند، جستجوی پیشرفته به کمک عملگرهای :روش پژوهش .و مراقبت‌های ویژه کودکان انجام گرفت های مش و غیرمش "سیستم‌های هشداردهنده زودهنگام کودکان" ،"ایست قلبی" ،"ایست تنفسی" و "مراقبت های پرستاری کودکان" در عنوان مقالات و در صورت گرفت. Google Scholar و موتور جستوجوگر Magiran، SID، Web of Science، Scopus، PubMed پایگاه‌های ملی و بین المللی معیارهای ورود شامل انتشار مقاله از سال ۲۰۲۱ تا ۲۰۲٦ و دسترسی رایگان به متن کامل مقاله بودند. پس از غربالگری ۱۱٤ مطالعه اولیه، مقالات تکراری، نامرتبط و مروری حذف شدند، متن کامل ۳۸ مقاله باقی مانده بررسی و در نهایت ۹ مقاله واجد شرایط برای تحلیل کیفی انتخاب شدند. داده‌های استخراج ، ویژگی‌های جمعیت‌شناختی، پیامدهای بالینی و شاخص‌های عملکردی بود. پس از طبقه بندی شواهد، PEWS شده شامل طراحی مطالعه، نوع سیستم مطالعات واردشده، کودکانی از کشورهای مختلف در آمریکای لاتین، اروپا و آسیا را با حجم :یافته ها .ارائه شد PRISMA چکیده براساس چک لیست با کاهش معنی‌دار مرگ‌ومیر ناشی از وخامت بالینی PEWS نمونه ۱۲۰ تا بیش از ۲۸ هزار بیمار شامل می‌شدند. نتایج بررسی مطالعات نشان داد پیاده‌سازی همراه بوده (نسبت بروز: ۰.۸۲؛ فاصله اطمینان ٪۹۵: ۰.٦۹ تا ۰.۹۷) و این اثر در مراکز با منابع محدود، به‌ویژه در بیماران مبتلا به سرطان، بارزتر بوده. همچنین، و مدل‌های مبتنی بر یادگیری (AUC=0.87–0.95) عملکرد پیش‌بینی‌کنندگی بالایی در شناسایی رویدادهای بحرانی داشتند PEWS سیستم‌های مختلف با انتقال زودهنگام بیماران به بخش PEWS عمیق نسبت به نمرات سنتی، حساسیت بیشتر و هشدارهای کاذب کمتری نشان دادند. افزون بر این، استفاده از پیش از PEWS مراقبت‌های ویژه، کاهش شدت بیماری هنگام بستری و کاهش بروز نارسایی تنفسی و ایست قلبی همراه بود. همچنین، افزایش نمرات یافته‌های این مرور نظام‌مند نشان می‌دهد :بحث و نتیجه‌گیری .وقوع رویدادهای بحرانی، با نیاز به انتقال به بخش مراقبت‌های ویژه همبستگی مستقیم داشت ابزاری مؤثر برای شناسایی زودهنگام وخامت بالینی کودکان است و می‌تواند با کاهش مرگ‌ومیر، تسهیل انتقال به‌موقع به بخش مراقبت‌های ویژه PEWS که و بهبود پیامدهای بالینی، کیفیت مراقبت را ارتقا دهد. با توجه به عملکرد مطلوب این سیستم در محیط‌های مختلف درمانی، به‌ویژه مراکز با منابع محدود، واژگان .می‌تواند به‌عنوان یکی از راهکارهای مؤثر برای افزایش ایمنی بیماران و بهبود مراقبت از کودکان بستری مورد توجه قرار گیرد PEWS استفاده از ، وخامت بالینی، مراقبت‌های ویژه کودکانPEWSسیستم‌های هشداردهنده زودهنگام کودکان، :کلیدی

Effectiveness of Simulation-Based Pediatric Cardiopulmonary Resuscitation Training on Nurses' Clinical Competence, Self-Confidence, and Preparedness: A Quasi-Experimental Study

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abstract: Background: Pediatric cardiopulmonary resuscitation (CPR) is a critical emergency procedure requiring nurses to possess adequate clinical competence, rapid decision-making abilities, effective teamwork skills, and confidence in performing life-saving interventions. However, the limited occurrence of pediatric cardiac arrest events in clinical settings may reduce nurses' exposure to real-life resuscitation situations, resulting in insufficient preparedness and decreased self-confidence. Simulation-based education provides a safe and realistic learning environment that enables nurses to practice technical and non-technical skills, receive immediate feedback, and improve their readiness for pediatric emergencies. Despite the increasing use of simulation-based training in nursing education, further evidence is needed regarding its effectiveness in improving nurses' clinical competence and psychological readiness for pediatric resuscitation. Therefore, evaluating the impact of structured simulation programs may contribute to strengthening pediatric emergency nursing practice. Aim: This study aimed to evaluate the effectiveness of simulation-based pediatric cardiopulmonary resuscitation training on nurses' clinical competence, self-confidence, and preparedness for pediatric emergency situations. Methods: A quasi-experimental pre-test and post-test study was conducted among nurses working in pediatric wards and emergency departments of hospitals affiliated with Yazd University of Medical Sciences in 2026. A total of 30 nurses were recruited and allocated into intervention (n=15) and control (n=15) groups. The intervention group participated in a structured simulation-based pediatric CPR training program consisting of theoretical education, hands-on skill practice, simulated pediatric resuscitation scenarios, and structured debriefing sessions. The control group received routine educational programs. Data were collected before and four weeks after the intervention using a pediatric CPR clinical competence checklist, a self-confidence questionnaire, and a preparedness assessment tool. Data were analyzed using descriptive and inferential statistical tests, including paired t-test, independent t-test, and analysis of covariance (ANCOVA). Results: Before the intervention, no statistically significant differences were observed between the intervention and control groups regarding clinical competence scores, self-confidence levels, and preparedness for pediatric CPR (p0.05), indicating baseline comparability between groups. Following the simulation-based training program, nurses in the intervention group demonstrated significant improvements in clinical competence scores compared with baseline measurements (p0.001). Self-confidence in performing pediatric CPR skills also increased significantly after the intervention compared with the control group (p0.001). Furthermore, nurses who participated in

simulation training showed improved preparedness in recognizing pediatric cardiac arrest situations, initiating CPR algorithms, performing critical interventions, and communicating effectively during emergency scenarios. The intervention group also demonstrated better performance in teamwork, role coordination, and clinical decision-making during simulated pediatric resuscitation scenarios compared with nurses receiving routine education. Conclusion: The findings suggest that simulation-based pediatric cardiopulmonary resuscitation training is an effective nursing educational intervention for improving clinical competence, self-confidence, and preparedness among nurses. Incorporating regular simulation-based programs with structured debriefing into pediatric nursing education and continuing professional development may enhance nurses' readiness for pediatric emergencies and contribute to safer, higher-quality resuscitation care. Further multicenter studies with larger sample sizes are recommended to evaluate the long-term effects of simulation-based education on nurses' performance and pediatric patient outcomes.
Keywords: Pediatric cardiopulmonary resuscitation; Simulation-based training; Nurses; Clinical competence; Self-confidence; Preparedness; Pediatric emergency nursing; Nursing education.

Effects of Mobile-Based Multimedia Education Incorporating Peer Narratives on Knowledge in Mothers of Children with Newly Diagnosed Type 1 Diabetes: A Non-Randomized Controlled Trial

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پرستاری

abstract: دانش ناکافی مادران‌کودکان مبتلابه دیابت‌نوع۱ دررابطه بابیماری کودک می‌تواند تبعیت‌ازدرمان کودکشان را بکاهدکه رادر "موبایل‌هلث"ضرورت آموزش رامنعکس‌می‌کند.آموزش‌الکترونیکی باعناصرچندرسانه‌ای دربستر تلفن‌همراه، مفهوم آموزش‌سلامت شکل داده‌است.آموزش‌همتایان مبتنی‌بر تجربیات‌مشابه، مکمل آموزش به بیماراست. مداخله پلکانی مطالعه هیلارد و همکاران علائم افسردگی والدین راکاهش داد.در مطالعه هولتز و میتچل ارسال پیام (فیس‌بوک و پیامک) تفاوت معنی‌داری درکیفیت زندگی والدین نداشت.هردو روش تبعیت ازدرمان رابهبودداد.مطالعاتی که تأثیرآموزشی الکترونیک و تجارب مادران‌همتا دربستر تلفن‌همراه بردانش مادران رابررسی‌کرده‌باشند، یافت‌نشد.پژوهش‌حاضر باهدف تعیین تأثیراستفاده ازآموزش دربستر تلفن‌همراه به‌روش چندرسانه‌ای و تجارب‌مادران همتا بر دانش مادران‌دارای فرزندمبتلابه دیابت‌نوع۱ انجام‌شد. دراین مطالعه کارآزمایی‌بالینی باطراحی پیش‌آزمون-پس‌آزمون و گروه‌کنترل، ۷۹نفر از (ABZUMS.REC1403.081) غیرتصادفی دارای کداخلاق مادران‌دارای فرزند مبتلابه دیابت‌نوع۱، غیرموازی و غیرهمزمان در دوگروه‌مداخله (۳۹نفر) و گروه‌کنترل (٤٠نفر)، به‌صورت دردسترس ازخردادماه ۱٤۰۳ تاخردادماه ۱٤۰٤ واردمطالعه شدند.در گروه‌مداخله، محتوای‌الکترونیک درپیام‌رسان تلفن‌همراه طی۳ مرحله (بستری کودک دربخش مراقبت‌ویژه، بخش‌جنرال تاترخیص و ۳ماه پس‌از ترخیص درمنزل ارسال‌شد. محتوای‌آموزشی دو مرحله‌اول به‌صورت فلش‌کارت‌الکترونیک، انمیشن دوبعدی درقالب موشن‌گرافی، پادکست‌صوتی، پیام‌نوشتاری و مرحله‌سوم، فیلم‌ویدئویی مصاحبه بامادران‌همتا بود.گروه‌کنترل آموزش‌معمول بخش را دریافت‌کردند. پرسشنامه‌دانش مادران در۳ مقطع‌زمانی پیش‌آزمون، پس‌آزمون۱ و ۲ تکمیل‌شد. پس‌از مداخله‌مرحله اول‌ودوم، اختلاف‌میانگین تغییرات نمره‌دانش مادران (پذیرش‌تاترخیص) داشت. به‌جز حیطه علائم‌ونشانه‌ها، (p=0.006)در گروه‌مداخله (۹/۱۳±۹/۳۳)نسبت‌به گروه‌کنترل (٥/۲۸±٤/٤۲) افزایش معنی‌داری این‌نمره افزایش معنی‌داری داشت. میانگین‌نمره‌دانش (p=0.021)وسبک‌زندگی (p=0.004)دردوحیطه مدیریت‌وکنترل بیماری روندافزایش میانگین‌نمره‌دانش (پذیرش تا ۳ماه .(pمرحله‌سوم، درهمه حیطه‌ها در گروه‌مداخله افزایش داشت (۰.۰۰۱ آموزش‌جامع .بود (pپس‌ازترخیص) در گروه‌مداخله (۱۷/۰۳±۱۰/٤٤)نسبت‌به گروه‌کنترل (۱/۳۸±۹/٤٤) معنی‌دار (۰.۰۰۱ ۳مرحله‌ای زودهنگام مادران بلافاصله پس‌ازبستری کودک، دربستر تلفن‌همراه بااستفاده ازعناصرچندرسانه‌ای و بهره‌گیری از روایات مادران‌همتا باعث ارتقاءدانش مادران شدکه لزوم جایگزینی آموزش سنتی با آموزش الکترونیکی چندرسانه‌ای دربستر تلفن همراه را

منعکس می‌کند.شروع آموزش از هنگام تشخیص و تداوم آن درمنزل با بهره‌گیری ازظرفیت شبکه‌های آموزشی مادران‌همتا می‌تواند نیازهای‌آموزشی متفاوت مادران راپاسخ‌دهد.ایجاد کانال‌های آموزشی‌آنلاین مادران همتا تحت نظارت پرستاران آموزش‌دیده، گنجاندن برنامه‌های آموزشی الکترونیک و حمایت همتایان درسنجه‌های اعتباربخشی و نمایش محتوی آموزشی الکترونیک در اتاق‌های بستری واستراحت مادران می‌تواند سبب مدیریت بهتربیماری شود. Hilliard ME,Tully C,Monaghan M,Wang J,Streisand R. Design and development of a stepped-care behavioral intervention to support parents of young children newly diagnosed with type1 diabetes. Contemporary Clinical Trials.2017;62:1-10. Holtz B,&Mitchell, K.Supporting Parents of Children With Type 1 Diabetes:Experiment Comparing Message and Delivery Types.JMIR Form Res.2023;7:e41193.

کلمات کلیدی:دیابت نوع ۱، کودکان، مادران‌همتا، تلفن‌همراه، آموزش چندرسانه‌ای، دانش

Efficacy and Safety Profile of Vedolizumab in Pediatric Patients with Inflammatory Bowel Disease: A Cohort Study

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abstract: Objectives: Inflammatory bowel disease (IBD) in children poses significant challenges in both disease control and quality of life. Although vedolizumab has demonstrated strong efficacy and tolerability in adult IBD, evidence regarding its effectiveness and safety in pediatric populations remains limited. This study aimed to evaluate the short term clinical, laboratory, and anthropometric outcomes of vedolizumab therapy in children with IBD. Methods: A cohort study was conducted involving 24 pediatric patients (mean age: 8.69 ± 3.12 years; 54% female) diagnosed with IBD. Participants received vedolizumab according to the standard dosing schedule and were followed for 9 months. Clinical indices, laboratory parameters , and anthropometric measures were assessed at baseline, 3, 6, and 9 months. Results: Significant longitudinal improvements were observed in growth parameters: mean weight increased from 28.83±17.62 kg to 32.72±18.59 kg, and mean height from 128.94±32.03 cm to 132.31±32.58 cm (both P0.001). Intestinal inflammation markedly declined, with fecal calprotectin decreasing from 1590.79±897.98 to 485.08±764.99 µg/g (P0.001), alongside significant improvements in ESR, CRP, hemoglobin, and albumin (all P0.05). Clinical disease activity indices showed substantial reductions: PUCAI (36.25±12.79 to 7.71±10.11), Mayo (8.96±1.55 to 3.38±2.02), and PCDAI (17.78±15.83 to 3.79±8.25) (all P0.001). By month 9, 83.3% of patients achieved therapeutic trough levels, and 70.8% reached corticosteroid-free remission. Anti-vedolizumab antibodies were rare (4.2%), and no significant hepatotoxicity was observed. Conclusion: Vedolizumab appears to be an effective and well tolerated therapy for pediatric IBD, improving both clinical and biochemical parameters while maintaining hepatic safety. The findings support vedolizumab as a promising option for short term management in children.

Efficacy of family-centered care in reducing anxiety of parents of neonates with congenital heart diseases

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abstract: عنوان مقاله: بررسی نقش مداخلات خانواده‌محور بر اضطراب والدین نوزادان مبتلا به بیماری‌های مادرزادی قلب؛ بیماری‌های مادرزادی قلب یکی از مهم‌ترین علل بستری نوزادان در بخش‌های تخصصی است و والدین :یک مرور نظام‌مند مقدمه این نوزادان معمولاً سطوح بالایی از اضطراب و پریشانی هیجانی را تجربه می‌کنند. رویکرد مراقبت خانواده‌محور با تأکید بر مشارکت والدین، آموزش هدفمند و حمایت عاطفی، به‌عنوان یک راهکار مؤثر برای کاهش اضطراب والدین مطرح شده است. این مطالعه با این :روش پژوهش .انجام شد CHD هدف بررسی اثربخشی مداخلات خانواده‌محور بر کاهش اضطراب والدین نوزادان مبتلا به ، Scopus، PubMed انجام شد. جست‌وجوی الکترونیکی در پایگاه‌های PRISMA 2020 مرور نظام‌مند بر اساس دستورالعمل "Family-Centered"، "Congenital Heart Disease" با کلیدواژه‌های Google Scholar و Magiran، SID، WOS برای مطالعات منتشرشده بین سال‌های ۲۰۱۶ تا ۲۰۲۶ انجام MeSH/non-MeSH و ترکیب "Parent Anxiety"، "Care" شد. از مجموع ۳۱۰ مقاله شناسایی‌شده، پس از حذف موارد تکراری و غربالگری عنوان، چکیده و متن کامل، ۵ مطالعه مطابق چهار مطالعه مداخله‌ای :نتایج .بودند PSS و HADS، STAI معیارهای ورود انتخاب شدند. ابزارهای سنجش اضطراب شامل سال ۲۰۲۳، نمرات mHealth نشان دادند که مداخلات خانواده‌محور موجب کاهش معنی‌دار اضطراب والدین می‌شوند. در مطالعه mHealth اضطراب والدین پس از مداخله بین ۷ تا ۱۲ واحد کاهش یافت و استرس والدین حدود ۱۰ تا ۱۵٪ کمتر شد. در مطالعه مطالعه ۲۰۲۱ نشان داد والدینی .هدایت‌شده توسط پرستار (۲۰۲٤)، کاهش ۸.٤ واحدی اضطراب و کاهش ١٤٪ استرس گزارش شد که «تغییر نقش والدگری» را تجربه می‌کنند، میانگین اضطراب بالاتری دارند (٤٦.٢ ± ٨.١) و این تغییر نقش با افزایش اضطراب نیز موجب Family-Integrated Care و Family-Centered Care مدل‌های .(p 0.01) حدود ۱۰ واحد همراه است بحث و .افزایش ۲۲٪ مشارکت والدین، بهبود ۱۸٪ ارتباط والد–تیم درمان و کاهش حدود ۱۲٪ پریشانی هیجانی والدین شدند مداخلات خانواده‌محور، چه در قالب برنامه‌های دیجیتال و چه در محیط‌های بالینی، نقش مؤثری در کاهش اضطراب :نتیجه‌گیری دارند. ادغام این رویکرد در مراقبت‌های روتین می‌تواند به بهبود سلامت روان والدین و ارتقای CHD والدین نوزادان مبتلا به کلمات .کیفیت مراقبت از نوزادان منجر شود. انجام مطالعات با حجم نمونه بزرگ‌تر برای بررسی پایداری اثرات توصیه می‌شود mHealthکلیدی: بیماری‌های مادرزادی قلب، اضطراب والدین، نوزادان، مرور نظام‌مند، مداخلات خانواده‌محور،

Enhancing the Quality of Pediatric Care for Children with Common Diseases: Comparing the Effectiveness of Storytelling- and Role-Playing–Based Education on Nursing Students; Caring Behaviors and Clinical Self-Efficacy

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abstract: Enhancing the Quality of Pediatric Care for Children with Common Diseases: Comparing the Effectiveness of Storytelling- and Role-Playing–Based Education on Nursing Students' Caring Behaviors and Clinical Self-Efficacy Background: Pediatric nurses require strong caring behaviors and clinical self-efficacy to provide safe, high-quality, family-centered care. The development of these competencies begins during undergraduate clinical education, particularly in pediatric nursing practicums. Active teaching strategies such as storytelling and role-playing have the potential to enhance experiential learning, empathy, communication skills, and students' readiness for pediatric care. This study aimed to compare the effectiveness of storytelling- and role-playing–based education on nursing students' caring behaviors and clinical self-efficacy to better prepare them for providing high-quality pediatric nursing care. Methods: This quasi-experimental pretest–posttest study was conducted among 48 fifth-semester nursing students undertaking their pediatric nursing practicum at the School of Nursing and Midwifery, Khorramabad, Iran, during the first semester of the 2025–2026 academic year. Participants were recruited using a census sampling method and allocated through matched-pair randomization into a storytelling group (n=24) and a role-playing group (n=24). Educational interventions were implemented over a three-week pediatric clinical practicum focusing on common respiratory, gastrointestinal, and neurological disorders in children. Data were collected before and after the intervention using the Cheraghi Clinical Self-Efficacy Questionnaire and the Watson Caring Dimensions Questionnaire. Data were analyzed using paired t-test, independent t-test, and Chi-square test in SPSS version 26, with a significance level of P0.05. Results: The two groups were comparable regarding demographic and baseline characteristics (P0.05). Both educational methods significantly improved students' caring behaviors and clinical self-efficacy (P0.001). After the intervention, the mean caring behavior score was significantly higher in the storytelling group than in the role-playing group (158.37 vs. 144.33; P0.001). Conversely, the mean clinical self-efficacy score was significantly higher in the role-playing group than in the storytelling group (159.62 vs. 150.87; P0.001). Conclusion: Both storytelling and role-playing are effective educational strategies for improving caring behaviors and clinical self-efficacy among nursing students. Storytelling was more effective in enhancing caring behaviors, whereas role-playing produced greater improvements in clinical self-efficacy. Integrating these learner-centered educational methods into pediatric nursing curricula may better prepare future pediatric nurses to provide safe, family-centered, and high-quality care for children with common diseases. Clinical Implications: The integration of storytelling and role-playing into pediatric nursing education can enhance nursing students' caring competencies and clinical self-efficacy, thereby improving the quality of nursing care provided to children with common diseases. Keywords: Storytelling; Role Playing; Caring Behaviors; Clinical Self-Efficacy; Nursing Students; Pediatric Nursing

Evaluating the Effectiveness of a Two-Day Training Workshop on the Knowledge and Practical Skills of Healthcare Personnel in Neonatal Resuscitation: An Interventional Study

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پرستاری

abstract: چکیده مقدمه:احیای نوزادان یک مداخله حیاتی است که کیفیت اجرای آن مستقیماً بر بقا و عوارض طولانی‌مدت نوزادان تأثیر می‌گذارد. این مطالعه با هدف بررسی اثربخشی یک کارگاه آموزشی دو روزه بر دانش و مهارت‌های عملی پرستاران، روش کار:این مطالعه مداخله‌ای بر روی ۵۵ نفر از پرسنل درمانی .ماماها و کارشناسان بیهوشی در زمینه احیای نوزادان انجام شد (۲۰ پرستار، ۲۵ ماما، ۱۰ کارشناس بیهوشی) شاغل در بیمارستان امیرالمؤمنین (ع) گناوه در سال ۱٤۰٤ انجام گرفت. مداخله، یک کارگاه آموزشی دو روزه بر اساس آخرین دستورالعمل وزارت بهداشت بود. ارزیابی در سه مرحله: پیش‌آزمون، پس‌آزمون و پیگیری نسخه ۲٦ و با استفاده از آزمون‌های تی وابسته SPSS یک‌ماهه با استفاده از آزمون‌های تئوری و عملی انجام شد. داده‌ها با نرم‌افزار یافته‌ها:میانگین نمرات دانش و مهارت عملی بلافاصله پس از کارگاه در .و آنالیز واریانس با اندازه‌گیری مکرر تجزیه و تحلیل شد (میانگین "گام‌های نخستین احیا"در ارزیابی یک‌ماهه، گروه مامایی در .(0.001p) هر سه گروه به‌طور معنی‌داری افزایش یافت عملکرد (91.5) "محاسبات دارویی"و (93.0) "ماساژ قلبی صحیح"شامل "احیای پیشرفته"نمره: ۹٤.٤) و گروه پرستاری در (کاهش به حدود ٦۵–۷۰) "نحوه ماسک‌گیری"مطلوب و پایدارتری داشتند. با این حال، در تمام گروه‌ها، عملکرد در مهارت‌های .(0.05p) (کاهش به حدود ۵۵–٦۳) در مقایسه با پس‌آزمون، افت معنی‌داری نشان داد "مدیریت میزان اکسیژن"و نتیجه‌گیری:کارگاه آموزشی دو روزه در ارتقای دانش و مهارت پرسنل مؤثر است. با این حال، مهارت‌های روان–حرکتی پیچیده‌ای مانند ماسک‌گیری و مدیریت اکسیژن، بدون تمرین مداوم، با افت سریع مواجه می‌شوند. توصیه می‌شود برنامه‌های آموزشی مداوم
کلمات کلیدی: احیای نوزادان، آموزش، .و دوره‌های بازآموزی کوتاه‌مدت به‌ویژه بر روی این مهارت‌های حیاتی تمرکز نمایند .کارگاه، مهارت عملی، پرستار نوزادان، ماما، کارشناس بیهوشی

Evaluation of novel non-invasive ventilation methods in preterm infants: A systematic review

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پرستاری

abstract: مقدمه: سندرم دیسترس تنفسی با شیوع ۸۰٪-۶۰ در نوزادان زیر ۲۸ هفته، علت اصلی مرگ‌ومیر و عوارض جدی در نوزادان نارس محسوب می‌شود. تهویه مکانیکی تهاجمی با آسیب ریوی، دیسپلازی برونکوپولمونری و اختلالات تکامل عصبی همراه است. روش‌های تهویه غیرتهاجمی شامل فشار مثبت مداوم راه‌هوایی، تهویه متناوب با فشار مثبت بینی، تهویه نوسانی با فرکانس بالا و غیرتهاجمی و تهویه کمکی غیرتهاجمی با تنظیم عصبی، به‌عنوان استراتژی‌های ارجح مطرح شده‌اند. بااین‌حال، شکست تهویه غیرتهاجمی در ۲۳ تا ۵۰ درصد نوزادان نارس رخ می‌دهد. با توجه به تنوع روش‌ها و عدم اجماع قطعی، انتخاب بهینه و زمان تشدید حمایت نامشخص است. این مرور با هدف ارزیابی مقایسه‌ای پیامدهای بالینی روش‌های تهویه غیرتهاجمی و اجماع کنونی بر به‌حداقل‌رساندن تهویه تهاجمی برای :پیشینه پژوهش .تعیین جایگاه هر یک در مدیریت نوزادان نارس انجام شد کاهش آسیب ریه تأکید دارد. بااین‌حال، تهویه غیرتهاجمی اولیه در نوزادان با درگیری تنفسی قابل‌توجه ناتوان است و به پنوموتوراکس، خونریزی شدید داخل‌بطنی و افزایش مرگ‌ومیر منجر می‌شود. راهنمای احیای اروپا شروع با فشار مثبت مداوم (NIV-NAVA و NHFOV) راه‌هوایی را توصیه می‌کند، اما تا ۵۰٪ نوزادان نیاز به لوله‌گذاری مجدد دارند. روش‌های نوین دارند، اما برتری آن‌ها قطعی نیست. همراهی درمان کم‌تهاجمی سورفاکتانت CO_2 مزایای نظری در هماهنگی بیمار–ونتیلاتور و دفع با تهویه غیرتهاجمی، کاهش لوله‌گذاری و دیسپلازی برونکوپولمونری را نشان داده است. باوجود این پیشرفت‌ها، معیارهای قطعی مرور نظام‌مند مطابق پریزما :روش پژوهش .شکست تهویه غیرتهاجمی ناقص و استراتژی‌های تشدید حمایت نامشخص است پایگاه‌های پاب‌مد، امبیس، کاکرین، وب‌آو .ارسال شده است PROSPERO انجام شد. پروتکل این مرور برای ثبت در پایگاه تا ژوئن ۲۰۲۳ جستجو شدند. هفت کارآزمایی شامل ۳۲۶ نوزاد وارد شدند. پیامدهای اصلی: لوله‌گذاری مجدد، CNKI ساینس و نارسایی اکستوباسیون، دیسپلازی برونکوپولمونری، پنوموتوراکس، خونریزی داخل‌بطنی (درجه ≤۳)، مرگ‌ومیر و مدت حمایت تنفسی. دو بازبین مستقل غربالگری، استخراج داده و ارزیابی خطر سوگیری را با کاکرین نسخه ۲ انجام دادند. فراتحلیل با مدل .ارزیابی گردید GRADE و قطعیت شواهد با I^2 اثرات تصادفی، نسبت خطر و فاصله اطمینان ۹۵٪ گزارش شد. ناهمگنی با نسبت خطر ۰٫۲۹؛ فاصله اطمینان ۹۵٪، ۰٫۸۱-۰٫۱۰؛) شکست درمان را پس از اکستوباسیون کاهش داد NIV-NAVA :یافته‌ها نسبت) کاهش داد NCPAP لوله‌گذاری مجدد طی ۷ روز را در برابر NHFOV .(۰٪؛ ۲ مطالعه، ۹۶ نوزاد؛ قطعیت پایین=I^2 همچنین نارسایی .(۳۹٪؛ ۳ مطالعه، ۳۰۴ نوزاد؛ قطعیت پایین تا بسیار پایین=I^2 خطر ۰٫۳۴؛ فاصله اطمینان ۹۵٪، ۰٫۵۳-۰٫۲۲؛ ۰٪؛ ۷ مطالعه، ۱۴۰۴ =I^2 نسبت خطر ۰٫۳۹؛ فاصله اطمینان ۹۵٪، ۰٫۵۱-۰٫۳۰؛) اکستوباسیون را در برابر هر دو روش کاهش داد ؛ NIPPV ۰٪؛ ۹ مطالعه، ۱۶۴۲ نوزاد در برابر=I^2 و نسبت خطر ۰٫۶۵؛ فاصله اطمینان ۹۵٪، ۰٫۸۳-۰٫۵۰؛ NCPAP نوزاد در برابر

نسبت خطر) نیاز به تهویه مکانیکی در ۷۲ ساعت اول را کاهش داد NIV همراه با MIST/LISA .(قطعیت پایین تا بسیار پایین همچنین دیسپلازی برونکوپولمونری .(٦٢٪؛ ١٤ مطالعه، ٣٠٠٠ نوزاد؛ قطعیت متوسط=I^2 ۰٫٦۰؛ فاصله اطمینان ٪۹۵، ۰٫۷٦–۰٫٤۷؛ نسبت خطر ۰٫٦۰؛ فاصله اطمینان) و پنوموتوراکس (٠٪؛ ١٣ مطالعه=I^2 نسبت خطر ۰٫٦۵؛ فاصله اطمینان ٪۹۵، ۰٫۸۲–۰٫۵۱؛) را کاهش داد. موفقیت تهویه غیرتهاجمی به تنفس خودبه‌خودی و باز بودن راه هوایی وابسته (٠٪؛ ٩ مطالعه=I^2 ٪۹۵، ۰٫۹٦–۰٫۳۸؛ در مقایسه با روش‌های NIV-NAVA و NHFOV :نتیجه‌گیری .است؛ بسته‌بودن تارهای صوتی در آپنه، حمایت را مختل می‌کند MIST/LISA با NIV استاندارد، میزان لوله‌گذاری مجدد و نارسایی اکستوباسیون را به‌طور معناداری کاهش می‌دهند. همراهی تحویل سورفاکتانت را بهینه می‌سازد. با توجه به قطعیت پایین تا بسیار پایین شواهد برای این روش‌ها، به‌کارگیری آن‌ها باید با احتیاط و بر اساس شرایط بالینی فردی انجام شود. انجام کارآزمایی‌های بالینی بزرگ‌تر با طراحی دقیق‌تر برای تأیید قطعی این یافته‌ها

کلیدواژه‌ها: تهویه غیرتهاجمی، نوزاد نارس، سندرم دیسترس تنفسی، دیسپلازی برونکوپولمونری، مراقبت‌های ویژه .ضروری است

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Evaluation of the Effect of Evidence-Based Education on the Quality of Airway Suctioning in the Pediatric Intensive Care Unit of Shahid Motahari Hospital, Urmia

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پرستاری

abstract: Background: Evidence-based education is a contemporary educational approach in the health sciences that integrates the best available scientific evidence, clinical expertise, and learners' needs. This approach is designed to enhance healthcare professionals' knowledge, clinical skills, and professional performance, thereby improving the quality of nursing care. Airway suctioning is a critical and high-risk nursing procedure, and its proper performance plays a vital role in preventing respiratory complications and improving patient outcomes. Considering the importance of evidence-based practice in enhancing the quality of nursing care, this study aimed to evaluate the effect of evidence-based education on the quality of airway suctioning in the Pediatric Intensive Care Unit (PICU) of Shahid Motahari Hospital, Urmia. Methods: This quasi-experimental study was conducted among 35 nurses working in the Pediatric Intensive Care Unit (PICU) of Shahid Motahari Hospital, Urmia, Iran. Initially, the quality of nurses' airway suctioning performance was assessed using a standardized observational checklist. The educational intervention consisted of two training sessions that included evidence-based theoretical instruction, demonstration of the correct suctioning technique, and educational feedback. One month after the intervention, nurses' performance was reassessed by the researcher, and pre- and post-intervention results were compared. Data were analyzed using descriptive statistics in SPSS software. Results: The findings demonstrated that the overall quality of airway suctioning improved from 80.8% before the educational intervention to 89.5% after the intervention. Significant improvements were observed in adherence to infection prevention and control principles, proper equipment preparation, correct sequencing of suctioning procedures, and post-procedure patient care. Conclusion: Evidence-based education is an effective strategy for improving the quality of airway suctioning in pediatric intensive care settings. Integrating this educational approach into continuing education and in-service training programs may enhance patient safety, improve the quality of nursing care, and strengthen nurses' professional performance. Keywords: Evidence-Based Education, Airway Suctioning, Pediatric Intensive Care Unit (PICU), Children.

Examining the Level of Health Literacy of Rehabilitation Clinic Clients

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پرستاری

abstract: بررسی سطح سواد سلامت مراجعین کلینیک های توانبخشی مقدمه: سواد سلامت به عنوان توانایی دستیابی، درک و ارزیابی اطلاعات برای حفظ و ارتقای سلامت، نقش مهمی در اثربخشی مداخلات درمانی و توانبخشی دارد. با توجه به کمبود شواهد در مورد سطح سواد سلامت مراجعین کلینیک‌های توانبخشی در همدان، این مطالعه با هدف تعیین میانگین سطح سواد مواد و روش‌ها: این مطالعه به صورت مقطعی (توصیفی-تحلیلی) با مشارکت ۳۲۲ نفر از مراجعین .سلامت این مراجعین طراحی شد کلینیک‌های توانبخشی شهر همدان در سال ۱۴۰۲ انجام شد. نمونه‌گیری به صورت تصادفی و با استفاده از پرسشنامه‌های دموگرافیک و با استفاده SPSS24 انجام گرفت. داده‌ها با نرم‌افزار (HELIA-SF) و نسخه کوتاه پرسشنامه سنجش سواد سلامت بزرگسالان یافته‌ها: میانگین کلی سواد .از آزمون‌های آماری توصیفی و تحلیلی (مانند من-ویتنی، کراسکال-والیس) تجزیه و تحلیل شدند سلامت مراجعین ۳۲/۸۰ (انحراف معیار ۱۹/۷۵) بود. بین سواد سلامت با جنسیت (مردان بیشتر)، تحصیلات (دانشگاهی بیشتر) و بین سواد سلامت با وضعیت تأهل و شغل ارتباط معناداری .(۰.۰۵p) سن (با افزایش سن بیشتر) ارتباط آماری معنادار مشاهده شد بیشترین پاسخ‌دهنده مادر بیمار (۵۱/۲درصد) و بیشترین مراجعین دریافت‌کننده دو خدمت از کلینیک .(P0/05) .یافت نشد نتیجه‌گیری: سطح سواد سلامت مراجعین کلینیک‌های توانبخشی همدان در حد متوسط است و با .توانبخشی (۳۵/۱ درصد) بودند عوامل جمعیتی خاصی مانند جنسیت، تحصیلات و سن مرتبط است. طراحی مداخلات آموزشی هدفمند برای گروه‌های خاص به کلیدواژه‌ها: سواد سلامت، مراجعین توانبخشی، کلینیک‌های توانبخشی، .ویژه زنان و افراد با تحصیلات پایین‌تر پیشنهاد می‌شود همدان

Examining the Relationship between Self-Compassion, Mindfulness, and Resilience among Parents of Children with Down syndrome

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پرستاری

abstract: Introduction: The presence of a child with Down syndrome in the family can significantly change the mental health indicators of parents. Understanding the factors contributing to parental resilience can be crucial in facilitating their adaptation to these challenging circumstances. Therefore, this study aimed to investigate the relationship between self-compassion and mindfulness, and resilience among parents of children with Down syndrome. Method: This descriptive and correlational study was conducted on parents of children with Down syndrome covered by the Welfare Organization in Doroud city in 2024. A total of 300 individuals were selected using convenience sampling method. The data were collected using the Self-Compassion Scale, the Freiburg Mindfulness Scale, and the Connor-Davidson Resilience Scale, completed by parents in a self-report format. The collected data were analyzed using independent t-tests, analysis of variance (ANOVA), Pearson's correlation coefficient, univariate linear regression, and generalized linear models. Results: Pearson correlation coefficient test indicated a direct and significant linear relationship between self-compassion and resilience (r=0.610, p001), self-compassion and mindfulness (r=0.544, p001), and mindfulness and resilience (r=0.494, p001). The generalized linear model demonstrated a statistically significant relationship between mindfulness and resilience (X2=22.854, df=1, p001) and self-compassion and resilience (X2=54.487, df=1, p001) after adjusting for the effect of confounding variables. Conclusion: The findings revealed a moderate direct relationship between resilience and mindfulness and a moderate to strong direct relationship between resilience and self-compassion. Given the stronger relationship between self-compassion and resilience, it is suggested that researchers focus more on increasing parents' self-compassion skills to implement interventions focused on enhancing the psychological resilience indicator and parents' quality of life, and even drawing a brighter and more hopeful future for children with Down syndrome. Keywords: Down syndrome, mindfulness, parents, resilience, self-compassion IR.LUMS.REC.1403.265

Explaining the concept of self-confidence of caregivers of family members of chronic patients based on the family-centered empowerment model

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پرستاری

abstract: مقدمه و هدف: مراقبت از بیماران مزمن توسط اعضای خانواده، فرآیندی پرفشار و چالش‌برانگیز است که می‌تواند بر سلامت روانی مراقبان تأثیرگذار باشد. خودباوری یا عزت‌نفس، به‌عنوان یکی از ابعاد کلیدی الگوی توانمندسازی خانواده‌محور، نقش مهمی در ظرفیت مراقبان برای رویارویی با این چالش‌ها ایفا می‌کند. این مطالعه با هدف تبیین مفهوم خودباوری در مراقبان روش کار: این پژوهش، یک مطالعه کیفی با .عضو خانواده بیماران مزمن بر اساس الگوی توانمندسازی خانواده‌محور انجام شد رویکرد تحلیل محتوای جهت‌دار بود که بر اساس الگوی توانمندسازی خانواده‌محور انجام شد. داده‌ها از طریق مصاحبه‌های نیمه‌ساختاریافته با مراقبان عضو خانواده بیماران مزمن جمع‌آوری و به روش تحلیل محتوای کیفی هدایت‌شده تحلیل گردید. همچنین یافته‌ها: بر اساس یافته‌ها، مفهوم .برای غنای بیشتر و تکمیل ابعاد مفهوم، از مرور منابع مرتبط و بررسی ابزارهای موجود استفاده شد تشکیل شده است. احساس رضایتمندی "احساس ارزشمندی"و "احساس رضایتمندی"خودباوری مراقب از دو زیرطبقه اصلی شامل رضایت از خود در ارائه مراقبت و رضایت دیگران (بیمار، خانواده، کارکنان بهداشتی و جامعه) از عملکرد مراقب است. احساس ارزشمندی نیز از دو مؤلفه احساس سودمندی در بهبود وضعیت بیمار و احساس خبرگی و صلاحیت در انجام مراقبت شکل می‌گیرد. در مجموع، خودباوری مراقب به‌عنوان «باور به تأیید صلاحیت در مراقبت همراه با احساس ارزشمندی» تعریف بحث و نتیجه‌گیری: خودباوری در مراقبان عضو خانواده، حاصل تعامل بین تأیید اجتماعی و ارزیابی درونی از .عملیاتی شد شایستگی‌های مراقبتی است. مطالعات پیشین نیز نشان داده‌اند که مداخلات مبتنی بر الگوی توانمندسازی خانواده‌محور می‌تواند به طور مؤثری خودباوری و رضایت‌مندی درک‌شده مراقبان را افزایش دهد. مراقبان با عزت‌نفس قوی، خود را باارزش و مثبت می‌بینند و توانایی بیشتری برای مواجهه با بار سنگین مراقبت دارند. پژوهش‌ها حاکی از آن است که تنش‌های مراقبتی می‌توانند عزت‌نفس را کاهش دهند و بر کیفیت زندگی تأثیر منفی بگذارند؛ ازاین‌رو، توجه به ابعاد خودباوری در برنامه‌های توانمندسازی مراقبان ضروری است. شناسایی این ابعاد می‌تواند زمینه‌ساز تدوین مداخلات مؤثرتر برای ارتقای سلامت روان مراقبان و بهبود کیفیت واژگان کلیدی: خودباوری، عزت‌نفس، مراقب خانوادگی، بیماری مزمن، الگوی توانمندسازی .مراقبت از بیماران مزمن گردد IR.TMU.REC.1395.330خانواده‌محور

Family-Centered Nursing Care in Pediatric Kidney Transplant Recipients: A Systematic Review

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پرستاری

abstract: Family-Centered Nursing Care in Pediatric Kidney Transplant Recipients: A Systematic Review Mahbobe Pordel[1]*, Mahsa Khedmatizare[1], Nastaran Katouziyan[1] [1] Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran. Abstract Introduction: Kidney transplantation is the treatment of choice for children with end-stage kidney disease and has significantly improved survival and quality of life. However, long-term transplant success requires comprehensive care beyond surgical management and immunosuppressive therapy. Pediatric kidney transplant recipients experience lifelong challenges related to medication adherence, infection prevention, graft function monitoring, psychological adaptation, and developmental needs. Children receiving kidney transplantation depend considerably on parents and caregivers for medication administration, healthcare decisions, and daily disease management. Therefore, family-centered care is a fundamental approach in pediatric transplantation. This approach promotes collaboration between children, families, and healthcare providers to improve self-management and treatment outcomes. Nurses have a central role in pediatric kidney transplantation through continuous interaction with children and families. Family education, medication adherence support, psychosocial assessment, early recognition of complications, and coordination of multidisciplinary care are important nursing responsibilities that contribute to successful transplantation. Therefore, this systematic review aimed to synthesize current evidence regarding family-centered nursing care in pediatric kidney transplant recipients. Methods: A systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PubMed, Scopus, Web of Science, ScienceDirect, and Google Scholar databases were searched for studies published between 2020 and 2025. The search strategy included combinations of the keywords “Pediatric Kidney Transplantation,” “Kidney Transplant Recipients,” “Family-Centered Care,” “Nursing Care,” “Family Education,” “Medication Adherence,” and “Psychosocial Support.” Studies were included if they involved pediatric kidney transplant recipients and evaluated family-centered care, nursing interventions, family education, medication adherence, psychosocial support, or caregiver involvement. Studies involving adults, unrelated organ transplantation, case reports, conference abstracts, and non-English publications were excluded. A total of 199 records were identified through database searching. After screening and full-text assessment, 60 articles were reviewed, and six studies met the eligibility criteria and were included in the final analysis. Results: The included studies identified three major themes: family education and empowerment, medication adherence support, and psychosocial and continuity care. Family-centered educational

interventions improved caregivers' knowledge, confidence, and ability to participate in post-transplant management, including medication administration, infection prevention, and monitoring of potential complications. Effective communication between healthcare providers and families was recognized as an important factor in improving caregiver participation and treatment outcomes. Medication adherence was highlighted as a major determinant of long-term transplant success, particularly among adolescents. Nurse-led education, counseling, and follow-up interventions supported self-management skills, improved communication with families, and promoted adherence to immunosuppressive therapy. Continuous follow-up approaches also facilitated early identification of adherence problems and health concerns. Psychosocial support addressing anxiety, emotional distress, caregiver burden, and family adaptation contributed to improved quality of life among pediatric kidney transplant recipients. Nurses were identified as key professionals in assessing family needs, providing emotional support, coordinating multidisciplinary care, and strengthening partnerships between families and transplant teams. Conclusion: Family-centered nursing care is an essential component of pediatric kidney transplantation that addresses the complex medical, educational, psychological, and social needs of children and their families. Nurses play a critical role in empowering caregivers, improving medication adherence, supporting psychosocial adaptation, preventing complications, and ensuring continuity of care. Implementation of evidence-based family-centered nursing interventions may improve long-term transplant outcomes and enhance the quality of life of pediatric kidney transplant recipients and their families. Keywords: Pediatric Kidney Transplantation; Family-Centered Care; Nursing Care. References: Corr M, McKeaveney C, Wurm F, Courtney A, Noble H. Patient Education Interventions for Adolescent and Young Adult Kidney Transplant Recipients: A Scoping Review. PLoS One. 2023;18(7):e0288807. doi:10.1371/journal.pone.0288807. Nguyen C, Dew MA, Irizarry T, McNulty M, Rennick J, Knäuper B, Descoteaux A, Grenier A, Jeannot L, Foster BJ, DeVito Dabbs AJ. Promoting Medication Adherence from the Perspective of Adolescent and Young Adult Kidney Transplant Recipients, Parents, and Health Care Professionals: A TAKE-IT TOO Study. Pediatric Transplantation. 2020;24(6):e13709. doi:10.1111/petr.13709. Dobbels F, Wray J. Medication Adherence in Pediatric Kidney Transplantation: How to Build a Bridge Over Troubled Water. Pediatric Transplantation. 2024;28:e14663. doi:10.1111/petr.14663. Kim JS, Laroche C, Siyotula T, Marks SD, Wray J. The Psychosocial Factors Influencing Paediatric Kidney Transplantation Access, Their Outcomes and the Patient and Family's Perceived Quality of Life:

From Purpose to Presence: How Moral Resilience Protects Nursing Interns from Psychological Emptiness

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پرستاری

abstract: Background: Clinical training exposes nursing internship students to intense ethical challenges that may threaten their sense of meaning and contribute to psychological emptiness. Protective psychological and moral resources, such as purposefulness and moral resilience, may play a crucial role in mitigating this existential vulnerability. Objective: This study aimed to test a structural model examining the direct and indirect associations between purposefulness and psychological emptiness, with moral resilience as a mediating variable, among nursing internship students. Methods: A cross-sectional study was conducted among 215 nursing internship students in Tabriz, Urmia, and Ardabil, Iran. Data were collected using the Sense of Purpose Scale–Revised Persian Version (SOPS 2 PERS), the Rashed Moral Resilience Scale (RMRS), and the Psychological Emptiness Scale (PES). Descriptive and inferential analyses were performed using SPSS v14. Structural equation modeling (SEM) with bias-corrected bootstrap procedures (5000 resamples) was conducted in AMOS 24.0 to examine the hypothesized relationships. Results: The proposed structural model demonstrated a good fit to the data. Purposefulness was positively associated with moral resilience, whereas moral resilience was negatively related to psychological emptiness. Although the direct association between purposefulness and psychological emptiness was negative, it did not reach statistical significance. Bootstrap analysis confirmed a significant indirect effect of purposefulness on psychological emptiness via moral resilience, indicating that the association was mediated primarily by moral resilience. Conclusion: The findings suggest that moral resilience plays a key mediating role in the relationship between purposefulness and psychological emptiness among nursing internship students. Enhancing students' sense of purpose may reduce psychological emptiness, primarily by strengthening moral resilience during clinical training. Because internship rotations span all clinical departments — including pediatric wards, where students routinely confront ethically demanding situations such as end-of-life care for children, family distress, and treatment decisions involving vulnerable young patients — these findings are particularly relevant to pediatric nursing education. Healthcare organizations and nursing faculties should consider integrating structured moral resilience-building programs into pediatric clinical rotations, given the heightened emotional and ethical intensity of caring for pediatric populations. Institutional support systems, such as debriefing sessions, mentorship from

experienced pediatric nurses, and purpose-oriented reflective practices, may help interns navigate this vulnerable training period without accumulating the psychological toll that can otherwise undermine their long-term well-being and retention in the profession. From a policy standpoint, nursing education organizations may benefit from embedding moral resilience training as a core competency within pediatric-focused internship curricula, rather than treating it as incidental to clinical skill development. Keywords: Internship Students; Iran; Purposefulness; Moral Resilience; Psychological Emptiness

Gap Between Need And Referral: An Evaluation of The Referral System for Neonates Eligible for Retinopathy of Prematurity Screening In West Azerbaijan Province, Iran, 2026.

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پرستاری

abstract: مقدمه: رتینوپاتی نوزادان نارس یکی از مهم‌ترین علل قابل پیشگیری نابینایی در نوزادان نارس است. تشخیص و ارجاع به‌موقع نوزادان واجد شرایط غربالگری، نقش اساسی در پیشگیری از عوارض بینایی دارد. این مطالعه با هدف بررسی وضعیت این مطالعه به روش :روش کار .ارجاع نوزادان واجد شرایط غربالگری رتینوپاتی در استان آذربایجان غربی در سال ۱۴۰۵ انجام شد توصیفی مبتنی بر نظام ثبت خدمات سلامت در سال ۱۴۰۵ انجام شد آمار تمامی نوزادان متولد شده با وزن تولد زیر ۲ کیلو و با سن حاملگی ۳۴ هفته و کمتر از بیمارستان های دولتی، مراکز خصوصی و تمامی شهرهای استان آذربایجان غربی استخراج شد سپس با استفاده از معیارهای برنامه غربالگری رتینوپاتی نوزادان نارس، نوزادان واجد شرایط ارجاع شناسایی شدند. اطلاعات ارجاع این نوزادان با داده های مراجعه کنندگان ثبت شده در درمانگاه تخصصی رتینوپاتی مرکز آموزشی درمانی شهید مطهری ارومیه به عنوان مرکز ارجاع استانی تطبیق داده شد و میزان ارجاع، عدم ارجاع و سهم مراکز دولتی و خصوصی در نظام ارجاع مورد بررسی در مجموع، ۲۸۲ نوزاد نارس متولدشده با وزن تولد زیر :یافته‌ها .قرار گرفت. داده ها با استفاده آمار توصیفی تجزیه و تحلیل شدند ۲ کیلو و سن حاملگی ۳۴ هفته و کمتر، واجد شرایط ارجاع برای غربالگری رتینوپاتی بودند. با این حال، تنها ۴۷.۵ ٪ از نوزادان نیازمند به مراکز تخصصی ارجاع شدند و ۵۲.۴۸٪ علیرغم نیاز به ارجاع، به مراکز تخصصی معرفی نشدند. همچنین، سهم مراکز درمانی خصوصی در ارجاع نوزادان تنها ۵/۴ ٪ بود. بر اساس تحلیل اطلاعات مهترین علت شناسایی شده، عدم آگاهی کارکنان از .دستورالعمل غربالگری و پیگیری رتینوپاتی در بخش های زایمان و مراکز فاقد بخش های مراقبت های ویژه نوزادان (۶۰.۸ ٪) بود یافته‌های این مطالعه نشان می‌دهد که پوشش ارجاع نوزادان واجد شرایط غربالگری رتینوپاتی در استان آذربایجان :نتیجه‌گیری غربی ناکافی بوده و بخش قابل توجهی از نوزادان نیازمند از خدمات تخصصی محروم می‌مانند. تقویت نظام ارجاع، ارتقای همکاری مراکز درمانی دولتی و خصوصی، آموزش کارکنان، اجرای دستورالعمل‌های استاندارد و استقرار نظام پایش و پیگیری مستمر، می‌تواند واژه‌های .موجب افزایش پوشش غربالگری، تشخیص به‌موقع رتینوپاتی و پیشگیری از نابینایی قابل اجتناب در نوزادان نارس شود
کلیدی: رتینوپاتی نوزادان نارس، غربالگری، نظام ارجاع، نوزاد نارس

Hospitalized Children's Needs in Their Own Words: A Self-Report Studyin IRAN

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پرستاری

abstract: عنوان: بررسی نیازهای کودکان بستری در بیمارستان از زبان خودشان: یک مطالعه مقطعی در ایران مقدمه: بستری شدن در بیمارستان تجربه‌ای استرس‌زا برای کودکان بوده و می‌تواند نیازهای جسمی، روانی، اجتماعی و آموزشی آنان را تحت تأثیر قرار دهد. شناسایی این نیازها از دیدگاه خود کودکان، گامی مهم در ارائه مراقبت‌های کودک‌محور و ارتقای کیفیت خدمات پرستاری است. هدف: این مطالعه با هدف تعیین نیازهای کودکان بستری در بیمارستان از دیدگاه خود آنان انجام شد. روش کار: این مطالعه توصیفی-مقطعی در سال ۱۴۰۳-۱۴۰۴ بر روی ۲۵۱ کودک ۷ تا ۱۸ سال بستری در بخش کودکان و بخش مراقبت‌های ویژه کودکان (PICU) بیمارستان سینای مراغه انجام شد. داده‌ها با استفاده از پرسشنامه استاندارد Needs of Children Questionnaire (NCQ) نسخه ۲۵ و با استفاده SPSS شامل چهار حیطه مراقبتی، اطلاعاتی، ارتباطی و فعالیتی جمع‌آوری شدند. داده‌ها با نرم‌افزار در حیطه فعالیت، دریافت: یافته‌ها: از آمار توصیفی و آزمون‌های من-ویتنی، کروسکال-والیس و همبستگی اسپیرمن تحلیل شدند پاداش پس از اقدامات دردناک (۷۷٪) و دسترسی به اتاق بازی (۷۱) مهم‌ترین نیازهای کودکان بودند. در حیطه اطلاعات، امکان بازگشت به مدرسه (۹٤٪) و دریافت توضیحات درباره داروها (۷۱٪) بیشترین اهمیت را داشتند. در حیطه ارتباط، گوش دادن پرستار به صحبت‌های کودک (۷٦٪) و مراقبت توسط پرسنل آشنا (۷٤٪) بیشترین فراوانی را داشت. در حیطه مراقبتی نیز درک شدن توسط پرستار (۸۸٪) و مواجه نشدن با کودکان ناراحت (۸۵٪) مهم‌ترین نیازها بودند. همچنین بین سن و نیازهای فعالیتی و ارتباطی کودکان بستری دارای نیازهای متنوعی در ابعاد مراقبتی، ارتباطی، اطلاعاتی و: نتیجه‌گیری: همبستگی منفی معنی‌داری مشاهده شد فعالیتی هستند که توجه به آن‌ها می‌تواند کیفیت مراقبت‌های پرستاری، تجربه بستری و سلامت روان کودکان را بهبود بخشد. استفاده از آموزش متناسب با سن، مداخلات مبتنی بر بازی و تقویت ارتباط مؤثر پرستار-کودک می‌تواند در پاسخگویی بهتر به این نیازها مؤثر باشد.

کلیدواژه‌ها: کودکان بستری، پرستاری کودکان، نیازسنجی، مراقبت کودک‌محور، حمایت روانی-اجتماعی

Investigating the Effect of a Treatment Adherence Improvement Program on the Educational Performance and Quality of Life of Adolescents with Cystic Fibrosis

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abstract: Background and Aim: Cystic fibrosis (CF) is the most common life-threatening genetic disorder requiring lifelong, complex, and continuous multidisciplinary care. Effective disease management depends largely on long-term adherence to demanding treatment regimens, including medications, airway clearance techniques, nutritional support, and regular clinical follow-up. However, maintaining adequate treatment adherence during adolescence is particularly challenging because of the developmental, psychological, and social changes characteristic of this period. Poor treatment adherence may lead to disease progression, increased hospitalizations, reduced quality of life, impaired academic performance, and poorer long-term health outcomes. Despite the recognized importance of promoting treatment adherence in adolescents with CF, evidence regarding the impact of adherence-promoting interventions on both academic performance and quality of life remains limited. Therefore, this study aimed to investigate the effect of a treatment adherence promotion program on treatment adherence, academic performance, and quality of life among adolescents with cystic fibrosis. Methods: This quasi-experimental study with a pretest–posttest design was conducted on 48 adolescents aged 12–16 years with cystic fibrosis who attended Children's Medical Center Hospital in Tehran, Iran. At baseline, demographic information, treatment adherence, academic performance, and quality of life questionnaires were completed. Subsequently, a treatment adherence promotion program based on the CF.R.I.S.E. program, previous studies, and the recommendations of the Iranian Cystic Fibrosis Association was implemented through an educational handbook and six 60-minute weekly group educational sessions conducted both face-to-face and virtually. One month after completion of the intervention, the questionnaires were completed again. Data were analyzed using SPSS software using paired t-tests, independent t-tests, Pearson’s correlation coefficient, and Generalized Estimating Equations (GEE). Results: The mean age of the participants was 14.75 years, and half of them were female and half were male. The results showed that following the intervention, the mean scores of treatment adherence, academic performance, and quality of life increased significantly compared with the pre-intervention assessment (P 0.001). In addition, changes in academic performance were significantly associated with maternal occupation (P = 0.040), while changes in quality of life were significantly associated with the adolescents' age (P = 0.020). Improvement in academic performance was greater among adolescents whose mothers were homemakers, whereas the improvement in quality of life decreased with increasing age. Conclusion: The treatment adherence promotion program significantly improved treatment adherence, academic performance, and quality of life among adolescents with cystic fibrosis. Furthermore, individual and family characteristics, including adolescents' age and maternal occupation, influenced the effectiveness of the intervention. Therefore, implementing such programs while considering these factors may contribute to improving treatment outcomes, quality of life, and academic performance in this population. Keywords: Treatment adherence, Quality of life, Academic performance, Adolescents, Cystic fibrosis.

Knowledge, Attitudes, and Associated Factors Regarding the Care of Adolescents with Self-Harming Behaviors among Emergency Nurses

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abstract: مقدمه و هدف: خود آسیب‌رسانی یک مشکل بهداشتی پنهان و از اولویت‌های اورژانسی است که در افراد غیر بیمار و تحت درمان نسبتا رایج و در نوجوانان رو به افزایش است. از طرفی سطح استاندارد مدیریت خدمات برای بیمار خودآسیب‌رسان مستقیما با دانش و نگرش پرستاران در هنگام ارائه مراقبت به بیماران مرتبط است. لذا این مطالعه با هدف تعیین وضعیت دانش و نگرش پرستاران در مراقبت از موارد و روش: پژوهش .نوجوانان خودآسیب‌رسان و عوامل مرتبط با آن در بخش‌های اورژانس مراکز آموزشی و درمانی شهر رشت انجام شد حاضر از نوع تحلیلی- مقطعی بوده؛ و برروی ۲۰۸ نفر از پرستاران با سابقه کار بیش از ٦ ماه در بخش‌های اورژانس بیمارستان‌های آموزشی شهر رشت که با روش نمونه‌گیری تمام‌شماری انتخاب شدند، انجام شد. جهت گردآوری داده‌ها از پرسشنامه‌ای سه بخشی شامل اطلاعات در مورد خودآسیب‌رسانی عمدی استفاده گردید. ثبات درونی ابزار دانش به روش اسپیرمن- (ADSHQ) دموگرافیک، پرسشنامه دانش و نگرش تعیین شد. داده‌ها با استفاده از آمار توصیفی (0/001p) براون ۷/۰ و ابزار نگرش به روش کودرریچارسون ٦/۰ و سطح معنی‌داری هر دو ابزار و آزمون‌های آماری کولموگروف-اسمیرنف و شاپیرو-ویلک، رگرسیون خطی چندگانه، آزمون فریدمن و ضریب اسپیرمن تحت نرم افزار در کمیته اخلاق در پژوهش دانشگاه IR.GUMS.REC.1399.413نسخه ۲۳ تجزیه‌وتحلیل شد. این مطالعه با کد اخلاق به شماره SPSS نتایج: یافته‌ها نشان داد که نمره دانش پرستاران درخصوص مراقبت از نوجوانان خودآسیب‌رسان در حد .علوم‌پزشکی گیلان ثبت گردیده است مدیریت مراقبت از مددجوی خود آسیب "و کمترین نمره در حیطه "شناسایی عوامل خطر"متوسط (۴۳/۲ ±۰۵/۱٤)، بالاترین نمره در حیطه توانایی برقراری ارتباط موثر پرستار "بود. نگرش پرستاران با میانگین (۱۹/۸±۲۱/۱۰٤) مثبت ارزیابی شد. بالاترین نمره نگرش در حیطه "رسان بود. نمره نگرش با نمره دانش همبستگی "تطابق با سیستم مقررات و نظارت بیمارستان"، و کمترین نمره در حیطه "با نوجوان خودآسیب رسان (0/016 p=) و تجربه مراقبت از نوجوانان خودآسیب‌رسان (0/042 p=) نمره دانش با متغیر وضعیت تاهل پرستار .(0/001p)مثبت داشت ارتباط (p= و ۰۲۳/۰ =βو تجربه مراقبت از نوجوانان خودآسیب‌رسان (٤/۲ (p= و ۰۰٤/۰ =βو نمره نگرش با متغیر سن پرستار (۱۹۲/۰ معنی داری داشت. نتیجه گیری: دانش متوسط و نگرش مثبت پرستاران در مراقبت از نوجوانان خودآسیب‌رسان و تاثیر سن، تاهل و تجربه مراقبت بر دانش و نگرش پرستاران لزوم توجه بیشتر درخصوص بکارگیری پرستاران با تجربه در بخش‌های اورژانس در مواجهه با این نوجوانان نشان می‌دهد. همچنین با توجه به کسب پایین‌ترین نمره دانش در حیطه مدیریت مراقبت و پایین‌ترین نمره نگرش در حیطه تطابق با مقررات و سیستم بیمارستان، لازم است برنامه‌های توجیهی و بازآموزی به منظور آشنایی پرستاران و تقویت نگرش مثبت با رویکرد افزایش همدلی و کلید واژه: دانش، نگرش، خودآسیب رسانی، نوجوان، پرستار .اعتماد بنفس تدوین گردد

Knowledge, Attitudes, and Readiness of Emergency Nurses Toward the Use of Artificial Intelligence in Clinical Decision-Making: A Cross-Sectional Stud

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پرستاری

abstract: مقدمه: هوش مصنوعی به‌عنوان یکی از فناوری‌های نوین، در حال ایجاد تحول در فرآیندهای تصمیم‌گیری بالینی و ارتقای کیفیت مراقبت‌های سلامت است. پرستاران اورژانس به دلیل نقش کلیدی در ارزیابی و تصمیم‌گیری سریع، از مهم‌ترین گروه‌های حرفه‌ای در بهره‌گیری از این فناوری محسوب می‌شوند. آگاهی از میزان دانش، نگرش و آمادگی آنان می‌تواند در روش کار: این مطالعه به‌صورت مقطعی توصیفی- .برنامه‌ریزی برای استقرار موفق هوش مصنوعی در نظام سلامت مؤثر باشد تحلیلی بر روی پرستاران شاغل در بخش‌های اورژانس بیمارستان امام علی (ع)انجام شد. نمونه‌گیری به روش در دسترس انجام می‌شود. داده‌ها با استفاده از پرسشنامه‌ای شامل اطلاعات جمعیت‌شناختی و سؤالات مربوط به دانش، نگرش و آمادگی برای استفاده و آزمون‌های آماری توصیفی و SPSS از هوش مصنوعی در تصمیم‌گیری بالینی جمع‌آوری می‌شوند. داده‌ها با استفاده از نرم‌افزار یافته‌های مورد انتظار: پیش‌بینی می‌شود سطح دانش و آمادگی پرستاران نسبت به هوش .استنباطی تجزیه و تحلیل خواهند شد مصنوعی در حد متوسط باشد و نگرش مثبت آنان با عواملی مانند سن، سابقه کار، سطح تحصیلات و دریافت آموزش‌های مرتبط نتیجه‌گیری: یافته‌های این پژوهش می‌تواند نیازهای آموزشی پرستاران را در حوزه هوش مصنوعی .ارتباط معنی‌داری داشته باشد مشخص کرده و مبنایی برای طراحی برنامه‌های آموزشی، تدوین سیاست‌های اجرایی و توسعه کاربرد ایمن و مؤثر هوش مصنوعی واژگان کلیدی: هوش مصنوعی، پرستاران اورژانس، تصمیم‌گیری بالینی، آمادگی، نگرش، مطالعه .در بخش‌های اورژانس فراهم آورد .مقطعی

Lived Experiences of Mothers' Participation in Protecting the Sleep of Preterm Infants in the Neonatal Intensive Care Unit: An Interpretive Phenomenological Study

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abstract: مقدمه خواب یکی از مهم‌ترین مؤلفه‌های مراقبت تکاملی در نوزادان نارس است و نقش اساسی در تکامل مغز، رشد عصبی، به دلیل نور، صدا و انجام (NICU) ثبات فیزیولوژیک و بهبود پیامدهای سلامت آنان دارد. با این حال، محیط بخش مراقبت ویژه نوزادان مکرر اقدامات تشخیصی و درمانی، می‌تواند خواب نوزاد را مختل کند. حفاظت از خواب یکی از اصول اساسی برنامه ارزیابی و مراقبت تکاملی است که علاوه بر پایبندی تیم درمان، مستلزم مشارکت آگاهانه والدین، به‌ویژه مادران، است. با وجود اهمیت این (NIDCAP) فردی نوزاد موضوع، تجربه مادران از مشارکت در حفاظت از خواب نوزاد کمتر مورد توجه قرار گرفته است. این مطالعه با هدف تبیین تجارب زیسته مادران روش کار این مطالعه کیفی با رویکرد پدیدارشناسی .از مشارکت در حفاظت از خواب نوزاد نارس در بخش مراقبت ویژه نوزادان انجام شد تفسیری انجام شد. داده‌ها از دی ۱۴۰۲ تا دی ۱۴۰۳، از طریق مصاحبه‌های عمیق و بدون ساختار با ۱۰ مادر نوزاد نارس بستری در بخش مراقبت ویژه نوزادان گردآوری شد. مشارکت‌کنندگان با استفاده از نمونه‌گیری هدفمند، به‌صورت متوالی و بر اساس اشباع داده‌ها انتخاب شدند. نوزادان شرکت‌کنندگان حداقل یک هفته در بخش مراقبت ویژه نوزادان بستری بودند و مادران به‌طور مستمر در مراقبت از آنان مشارکت داشتند. در این مطالعه، تجارب مرتبط با مشارکت مادران در حفاظت از خواب نوزاد از میان داده‌های حاصل از مصاحبه‌ها استخراج و تفسیر شد. تحلیل یافته‌ها تحلیل داده‌ها نشان داد که تجارب زیسته مادران از .داده‌ها بر اساس روش هفت‌مرحله‌ای دیکلمن و همکاران (۱۹۸۹) انجام گرفت مشارکت در حفاظت از خواب نوزاد در قالب الگوی ساختاری «حرمت آرامش نوزاد» تبیین شد. این الگو از سه درون‌مایه اصلی تشکیل شد: آموختن ارزش خواب، همراهی در پاسبانی از آرامش نوزاد و تناقض ادراک‌شده در حفاظت از خواب نوزاد. «آموختن ارزش خواب» بیانگر آن بود که آموزش‌های پرستاران و پزشکان، نگرش مادران را نسبت به نقش خواب در رشد، تکامل مغز و بهبود نوزاد تغییر داد و آنان خواب را بخشی جدایی‌ناپذیر از فرآیند درمان دانستند. «همراهی در پاسبانی از آرامش نوزاد» نشان داد که مادران پس از آگاهی از اهمیت خواب، با رعایت سکوت، پرهیز از بیدار کردن یا لمس غیرضروری نوزاد، هماهنگ کردن مراقبت‌ها با چرخه خواب و بیداری و ایجاد محیطی آرام، نقش فعالی در حفاظت از خواب نوزاد ایفا می‌کردند. «تناقض ادراک‌شده در حفاظت از خواب نوزاد» نیز بیانگر آن بود که اگرچه اعضای تیم درمان بر ضرورت حفاظت از خواب تأکید داشتند و در بسیاری از موارد مراقبت‌ها را تا زمان بیداری نوزاد به تعویق می‌انداختند، مادران در برخی موقعیت‌ها، به‌ویژه هنگام تعویض شیفت یا انجام اقدامات اجتناب‌ناپذیر تشخیصی و درمانی، تفاوت‌هایی را در میزان رعایت عملی این اصل نتیجه‌گیری حفاظت از خواب نوزاد، از دیدگاه مادران، تنها یک اقدام مراقبتی نبود، بلکه تجربه‌ای معنادار در مشارکت در .مشاهده می‌کردند مراقبت تکاملی و ایفای نقش مادری محسوب می‌شد. آموزش مؤثر والدین، همراه با همسویی عملکرد اعضای تیم درمان در اجرای اصول حفاظت از خواب، می‌تواند مشارکت خانواده را تقویت کرده، اعتماد والدین را افزایش دهد و کیفیت مراقبت تکاملی را ارتقا بخشد. همچنین، بازنگری در زمان‌بندی اقدامات روتین و کاهش مداخلات غیرضروری در زمان خواب نوزاد، در صورت امکان، می‌تواند به حفظ آرامش نوزاد کلیدواژه‌ها: نوزاد نارس، حفاظت از خواب، مراقبت .و بهبود تجربه والدین و کیفیت مراقبت در بخش‌های مراقبت ویژه نوزادان کمک کند IR.TBZMED.REC.1402.655 :. بخش مراقبت ویژه نوزادان، پدیدارشناسی تفسیری کد اخلاقNIDCAPتکاملی،

Management of a Grade III Extravasation Injury in a Preterm Neonate: A Case Report

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پرستاری

abstract: یک عارضه شناخته شده در بخش‌های مراقبت‌های ویژه نوزادان، به ویژه در میان نوزادان نارس با رگ‌های شکننده (IV) پیشینه نشت وریدی و برخی آنتی‌بیوتیک‌ها می‌توانند هنگام تزریق در خارج از فضای عروقی، آسیب (TPN) و پوست نابالغ است. محلول‌های محرک مانند تغذیه کامل وریدی بافتی قابل توجهی ایجاد کنند. تحقیقات نشان می‌دهد که تا ۱۱٪ از بیماران کودک و ۷۰٪ از نوزادانی که تحت درمان داخل وریدی قرار می‌گیرند، نشت وریدی را تجربه خواهند کرد. تشخیص سریع و مدیریت مناسب برای جلوگیری از پیشرفت به سمت نکروز و عوارض طولانی مدت ضروری است. مقدمه TPN نوزادان نارس اغلب به درمان طولانی مدت داخل وریدی نیاز دارند که آنها را در معرض خطر بیشتری برای نفوذ و نشت قرار می‌دهد. محلول‌های هیپراسمولار و برخی داروها ممکن است هنگام نشت به بافت اطراف، واکنش‌های التهابی و شیمیایی را تحریک کنند. مداخله به موقع می‌تواند عوارض را به و سفوتاکسیم را در یک نوزاد پسر ۳۲ هفته و ۸ روزه که به دلیل سندرم TPN ناشی از III طور قابل توجهی کاهش دهد. این گزارش، آسیب نشت درجه دیسترس تنفسی بستری شده بود، شرح می‌دهد و روند بهبودی را که از طریق نه عکس سریالی مستند شده است، برجسته می‌کند. سیر بالینی، رویکرد مدیریتی و پیامد آن خلاصه شده است تا به دانش موجود در مورد مراقبت از زخم نوزادان کمک کند. معرفی مورد ساعت ۱۵:۰۰، پرستار کنار تخت علائم نشت دارو را در پشت دست راست تشخیص داد. تزریق بلافاصله متوقف شد و کانول زرد رنگ داخل وریدی محیطی برداشته شد. عکس ۱، وضعیت اولیه ضایعه را در زمان کشف نشان می‌دهد. پس از اطمینان از کنترل کافی درد، تیم بالینی تحت شرایط استریل با استفاده از تکنیک چند سوراخی، ناحیه آسیب دیده را به آرامی با یک سوزن ظریف سوراخ کرد تا تخلیه و پراکندگی مایعات محرک تسهیل شود. پس از آن، در طول یک ساعت با ۵۰ میلی لیتر نرمال سالین استریل شستشو داده شد. عکس ۲ زخم را در پایان شستشو نشان می‌دهد. هیالورونیداز در بازه درمانی بهینه تجویز شد. در مجموع ۳۰ واحد به صورت زیر جلدی در پنج نقطه اطراف ضایعه با استفاده از یک سوزن شماره ۲۵ تزریق شد. سپس ناحیه به آرامی با گاز استریل پوشانده شد و اندام آسیب دیده بالا قرار گرفت. ارزیابی‌های ساعتی انجام شد. عکس ۳ وضعیت زخم را پنج ساعت پس از حادثه نشان می‌دهد. دوز دوم هیالورونیداز تجویز شد. عکس ٤ زخم را ۱۸ ساعت بعد نشان می‌دهد. در ٢٤ ساعت، موپیروسین موضعی شروع شد و پماد نیتروگلیسیرین هر هشت ساعت برای افزایش خونرسانی استفاده شد.) عکس ۸-۵) یک تاول کوچک سفت ایجاد شد و دست نخورده باقی ماند. به تدریج بدون پارگی یا نیاز به دبریدمان جذب شد. هیچ پانسمان اضافی یا درمان پیشرفته‌ای لازم نبود. تا پایان هفته، زخم با پیشرفت واضح اپیتلیال تثبیت شده بود. عکس ۹ نشان دهنده اپیتلیالیزاسیون مجدد کامل بدون تخریب بافت یا عوارض بود. نتایج نوزاد با کاهش تورم، بهبود خونرسانی و عدم وجود نکروز، بهبود پیشرونده‌ای را نشان داد. تاول‌ها خود به خود برطرف شدند و ارزیابی‌های عصبی عروقی طبیعی باقی ماندند. تا روز ۱۸، اپیتلیالیزاسیون تقریباً کامل مشاهده شد و پیگیری، عملکرد طبیعی دست را بدون ایجاد اسکار نشان داد. نتیجه‌گیری این مورد نشان می‌دهد که تشخیص زودهنگام و مدیریت محافظه‌کارانه‌ی ساختاریافته می‌تواند به طور مؤثر آسیب‌های ناشی از نشت مایع از رگ درجه‌ی سه را .در نوزادان نارس درمان کند. شستشوی به موقع، تجویز هیالورونیداز و درمان موضعی مناسب به بهبودی کامل و بدون عوارض کمک کرد

Medical Device-Related Pressure Injuries in Children: Emerging Challenges and Evidence-Based Nursing Strategies

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abstract: آسیب‌های فشاری ناشی از تجهیزات پزشکی (Medical Device-Related Pressure Injuries; MDRPI) یکی از مهم‌ترین چالش‌های ایمنی بیمار در کودکان بستری به شمار می‌روند. افزایش استفاده از تجهیزات پزشکی احتمال بروز آسیب‌های پوستی را افزایش داده است. با توجه به اهمیت پیشگیری و تشخیص زودهنگام این آسیب‌ها، نقش پرستاران در ارزیابی مطالعات انجام شده در .خطر، مراقبت از پوست و اجرای مداخلات مبتنی بر شواهد بیش از پیش مورد توجه قرار گرفته است در کودکان بستری در بخش‌های مراقبت ویژه بین ۱۰ تا ۳۵ درصد گزارش شده MDRPI سال‌های اخیر نشان می‌دهد که شیوع است. همچنین پژوهش‌های جدید به نقش فناوری‌های هوشمند، ثبت الکترونیک داده‌ها و ابزارهای پیش‌بینی خطر در کاهش میزان مطالعه حاضر به روش مروری انجام شد. مقالات منتشر شده بین سال‌های ۲۰۲۰ تا ۲۰۲۶ .بروز آسیب‌های پوستی اشاره دارند .یافته‌ها بر اساس محورهای اصلی شامل پیشگیری، ارزیابی خطر، مداخلات درمانی و آموزش سازماندهی گردید .جستجو شدند در کودکان شامل بستری طولانی‌مدت، استفاده مداوم از تجهیزات پزشکی، MDRPI یافته‌ها نشان داد که مهم‌ترین عوامل خطر نارس بودن، بیماری‌های مزمن و محدودیت حرکت است. بیشترین آسیب‌ها در ارتباط با تجهیزات تنفسی و وسایل پایش بیمار مشاهده شد. استفاده از پانسمان‌های سیلیکونی محافظ، ارزیابی روزانه پوست، تغییر محل تجهیزات و آموزش کارکنان درمانی از مؤثرترین مداخلات پیشگیرانه شناخته شدند. همچنین مطالعات نشان دادند که اجرای پروتکل‌های استاندارد پرستاری موجب کاهش قابل توجه میزان بروز آسیب‌های فشاری و بهبود پیامدهای بالینی می‌شود. فناوری‌های نوین از جمله سیستم‌های ثبت الکترونیک و ابزارهای پیش‌بینی خطر نیز توانسته‌اند در شناسایی زودهنگام بیماران پرخطر و ارتقای کیفیت مراقبت نقش مؤثری ایفا کنند. نتایج .حاکی از آن است که پیشگیری همچنان مؤثرترین راهبرد در مدیریت این آسیب‌ها محسوب می‌شود

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کودکان، MDRPIپرستاری کودکان، آسیب فشاری ناشی از تجهیزات پزشکی، زخم فشاری، مراقبت مبتنی ، سلامت پوست، مدیریت زخم،
بر شواهد، ایمنی بیمار، پیشگیری از زخم

Mothers' Experiences of Participating in Pain Management for Hospitalized Preterm Infants during Invasive Procedures: An Interpretive Phenomenological Study

مرضیه آوازه [1] ℗, مهناز جبرائیلی [2] ©, شهلا شهبازی [3]

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abstract: چکیده مقدمه: نوزادان نارس در طول دوره بستری در بخش مراقبت‌های ویژه نوزادان، به دلیل شرایط بالینی و نیاز به مداخلات تشخیصی و درمانی، بارها تحت اقدامات تهاجمی دردناک مانند خون‌گیری، نمونه‌گیری از پاشنه پا، تزریق و سایر پروسیجرهای پزشکی قرار می‌گیرند. اگرچه روش‌های دارویی و غیردارویی متعددی برای کاهش درد این نوزادان وجود دارد، شواهد نشان می‌دهد که مشارکت والدین، به‌ویژه مادران، در مدیریت درد یکی از مؤثرترین و ایمن‌ترین راهکارهای تسکین درد و کاهش استرس نوزادان است. حضور مادر و استفاده از مداخلاتی مانند تماس پوست با پوست، شیر مادر، مکیدن غیرمغذی و سایر روش‌های حمایتی، علاوه بر کاهش درد، موجب تقویت پیوند عاطفی مادر و نوزاد نیز می‌شود. با این حال، تجربه مادران از مشارکت در مدیریت درد نوزادان نارس و چگونگی شکل‌گیری این نقش در طول بستری، کمتر مورد توجه قرار گرفته است. ازاین‌رو، مطالعه حاضر با هدف تبیین و درک تجربه زیسته مادران از مشارکت در مدیریت درد نوزادان نارس بستری هنگام انجام اقدامات تهاجمی روش‌کار: پژوهش حاضر یک مطالعه کیفی با رویکرد پدیدارشناسی تفسیری است. مشارکت‌کنندگان شامل ۱۰ نفر از .انجام شد مادران نوزادان نارس بستری در بخش مراقبت‌های ویژه نوزادان بودند که با استفاده از نمونه‌گیری هدفمند، تا دستیابی به اشباع داده انتخاب شدند. داده‌ها از طریق مصاحبه‌های عمیق، بدون ساختار و فردی گردآوری شد. مصاحبه‌ها با یک سؤال باز درباره تجربه مادران از مشارکت در مدیریت درد نوزاد خود هنگام انجام اقدامات تهاجمی آغاز شد. در ادامه، برای تعمیق و روشن‌تر شدن تجربیات مشارکت‌کنندگان، از پرسش‌های کاوشگر مانند «لطفاً بیشتر توضیح دهید»، «وقتی می‌گویید ...، منظورتان چیست؟»، «می‌توانید بیشتر درباره آن توضیح دهید؟»، «آیا می‌توانید مثالی بزنید؟» و «در آن لحظه چه احساسی داشتید؟» استفاده شد. داده‌ها به‌صورت هم‌زمان با گردآوری، با استفاده از روش تحلیل پدیدارشناسی تفسیری مورد تجزیه و تحلیل قرار گرفت و مضامین اصلی یافته‌ها: تحلیل داده‌ها نشان داد که تجربه مادران در قالب یک الگوی ساختاری با عنوان .و فرعی از دل داده‌ها استخراج شدند «تکامل پیشرونده توانمندی» شکل می‌گیرد. این الگو بیانگر فرایندی پویا است که طی آن مادران از احساس ناتوانی و انفعال اولیه، به تدریج به افرادی توانمند و اثرگذار در مدیریت درد نوزاد خود تبدیل می‌شوند. این الگو شامل سه مضمون اصلی «بازسازی نقش التیام‌بخش مادر»، «رشد و تحول مادر» و «تبدیل شدن به یک عامل درمانگر» بود. مضامین فرعی استخراج‌شده شامل «احساس درماندگی»، «مادر در حاشیه»، «تبدیل شدن به حامی نوزاد»، «مشاهده درد، کشف مسئولیت»، «مشاهده و یادگیری»، «فراهم شدن

زمینه مشارکت»، «ایثارگری مادرانه»، «درک قدرت شفابخش مادر» و «خودباوری» بودند. یافته‌ها نشان داد که آموزش کارکنان، حمایت عاطفی و حرفه‌ای، ایجاد فرصت برای حضور فعال مادر و تجربه عملی مشارکت، نقش مهمی در شکل‌گیری احساس نتیجه‌گیری: یافته‌های این مطالعه نشان داد .توانمندی، مسئولیت‌پذیری و اعتمادبه‌نفس مادران در مدیریت درد نوزادان نارس دارد که مادران نوزادان نارس، با دریافت آموزش، حمایت و فرصت مشارکت از سوی کارکنان سلامت، به‌تدریج توانایی لازم برای ایفای نقش مؤثر در مدیریت درد نوزاد خود را کسب می‌کنند. این فرایند نه‌تنها موجب ارتقای مشارکت مادران و بهبود مدیریت درد نوزاد می‌شود، بلکه احساس شایستگی، خودکارآمدی و نقش مادری آنان را نیز تقویت می‌کند. بنابراین، توانمندسازی مادران از طریق آموزش نظام‌مند کارکنان، فراهم کردن زمینه مشارکت فعال والدین و توجه به اصول مراقبت خانواده‌محور می‌تواند به بهبود کیفیت واژگان کلیدی: تجربه زیسته، مدیریت درد، .مراقبت و مدیریت درد نوزادان نارس در بخش‌های مراقبت ویژه نوزادان کمک کند :مشارکت مادر، نوزاد نارس، اقدامات تهاجمی، مراقبت خانواده‌محور، پژوهش کیفی کد اخلاق
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mpact of High-Flow Nasal Cannula on Retinopathy of Prematurity: A Systematic Review

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پرستاری

abstract: از مهم‌ترین عوارض نوزادان نارس و یکی از علل مهم اختلال بینایی در این (ROP) مقدمه رتینوپاتی نوزادان نارس گروه است. در پاتوژنز این بیماری، نوسانات اکسیژن و مواجهه نامناسب با اکسیژن نقش کلیدی دارند؛ بنابراین نوع حمایت تنفسی یکی از High Flow Nasal Cannula (HFNC) .مؤثر باشد ROP و کیفیت اکسیژن‌تراپی می‌تواند در بروز یا پیشگیری از روش‌های رایج حمایت تنفسی غیرتهاجمی در نوزادان نارس است که در سال‌های اخیر کاربرد گسترده‌ای یافته است. با وجود این، هدف این مطالعه با هدف بررسی تأثیر .هنوز محدود و ناهمگون است ROP بر بروز HFNC شواهد موجود درباره تأثیر مستقیم و نقش مدیریت اکسیژن در (ROP) بر بروز رتینوپاتی نوزادان نارس High Flow Nasal Cannula (HFNC) استفاده از روش این مطالعه به‌صورت مرور سیستماتیک با تمرکز اختصاصی بر رتینوپاتی نوزادان نارس انجام شد. .این ارتباط انجام شد انجام گرفت و ScienceDirect و Web of Science، Scopus، Embase، PubMed جست‌وجوی منابع در پایگاه‌های Nasal، HFNC، High Flow Nasal Cannula نیز بررسی شد. کلیدواژه‌های Google Scholarبرای افزایش جامعیت، Cannula، Retinopathy of Prematurity، ROP، Retinal Diseases، Eye Diseases، Retinopathies ، Retrolental Fibroplasia، Infant، Premature Infant، Preterm Infant، Extremely Premature Infant، Low در مجموع ۱۶۸۷ رکورد شناسایی شد. پس .ترکیب شدند OR و AND با عملگرهای Neonate و Birth Weight Infant از حذف موارد تکراری و نامرتبط، عناوین و چکیده‌ها توسط دو ارزیاب مستقل از ابتدا غربالگری شدند. سپس ۱۰ مقاله برای ارزیابی متن کامل انتخاب شد و در نهایت ٦ مطالعه واجد شرایط نهایی وارد مرور شدند. معیارهای ورود شامل مطالعات مداخله‌ای، را در نوزادان نارس بررسی HFNC و مطالعات نیمه‌تجربی بود که Clinical Trialکارآزمایی‌های بالینی تصادفی‌سازی‌شده، را گزارش کرده بودند. معیارهای خروج نیز شامل مطالعات غیرمداخله‌ای، مقالات با کیفیت پایین و مطالعاتی ROP کرده و پیامد .کوکران ارزیابی شد GBI را گزارش نکرده بودند. کیفیت و خطر سوگیری مطالعات واردشده با استفاده از فرم ROP بود که پیامد نتایج مطالعات واردشده در مجموع حدود ۱۱٤۳ نوزاد نارس را شامل می‌شدند. بیشتر نمونه‌ها نوزادان بسیار نارس با سن حاملگی حدود ۲۲ تا کمتر از ۳٤ هفته بودند و بخشی نیز نوزادان بالای ۲۸ هفته با دیسترس تنفسی خفیف تا متوسط را دربر می‌گرفتند. این یا CPAP، HFNC نوزادان عمدتاً در بخش‌های مراقبت ویژه نوزادان بستری بوده و تحت حمایت تنفسی غیرتهاجمی شامل

.سایر روش‌های اکسیژن‌تراپی قرار داشتند. مطالعات از کشورهای استرالیا، ایالات متحده آمریکا، بریتانیا و چین گزارش شده بودند وجود ندارد. در اغلب ROP و بروز HFNC یافته‌های مرور نشان داد که شواهد کافی برای اثبات ارتباط مستقیم و علّی میان و سایر روش‌های حمایت تنفسی HFNC به‌عنوان پیامد ثانویه یا ایمنی گزارش شده بود و تفاوت معناداری میان ROPمطالعات، مشاهده نشد. در مقابل، مدیریت مناسب اکسیژن و کاهش نوسانات اشباع اکسیژن خون نقش ROP غیرتهاجمی از نظر بروز داشت. برخی مطالعات نشان دادند که سیستم‌های کنترل خودکار اکسیژن ROP مهم‌تری در پیشگیری از عوارض نوزادی از جمله بحث یافته‌های .می‌توانند زمان حضور نوزاد در محدوده هدف اشباع اکسیژن را افزایش داده و از هیپوکسمی و هایپراوکسمی بکاهند در نظر گرفته شود. آنچه اهمیت بیشتری ROP به‌تنهایی نباید به‌عنوان عامل خطر مستقل برای HFNC این مرور نشان می‌دهد که و حفظ اشباع اکسیژن در محدوده هدف است. بنابراین، اثر SpO2 دارد، نحوه تنظیم و پایش اکسیژن، جلوگیری از نوسانات شدید احتمالاً بیشتر غیرمستقیم و وابسته به کیفیت مراقبت تنفسی و اکسیژن‌تراپی است تا اثر مستقیم خود این روش. ROP بر HFNC از مهم‌ترین محدودیت‌های شواهد موجود بودند. از ROP محدود بودن تعداد مطالعات، ناهمگونی طراحی‌ها و ثانویه بودن پیامد نتیجه‌گیری بر اساس شواهد موجود، .ضروری است ROP این رو، انجام مطالعات مداخله‌ای دقیق‌تر با تمرکز اختصاصی بر به‌تنهایی با افزایش قطعی خطر رتینوپاتی نوزادان نارس مرتبط نیست. با این حال، مدیریت دقیق اکسیژن، کاهش نوسانات HFNC به شمار می‌روند. به نظر می‌رسد کیفیت ROP و حفظ اشباع اکسیژن در محدوده هدف از عوامل کلیدی در کاهش خطر SpO2 High Flow Nasalکلیدواژه‌ها .اکسیژن‌تراپی بیش از انتخاب صرف نوع حمایت تنفسی در پیشگیری از این عارضه اهمیت دارد Cannula ،HFNC ،Retinopathy of Prematurity ،ROP ،Preterm Infant ،Neonate ،Oxygen Therapy ، Oxygen Saturation

Non-Pharmacological Interventions for Reducing Stress and Anxiety Among Children in War Settings: A Systematic Review

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پرستاری

abstract: Background and Objectives: War and armed conflicts are among the most devastating humanitarian crises, with profound consequences for children's physical, psychological, and social well-being. Children exposed to war experience multiple adverse events, including violence, bombing, loss of family members, forced displacement, and prolonged insecurity. These experiences can lead to increased stress, anxiety, trauma-related symptoms, and disruptions in psychological development. Due to children's vulnerability during critical developmental stages, identifying effective and accessible interventions to mitigate the mental health consequences of war is essential. This systematic review aimed to determine evidence regarding effective non-pharmacological interventions for reducing stress and anxiety among children affected by war. Materials and Methods: This systematic review was conducted to determine effective non-pharmacological interventions targeting stress and anxiety among children exposed to war and armed conflicts. Relevant studies published between 2016 and 2026 were searched in international databases, including PubMed, Scopus, Web of Science, and Elsevier. The search strategy included combinations of keywords related to children, pediatric populations, war, armed conflicts, stress, anxiety, nursing interventions, and non-pharmacological interventions. After removing duplicate and irrelevant studies, eligible articles were selected according to predefined inclusion and exclusion criteria. The methodological quality of included studies was assessed using the Newcastle–Ottawa Scale (NOS). Data related to study characteristics, intervention types, implementation methods, and reported outcomes were extracted and analyzed descriptively. Results: A total of 595 articles were identified. After removing 458 irrelevant articles, 41 review articles, and 3 duplicate records, 93 abstracts were screened. Subsequently, 73 studies were excluded due to lack of relevance, and 5 studies were excluded because full-text versions were unavailable. Finally, 15 studies were included in the systematic review. Discussion: The included studies examined various non-pharmacological interventions, mainly based on psychosocial, skills-based, and family-centered approaches. Identified interventions included storytelling and drama-based activities, psychosocial support programs, cognitive behavioral-based interventions, art therapy (music, drawing, and movement/dance), the Mein Weg program, self-soothing and emotional regulation training, trauma recovery techniques, FOCUS child-centered sessions, Youth Readiness Intervention (YRI), Mercy Corps life-skills programs, and family-based interventions. Across studies, common intervention components included psychoeducation, coping skills training, emotional regulation, relaxation techniques, problem-solving strategies, strengthening social support, and improving family relationships. Cognitive behavioral interventions incorporating cognitive restructuring, trauma processing, and gradual exposure techniques showed

potential effectiveness in reducing trauma-related symptoms, stress, and anxiety. Additionally, creative approaches such as art therapy and storytelling provided opportunities for emotional expression, stress reduction, and social interaction, particularly among children who experienced difficulties communicating traumatic experiences verbally. Conclusion: The findings of this systematic review suggest that non-pharmacological interventions, particularly psychosocial, skills-based, and family-centered approaches, can play an important role in reducing stress and anxiety among children affected by war. These interventions may enhance resilience, emotional regulation, coping abilities, and supportive relationships while improving children's psychological adaptation to adverse circumstances. Given the limited availability of specialized mental health services in conflict settings, culturally appropriate, accessible, and community-based interventions delivered by trained personnel may represent effective strategies for supporting the mental health of war-affected children. Further high-quality studies with larger samples and long-term follow-up are recommended to determine the sustainability and comparative effectiveness of these interventions.

Nursing Care of Children Post-Cardiac Surgery in Intensive Care Units: A Systematic Review

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پرستاری

abstract: چکیده مقدمه: بیماری‌های مادرزادی قلب (Congenital Heart Disease) یکی از شایع‌ترین اختلالات مادرزادی در دنیا محسوب می‌شوند که حدود ۰.۸ تا ۱.۲درصد از تولدهای زنده در سراسر جهان را شامل می شوند. از طرفی بررس ها حاکی از این است که درمان کودکان مبتلا به این نقایص، بسیار تخصصی است و جراحی به‌عنوان رویکرد خط اول درمان در این بیماری مطرح می‌باشد از سویی کودکان مبتلا به این بیماریها بعد از عمل، نیاز به مراقبت در بخش‌های مراقبت ویژه توسط پرستاران را دارند. از طرفی با توجه به پیچیدگی و حساسیت بالای مراقبت از این کودکان، شناخت دقیق برنامه‌های مراقبت پرستاری موجود و از این رو مطالعه مروری حاضر با هدف، بررسی .شناسایی شکاف‌های مراقبتی در این بیماریها از اهمیت ویژه‌ای برخوردار است این مطالعه یک :روش‌کار ..مراقبت پرستاری از کودکان پس از جراحی قلب در دوران بستری در بخش مراقبت ویژه انجام شد بود که با استفاده از یک جستجوی سیستماتیک مقالات(در بازده۲۰۲۰تا۲۰۲۵) در پایگاه‌های (Systematic Review) مرور نظام انجام شد. فرآیند انتخاب مقالات، (Magiran)، SID، PubMed، ScienceDirect، (SCOPUS داخلی و خارجی شامل علاوه بر این، عوارض پس از عمل و .استخراج و ترکیب اطلاعات بر اساس تشخیص‌های پرستاری و مداخلات پرستاری بود عوامل مرتبط با آن‌ها در بیماران در این مقالات شناسایی شد. در جستجوی اولیه، تعداد تقریباً ۱۱۰۰ مقاله یافت شد که از این میان ۹۸۰ مقاله به زبان انگلیسی و حدود ۱۲۰ مقاله به زبان فارسی بودند. پس از حذف موارد تکراری و غربالگری عنوان و چکیده، حدود ۷۰ مقاله انگلیسی و ۱۵ مقاله فارسی برای ارزیابی متن کامل انتخاب شدند و در نهایت ۱۵ مقاله انگلیسی و ۷ مقاله فارسی کاملاً مرتبط با اهداف پژوهش وارد مطالعه شدند. معیارهای ورود در این مطالعه شامل: مقالات مرتبط با مراقبت پرستاری از کودکان (زیر ۱۸ سال) پس از جراحی قلب با طراحی‌های مختلف (کمی، کیفی) و دارای متن کامل. معیارهای خروج: مقالات غیرمرتبط با پرستاری کودکان، مطالعات بزرگسالان، مقالات بدون متن کامل، بودند که در نهایت پس از ارزیابی متن کامل مقالات منتخب، داده‌های کلیدی مقالات شامل (نام نویسنده، سال انتشار، کشور، نوع مطالعه، نمونه، تشخیص‌های پرستاری، مداخلات پرستاری، یافته‌ها: یافته های این مقاله مروری نشان داد که تشخیص‌ها و مداخلات ..عوارض و عوامل مرتبط) دردر جداول ارائه شدند متمرکز بوده و در راستای تأمین (problem-centered care) پرستاری در مقالات بررسی شده، عمدتاً بر مراقبت مسئله‌محور نیازهای قلبی–عروقی و تنفسی، کنترل درد و آرام‌بخشی، پیشگیری از عفونت و حمایت تغذیه‌ای بودند. از سویی مهم‌ترین عوارض شناسایی‌شده در بیماران در این مطالعه(افزایش مدت زمان تهویه مکانیکی، عفونت‌های پس از جراحی، نارسایی کلیوی و مرگ بودند که. این عوارض با دو دسته عوامل شرایط ذاتی مانند سن، جنس یا نوع ناهنجاری، و شرایط بالینی و رویه‌ای مانند استفاده از نتایج این مقاله مروری نشان داد ، مراقبت پرستاری :نتایج .تهویه مکانیکی یا دستگاه قلبی عروقی مصنوعی(بای پس) مربوط بودند

از کودکان پس از جراحی قلب در بخش مراقبت ویژه نیازمند حرکت از رویکرد صرفاً فیزیولوژیک و مسئله‌محور به سمت مراقبتی کل‌نگر، خانواده‌محور و مبتنی بر پاسخ‌های فردی و خانواده است. از این رو مداخلات مؤثر باید شامل برنامه‌های حمایت رشدی، مدیریت دلیریوم، مشارکت خانواده در مراقبت و استفاده از پروتکل‌های استاندارد شده باشد. بنابر این پیشنهاد می‌شود در برنامه‌های مراقبتی پرستاری، علاوه بر تشخیص‌های فیزیولوژیک، به ابعاد روانی-اجتماعی و خانواده نیز توجه ویژه شود تا مراقبتی جامع و فراتر از رویکردهای سنتی ارائه گردد.

واژگان کلیدی: مراقبت پرستاری، جراحی قلب، کودکان، بخش مراقبت ویژه

Nursing Interventions to Improve Health Outcomes and Quality of Life in Children Living in Armed Conflict Settings: A Scoping Review

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پرستاری

abstract: Background Children living in armed conflict settings are among the most vulnerable populations worldwide. Exposure to violence, forced displacement, poverty, malnutrition, infectious diseases, psychological trauma, and disrupted healthcare systems adversely affects children's physical health, emotional well-being, social development, and quality of life. According to UNICEF, millions of children continue to live in conflict-affected settings where access to healthcare, education, and essential humanitarian services remains severely disrupted, emphasizing the urgent need for evidence-based pediatric nursing interventions. Nurses play a critical role in humanitarian responses by providing emergency care, psychological support, health education, disease prevention, nutritional care, and family-centered interventions. However, despite increasing nursing involvement in conflict-affected settings, evidence regarding the scope and effectiveness of nursing interventions for children remains insufficiently synthesized. Mapping existing evidence and identifying research gaps are essential to strengthen pediatric humanitarian nursing practice. Aim This scoping review aimed to identify and summarize nursing interventions provided for children living in armed conflict settings and to explore their reported effects on health outcomes, psychological well-being, and quality of life. Methods A scoping review was conducted using a structured evidence synthesis methodology in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). Electronic databases, including PubMed, Scopus, Web of Science, and CINAHL, were systematically searched for studies published between 2010 and 2025. The search strategy combined controlled vocabulary and free-text terms, including armed conflict, children, pediatric nursing, nursing interventions, humanitarian healthcare, and quality of life. Studies were eligible if they focused on children affected by armed conflict and reported nursing-led or nurse-involved interventions. Studies unrelated to pediatric populations, non-nursing interventions, editorials, conference abstracts, and articles without full-text availability were excluded. The search identified 486 records. After duplicate removal, 392 records remained for title and abstract screening. Following full-text assessment, 18 studies met the eligibility criteria and were included in the final synthesis. Data were extracted using a standardized extraction form and categorized according to intervention type, target outcomes, reported effectiveness, and research gaps. Results The included studies identified five major domains of nursing interventions: psychological support, emergency and trauma care, preventive healthcare, nutritional support, and family-centered nursing care. Among the included studies, 8 studies (44.4%) focused on psychosocial and mental health nursing interventions, including psychological first aid, emotional support, and

trauma-informed care. These interventions were associated with improved emotional adaptation, reduced psychological distress, and enhanced coping abilities among conflict-affected children. Five studies (27.8%) examined emergency and trauma-related nursing interventions, including triage, injury management, infection prevention, and monitoring of critically ill children. These interventions contributed to reducing preventable complications and improving immediate health outcomes during humanitarian emergencies. Three studies (16.7%) evaluated preventive healthcare strategies, including vaccination support, infection control, health education, and nutritional assessment. These approaches reduced health risks among displaced and vulnerable children. Two studies (11. 1%) addressed family-centered nursing approaches, emphasizing caregiver involvement, effective communication, and continuity of care in unstable environments. Although the available evidence demonstrates the positive contribution of nursing interventions, only a limited number of studies evaluated long-term outcomes. Few studies specifically assessed children's overall quality of life, social functioning, developmental outcomes, or long-term recovery following conflict exposure. In addition, nursing leadership, healthcare management, advocacy, and participation in humanitarian health policy remain underexplored. Conclusion This scoping review highlights the essential role of pediatric nurses in improving the health outcomes and psychosocial well-being of children living in armed conflict settings through psychological support, emergency and trauma care, preventive healthcare, nutritional support, and family-centered nursing interventions. Current evidence suggests that these interventions positively influence children's immediate health outcomes and emotional resilience; however, robust evidence regarding their long-term effects on quality of life, developmental outcomes, and social functioning remains limited. The findings may assist pediatric nurses, healthcare organizations, educators, and policymakers in developing evidence-based humanitarian nursing strategies and strengthening disaster preparedness for children affected by armed conflicts. Future research should prioritize standardized pediatric humanitarian nursing frameworks, evaluate long-term child-centered outcomes, and expand nursing leadership, advocacy, and policy involvement to improve the quality, continuity, and sustainability of healthcare services in humanitarian settings.
Keywords Armed conflict; Children; Pediatric nursing; Nursing interventions; Humanitarian healthcare; Quality of life.

Nursing Strategies to Prevent Hospital-Acquired Pressure Injuries in Pediatric Patients: A Systematic Review

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پرستاری

abstract: Introduction: Hospital-acquired pressure injuries (HAPIs) remain a significant patient safety concern in pediatric healthcare settings, particularly among critically ill children, neonates, and patients requiring prolonged hospitalization or medical devices. Pediatric patients possess unique physiological characteristics that increase their susceptibility to pressure injuries, underscoring the need for evidence-based nursing interventions to minimize their occurrence. This systematic review aimed to synthesize the current evidence regarding effective nursing strategies for the prevention of hospital-acquired pressure injuries in pediatric patients. methods: A systematic review was conducted in accordance with PRISMA guidelines. Comprehensive searches were performed in PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2020 and 2026. The search targeted articles employing the keywords “Pressure Injury”, “Pressure Ulcer”, “Hospital-Acquired Pressure Injury”, “Pressure Injury Prevention”, “Pediatric”, “Children”, “Infant”, “Neonate”, “Nursing Care”, “Nursing Intervention”, and “Prevention”. Studies were included if they: (1) were specifically aimed at pediatric patients (0-18 years), (2) evaluated nursing interventions aimed at preventing hospital-acquired pressure injuries, and (3) reported outcomes related to pressure injury incidence, risk reduction, or prevention effectiveness. Exclusion criteria included review articles, case reports, conference abstracts, non-English publications, studies involving adult populations, and those without a primary focus on nursing preventive strategies. A total of 312 records were retrieved. After removing duplicates and screening titles and abstracts, 42 articles remained for full-text review. Finally, 19 studies met eligibility criteria and were included in the analysis. Results: The review identified several evidence-based nursing strategies associated with reduced incidence of pediatric HAPIs. These included comprehensive skin assessment using validated pediatric risk assessment tools, regular repositioning, implementation of pressure redistribution surfaces, preventive management of medical device-related pressure injuries, optimization of nutrition and hydration, moisture management, and ongoing education of nursing staff and caregivers. Multidisciplinary collaboration and standardized prevention bundles further improved adherence to preventive practices and enhanced patient outcomes. Despite the growing body of evidence, variations in clinical protocols and limited high-quality pediatric-specific studies remain important challenges. Conclusion: Nursing interventions play a pivotal role in preventing hospital-acquired pressure injuries in pediatric patients. Integrating standardized risk assessment, evidence-based preventive care bundles, continuous staff education, and multidisciplinary collaboration can substantially reduce HAPI incidence and improve the quality and safety of pediatric care. Further multicenter, high-quality studies are recommended to strengthen the evidence base and support the development of pediatric-specific clinical guidelines. Keywords: Hospital-Acquired Pressure Injuries; Pressure injury; Nursing Strategies; Pediatric.

Optimizing Nurse-Led Interventions and Identifying Prognostic Factors for Airway Complications in Pediatric Bronchoscopy in Healthcare Centers of Yazd Province

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پرستاری

abstract: Background and Aim: Flexible bronchoscopy is a critical diagnostic and therapeutic procedure in pediatric respiratory care, yet airway complications remain frequent and clinically important, especially among high-risk children. Transient hypoxemia, bronchospasm, laryngeal edema, and less common events such as aspiration pneumonia or pneumothorax can prolong recovery, increase oxygen needs, and heighten family distress. In the healthcare and medical centers of Yazd Province, nurses hold a central role throughout the perioperative period—conducting pre-procedural assessment and preparation, delivering real-time monitoring and interventions during the procedure, and providing structured post-procedural airway management and family education. Despite this pivotal contribution, locally generated evidence on the effectiveness of structured nurse-led protocols and related prognostic factors is still limited. This experimental study aimed to (1) evaluate the incidence and severity of post-bronchoscopy airway complications in pediatric patients, (2) determine the impact of targeted nurse-led interventions (standardized pre-procedural nebulization, optimized intraoperative oxygenation strategies, and structured post-procedural airway care), and (3) identify independent prognostic risk factors, including clinically relevant procedure-duration thresholds, influencing postoperative recovery in healthcare and medical centers of Yazd Province. Methods: An experimental study was conducted on 216 pediatric patients (aged 1 month to 14 years) who underwent flexible bronchoscopy in the pediatric and respiratory services of healthcare and medical centers of Yazd Province from 1404 to 1405. Eligible children were allocated to either a nurse-led intervention group or a usual-care comparison group. The intervention group received a structured nurse-led protocol consisting of: (a) standardized pre-procedural nebulization therapy (salbutamol, budesonide, or combination), (b) nurse-managed intraoperative oxygen supplementation and positioning strategies, and (c) systematic post-procedural airway assessment, humidified oxygen protocols, and early-warning scoring. The comparison group continued routine care. Airway complications were recorded using predefined operational definitions: hypoxemia (SpO_2 90% lasting 30 seconds), bronchospasm, laryngeal edema, aspiration pneumonia, and pneumothorax. Demographic, clinical, and procedural variables (age, pre-existing respiratory disease, procedure duration, indication, and anesthesia type) were collected. Multivariate logistic regression identified independent predictors of complications. Receiver operating characteristic (ROC) analysis determined clinically meaningful cut-off values. Statistical significance was set at p 0.05. Data were analyzed with SPSS version 26. Results: Of the 216 patients, 76 (35.19%) developed at least one airway complication. The most common events were transient hypoxemia (29.63%, n = 64), bronchospasm (12.50%, n = 27), and

laryngeal edema (9.72%, n = 21). Severe outcomes remained uncommon: aspiration pneumonia (3.70%, n = 8) and pneumothorax (0.93%, n = 2). Nurse-administered pre-procedural nebulization significantly reduced bronchospasm incidence (9.17% in the intervention pathway vs. 16.67% without standardized nebulization, p = 0.027). Subgroup comparison between salbutamol and budesonide showed no statistically significant difference (p 0.05). Children who developed laryngeal edema required oxygen supplementation far more frequently than those without edema (85.71% vs. 28.21%, p 0.001). Multivariate logistic regression identified three independent risk factors for airway complications: younger age (OR = 1.41, 95% CI: 1.12–1.77, p = 0.003), pre-existing respiratory disease (OR = 2.18, 95% CI: 1.39–3.42, p = 0.001), and prolonged procedure duration (OR = 1.26, 95% CI: 1.08–1.47, p = 0.004). ROC analysis indicated a clinically relevant cut-off of 7 minutes for procedure duration; above this threshold the risk of severe complications increased significantly (18.6% vs. 7.2%, p = 0.003; AUC = 0.71). Adherence to the nurse-led protocol reached approximately 82%, and no procedure-related mortality occurred. Caregiver satisfaction with the structured nursing pathway exceeded 90%. Conclusion: Airway complications after pediatric flexible bronchoscopy occur in approximately one-third of children managed in the healthcare and medical centers of Yazd Province, although most events are transient and responsive to prompt nursing action. Implementation of a structured nurse-led protocol—particularly standardized pre-procedural nebulization and optimized oxygenation strategies—effectively reduces bronchospasm and oxygen dependency. Younger age, pre-existing respiratory disease, and procedure duration exceeding 7 minutes are key prognostic factors. These findings support routine adoption of risk-stratified, nurse-driven perioperative pathways, including mandatory nebulization for high-risk children, continuous SpO_2 monitoring, and early post-procedural airway scoring. Integration of these experimental nurse-led protocols into daily practice in Yazd's pediatric and respiratory services is recommended, together with ongoing nursing education and larger multicenter experimental validation. Keywords: Airway complications; Hypoxemia; Nurse-led interventions; Pediatric bronchoscopy; Prognostic factors; Yazd Province; Experimental study; Bronchospasm; Pre-procedural nebulization; Perioperative nursing.

Oral Motor Interventions and Their Role in Early Feeding in Preterm Infants: A Systematic Review

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پرستاری

abstract: Aim: This review aims to (1) evaluate the current evidence on OMIs for preterm infants, (2) assess the methodological quality of existing RCTs to identify key gaps, and (3) synthesize findings to provide clearer guidance for speech-language pathologists (SLPs) and NICU teams. Methods: A comprehensive search was conducted to identify RCTs (randomized and non-randomized) in SID, PubMed, Web of Science and Scopus. Other studies were identified by looking through all the articles that cite the papers included in the review ("snowballing"), reference list checking, searching dissertation and thesis databases and searching trial or study registers. for studies published from July 2000 to July 2025. We registered with PROSPERO in 2025. (PROSPERO: CRD420251104637). The study selection process was documented and is presented in a PRISMA flow diagram. Their risk of bias was then assessed using the Cochrane ROB-2 Risk of Bias tool in the domains of selection bias (random sequence generation and allocation concealment), performance bias (blinding of participants and personnel), detection bias (blinding of outcome assessment), attrition bias (incomplete outcome data), reporting bias (selective reporting) and ultimately, they were categorized into one of three grades: high risk, unclear risk, or low risk Results: A total of 48 records were identified through database searching and 17 records were identified through snowballing searching, totaling 65 records. Screening 62 records after removing duplicates (3 records), then, 62 records were screened based on their title and abstract. Of these, 25 records were excluded for not meeting the inclusion criteria, due to wrong study type, and 37 full-text articles were assessed for eligibility. After evaluating the full text, one article was excluded. 36 articles were identified as high, low and unclear risk of bias by Cochrane ROB tool. All of these studies provided evidence on OMIs for preterm infants (Question 1), and thirty-six of these studies assessed the quality of RCTs to identify gaps) Question 2), Therefore, clearer guidance for speech-language pathologists (SLPs) and NICU teams was formulated based on the review's findings) Question 3). Conclusions: Despite the promising results from studies within these domains, the current body of evidence does not yet converge to form a clear, unified clinical guideline. Significant Heterogeneity in protocols, outcome measures, and population characteristics persists. Keywords: premature; oral feeding; oral motor intervention; speech therapy; RCT; NICU.

Passive Mobile Animation Versus Virtual Reality for Venipuncture Pain in School-Aged Children

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پرستاری

abstract: انیمیشن تلفن همراه در مقابل واقعیت مجازی فراگیر برای کاهش درد رگ‌گیری در کودکان مدرسه‌ای: یک کارآزمایی در کاهش درد مرتبط با (VR) تصادفی کنترل‌شده هدف مقایسه اثربخشی انیمیشن غیرفعال تلفن همراه و واقعیت مجازی فراگیر طراحی و روش‌ها یک کارآزمایی تصادفی کنترل‌شده با سه گروه موازی با ۱۳۵ کودک ٦ تا ۱۲ .رگ‌گیری در کودکان مدرسه‌ای ساله که تحت رگ‌گیری محیطی قرار گرفتند، انجام شد. شرکت‌کنندگان به طور تصادفی به انیمیشن غیرفعال تلفن همراه (٤٥ نفر)، واقعیت مجازی فراگیر (٤٥ نفر) یا مراقبت معمول (٤٥ نفر) اختصاص داده شدند. مداخلات حواس‌پرتی ۲ دقیقه قبل از رگ‌گیری اندازه‌گیری (VAS) آغاز شد و در طول عمل ادامه یافت. شدت درد بلافاصله پس از رگ‌گیری با استفاده از مقیاس آنالوگ بصری برای مقایسه نمرات درد پس از عمل پس از تعدیل برای تفاوت‌های پایه انجام (ANCOVA) شد. تجزیه و تحلیل کوواریانس هم انیمیشن غیرفعال تلفن همراه و هم .(P 0.001) نتایج شدت درد در بین سه گروه به طور قابل توجهی متفاوت بود .شد هیچ تفاوت آماری .(P 0.001) واقعیت مجازی فراگیر، درد را در مقایسه با مراقبت‌های معمول به طور قابل توجهی کاهش دادند نتیجه‌گیری انیمیشن غیرفعال تلفن همراه و واقعیت مجازی فراگیر به طور .(P 0.05) معنی‌داری بین دو گروه مداخله مشاهده نشد یکسان در کاهش درد مرتبط با رگ‌گیری در کودکان در سن مدرسه مؤثر بودند. این یافته‌ها نشان می‌دهد که تعامل شناختی به جای مفاهیم .سطح غوطه‌وری در فناوری، ممکن است مکانیسم اصلی زمینه‌ساز حواس‌پرتی دیجیتال در طول مراحل کوتاه کودکان باشد عملی از آنجا که انیمیشن غیرفعال تلفن همراه در حالی که به منابع فناوری کمتری نیاز دارد، کاهش درد قابل مقایسه‌ای با واقعیت مجازی ایجاد کرد، یک مداخله عملی، در دسترس و مقرون به صرفه را نشان می‌دهد که پرستاران کودکان می‌توانند به راحتی آن را کلمات کلیدی کودک؛ رگ‌گیری؛ مدیریت درد؛ واقعیت مجازی؛ حواس‌پرتی؛ پرستاری .در مراقبت‌های معمول رگ‌گیری ادغام کنند کودکان کد اخلاق: IR.LUMS.REC.1404.192

Pediatric Disaster Nursing in War and Humanitarian Emergencies: A Systematic Review of Preparedness, Triage, and Crisis Response Models

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پرستاری

abstract: Background: Children are among the most vulnerable populations during disasters, armed conflicts, and humanitarian emergencies because of their unique physiological characteristics, developmental needs, psychological vulnerability, and dependence on caregivers. Events such as earthquakes, floods, pandemics, armed conflicts, and mass casualty incidents place substantial pressure on pediatric healthcare systems by increasing trauma burden, disrupting essential services, limiting resources, and creating shortages of trained healthcare personnel. Pediatric nurses are frontline responders who play essential roles in disaster preparedness, rapid assessment, pediatric triage, trauma management, psychological support, family-centered care, and coordination of emergency services. Advances in simulation-based education, digital health, and decision-support technologies have created opportunities to strengthen pediatric disaster preparedness. However, evidence regarding advanced pediatric disaster nursing models, particularly in conflict-affected and resource-limited settings, remains fragmented. Objective: To synthesize current evidence on pediatric disaster nursing during war, disasters, and humanitarian emergencies, with emphasis on preparedness, pediatric triage, crisis response competencies, psychological support, and technology-assisted interventions. Methods: A systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. PubMed, Scopus, Web of Science, CINAHL, and Embase were searched for studies published between January 2005 and December 2025. Search terms included pediatric disaster nursing, disaster preparedness, humanitarian emergency, armed conflict, mass casualty incident, pediatric triage, trauma nursing, emergency response, simulation training, digital health, and artificial intelligence-supported triage. Eligible studies evaluated pediatric disaster preparedness, emergency nursing interventions, pediatric mass casualty response, humanitarian nursing care, or technology-assisted crisis management involving neonatal or pediatric populations. Studies focusing exclusively on adults, non-healthcare responders, or non-clinical disaster reports were excluded. The search identified 1,486 records. After removing 421 duplicates, 1,065 studies underwent title and abstract screening. Fifty-eight full-text articles were assessed, and 18 studies met the inclusion criteria. Methodological quality was evaluated using Joanna Briggs Institute critical appraisal tools. Owing to methodological heterogeneity, findings were synthesized narratively. Results: The review included four systematic reviews, six cross-sectional studies, five qualitative studies, and three simulation-based educational interventions covering earthquakes, armed conflicts, refugee crises, pandemics, and pediatric mass casualty incidents. Six studies assessed pediatric disaster preparedness among nurses and healthcare providers. Most reported deficiencies in pediatric triage, mass casualty management, evacuation procedures, psychological first aid, and resource prioritization before structured education. Simulation-based and competency-focused training consistently improved disaster knowledge,

confidence, teamwork, and emergency decision-making. One randomized educational intervention involving 100 nurses demonstrated significantly improved disaster preparedness following lectures, simulation exercises, problem-solving activities, and group discussions. Five studies examined pediatric mass casualty triage. Evidence indicated that adult-based triage systems do not adequately address children's developmental and physiological differences, communication limitations, and caregiver involvement. Pediatric-specific triage protocols and structured emergency drills improved assessment accuracy, teamwork, communication, and resource allocation. Persistent barriers included limited pediatric-specific guidelines, inadequate training, and insufficient disaster experience. Four studies explored psychological and humanitarian nursing care for children affected by conflict, displacement, and humanitarian crises. Key priorities included trauma-informed nursing, family-centered communication, early recognition of psychological distress, prevention of secondary trauma, and integration of psychosocial support into emergency response plans. Three studies evaluated simulation-based pediatric disaster education. These interventions improved disaster knowledge, clinical confidence, communication, teamwork, and crisis decision-making. Emerging digital decision-support and technology-assisted triage tools showed promise for improving pediatric assessment, although ethical considerations, infrastructure requirements, data quality, and clinical validation remain important challenges. Conclusion: Advanced pediatric disaster nursing is essential for effective healthcare responses during war, disasters, and humanitarian emergencies. Current evidence supports integrating specialized pediatric disaster education, simulation-based training, child-centered triage protocols, trauma-informed psychological care, and carefully implemented digital decision-support technologies into emergency preparedness frameworks. Future research should prioritize multicenter studies, standardized competency frameworks, evaluation of technology-assisted triage systems, and nursing-sensitive outcomes during real-world emergencies. Keywords: Pediatric disaster nursing; Humanitarian emergencies; Pediatric triage; Mass casualty incidents; Disaster preparedness; War and conflict

Polycystic Ovary Syndrome in Adolescents: A Review on Diagnosis and Management

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پرستاری

abstract: Introduction Polycystic ovary syndrome (PCOS) is one of the most common endocrine and metabolic disorders affecting adolescent girls and young women. The condition often emerges during the peripubertal period, but diagnosis in adolescence is challenging because normal pubertal changes may resemble features of PCOS. Delayed or inaccurate diagnosis may lead to psychological distress, inappropriate treatment, or missed opportunities for early metabolic intervention. This review summarizes evidence regarding diagnosis and management of PCOS in adolescents. Methods This review conducted in 2026, synthesized studies retrieved from PubMed, Embase, Scopus, Web of Science, and the Cochrane Library using keywords such as "polycystic ovary syndrome," "PCOS," "adolescent," "hyperandrogenism," "menstrual irregularity," and "management." International guidelines and studies published through 2026 were screened according to predefined inclusion and exclusion criteria. Findings were synthesized narratively because of methodological heterogeneity among studies. Findings Current international evidence indicates that adolescent PCOS should be diagnosed only when both persistent menstrual irregularity and clinical or biochemical hyperandrogenism are present after exclusion of other disorders that mimic PCOS. Menstrual irregularity should be interpreted according to time since menarche, as irregular cycles are common during early puberty. Pelvic ultrasound and anti-Müllerian hormone testing are not recommended for routine diagnosis in adolescents because ovarian morphology and hormone levels show substantial physiologic variability during pubertal maturation. Adolescents who exhibit only one diagnostic feature should be considered "at risk" rather than receiving a definitive diagnosis, and they should undergo periodic clinical follow-up. The studies consistently identified increased metabolic risk in adolescents with PCOS, including insulin resistance, dyslipidemia, and other cardiometabolic abnormalities, supporting routine metabolic assessment as part of comprehensive care. Psychological comorbidities were also frequently reported. Anxiety, depression, body-image concerns, and reduced quality of life were more common among adolescents with PCOS than among their peers, emphasizing the need for mental health screening and supportive counseling. Lifestyle modification remains the cornerstone of management. Evidence supports healthy nutrition, regular physical activity, weight management when appropriate, and reduction of sedentary behaviors. Combined oral contraceptives are recommended for menstrual irregularity and hyperandrogenic symptoms, while metformin may be considered for adolescents with impaired glucose regulation, insulin resistance, or persistent metabolic abnormalities. The available evidence supports individualized treatment plans developed through shared decision-making with adolescents and their families. Conclusion Adolescent PCOS requires age-specific diagnostic criteria distinct from adult standards to reduce both overdiagnosis and underdiagnosis. Current evidence supports diagnosis based on persistent menstrual irregularity and hyperandrogenism. Management should be multidisciplinary and individualized, integrating lifestyle intervention, metabolic monitoring, psychological assessment, and pharmacologic therapy when clinically indicated. Early recognition and structured long-term follow-up may reduce future reproductive, metabolic, and psychosocial complications.
Keywords: Polycystic ovary syndrome; adolescents; hyperandrogenism; menstrual irregularity

Protective Parenting in Humanitarian Crises: A Systematic Review

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پرستاری

abstract: مقدمه: بحران‌های انسانی، از جمله جنگ، آوارگی اجباری، مهاجرت ناشی از تعارض و بلایای طبیعی، با ایجاد استرس‌های مزمن، فروپاشی شبکه‌های حمایتی و اختلال در عملکرد خانواده، سلامت روان کودکان را به‌طور جدی تهدید می‌کنند. در چنین شرایطی، فرزندپروری محافظتی به‌عنوان یکی از مهم‌ترین عوامل حفاظتی شناخته می‌شود که می‌تواند از طریق حفظ امنیت هیجانی، تقویت دلبستگی ایمن و ارتقای ظرفیت مقابله‌ای خانواده، اثرات زیان‌بار بحران را تعدیل کند. اگرچه طی سال‌های اخیر شواهد قابل‌توجهی درباره نقش فرزندپروری محافظتی در کاهش پیامدهای روان‌شناختی بحران‌های انسانی منتشر شده است، این شواهد همچنان ناهمگون بوده و سنتز جامعی از مؤلفه‌های کلیدی، سازوکارهای اثرگذاری، عوامل تسهیل‌کننده و بازدارنده و پیامدهای فردی و خانوادگی آن در دسترس نیست. این مطالعه با هدف مرور نظام‌مند و یکپارچه‌سازی شواهد موجود درباره انجام فرزندپروری محافظتی در بحران‌های انسانی انجام شد. روش‌ها: این مرور نظام‌مند مطابق با دستورالعمل PRISMA 2020 برای شناسایی مطالعات منتشرشده بین ژانویه ۲۰۲۰ تا ژوئن ۲۰۲۶ صورت گرفت. جستجوی نظام‌مند در پایگاه‌های PsycINFO و Embase، Web of Science، Scopus، PubMed شد. مطالعات اولیه کمی، کیفی، آمیخته و مداخله‌ای که به بررسی رفتارها، مؤلفه‌ها یا مداخلات مرتبط با فرزندپروری محافظتی در زمینه جنگ، آوارگی، پناهندگی یا سایر بحران‌های انسانی پرداخته بودند، وارد مطالعه شدند. دو پژوهشگر به‌طور مستقل غربالگری مطالعات، استخراج داده‌ها و ارزیابی کیفیت روش‌شناختی را با استفاده از ابزارهای Mixed Methods Appraisal Tool (MMAT) و Joanna Briggs Institute (JBI) انجام دادند. یافته‌ها از طریق سنتز تماتیک و سنتز روایی در چهار حوزه اصلی شامل مؤلفه‌های فرزندپروری محافظتی، عوامل مؤثر بر ظرفیت والدین، پیامدهای روان‌شناختی کودک و خانواده، و اثربخشی مداخلات خانواده‌محور یکپارچه شدند. یافته‌ها: در مجموع، ۲۰ مطالعه منتشرشده بین سال‌های ۲۰۲۰ تا ۲۰۲۶ وارد سنتز نهایی شدند که شامل ۳ کارآزمایی تصادفی‌سازی‌شده، ۱ مطالعه شبه‌آزمایشی، ۳ مطالعه مقطعی، ۲ مطالعه کوهورت، ٤ مطالعه کیفی، ۳ مطالعه آمیخته و ٤ مطالعه با سایر طرح‌های پژوهشی بودند. بیشترین مطالعات در زمینه پناهندگان و پناه‌جویان (۱۰ مطالعه) و سپس جنگ و درگیری مسلحانه (٦ مطالعه) انجام شده بودند. سنتز شواهد نشان داد که فرزندپروری محافظتی یکی از مهم‌ترین سازوکارهای انطباقی برای کاهش اثرات استرس سمی و حمایت از سلامت روان کودکان در بحران‌های انسانی است. مؤلفه‌های محوری این الگو شامل دسترس‌پذیری هیجانی والدین، گرمی و پاسخ‌دهی والدینی، حفظ روتین‌ها و انسجام خانوادگی، تقویت دلبستگی ایمن و بهره‌گیری از حمایت‌های اجتماعی بود و به‌طور مداوم با کاهش علائم اختلال استرس پس از سانحه، اضطراب، افسردگی و مشکلات رفتاری، بهبود تنظیم هیجانی، افزایش احساس امنیت و ارتقای تاب‌آوری کودکان و خانواده‌ها همراه بودند. در میان مطالعات مداخله‌ای، یک کارآزمایی تصادفی‌شده بر روی ۲٤۰

، با نرخ (Cohen's d=-0.33 ،P0.001) خانواده (۴۸۰ مراقب) کاهش معنی‌دار پریشانی مراقبان را پس از مداخله گزارش کرد ماندگاری ۹۳٪، و نشان داد که بهبود بهزیستی مراقبان، ۳۷٪ از کاهش فرزندپروری خشن را میانجی‌گری می‌کند. همچنین، یک (η^2=0.29) مداخله دیجیتال در والدین آواره، با نرخ حضور ۸۹.۶٪ و ماندگاری ۱۰۰٪، بهبود قابل‌توجهی در سلامت روان نوجوانان و عملکرد خانواده نشان داد. در مقابل، مواجهه طولانی‌مدت با جنگ، جابه‌جایی اجباری، فقر، ناامنی اقتصادی، پریشانی روان‌شناختی والدین و اختلال در دسترسی به خدمات حمایتی، ظرفیت فرزندپروری محافظتی را تضعیف کرده و خطر انتقال بین‌نسلی تروما، دلبستگی ناایمن و الگوهای فرزندپروری ناسازگار را افزایش می‌داد. بااین‌حال، شواهد مربوط به اثربخشی بلندمدت این مداخلات، نتیجه‌گیری: فرزندپروری محافظتی یکی از بنیادی‌ترین .به‌ویژه در بحران‌های مزمن و محیط‌های کم‌منبع، همچنان محدود است عوامل حفاظتی برای حفظ سلامت روان کودکان و تقویت تاب‌آوری خانواده در بحران‌های انسانی است و نقش آن فراتر از یک رفتار والدینی، به‌عنوان یکی از ارکان پاسخ‌های خانواده‌محور و سلامت‌محور در شرایط بحران قابل تبیین است. تقویت ظرفیت والدین از طریق مداخلات مبتنی بر شواهد، رویکردهای تروما-آگاه، حمایت‌های روانی–اجتماعی و سیاست‌های حمایت از خانواده باید به‌عنوان یکی از اولویت‌های اصلی برنامه‌های بشردوستانه، مراقبت‌های پرستاری و خدمات سلامت روان در نظر گرفته شود. همچنین، انجام مطالعات طولی، چندکشوری و مداخلاتی برای ارزیابی پایداری اثرات فرزندپروری محافظتی، شناسایی سازوکارهای میانجی و تدوین مداخلات متناسب با زمینه‌های فرهنگی، برای توسعه شواهد و ارتقای کیفیت مراقبت در بحران‌های انسانی ضروری .کلیدواژه‌ها: فرزندپروری محافظتی؛ بحران‌های انسانی؛ کودک؛ سلامت روان؛ تاب‌آوری؛ دلبستگی ایمن؛ مرور نظام‌مند .است

Successful Management of Non-healing Ischemic Wound in a Child with Severe Congenital Hypoplasia of the Lower Limb Arteries: A Case Report

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پرستاری

abstract: Introduction: Although the congenital hypoplasia of lower extremities' major arteries are exceedingly rare conditions with limited documented cases in literature, it must be considered as a possible cause of arterial insufficiency, retarded leg growth, ulceration, and necrosis. On the other hand, all of reported cases focused only on surgical intervention for limb ischemia and claudication treatment but no study has mentioned occurrence of ischemic wounds and its management. Therefore, in this study, we aim to focus on this aspect through reporting management of non-healing ischemic wound even after reconstructive vascular surgery in a complicated case of congenital hypoplasia of lower limb arteries. Methods and materials: This case is reported in line with the SCARE 2025 criteria. Case presentation: Our patient is a 13-year-old girl with notable muscle atrophy, claudication, and complete lack of movement in left leg along with non-healing infectious ischemic wound covered with dry-adherent eschar and exposed bone on heel and lateral malleolus, severe pain (8 score in VAS), and unpleasant odor for 2 years. Through assessment via color doppler sonography and multi-slice spiral CT-angiography of abdominal aorta and lower limbs' arteries depicts hypoplastic and narrow arteries with reduced monophasic flow pattern from external-iliac artery in left leg. Unfortunately, performing vascular-reconstructive surgery, surgical-debridement, and grafting followed by advanced dressing and NPWT did not result in obvious signs of wound-healing within 2-year period although collateral arteries formation in left popliteal fossa was observed. Thus, this patient was referred to our clinic. After holistic assessment, according to patient agitation and reluctance to operation, autolytic debridement with Chitosan-gel, Sorbact gel-sheet besides gradual added fibrinolysin-cream in every-other-day sessions was considered subsequent to cleansing with iodine-povidone 1%. Wound-bed preparation was conducted meticulously and patiently (18 sessions). Exposed part of calcaneus also was preserved via using wet dressing. Then, activated collagen powder and vitamin A ointment were applied to close the wound but after 3 weeks no appropriate progress was happened and persistent slough with infection formed again. Therefore, mechanical and autolytic debridement were conducted again and then the prepared wound-bed was covered with AMI-Care biological dressing for 7day-period and hyiodine (1.5% hyaluronic acid, iodine and potassium iodine) for 3 times of 2day-period in a row cycle. This cycle of dressing was repeated for 3 times until wound got successfully closed with the minimum scar formation. It is worth-mentioning photo-biomodulation therapy (PBMT) were used as well. Results: Gradual wound-bed preparation for this patient was appropriate (tolerable with no harm) and adding fibrinolysin enhanced this process exceptionally through facilitating detachment of all resistant necrotic tissues. Chitosan

(dressing) and iodine povidone (cleansing) were significantly worthwhile in microbial load reduction besides hyiodine which is helpful for biofilm penetration. Furthermore, hyiodine gel creates ideal moist environment to speed up healing along-side with AMI-Care as a biological material full of growth factors and matrix proteins that works as a scaffold for cell migration. An interesting point is revealing extended collateral network with slightly enhanced perfusion in left leg by repeated CT-angiography after this course management that can be attributed to PBMT. Conclusion: This case underscores the important role of wound specialists in addressing complex condition even if main recognized methods failed. Furthermore, positive effects of fibrinolysin application for detachment of resistant adherent necrotic tissues and using PBMT to enhance peripheral perfusion in non-healing ischemic wounds are illustrated. Besides, using hyiodine and AMI-care dressing alongside with each other can make a great amalgamation for wound healing and infection management in non-healing wounds. So, it is suggested future research uses this technique in a more solid design to assist in developing suitable guidelines for prevention and management of similar cases. Keywords: hypoplasia in limb artery, external iliac artery hypoplasia, ischemic wound, non-healing wound

The Application of Kolcaba's Comfort Theory in Improving Comfort and Promoting Healing of an Abdominal Wound with Negative Pressure Wound Therapy : A Case Report

آذین بدیچی 1 © ℗, مهدی شیرزایی جلالی 2

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پرستاری

abstract: مقدمه: زخم‌های شکمی پیچیده ناشی از تروما علاوه بر تأخیر در ترمیم بافت، می‌توانند موجب کاهش آسودگی بیماران در ابعاد جسمانی، روانی – معنوی، اجتماعی – فرهنگی و محیطی شوند. نظریه آسودگی کالکابا چارچوبی جامع برای شناسایی نیازهای آسودگی و برنامه‌ریزی مراقبت‌های پرستاری فراهم می‌آورد. مطالعه حاضر با هدف تعیین تأثیر وکیوم‌تراپی بر روش کار: در این .آسودگی و ترمیم زخم شکمی در یک بیمار نوجوان مبتلا به تروما بر اساس نظریه آسودگی کالکابا انجام شد مطالعه گزارش موردی سال ۱۴۰۵، مددجو نوجوان ۱۴ ساله در پی تروما، با زخم شکمی وسیع ناشی از جراحی و کشت مثبت ناحیه زخم ، تراکئوستومی و وصل ب ونتیلاتور و سوند ادراری، در بخش مراقبت‌های ویژه بستری بود. بیمار از سطح هوشیاری مناسب برخوردار بوده، توانایی برقراری ارتباط و مشارکت در فرایند مراقبتی را داشت و به همراه خانواده خود نگرانی مداومی نسبت به روند بهبود زخم و سیر بیماری ابراز می‌کرد. بر اساس نظر پزشک، درمان با وکیوم‌تراپی برای بیمار آغاز شد. این پژوهش بر پایه نظریه آسودگی کالکابا انجام شد؛ به‌گونه‌ای که نیازهای آسودگی بیمار در چهار حیطه جسمانی، روانی – معنوی، اجتماعی – فرهنگی و محیطی شناسایی و تشخیص‌های پرستاری مرتبط تعیین گردید. سپس مداخلات پرستاری شامل اجرای وکیوم‌تراپی، مراقبت از زخم، کنترل درد، حمایت روانی، آموزش بیمار و خانواده و اصلاح عوامل محیطی مؤثر بر آسودگی طراحی و اجرا شد. به‌منظور ارزیابی میزان آسودگی بیمار، از ابزار رفتاری ـ آسایشی قبل و بعد از اجرای مراقبت‌های مبتنی بر نظریه آسودگی کالکابا نیازهای آسودگی بیمار بر اساس ساختار شبکه‌ای نظریه کالکابا در چهار حیطه جسمانی، روانی ـ :نتیجه‌گیری .استفاده گردید معنوی، اجتماعی ـ فرهنگی و محیطی شناسایی و مداخلات پرستاری متناسب با فرآیند پرستاری طراحی و اجرا گردید. یافته‌های این گزارش مورد نشان داد که اجرای مراقبت‌های مبتنی بر نظریه آسودگی همراه با وکیوم‌تراپی، در پاسخ به نیازهای آسودگی بیمار، موجب کاهش ناراحتی ناشی از زخم، تسهیل روند ترمیم زخم و ارتقای آسودگی وی شد. همچنین نمره ابزار رفتاری ـ آسایشی بیمار پس از اجرای مداخلات از ۲۴ به ۱۴ کاهش یافت که بیانگر بهبود وضعیت آسودگی بیمار بود. بر این اساس، به‌کارگیری نظریه آسودگی کالکابا می‌تواند به‌عنوان چارچوبی مناسب برای برنامه‌ریزی و ارائه مراقبت‌های پرستاری جامع در بیماران مبتلا به زخم‌های .واژگان کلیدی: تئوری آسودگی کالکابا، وکیوم‌تراپی، زخم باز شکمی، نوجوان، مطالعه مورد .پیچیده مورد استفاده قرار گیرد

The correlation between the risk score and skin injuries in neonatal intensive care unit

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abstract: Background: Preventive activities play an important role in today's healthcare systems. In this regard, the use of skin injury risk assessment tools in the neonatal intensive care unit (NICU) is advocated as an effective technique to decrease skin injury. Objectives: This study aimed to evaluate the relationship between risk score and skin injuries in newborns admitted to the NICU. Material and methods: This descriptive study was conducted on 265 newborns admitted to the NICUs in , Tabriz, Iran. For data collection, we used the Skin Risk Assessment and Management Tool (SRAMT). Data was collected by repeated observations of newborns and was analysed using descriptive statistical methods and Spearman's correlation coefficient. Results: The mean risk score decreased from 19.85 on the first day of hospitalisation to 13.23 on the twenty-eighth day (scoring range from 8 to 32). During the study, 557 skin injury were reported, 84.91% of which occurred in the first week of hospitalisation. There was also a statistically significant correlation between risk score and skin injury (R = 0.37, p 0.00). Conclusions: According to our results, a higher risk score was associated with an increased incidence of skin injuries. Thus, it is recommended that the risk score be developed through utilising risk prediction methods to identify newborns at risk of skin injuries. It is essential to develop skin care programmes and preventative measures in NICUs. Key words: risk factors, skin, wounds and injuries, neonatal intensive care units, newborn infant.

The effect of comprehensive educational program for mothers on preventing diaper dermatitis in newborn infants: A randomized clinical trial

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abstract: Background: Diaper dermatitis is a common type of irritant contact dermatitis in newborn infants, highlighting the need to provide caregivers with comprehensive methods and detailed instructions for its prevention. Objective: This study aimed to evaluate the effectiveness of a comprehensive educational program for mothers to prevent diaper dermatitis in newborn infants. Methods: This study was a parallel randomized clinical trial conducted in a level II NICU at a referral center in northwest Iran. Ninety newborn infants with a birth weight of 2000 g were randomly assigned to intervention and control groups. Mothers in the intervention group received a comprehensive educational program and were instructed to care for their newborn infants' diaper area for at least four days post-admission according to the program. Mothers in the control group received routine diaper care in the NICU. Results: The study intervention was effective in reducing the presence of diaper dermatitis and significant dif- ferences were observed in the severity and extent of diaper dermatitis between the intervention and control groups on day 2 ($p = 0.01$), 3 (p 0.001), and 4 ($p = 0.002$). Conclusions: The findings demonstrate the overall effect of an integrated preventive strategy and underscore the importance of maternal education and active participation in neonatal care. Our results suggest that preventing diaper dermatitis may be better achieved through a structured multi-faceted program rather than focusing on a single preventive element. The protocol for this study was approved by the Ethics Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1399.818) and registered in the Clinical Trials Registry (IRCT20100823004617N16), and written informed consent was obtained from the parents.

The Effect of Training on Standard Chemotherapy Drugs Handling Procedures in Improving the Medication Administration Process in Pediatric Chemotherapy Units of Shahid Motahari Hospital

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abstract: Background: Administration of chemotherapy medications is considered a high-risk nursing procedure, and adherence to standardized guidelines plays a critical role in preventing medication errors and enhancing patient safety. In pediatric oncology, the risk of medication errors is even greater than in adults because chemotherapy dosages are calculated based on body weight or body surface area. Education based on standardized guidelines, with an emphasis on standardizing clinical practice and improving nurses' knowledge and competencies, may enhance the quality of the medication administration process. This study aimed to evaluate the effect of training based on standardized chemotherapy medication administration guidelines on nurses' performance in the pediatric chemotherapy units of Shahid Motahari Hospital. Methods: This quasi-experimental study was conducted among 50 nurses working in the hematology and oncology wards of Shahid Motahari Hospital, Urmia, Iran. Nurses' performance in the chemotherapy medication administration process was assessed using a standardized medication administration checklist approved by the Iranian Ministry of Health. Observations were performed before the educational intervention and one month after the implementation of the training program. The educational intervention consisted of two workshop sessions conducted by the hospital education team. Data were analyzed using SPSS software. Results: The findings demonstrated a substantial improvement in nurses' performance following the educational intervention, with the overall medication administration performance score increasing from 60.8% before training to 92.5% after training. The greatest improvements were observed in adherence to safety principles, patient identification, accurate medication preparation, dose verification, and compliance with the recommended infusion rate. Conclusion: Training based on standardized chemotherapy medication administration guidelines is an effective strategy for improving nurses' performance in the medication administration process. Incorporating this educational approach into continuing education and professional development programs for oncology nurses is recommended, as it has the potential to reduce medication errors and improve patient safety. Keywords: Chemotherapy Drugs, Medication Administration Process,Standardized Guideline-Based Education.

The Effect of Watson's Theory of Human Caring–Based Interventions on Parental Self-Efficacy and Participation in the Care of Children with Type 1 Diabetes: A Narrative Review

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پرستاری

abstract: مقدمه دیابت ملیتوس نوع یک یکی از مهم‌ترین بیماری‌های مزمن دوران کودکی است که علاوه بر نیاز مادام‌العمر به انسولین، تمامی ابعاد جسمی، روان‌شناختی، اجتماعی و اقتصادی زندگی کودک و خانواده را تحت تأثیر قرار می‌دهد. مدیریت موفق این بیماری وابستگی زیادی به مشارکت فعال والدین در پایش قند خون، تنظیم انسولین، رعایت رژیم غذایی، پیشگیری از عوارض و حمایت روانی از کودک دارد. مطالعات نشان داده‌اند کاهش خودکارآمدی والدین با افت مشارکت مراقبتی، کنترل نامطلوب قند خون، افزایش اضطراب و کاهش کیفیت زندگی خانواده همراه است. در مقابل، رویکردهای خانواده‌محور و نظریه‌های انسان‌مدار پرستاری می‌توانند نقش مهمی در توانمندسازی والدین ایفا کنند. نظریه مراقبت انسانی واتسون با تأکید بر رابطه درمانی مبتنی بر همدلی، احترام، حضور آگاهانه و فرآیندهای کاریتاس، ظرفیت مناسبی برای طراحی مداخلات پرستاری خانواده‌محور در کودکان هدف مرور و تحلیل شواهد موجود درباره تأثیر مداخلات مبتنی بر نظریه مراقبت انسانی واتسون و .مبتلا به دیابت نوع یک دارد روش بررسی این پژوهش .سایر مداخلات خانواده‌محور بر خودکارآمدی و مشارکت والدین کودکان مبتلا به دیابت نوع یک ، Embase ، Web of Science ، Scopus ، PubMed به‌صورت مرور روایتی انجام شد. جستجوی منابع در پایگاه‌های ، Type 1 Diabetes با استفاده از کلیدواژه‌های Magiran و SID ، Cochrane Library ، PsycINFO ، CINAHL و Watson Caring Theory ، Family-centered Care ، Parental Participation ، Self-efficacy ، Parents و معادل‌های فارسی آن‌ها در بازه زمانی ژانویه ۲۰۲۰ تا ژوئن ۲۰۲۶ انجام گرفت. معیارهای ورود شامل Human Caring مطالعات فارسی و انگلیسی مرتبط با کودکان مبتلا به دیابت نوع ۱ و والدین آنان بود که حداقل یکی از متغیرهای خودکارآمدی والدین، مشارکت والدین، مراقبت خانواده‌محور، توانمندسازی خانواده یا مداخلات مبتنی بر نظریه مراقبت انسانی واتسون را بررسی ، مطالعات نیمه‌تجربی و مطالعات مشاهده‌ای وارد (RCT) کرده بودند. مرورهای نظام‌مند، متاآنالیزها، کارآزمایی‌های بالینی تصادفی مرور شدند. مطالعات مربوط به دیابت نوع ۲، مقالات فاقد متن کامل، گزارش‌های موردی، نامه به سردبیر، چکیده همایش‌ها، مطالعات تکراری و پژوهش‌های نامرتبط از مطالعه حذف شدند. پس از غربالگری عنوان، چکیده و متن کامل، ۳۰ مطالعه واجد و ٦ مطالعه مداخله‌ای یا مشاهده‌ای وارد تحلیل (RCT) شرایط شامل ۱۲ مرور نظام‌مند، ٤ متاآنالیز، ۸ کارآزمایی بالینی تصادفی نهایی شدند. استخراج و سنتز داده‌ها به‌صورت توصیفی و روایتی و با تمرکز بر خودکارآمدی، مشارکت والدین، مراقبت خانواده‌محور

و مداخلات مبتنی بر نظریه مراقبت انسانی واتسون انجام شد یافته‌ها تحلیل مطالعات نشان داد که خودکارآمدی والدین یکی از مهم‌ترین پیش‌بینی‌کننده‌های موفقیت مدیریت دیابت نوع یک در کودکان است. مداخلات خانواده‌محور موجب افزایش اعتمادبه‌نفس والدین در مدیریت بیماری، بهبود مهارت‌های خودمراقبتی، افزایش مشارکت در تصمیم‌گیری درمانی، ارتقای تبعیت از درمان و بهبود کیفیت زندگی خانواده شدند. مرورهای نظام‌مند و متاآنالیزهای اخیر نیز نشان دادند که مداخلات آموزشی، روان‌شناختی و توانمندسازی والدین با کاهش استرس، اضطراب، بار مراقبتی و بهبود کنترل متابولیک کودکان همراه هستند. همچنین مطالعات مبتنی بر نظریه مراقبت انسانی واتسون در حوزه‌های مختلف پرستاری نشان داده‌اند که استفاده از فرآیندهای کاریتاس، ارتباط درمانی اصیل، حضور آگاهانه و مراقبت انسان‌مدار می‌تواند موجب افزایش خودکارآمدی، رضایت از مراقبت، تبعیت درمانی و مشارکت فعال بیماران و خانواده‌ها شود. با وجود این، بررسی منابع نشان داد که مطالعاتی که به‌طور اختصاصی اثر مداخلات مبتنی بر نظریه .واتسون را بر خودکارآمدی و مشارکت والدین کودکان مبتلا به دیابت نوع یک بررسی کرده باشند، همچنان محدود هستند نتیجه‌گیری شواهد موجود بیانگر آن است که ارتقای خودکارآمدی و مشارکت والدین، یکی از مؤثرترین راهبردهای بهبود پیامدهای بالینی و روان‌شناختی کودکان مبتلا به دیابت نوع یک است. به‌کارگیری نظریه مراقبت انسانی واتسون در طراحی مداخلات پرستاری خانواده‌محور می‌تواند با تقویت ارتباط درمانی، افزایش توانمندی والدین و ارتقای مشارکت آنان در مراقبت، کیفیت مراقبت و پیامدهای سلامت کودک را بهبود بخشد. انجام کارآزمایی‌های بالینی مبتنی بر این نظریه در جمعیت والدین کودکان مبتلا به دیابت .نوع یک، به‌ویژه در بافت فرهنگی ایران، برای تولید شواهد بومی و توسعه مراقبت‌های خانواده‌محور ضروری به نظر می‌رسد
کلیدواژه‌ها: دیابت نوع یک، خودکارآمدی والدین، مشارکت والدین، نظریه مراقبت انسانی واتسون، مراقبت خانواده‌محور، پرستاری .کودکان

The effectiveness of interactive digital education based on a virtual hospital tour in reducing anxiety in mothers of children before angiography

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پرستاری

abstract: مقدمه: مادران کودکان مبتلا به بیماری‌های مادرزادی قلب که برای انجام آنژیوگرافی بستری می‌شوند، معمولاً سطوح بالایی از اضطراب را تجربه می‌کنند. بخش عمده این اضطراب ناشی از ابهام درباره محیط بیمارستان، تجهیزات تخصصی، روند انجام آنژیوگرافی و نگرانی از پیامدهای احتمالی آن است. اضطراب والدین علاوه بر تأثیر منفی بر سلامت روان آنان، می‌تواند موجب افزایش اضطراب کودک، کاهش همکاری در انجام اقدامات درمانی و افت کیفیت مراقبت خانواده‌محور شود. در سال‌های اخیر، فناوری‌های آموزش دیجیتال و تورهای مجازی بیمارستانی به عنوان راهکارهایی نوین برای آماده‌سازی بیماران و خانواده‌ها مطرح شده‌اند. این فناوری‌ها با ایجاد تجربه‌ای نزدیک به حضور واقعی در محیط درمان، می‌توانند آشنایی، احساس کنترل و اطمینان والدین را افزایش داده و از اضطراب پیش از اقدامات تهاجمی هدف: تعیین اثربخشی یک برنامه آماده‌سازی خانواده‌محور مبتنی بر تور مجازی تعاملی در کاهش اضطراب حالت و صفت مادران .بکاهند روش :مداخله شامل یک برنامه آموزش دیجیتال تعاملی ۱۵ دقیقه‌ای بود که با استفاده از تصاویر ۳۶۰ درجه، .کودکان کاندید آنژیوگرافی ویدئوهای آموزشی، معرفی اعضای تیم درمان، شبیه‌سازی مراحل انجام آنژیوگرافی، آموزش مراقبت‌های قبل و بعد از عمل، پاسخ به پرسش‌های امکان دسترسی مجدد به محتوا QR متداول و فایل آرام‌سازی طراحی شد. شرکت‌کنندگان علاوه بر مشاهده برنامه در بیمارستان، از طریق کد نتایج: در ابتدای مطالعه، میانگین نمرات اضطراب کلی، اضطراب حالت و اضطراب صفت بین دو گروه .را تا زمان انجام آنژیوگرافی داشتند ، که نشان‌دهنده همگنی دو گروه در آغاز پژوهش بود. پس از اجرای برنامه آماده‌سازی (05/0P) مداخله و کنترل تفاوت آماری معناداری نداشت با این حال، میانگین نمرات .(26/0=P) دیجیتال مبتنی بر تور مجازی، میانگین نمره اضطراب حالت بین دو گروه تفاوت معناداری نشان نداد در گروه مداخله به‌طور معناداری کمتر از گروه کنترل بود. همچنین، مقایسه درون‌گروهی نشان (03/0=P) و کلی (01/0=P)اضطراب صفت پس از (0001/0=P)و صفت (0001/0=P) ، حالت(004/0=P) داد که در گروه مداخله، میانگین نمرات اضطراب کلی اضطراب کلی مداخله نسبت به قبل از آن به‌طور معناداری کاهش یافت، در حالی که در گروه کنترل تغییر معناداری در نمرات اضطراب کلی، اضطراب حالت نتیجه‌گیری:یافته‌های این پژوهش نشان داد که استفاده از برنامه آماده‌سازی .(05/0P) و اضطراب صفت بین دو مرحله اندازه‌گیری مشاهده نشد دیجیتال مبتنی بر تور مجازی تعاملی می‌تواند به طور مؤثری اضطراب مادران کودکان کاندید آنژیوگرافی را کاهش دهد. بهره‌گیری از فناوری‌های نوین آموزشی در چارچوب مراقبت خانواده‌محور، ضمن افزایش آمادگی روانی والدین، می‌تواند تجربه بستری و انجام اقدامات تهاجمی را .بهبود بخشد و به عنوان بخشی از برنامه‌های استاندارد آماده‌سازی پیش از آنژیوگرافی در مراکز قلب کودکان مورد استفاده قرار گیرد

The Effects of Kangaroo Mother Care on Health Outcomes in Preterm Infants: a systematic review

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abstract: Background: Preterm birth is one of the leading causes of neonatal morbidity and mortality worldwide. Kangaroo Mother Care (KMC), is the term used for care of preterm and low-birth-weight newborns in prolonged skin-to-skin contact initiated as soon as possible after birth, with exclusive breast milk feeding, is a low-cost, evidence-based intervention recommended for preterm and low-birth-weight infants. Numerous randomized and quasi-randomized clinical trials have evaluated the effects of KMC on physiological, nutritional, neurodevelopmental, and psychosocial outcomes. However, evidence regarding some clinical outcomes remains inconsistent. Therefore, this review aimed to summarize the current evidence on the effectiveness of KMC in improving health outcomes among preterm infants. Methods: This review examined interventional studies published in English between 2021 and 2026. A literature search was conducted in PubMed, Web of Science, SID, Google Scholar and Proquest using relevant keywords. Of the 50 studies initially identified, 38 met the eligibility criteria and were included in the final review. Results: The results of our study indicate that KMC improves cardiorespiratory stability, cerebral oxygenation, physiological stability, thermoregulation and reduces the risk of hypothermia, particularly during post-discharge transport. KMC was also consistently associated with reduced procedural pain and improved parental mental health, including lower levels of stress, anxiety and depressive symptoms as well as enhanced parent-infant bonding. Evidence regarding feeding and growth was mixed. While several studies reported improvements in weight gain, breastfeeding self-efficacy, and growth parameters, others showed no significant effects on breast milk intake or feeding intolerance. Similarly, findings on neurodevelopment were inconsistent. Some studies demonstrated protective effects on brain structure and neurodevelopment, whereas others found no significant differences in long-term cognitive outcomes despite improved breastfeeding. Large multicenter trials and recent meta-analyses further support the safety and clinical benefits of KMC while highlighting the need for additional high-quality evidence for selected long-term outcomes. Conclusion: Kangaroo Mother Care is a safe and cost-effective intervention that provides substantial benefits for physiological stability, thermoregulation, pain management, and parental well-being in preterm infants. Although evidence for feeding outcomes and long-term neurodevelopment remains inconclusive, current findings support integrating KMC into routine neonatal care for preterm and low-birth-weight infants. Further multicenter studies with long-term follow-up are warranted to clarify its sustained developmental benefits. Keywords: Kangaroo-Mother Care Method ; kangaroo care ; Infant; Premature; preterm; clinical outcomes ; physiological stability; breastfeeding; neurodevelopment

The Impact of Family-Centered Care Interventions on Patient Outcomes in the Pediatric Intensive Care Unit: A Systematic Review

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پرستاری

abstract: Introduction: Hospitalization of children in pediatric intensive care units has a significant effect on their families, including increased stress, anxiety, and depression. Because parents are the primary caregivers and advocates for their children, there has been increasing recognition that high-quality pediatric critical care should actively involve families in the planning, delivery, and evaluation of care. In the PICU, family-centered care interventions include family-centered rounds, unrestricted family presence, parent participation in bedside care, shared decision-making, structured communication strategies, family education, and psychological support. These interventions are designed to strengthen partnerships between clinicians and families while improving the quality and safety of care. This systematic review aimed to synthesize the current evidence regarding the impact of family-centered care interventions on patient outcomes in the Pediatric Intensive Care Unit. Materials and methods: A systematic review was conducted in accordance with PRISMA guidelines. Comprehensive searches were performed in PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2020 and 2026. The search targeted articles employing the keywords “family-centered care”, “patient outcomes”, “Pediatric Intensive Care Unit”, “PICU”, “Pediatric”, “Children”. Studies were included if they: (1) involved children (1 months-18 years) admitted to Pediatric Intensive Care Unit, (2) evaluated one or more family-centered care interventions, and (3) reported patient-related or family-related outcomes. Exclusion criteria included case reports, conference abstracts, non-English publications, letters, studies involving adult populations, studies conducted in Neonatal Intensive Care Unit and those without relevant outcome measures. A total of 126 records were retrieved. After removing duplicates and screening titles and abstracts, 38 articles remained for full-text review. Finally, 9 studies met eligibility criteria and were included in the analysis. Results: The literature search identified studies examining the impact of family-centered care interventions in pediatric intensive care units (PICU). The included studies evaluated interventions such as family-centered rounds, parent participation in bedside care, structured communication, shared decision-making, family education, and PICU diaries. Overall, the evidence demonstrated that family-centered care interventions were associated with improved parental satisfaction, enhanced communication between healthcare professionals and families, increased family engagement in care, and reduced parental anxiety and stress. Evidence regarding patient-centered clinical outcomes, including length of stay and mortality, was less consistent. Overall, the findings support the implementation of family-centered care in PICU to improve family experiences while highlighting the need for further high-quality research to establish its effect on clinical patient outcomes. Conclusion: The findings suggest that family-centered care interventions play an important role in improving the quality of care in pediatric intensive care units. The available evidence consistently demonstrates

positive effects on family-related outcomes, including parental satisfaction, communication, participation in care, and psychological well-being. Although some studies reported improvements in patient outcomes such as reduced length of stay and enhanced quality of care, the overall evidence remains inconclusive because of heterogeneity in study designs and interventions. Further high-quality, multicenter studies are needed to determine the effectiveness of specific family-centered care interventions on clinical outcomes. Nevertheless, integrating family-centered care into routine PICU practice is recommended to promote collaborative, patient and family-centered healthcare. Keywords: Family center care intervention; Patient outcome; Pediatric Intensive Care Unit.

The Relationship between Iron Deficiency Anemia and Febrile Seizures in Children: A Systematic Review

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پرستاری

abstract: مقدمه: : تشنج ناشی از تب شایع‌ترین اختلال نورولوژیک در کودکان است که عوامل متعددی از جمله اختلالات تغذیه‌ای در بروز آن نقش دارند. کمخونی فقر آهن یکی از شایع‌ترین کمبودهای ریزمغذی در جهان است. از آنجا که میانگین سن بروز کمخونی فقر آهن و تشنج ناشی از تب در کودکان تقریبا یکسان است؛ لذا این مرور نظام‌مند با هدف بررسی ارتباط احتمالی ، "آنمی فقر آهن"مواد و روش‌ها: در این مرور نظام‌مند، جستجوی گسترده با کلیدواژه‌های مرتبط با .این دو عامل صورت گرفت ، موتور Web of Science, PubMed/Medline Scopus, ، در پایگاه‌های بین‌المللی"کودکان"، "تشنج ناشی از تب" صورت گرفت. در جستجوی اولیه ۵۲ مطالعه Irandoc , SID , Magiran و پایگاه‌های ملی Google_Scholar جستجوگر به‌دست آمد. معیارهای ورود، انتشار به زبان انگلیسی و فارسی در محدوده‌ی زمانی پنج سال اخیر بود. مطالعات مروری و نامه به سردبیر خارج شد. غربالگری توسط دو پژوهشگر مستقل طبق عنوان و چکیده و سپس متن کامل انجام شد. کیفیت مطالعات وارد ارزیابی شد. اختلاف نظرها با نظر ارزیاب سوم رفع گردید. نهایتا ۱۲مطالعه تجزیه‌وتحلیل شد. ملاحظات JBI شده با استفاده از ابزار .گزارش شد PRISMA اخلاقی عدم سوگیری در مراحل انتخاب، استخراج و تحلیل و طبقه‌بندی شواهد رعایت و چکیده طبق نتایج: اکثر مطالعات بر کودکان سنین شش ماهه تا پنج ساله متمرکز بودند. نتایج مطالعات در این زمینه متناقض بود. اغلب مطالعات نشان دادند کودکان دچار آنمی فقر آهن در مقایسه با کودکان بدون این نوع آنمی، به طور معناداری در معرض خطر بیشتری برای میانگین شاخص‌های هماتولوژیک شامل هموگلوبین، هماتوکریت، حجم متوسط .(P0.005) ابتلا به تشنج ناشی از تب قرار دارند ، فریتین سرم و (MCHC) ، غلظت متوسط هموگلوبین گلبولی(MCH) ، میانگین هموگلوبین گلبولی(MCV) گلبول قرمز ، درحالی‌که ظرفیت تام اتصال (P0.05)درصد اشباع ترانسفرین، در کودکان مبتلا به تشنج ناشی از تب به طور معناداری کمتر بود در این کودکان در مقایسه با گروه شاهد به طور معناداری بالاتر گزارش (RDW) و عرض توزیع گلبول‌های قرمز (TIBC) آهن همچنین بروز تشنج ناشی از تب در کودکانی که با شیر خشک تغذیه شده بودند، بیشتر بود. با این حال نتایج سه .(P0.05) شد .(P0.05) مطالعه حاکی از آن بود که ارتباط آماری معناداری بین آنمی فقر آهن و تشنج ناشی از تب در کودکان وجود ندارد نتیجه‌گیری: آنمی فقر آهن ممکن است با افزایش خطر بروز تشنج ناشی از تب در کودکان همراه باشد. با این حال به دلیل نتایج متناقض برخی مطالعات، انجام پژوهش‌های چند مرکزی با کیفیت بالاتر و طراحی قوی‌تر جهت دستیابی به شواهد قطعی‌تر توصیه کلمات کلیدی: آنمی فقر آهن، تشنج ناشی از تب، کودکان .می‌شود

The Role of Artificial Intelligence in Prevention and Management of Pediatric Wounds: A Review of Novel Approaches and European Experiences

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پرستاری

abstract: زخم‌های کودکان، به‌ویژه زخم‌های ناشی از جراحی، سوختگی، تروما و زخم‌های فشاری، از چالش‌های مهم نظام سلامت به شمار می‌روند. تشخیص زودهنگام، ارزیابی دقیق و انتخاب مداخلات مناسب می‌تواند نقش مؤثری در تسریع ترمیم زخم و کاهش عوارض داشته باشد. در سال‌های اخیر، پیشرفت فناوری‌های هوش مصنوعی فرصت‌های جدیدی را برای ارتقای کیفیت مراقبت از زخم در کودکان فراهم کرده است .کودکان، پرستاری کودکان، آسیب فشاری ناشی از تجهیزات پزشکی، MDRPI ، سلامت پوست، مدیریت زخم، زخم فشاری، مراقبت مبتنی بر شواهد، ایمنی بیمار، پیشگیری از زخم این مطالعه به روش مروری طی سال‌های ۲۰۲۰ تا ۲۰۲۵ مورد بررسی (EWMA) انجام شد. مقالات منتشرشده و گزارش‌های انجمن اروپایی مدیریت زخم قرار گرفتند. کلیدواژه‌های مرتبط با هوش مصنوعی، مدیریت زخم، کودکان، سلامت دیجیتال و تله‌مدیسین در جستجو استفاده شد یافته‌ها نشان .و مقالات مرتبط با کاربرد هوش مصنوعی در پیشگیری، ارزیابی و درمان زخم‌های کودکان انتخاب و تحلیل شدند دادند که هوش مصنوعی در چند حوزه اصلی کاربرد دارد: ارزیابی خودکار اندازه و عمق زخم، تشخیص زودهنگام عفونت، پیش‌بینی خطر ایجاد زخم فشاری، پایش روند ترمیم و ارائه پیشنهادهای درمانی مبتنی بر شواهد. همچنین استفاده از سامانه‌های هوشمند مبتنی بر تلفن همراه و تله‌مدیسین موجب افزایش دسترسی به مراقبت تخصصی، کاهش مراجعات غیرضروری و بهبود کیفیت مراقبت در کودکان شده است. نتایج مطالعات اروپایی حاکی از افزایش دقت تشخیص، کاهش هزینه‌های درمان و ارتقای پیامدهای بالینی در بیماران مبتلا به زخم است.

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هوش مصنوعی، مدیریت زخم، کودکان، پیشگیری از زخم، سلامت دیجیتال، تله‌مدیسین، مراقبت زخم

The Role of Nursing Care in Advanced Respiratory Management for Pediatric Patients in the Pediatric Intensive Care Unit: A Systematic Review

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پرستاری

abstract: Introduction: Respiratory disorders are among the leading causes of morbidity and mortality in children worldwide and account for a substantial proportion of admissions to Pediatric Intensive Care Units. Critically ill pediatric patients with conditions such as acute respiratory distress syndrome (ARDS), severe pneumonia, bronchiolitis, asthma exacerbations, sepsis, and neuromuscular disorders frequently require advanced respiratory support, including high-flow nasal cannula, continuous positive airway pressure (CPAP), bilevel positive airway pressure (BiPAP) and invasive mechanical ventilation. Advances in respiratory support technologies have significantly improved survival rates; however, the complexity of these interventions requires comprehensive, evidence-based nursing care to optimize patient outcomes. This systematic review aimed to synthesize the current evidence regarding the role of nursing care in advanced respiratory management for pediatric patients. Materials and methods: A systematic review was conducted in accordance with PRISMA guidelines. Comprehensive searches were performed in PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2020 and 2026. The literature search was conducted using the following keywords “nursing care”, “nursing intervention”, “respiratory care”, “respiratory therapy”, “mechanical ventilation”, “advanced respiratory support”, “airway management”, “Pediatric”, “Children”, “Pediatric Intensive Care Unit” and “PICU”. Studies were included if they: (1) involved children (1 months-18 years) admitted to Pediatric Intensive Care Unit, (2) evaluated nursing care or nursing interventions during advanced respiratory management, and (3) Studies involving advanced respiratory support, including invasive mechanical ventilation, non-invasive ventilation, CPAP, BiPAP, and airway management. Exclusion criteria included case reports, conference abstracts, letters, expert opinions, studies involving adult populations, neonatal-only studies and those without nursing-related outcomes. A total of 466 records were retrieved. After removing duplicates and screening titles and abstracts, 56 articles remained for full-text review. Finally, 9 studies met eligibility criteria and were included in the analysis. Results: Across the included studies, nursing care was consistently identified as a critical component of advanced respiratory management in the PICU. Pediatric critical care nurses play a central role in the management of children receiving advanced respiratory support. Their responsibilities extend beyond the operation of respiratory devices and include continuous assessment of respiratory status, monitoring oxygenation and ventilation, maintaining airway patency, performing endotracheal suctioning, preventing ventilator-associated complications, managing sedation and analgesia, supporting ventilator weaning, and collaborating with multidisciplinary teams. Timely nursing interventions are essential for early recognition of respiratory deterioration, minimizing complications, reducing the duration of mechanical ventilation, and improving recovery. Although most studies evaluated respiratory management

within multidisciplinary care, the evidence highlighted that specialized pediatric critical care nursing plays a pivotal role in improving respiratory outcomes and the quality of care for critically ill children requiring advanced respiratory support. Conclusion: The review emphasizes that evidence-based nursing practices, standardized care protocols, and multidisciplinary collaboration are critical for delivering high-quality respiratory care in the PICU. Despite the growing body of evidence, research specifically evaluating nursing-led interventions in advanced pediatric respiratory management remains limited. Many studies focus primarily on medical or technological aspects of respiratory support rather than examining the direct impact of nursing care on patient outcomes. Therefore, further high-quality multicenter randomized controlled trials and prospective studies are needed to strengthen the evidence base, evaluate the effectiveness of specific nursing interventions, and support the development of standardized, evidence-based nursing guidelines for pediatric respiratory management. Keywords: Nursing care; pediatric patient; Pediatric Intensive Care Unit; Advanced respiratory management.

The Role of Nursing Interventions in the Prevention and Early Detection of Cerebrospinal Fluid Shunt Infections in Infants with Hydrocephalus: A Systematic Review

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پرستاری

abstract: Background: Hydrocephalus in infancy is commonly managed with cerebrospinal fluid (CSF) shunt placement, which remains one of the most effective surgical treatments for controlling intracranial pressure and preventing neurological deterioration. However, shunt-related infection is among the most serious postoperative complications, often leading to prolonged hospitalization, repeated surgical procedures, shunt malfunction, increased healthcare costs, and adverse neurodevelopmental outcomes. Infants are especially vulnerable because clinical manifestations of infection are often subtle and nonspecific, making early recognition difficult. In this context, nursing interventions play a central role in both prevention and timely detection. Through postoperative surveillance, caregiver education, wound care, infection-control practices, discharge planning, and structured follow-up, nurses may significantly reduce the burden of shunt-related infections. This systematic review aimed to synthesize the available evidence on the role of nursing interventions in the prevention and early detection of CSF shunt infections in infants with hydrocephalus. Methods: This systematic review was conducted in accordance with PRISMA 2020 guidelines. A comprehensive search strategy was developed using combinations of controlled vocabulary and free-text keywords related to “hydrocephalus,” “CSF shunt infection,” “ventriculoperitoneal shunt,” “nursing interventions,” “infection prevention,” “early detection,” and “infant.” Major electronic databases, including PubMed/MEDLINE, Scopus, Web of Science, CINAHL, Embase, and the Cochrane Library, were searched for studies published between January 2015 and June 2026. Eligible studies included randomized controlled trials, quasi-experimental studies, cohort studies, quality improvement reports, and other quantitative investigations evaluating any nursing intervention aimed at preventing or detecting CSF shunt infections in infants with hydrocephalus. Interventions of interest included standardized postoperative nursing assessment, wound care protocols, caregiver training, discharge education, telehealth follow-up, home monitoring, and nurse-led symptom surveillance. The primary outcomes were shunt infection incidence, time to detection, and infection-related readmission or revision surgery. Secondary outcomes included caregiver knowledge, adherence to infection-prevention practices, symptom recognition, and parental confidence. Study selection, data extraction, and methodological appraisal were performed independently by two reviewers using standardized procedures. Owing to expected heterogeneity in intervention type, timing, and outcome measurement, a narrative synthesis was prioritized. Results: The initial search yielded

364 records, and after removal of duplicates and screening of titles, abstracts, and full texts, 11 studies met the inclusion criteria. The reviewed literature showed that nursing interventions were consistently associated with improved prevention and earlier identification of CSF shunt infections, particularly when multiple strategies were implemented across the care continuum. Structured caregiver education improved parents' ability to recognize early warning signs of infection, including fever, irritability, vomiting, wound redness, swelling, drainage, feeding difficulties, and behavioral changes. Standardized postoperative nursing assessments and aseptic wound care protocols were frequently linked to better infection-control practices and earlier clinical intervention. Several studies reported that nurse-led discharge education and follow-up enhanced caregiver confidence, adherence to hygiene measures, and prompt reporting of suspicious symptoms. Telehealth and telephone follow-up were especially useful after discharge, when early signs of infection might otherwise be missed in the home setting. Interventions that combined direct nursing assessment, education, and continuity of care appeared more effective than isolated teaching sessions. Some studies also suggested reduced infection-related readmissions and fewer shunt revisions in settings where nursing surveillance was structured and consistent. However, the evidence base remained limited by small sample sizes, variation in intervention intensity, inconsistent infection definitions, and differences in follow-up duration. Methodological quality ranged from moderate to low in several reports, mainly because of nonrandomized designs and incomplete control of confounding factors. Conclusion: This systematic review suggests that nursing interventions play a vital role in both the prevention and early detection of CSF shunt infections in infants with hydrocephalus. Caregiver education, standardized postoperative monitoring, aseptic wound care, and nurse-led follow-up are key components of effective prevention strategies. These findings support the integration of structured nursing protocols into pediatric neurosurgical care pathways to improve safety outcomes and reduce infection-related complications. Nevertheless, the current evidence remains heterogeneous and methodologically limited. Future multicenter studies with standardized interventions and validated outcome measures are needed to determine the most effective nursing strategies and strengthen the evidence base for clinical practice. Keywords: Hydrocephalus, Cerebrospinal Fluid Shunt Infections, Nursing Interventions, Early Detection, Infant

The Role of Parental Education in the Management of Chronic Wounds in Children with Skin Disorders: A Systematic Review

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پرستاری

abstract: مقدمه: مدیریت زخم‌های مزمن و عفونی در کودکان مبتلا به اختلالات پوستی در سال‌های اخیر شاهد تحولات قابل توجهی بوده که نتیجه پیشرفت در تکنیک‌های پانسمان و مراقبت‌های خانگی است . از آنجا که بخش عمده‌ای از این مراقبت‌ها توسط خانواده انجام می‌شود، آموزش والدین به عنوان ابزاری نو آورانه و حیاتی در بهبود نتایج بالینی و کاهش عوارض زخم می‌تواند نقش موثری ایفا کند . بنابراین این مطالعه با هدف مرور نقش آموزش والدین در مدیریت زخم‌های مزمن و عفونی کودکان انجام شد .روش کار: این پژوهش یک مطالعه مروری سیستماتیک است که بر اساس دستورالعمل PRISMA انجام شده .مبتلا به اختلالات پوستی در این پژوهش با استفاده از پایگاه های علمی PubMed ,SID , ScienceDirect و موتور جستجوی Google Scholar به همراه کلید واژه‌هایی نظیر آموزش والدین، زخم‌های مزمن، کودکان و نتایج بالینی در محدوده سال (2021_2026) انجام گرفت.مطالعات بر اساس معیارهای ورود شامل تمرکز بر مراقبت‌های خانگی، مداخلات آموزشی-رفتاری و مدیریت زخم در کودکان انتخاب شدند.مقالات غیرمرتبط یا مطالعاتی که صرفاً بر جنبه‌های دارویی بدون نقش والدین تمرکز داشتند از فرآیند تحلیل حذف گردیدند.در نهایت، ۱۰ مقاله بر اساس معیارهای ورودی و خروجی استخراج شدند .یافته ها: تحلیل برای درک (Declarative) شواهد نشان داد که آموزش والدین باید فراتر از اطلاع‌رسانی ساده باشد و دو سطح دانش بیانی فیزیولوژی بیماری و دانش رویه‌ای (Procedural) برای تسلط بر تکنیک‌های پانسمان را در بر گیرد . استفاده از مدل‌های مفهومی مانند مدل دیوار آجری به والدین کمک می‌کند تا اختلال در سد دفاعی پوست را بهتر درک کرده و انگیزه بیشتری برای استفاده مداوم از نرم‌کننده‌ها و درمان‌های محافظتی پیدا کنند.نتایج مطالعات مداخله‌ای (مانند طرح مدرسه والدین) حاکی از ارتقای معنادار دانش فنی والدین و بهبود چشمگیر خودکارآمدی و اعتمادبه‌نفس آن‌ها در انجام مراقبت‌های پیچیده است . مداخلات آموزشی ساختاریافته که شامل «مشاهده، تمرین تحت نظارت و دریافت بازخورد» هستند، به طور مستقیم بر پیامدهای بالینی اثر گذاشته و منجر به تسریع در روند بهبودی زخم، کاهش تعداد روزهای درگیری با زخم و کاهش نرخ عود و عفونت‌های ثانویه در مقایسه با مراقبت‌های معمول شده‌اند.علاوه بر این ، آموزش باعث توانمندسازی والدین در توصیف دقیق علائم بالینی و استفاده از ترمینولوژی فنی در مشاوره‌های تلفنی با تیم درمان شده که این امر خطاهای تشخیصی را کاهش می‌دهد. از منظر روان‌شناختی، مشخص شد که بین اضطراب کودک و سلامت روان والدین وجود دارد؛ مداخلات آموزشی با مدیریت بهتر درد در (Dyadic) یک رابطه دوسویه هنگام تعویض پانسمان و کنترل خارش، به طور هم‌زمان از شدت اضطراب، افسردگی و احساس گناه در والدین (که اغلب به عنوان بیمار پنهان شناخته می‌شوند) و کودکان می‌کاهد . در نهایت، استفاده از ابزارهای کمک-تصمیم‌گیری (Decision Aids) و پلتفرم‌های تعاملی نظیر پرستاری از راه دور (Telenursing) ، منجر به تغییرات مثبت پایدار در رفتارهای مراقبتی و افزایش

آموزش والدین به عنوان رکنی حیاتی در :نتیجه گیری .مشارکت فعال خانواده در تصمیم‌گیری‌های مشترک درمانی شده است مدیریت زخم‌های مزمن کودکان، نه تنها باعث بهبود دانش فنی و مهارت‌های عملی آن‌ها در انجام پانسمان‌های پیچیده می‌شود ، بلکه با افزایش خودکارآمدی و کاهش فشار روانی، از فروپاشی واحد خانواده جلوگیری می‌کند . یافته‌ها تایید می‌کنند که مداخلات آموزشی ساختاریافته به طور مستقیم بر تسریع روند بهبودی و ارتقای کیفیت زندگی تأثیرگذار است . لذا ادغام برنامه‌های توانمندسازی والدین در تیم‌های مراقبتی چند رشته‌ای برای تضمین تداوم مراقبت حرفه‌ای در منزل ضرورتی انکارناپذیر است . این رویکرد مسیر گذر از سردرگمی درمانی به مدیریت موثر و مبتنی بر شواهد را هموار می‌سازد. با توجه به بررسی های صورت گرفته توصیه میگردد تا پژوهش‌های آتی بر انجام مطالعات مداخله‌ای با تمرکز بر مشارکت فعال پدران و اثربخشی روش‌های روانی-رفتاری متمرکز شوند . چالش‌های کلیدی شامل حجم نمونه محدود ناشی از ندرت بیماری، ریسک بالای سوگیری و فقدان گزارش‌دهی استاندارد از جزئیات مداخلات آموزشی است . لذا، تأمین حمایت‌های مالی و روانی برای غلبه بر موانع حضور والدین . در برنامه‌های توانمندسازی، کلید ارتقای نتایج بالینی بلندمدت محسوب می‌شود

The Role of Parenting Styles in Explaining Adolescent's Coping Behaviors: A Descriptive-Analytical Study

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پرستاری

abstract: مقدمه و هدف: سبک‌های فرزندپروری به عنوان یکی از عوامل مهم محیطی نقش تعیین‌کننده‌ای در شکل‌گیری مهارت‌های مقابله‌ای نوجوانان ایفا می‌کنند، که شناخت این ارتباط می‌تواند به والدین و مربیان کمک کند تا با اتخاذ شیوه‌های تربیتی مناسب‌تر، نوجوانانی با توانایی‌های بهتر در حل مسائل و مدیریت استرس پرورش دهند. لذا این مطالعه با هدف تعیین ارتباط روش انجام کار: این مطالعه از .سبک‌های فرزندپروری و رفتارهای مقابله‌ای نوجوانان سنین ۱۲ تا ۱۶ سال شهر رشت انجام شد نوع مقطعی- همبستگی بوده و بر روی ٤٨٥ دانش آموز مدارس متوسطه اول و دوم و والدین آنها، با استفاده از روش نمونه‌گیری تصادفی چند مرحله‌ای، انجام شد. به منظور جمع آوری داده‌ها از فرم اطلاعات جمعیت شناختی، پرسشنامه رفتارهای مقابله ای هرناندز (پر شده توسط نوجوان) و پرسشنامه سبک‌های فرزندپروری بامریند (پر شده توسط والدین) استفاده شد. (CCBQ) نسخه ١٦، آمار توصیفی، استنباطی و آزمون‌های آماری رگرسیون خطی چندگانه SPSS تجزیه‌وتحلیل داده‌ها با استفاده از نرم افزار در کمیته اخلاق در پژوهش دانشگاه علوم IR.GUMS.REC.403.397 تجزیه و تحلیل شد. این مطالعه با کد اخلاق به شماره یافته‌ها: نتایج نشان داد رفتارهای مقابله‌ای نوجوانان در محدوده متوسط (۱۳/۵±۹۵/۵) بوده و .پزشکی گیلان ثبت گردیده است به طور معناداری میانگین "کنار آمدن ویرانگر"و "کنار آمدن با مشکل"، نسبت به دو حیطه "انحراف از مشکل به سمتی"حیطه نسبت "سبک استبدادی"سبک‌های فرزندپروری والدین نیز دارای میانگین نمره ٧/٤±٦٨/٤ بوده و .(001/0P) نمره بالاتری داشت رفتار مقابله‌ای بر حسب جنسیت، نوع مدرسه .(001/0P) میانگین نمره بالاتری داشت "اقتدار منطقی"و "سبک آزادگذاری"به و دوستان صمیمی و سبک فرزندپروری بر حسب پایه تحصیلی، تحصیلات پدر، تعداد اعضا خانواده و رتبه تولد معنی‌دار بود همچنین در بررسی ارتباط بین رفتارهای مقابله‌ای و سبک فرزندپروری، سبک فرزندپروری استبدادی همبستگی منفی .(05/0≥P) با هر سه حیطه رفتار مقابله‌ای و سبک فرزندپروری اقتدار منطقی با رفتار مقابله‌ای انحراف از مشکل به سمتی دیگر همبستگی مثبت بحث و نتیجه گیری: انتخاب سبک فرزندپروری مناسب به‌ویژه سبک اقتدار منطقی، می‌تواند به .داشته است (341/0=P) داشت ارتقاء راهبردهای مقابله‌ای سازنده در نوجوانان کمک کند و در مقابل، غلبه سبک استبدادی ممکن است نوجوانان را به سمت شیوه‌های ناسازگار سوق دهد. بنابراین آگاهی‌بخشی به والدین درباره تأثیر سبک‌های تربیتی، می‌تواند نقش مؤثری در سلامت روانی- .کلید واژه ها: فرزندپروری، رفتار مقابله ای، نوجوان .اجتماعی نوجوانان داشته باشد

The Role of Pediatric Nurses in Maintaining Continuity of Care for Children with Chronic Diseases During War and the Post-war Period: A Systematic Review

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پرستاری

abstract: Background: War disrupts healthcare systems and poses a serious threat to the continuity of care for children with chronic diseases. Displacement, shortages of medications and medical supplies, destruction of healthcare infrastructure, and limited access to specialized healthcare services increase the risk of chronic disease exacerbation and long-term complications. Pediatric nurses play a pivotal role in maintaining continuity of care by coordinating healthcare services, supporting families, providing disease management education, and addressing the physical and psychological needs of children with chronic illnesses during and after war. This study aims to review the role of pediatric nurses in maintaining continuity of care for children with chronic diseases during war and the post-war period. Methods: This systematic review was conducted in 2026. A comprehensive literature search was performed using the keywords "pediatric nursing," "continuity of care," "children," "chronic disease," "war," and "post-war" in PubMed, Scopus, Web of Science, CINAHL, Embase, and Google Scholar. After applying the inclusion and exclusion criteria, 11 studies were included and reviewed in accordance with the PRISMA guidelines. Results: The findings demonstrated that pediatric nurses play a fundamental role in maintaining continuity of care through disease monitoring, coordination of multidisciplinary care, family education, provision of psychosocial support, and facilitation of access to essential medications and healthcare resources. During war, pediatric nurses not only manage acute exacerbations of chronic diseases but also sustain routine care despite severe resource limitations. In the post-war period, their responsibilities expand to include long-term rehabilitation, trauma-informed care, mental health support, and facilitating children's reintegration into community healthcare services. Effective communication, interprofessional collaboration, preparedness training, and organizational support were identified as key factors contributing to successful continuity of care. Conclusion: Pediatric nurses play a central role in ensuring continuity of care for children with chronic diseases during war and the post-war period, with their greatest contributions involving care coordination, family-centered support, and comprehensive responses to children's physical and psychological needs. Strengthening pediatric nurses' competencies in war preparedness, ensuring adequate healthcare resources, and implementing structured continuity-of-care models may improve long-term health outcomes and reduce preventable complications among war-affected children. Keywords: Pediatric Nursing; Continuity of Care; Chronic Disease; War; Post-war; Children

The role of reading errors in diagnostic and therapeutic errors: A report of a near miss in a pediatric ward

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پرستاری

abstract: مقدمه: خطاهای پزشکی یکی از چالش‌های مهم در سیستم‌های سلامت است که می‌تواند پیامدهای جبران‌ناپذیری برای بیماران، به‌ویژه کودکان، به همراه داشته باشند. یکی از انواع این خطاها، اشتباه در خواندن یا تفسیر دستورات پزشکی است که ناشی از اشتباه در خوانش تشخیص (Near Miss) می‌تواند منجر به فاجعه ای شود. این مقاله به بررسی یک مورد نزدیک به خطا دستور بستری بیمار با تشخیص و انجام جراحی «ارکیدوپکسی» که در معرفی مورد: .پزشک در بخش کودکان انجام شده است مطب پزشک نوشته شده بود ، اما به‌دلیل شباهت یا اشتباه در خوانش نوشتاری، توسط پذیرش بیمارستان به‌اشتباه «ارکیدکتومی» خوانده شد. بیمار با همان تشخیص در بخش بستری می شود. پرستاران بی توجه به نوع تشخیص، در روز عمل به همراه بیمار اطلاع می دهند عمل جراحی برداشتن بیضه ها قرار است انجام شود که با مقاومت و اعتراض شدید مادر بیمار مواجه شد. نکته تاسف برانگیز آن است پرستاران، بر تشخیص اشتباه اصرار کرده و مادر را متهم به هوچی گری کردند. این خطا در مرحله پیش از بحث و .عمل و با دقت و هوشیاری دانشجویان پرستاری شناسایی شد و از وقوع یک مداخله آسیب‌زا جلوگیری به عمل آمد نتیجه‌گیری: این مورد نشان‌دهنده اهمیت دقت در ثبت و خوانش دستورات پزشکی و همچنین نقش کلیدی اعضای مختلف تیم درمان، در پیشگیری از خطاهای پزشکی است. عواملی مانند دست‌خط ناخوانا، شباهت اصطلاحات تخصصی و نبود سیستم‌های کنترل چندمرحله‌ای از جمله دلایل بروز چنین خطاهایی هستند. به‌منظور کاهش این‌گونه خطاها، اجرای راهکارهای کاربردی زیر جهت افزایش خوانایی و (CPOE) جایگزینی دستورات دست‌نویس با سیستم‌های الکترونیک ثبت دستورات :پیشنهاد می‌شود پیش از مداخلات جراحی، به‌ویژه در موارد با اصطلاحات (Double-check) «الزام به انجام «تأیید دو مرحله‌ای .کاهش ابهام آموزش .پیش از شروع عمل (Surgical Safety Checklist مانند) استفاده از چک‌لیست‌های استاندارد ایمنی جراحی .مشابه Near تقویت فرهنگ گزارش‌دهی خطاها و .مستمر کادر درمان و دانشجویان در زمینه خطاهای رایج و راه‌های پیشگیری از آن‌ها تأکید بر ارتباط مؤثر تیمی و تشویق اعضای تیم، به‌ویژه افراد در سطوح آموزشی، .بدون سرزنش، به‌منظور یادگیری سازمانی Miss اجرای این مداخلات می‌تواند نقش مؤثری در ارتقای ایمنی بیمار و پیشگیری از بروز خطاهای جدی .به بیان نگرانی‌ها بدون ترس ، ارکیدوپکسی، ارکیدکتومی، ایمنی بیمار، کودکانNear Missواژگان کلیدی: خطای پزشکی، .در مراقبت‌های کودکان داشته باشد

The Role of Telehealth and Telenursing in the Education, Care, and Empowerment of Children with Down Syndrome: A Systematic Review

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پرستاری

abstract: Background: Children with Down syndrome experience a range of developmental, cognitive, communication, and health-related challenges that necessitate continuous care, family-centered education, and access to coordinated multidisciplinary healthcare services. However, geographical disparities, healthcare costs, and limited availability of specialized services may restrict timely access to care. Telehealth and telenursing have emerged as promising approaches to overcome these barriers and enhance the delivery of healthcare and educational interventions. This systematic review aimed to examine the role of telehealth and telenursing in providing education, improving care delivery, and empowering children with Down syndrome and their families. Methods: A systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. A comprehensive search was performed in PubMed, Scopus, Web of Science, CINAHL, and Google Scholar for studies published from 2010 to 2025. The search strategy included combinations of keywords and Medical Subject Headings (MeSH) related to Down syndrome, telehealth, telenursing, parent education, and empowerment. Of the 248 identified records, duplicates were removed, and studies were screened based on titles, abstracts, and full-text eligibility criteria. Ultimately, 15 studies were included in the review. Data related to intervention characteristics, educational outcomes, caregiving outcomes, and family support outcomes were extracted and analyzed. Results: The reviewed studies indicated that telehealth and telenursing interventions were effective in improving parental knowledge, enhancing caregiving competencies, increasing family participation in healthcare processes, facilitating clinical follow-up, and improving access to specialized healthcare services. Additionally, these technologies contributed to the delivery of caregiver education, remote health monitoring, psychosocial support, and enhanced communication and coordination among healthcare professionals involved in the care of children with Down syndrome. Conclusion: Telehealth and telenursing represent effective, innovative, and scalable strategies for enhancing healthcare delivery and improving the quality of life of children with Down syndrome and their families. Integrating these approaches into routine care, supported by evidence-based protocols and adequate training of nurses and healthcare providers, may promote family empowerment and contribute to improved health outcomes in this population. Keywords: Down syndrome, Telehealth, Telenursing, Family education, Empowerment.

The Use of Telehealth Technology in the Care of Children During Armed Conflict: A Systematic Review

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پرستاری

abstract: مقدمه: درگیری‌های مسلحانه و جنگ‌های طولانی‌مدت اثرات ویرانگری بر سلامت کودکان و سیستم‌های بهداشتی محلی دارند که منجر به تخریب زیرساخت‌ها، مهاجرت گسترده کادر درمان و ایجاد شکاف در ارائه مراقبت‌های تخصصی می‌شود. کودکان به عنوان یکی از آسیب‌پذیرترین گروه‌ها در مناطق جنگی، با خطرات فزاینده‌ای از جمله تروماهای فیزیکی، بیماری‌های عفونی و اختلالات روان‌شناختی روبرو هستند. در این شرایط بحرانی، پزشکی از راه دور (Telemedicine) به عنوان یک ابزار حیاتی و نوآورانه برای پر کردن شکاف‌های درمانی، ارائه مشاوره‌های تخصصی و تداوم مراقبت در مناطق صعب‌العبور یا تحت محاصره ظهور کرده است . هدف این مطالعه، مرور سیستماتیک کاربردها، چالش‌ها و اثربخشی فناوری‌های سلامت از راه دور در جنگ، کودکان و مراقبت های ویژه در بازه زمانی ۲۰۲۰ تا ۲۰۲۵ صورت گرفت. معیارهای ورود شامل مطالعاتی بود که بر مداخلات سلامت دیجیتال برای کودکان و نوجوانان در مناطق تحت تأثیر جنگ یا جمعیت‌های آواره تمرکز داشتند و معبارهای خروجی شامل مداخلات غیر بالینی ، استفاده از یک بیمار خاص و مداخلاتی که خارج از بازه مشخص بودند. بر اساس معیارهای ورودی و تحلیل یافته‌های حاصل از مطالعات نشان می‌دهد که فناوری سلامت از راه دور در مناطق جنگ‌زده فراتر از یک ابزار کمکی، به عنوان یک راه نجات عملیاتی برای کودکان عمل کرده و خلأ ناشی از تخریب زیرساخت‌ها و مهاجرت متخصصان را تا حد زیادی پر کرده است. در بخش مراقبت‌های ویژه (Tele-ICU) ، تجربیات موفقی در مناطقی مانند سوریه به ثبت رسیده که در آن متخصصان داوطلب با استفاده از تجهیزات ارزان‌قیمت و اپلیکیشن‌های پیام‌رسان نظیر واتس‌اپ و اسکایپ، مشاوره‌های ۲٤ ساعته برای مدیریت تروماهای پیچیده ناشی از حملات نظامی و تنظیمات حساس ونتیلاتور ارائه داده‌اند؛ این مداخلات به طور مستقیم بر افزایش نرخ بقای کودکان و بهبود تصمیم‌گیری در مورد تریاژ و اعزام بیماران تأثیر مثبت گذاشته است. علاوه بر فوریت‌های پزشکی، در سطوح مراقبت‌های اولیه و مدیریت بیماری‌های مزمن نظیر دیابت و سرطان، پزشکان در کشورهایی چون سودان و اوکراین از بسترهای دیجیتال برای تشخیص و درمان عفونت‌های تنفسی و اسهالی شایع در زمان جنگ استفاده کرده‌اند؛ این رویکرد به خانواده‌ها اجازه داده است بدون قرار گرفتن در معرض خطرات امنیتی مسیرهای پرخطر، مراقبت‌های لازم را در منزل دریافت کنند. در حوزه سلامت روان نیز، پلتفرم‌های تله مدیسن بستر امنی را برای غربالگری و ارائه درمان‌های شناختی-رفتاری جهت مقابله با اختلال استرس پس از سانحه (PTSD) و افسردگی ناشی از جنگ فراهم کرده‌اند که

روش کار: مراقبت از کودکان در مناطق جنگی (نظیر سوریه، اوکراین، سودان و افغانستان) است یافته‌ها: خروجی ۲۰ مقاله مورد بررسی قرار گرفتند نتیجه گیری: PubMed ، انجام شده است. جستجو در پایگاه‌های داده معتبر نظیر PRISMA سیستماتیک است که بر اساس دستورالعمل با کلید واژه های پزشکی از راه دور ، سلامت دیجیتال ، Google Scholar و موتور جستجوی ScienceDirect، Scopus

با رضایت بالای خانواده‌ها و بهبود معنادار پیامدهای رفتاری در کودکان آواره همراه بوده است. با این حال، شواهد بر چالش‌های فنی جدی نظیر محدودیت شدید پهنای باند اینترنت، قطع مکرر برق و نگرانی‌های مربوط به امنیت داده‌های حساس در مناطق ناامن تأکید دارند. این موانع باعث شده است که ارائه‌دهندگان خدمات به طور فزاینده‌ای به سمت روش‌های غیرهم‌زمان مانند ارسال تصاویر رادیولوژی و پیام‌های صوتی سوق پیدا کنند تا تداوم مراقبت در زمان‌های قطع ارتباط (Asynchronous) تضمین شود. در نهایت، این فناوری با توانمندسازی کادر درمان محلی و متصل کردن آن‌ها به شبکه‌های تخصصی جهانی، تاب‌آوری فناوری سلامت از راه دور نه تنها یک :نتیجه‌گیری .سیستم‌های بهداشتی را در مواجهه با بحران‌های انسانی تقویت کرده است در مراقبت از کودکان در شرایط جنگ محسوب می‌شود که دسترسی عادلانه به (Lifeline) "راه نجات"گزینه، بلکه یک متخصصان را تسهیل می‌کند. یافته‌ها تأیید می‌کنند که این مداخلات با کاهش هزینه‌های سفر، پیشگیری از اعزام‌های غیرضروری و توانمندسازی کادر درمان محلی، پیامدهای بالینی را بهبود می‌بخشند. پیشنهاد می‌شود دولت‌ها و سازمان‌های بین‌المللی بر تقویت زیرساخت‌های ارتباطی مقاوم در برابر جنگ و تدوین پروتکل‌های قانونی و اخلاقی ویژه برای حفاظت از داده‌های حساس کودکان در شرایط بحران تمرکز کنند .ادغام این فناوری در سیستم‌های بهداشتی می‌تواند تاب‌آوری جوامع جنگ‌زده را در مواجهه با بلایای .آتی افزایش دهد

Triage and Care of Sick Neonates in Disasters and Emergencies

مرجان بناءزاده 1 © ℗

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پرستاری

abstract: Title: Triage and Care of Sick Neonates in Disasters and Emergencies Marjan Banazadeh, Ph.D, Assistant professor, School of Nursing, Alborz University of Medical Sciences, Karaj, Iran. Email: banazadehmarjan@gmail.com Introduction: Neonates are among the most vulnerable populations during disasters and emergencies because of their complete dependence on caregivers, limited physiological reserves, and high sensitivity to changes in temperature, oxygenation, and nutrition. Disruptions to healthcare infrastructure, including power outages and limited access to oxygen, water, equipment, medications, and trained personnel, can rapidly compromise the condition of critically ill and premature infants. Objective: To summarize the principles of triage, initial stabilization, and continuity of care for sick neonates during disasters, with emphasis on preparedness and rational allocation of limited resources. Methods: This review was developed based on the principles and recommendations outlined in the Neonatal Disaster Preparedness Toolkit and focuses on identification of high-risk neonates, prioritization of care, stabilization measures, and strategies for maintaining neonatal services during healthcare system disruption. Results: Neonatal triage should consider illness severity, respiratory and cardiovascular support requirements, gestational age, birth weight, anticipated response to available interventions, and resource availability. Initial assessment should prioritize airway and breathing, prevention of hypothermia, monitoring of oxygenation and blood glucose, and appropriate provision of fluids and nutrition. Infants dependent on mechanical ventilation, supplemental oxygen, essential medications, or specialized equipment require priority in resource planning and evacuation. Maintaining reliable supplies of oxygen, electricity, medications, equipment, infection-control materials, and human milk or appropriate feeding alternatives is essential. Effective family communication, accurate clinical documentation, coordinated teamwork, and safe transfer planning are also critical components of disaster response. Conclusion: Effective neonatal disaster care requires proactive preparedness, structured triage, rapid stabilization, rational resource allocation, and coordinated multidisciplinary and interfacility collaboration. Development of neonatal-specific emergency protocols and regular staff training can strengthen institutional preparedness and reduce preventable morbidity and mortality during disasters and emergencies. Keywords: Neonate; Disaster; Emergency; Triage; Neonatal Care; Disaster Preparedness 1. Lefrak L, Cohen R, Breault C. Neonatal Disaster Preparedness Toolkit. CPQCC/CAN, Stanford, CA. 2025.

Challenges of management of cases of child maltreatment in the medical centers: a qualitative study

نازی دزواره ای [1] © Ⓟ

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پرستاری

abstract: اهمال در مراقبت از کودکان و سوءرفتار با آنان از پدیده های جهانی است. تحقیقات در مورد چالش های در برخورد با سوءرفتار با کودکان و غفلت به صورت تحلیل کیفی در میان اعضا تیم درمانی محدود است. هدف این مطالعه شناخت چالش های مدیریت موارد سوءرفتار با کودکان از دیدگاه صاحبنظران و ارائه دهندگان خدمات سلامت بود. سوءرفتار علیه کودکان با دورنمایی از عوامل مثل عوامل فردی در خانواده به عنوان یک سیستم اجتماعی و عوامل اجتماعی- فرهنگی که واحد خانواده را متخصصان خدمات بهداشتی نقش مهمی در شناسایی و بررسی موارد سوءرفتار، .تحت تاثیر قرار می دهد، مد نظر قرار می گیرد بازی می کنند و بخشی از مسئولیت های آنها پیشگیری از سورفتار و ارائه درمان و حمایت برای کودکان آزار دیده است. در سال های اخیر، رشد در آگاهی و حساسیت ارایه دهندگان مراقبت در پیگیری موارد سو رفتار با کودکان مشاهده شده است ولی هنوز اطلاعات کمی در مورد بهترین راهکارها برای مقابله با موارد سورفتار وجود دارد . این مطالعه به روش کیفی و با استفاده از رویکرد تحلیل محتوا و روش نمونه گیری هدفمند با حداکثر تنوع انجام شده است. جمع آوری اطلاعات از طریق مصاحبه های نیمه ساختارمند با صاحب نظران عرصه سلامت شامل کارکنان درمانی به علاوه کارشناسان و اعضا هیئت علمی گروه پرستاری، مددکاران اجتماعی، حقوقدانان و سیاست گذاران مرتبط با این عرصه انجام شد. سپس متن مصاحبه ها با استفاده از تحلیل محتوای قراردادی .مورد تحلیل قرار گرفت.در این مطالعه با ۲۷ نفر از گروه هدف مصاحبه شد که یافته ها در شش طبقه اصلی طبقه بندی شدند طبقات در قالب (مفهوم کودک آزاری، پیامدهای سوءرفتار، تجارب مرتبط، کمبود برنامه آموزشی، خلاء برنامه مدیریتی،)معرفی و چالش ها شامل (کمبود آموزش، نبود قانون شفاف و مشخص، فقدان سیستم حمایتی، عدم وجود پروتکل ساختار یافته، نبود رویکرد تیمی،) مشخص شدند .کد اخلاق مقاله: IR.TUMS.MEDICINE.REC.1398.122 - Gubbels J, et al. Why Healthcare and Education Professionals Underreport Suspicions of Child Abuse: 2021 - Wilson I et al. Barriers and Facilitators Associated With Child Abuse and Neglect Reporting Among Child Care Professionals. 2021. چالش های مدیریت، سوءرفتار، کودکان

مقالات بخش

پژوهشگران جوان

A 3-Year-Old Child With Incidental High-Dose Vitamin D Intoxication: A Case Report and Literature Review

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پژوهشگران جوان

abstract: Although rare, vitamin D toxicity is a serious condition that commonly results from excessive self-medication. Clinical manifestations range from asymptomatic hypercalcemia to severe, life-threatening complications. We present the case of a previously healthy 3-year-old child who accidentally ingested 800,000 IU of vitamin D3 (cholecalciferol) and remained asymptomatic. Management included intravenous hydration, oral prednisolone, and strict dietary calcium restriction, alongside regular monitoring of serum calcium and vitamin D levels. The patient was discharged after 11 days and showed normalized laboratory parameters during a 3-month follow-up. This case underscores the importance of early diagnosis, immediate cessation of vitamin D intake, and conservative medical management in preventing complications. It also highlights the critical need for public education regarding the safe use of dietary supplements, particularly in pediatric populations.

Applications of Mobile-Based Applications and Artificial Intelligence Technologies in Medical Education and Student Assessment: A Narrative Review

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پژوهشگران جوان

abstract: Background: The rapid advancement of digital health technologies has transformed educational approaches in healthcare professions. Medical and health sciences students increasingly rely on mobile applications and artificial intelligence (AI)-based platforms to access educational resources, enhance self-directed learning, and develop clinical competencies. Mobile learning applications, intelligent tutoring systems, virtual patient platforms, and AI-assisted assessment tools provide opportunities for personalized education, continuous feedback, and competency-based evaluation. However, the diversity of available technologies and the rapid evolution of digital educational tools have resulted in fragmented evidence regarding their applications, effectiveness, and implementation challenges in health professions education. This narrative review aimed to summarize current evidence regarding the use of mobile applications and artificial intelligence technologies in medical education and student assessment, identify major application domains, and outline reported benefits, limitations, and future research directions. Methods: A narrative literature review was conducted by searching PubMed/MEDLINE, Scopus, Web of Science, and ERIC for English-language publications from January 2018 to 2026, using combinations of the terms "Mobile Applications," "Mobile Learning," "Artificial Intelligence," "Digital Learning," "Medical Education," and "Student Assessment." Relevant systematic reviews, meta-analyses, scoping reviews, and primary studies addressing mobile learning tools, AI-based educational platforms, and digital assessment systems among medical and health sciences students were selected and synthesized narratively. Results: Evidence indicates that mobile applications have been used as educational tools across health professions for over a decade, with one systematic review and meta-analysis identifying 52 studies involving a total of 4,057 learner participants across medical, dental, nursing, and allied health disciplines, concluding that mobile apps can serve as effective adjunct tools in education given their low cost, versatility, and flexible learning features. More recent syntheses describe a broader "paradigm shift" toward mobile-device-supported health professions education, alongside a separate systematic review specifically examining how AI applications affect educational outcomes in health professions training. Complementing this, an AI-based mobile learning system incorporating deep learning has been proposed for open teaching-recommendation contexts, illustrating a growing convergence between mobile platforms and AI-driven personalization. At the broader medical-education level, an

updated BEME scoping review synthesized AI applications across teaching, learning, and assessment domains, while a separate scoping review mapping AI use in medical education identified applications including intelligent tutoring systems for personalized decision-making instruction, AI-assisted grading and feedback on clinical cases using natural language processing, and AI-powered chatbots supporting literature review, licensing-exam preparation, and communication-skills development; this review emphasized the need for a standardized, adaptable AI curriculum in undergraduate medical education that prioritizes transversal skills, including digital competence and ethical awareness, to support AI's gradual integration. A large-scale scoping review focused specifically on generative AI retrieved nearly 6,000 articles, of which more than 1,300 duplicates were removed during screening, reflecting the rapid recent growth of this literature. Despite this expanding evidence base, reviewed studies consistently report challenges including variability in educational quality across applications, limited data on long-term learning outcomes, data-privacy concerns, insufficient faculty training, unequal access to digital technologies, and a continued need for validated frameworks to evaluate AI-supported educational interventions — with implementation of mobile technology in clinical settings further constrained by infrastructural limitations, limited institutional support, and professionalism-related concerns around device use in patient-facing environments. nih + 2 Conclusion: Mobile applications and artificial intelligence technologies provide valuable opportunities to enhance medical education by promoting personalized learning, improving accessibility, and supporting innovative approaches to student assessment. However, successful integration requires evidence-based implementation strategies, appropriate evaluation frameworks, faculty development, and attention to ethical and equity-related issues. Future research should prioritize longitudinal studies assessing educational outcomes and the development of standardized criteria for evaluating AI-powered educational technologies in health professions education. Keywords: Artificial Intelligence; Mobile Applications; Medical Education; Education, Medical, Undergraduate; Educational Technology; Students, Medical; Educational Measurement

Changes in Crying Acoustic Characteristics of Premature Infants During the Transition from Gavage to Full Oral Feeding

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پژوهشگران جوان

abstract: Changes in Crying Acoustic Characteristics of Premature Infants During the Transition from Gavage to Full Oral Feeding objective: Crying serves as the primary form of communication for infants, allowing them to express their physiological and psychological needs. Studies have highlighted the importance of recognizing a baby's crying status in evaluating their health and readiness for oral feeding. However, this aspect has received limited attention. The purpose of this study is to investigate changes in the acoustic characteristics of premature infants' cries during the transition from gavage to full oral feeding. study design: this study is a Cross-Sectional analytical Study. Methods: A total of 35 premature infants, born at 30-37 weeks of gestation in Imam Ali Hospital in Karaj City, were examined over a period of 3 months. Cry sounds of the infants were recorded at three feeding stages: gavage, oral-gavage, and full oral feeding, and were subjected to acoustic analysis. The voice recorder (Zoom H1n) recorded the crying sounds from a distance of 10cm from the infant's mouth at a 45-degree angle. Spontaneous crying samples were obtained 30 minutes before feeding while the infant was asleep. The cry samples were analyzed using Praat software version 3.0.40. Results: The results indicated a significant difference in the mean F0 ($p=0.000$) and max F0 ($p=0.001$) in premature infants across the three nutritional states of gavage, oral-gavage, and full oral feeding. The intensity of crying in premature infants also showed a significant difference among the three feeding stages ($p=0.001$). Conclusion: The acoustic variables of cries in preterm infants showed significant differences during the transition from gavage to full oral feeding. Specifically, the mean and maximum fundamental frequency and intensity of cry sounds varied significantly. Keywords: premature infant, cry, acoustic characteristics, gavage, full oral feeding

Digital and Device-Based Management of Type 1 Diabetes in Children: A Systematic Review of Continuous Glucose Monitoring, Automated Insulin Delivery, Digital Health Interventions, and Exercise-Related Glycemic Management

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پژوهشگران جوان

abstract: Introduction Type 1 diabetes (T1D) is one of the most common chronic diseases in children and requires continuous glucose monitoring, accurate insulin delivery, and active family participation. Recent advances in diabetes technologies, including continuous glucose monitoring (CGM), automated insulin delivery (AID), digital health tools, and exercise-support systems, have changed pediatric diabetes care. Although many studies have reported positive clinical outcomes, evidence is still scattered across different technologies, making it difficult for clinicians to apply an integrated approach. This systematic review aimed to summarize current evidence on digital and device-based interventions for pediatric T1D and to identify their clinical benefits, practical applications, and future directions for improving diabetes management. Method: This review was conducted according to the PRISMA 2020 guideline. PubMed/MEDLINE, Scopus, Web of Science, Embase, Cochrane Library, and Google Scholar were searched for English-language, peer-reviewed studies published between January 2015 and June 2026. Search terms included type 1 diabetes, children, continuous glucose monitoring, CGM, automated insulin delivery, closed-loop system, digital health, mobile application, telemedicine, exercise, and related MeSH terms. Eligible studies included randomized controlled trials, systematic reviews, meta-analyses, consensus statements, and observational studies involving children and adolescents with T1D. Editorials, case reports, conference abstracts, protocols, studies involving adults only, and non-English publications were excluded. Results A total of eligible studies, including randomized controlled trials, systematic reviews, meta-analyses, consensus statements, and real-world investigations, were synthesized. Findings were organized into four major domains. Continuous Glucose Monitoring (CGM): Evidence consistently showed that CGM improved glycemic control compared with conventional self-monitoring of blood glucose. Early CGM initiation was associated with lower HbA1c, higher time in range (TIR), fewer hypoglycemic episodes, and better long-term glucose stability. Current ISPAD guidelines recommend routine CGM use as the standard of care for children with T1D. However, recent evidence also highlighted inequalities in access related to socioeconomic status and ethnicity, indicating the need for more equitable implementation strategies. Automated Insulin Delivery (AID): Automated insulin delivery systems demonstrated the strongest clinical benefits among diabetes technologies. Recent meta-analyses reported significant reductions in HbA1c, approximately 11% improvement in TIR, reduced nocturnal hypoglycemia, and lower glucose variability compared with standard insulin

pump therapy. These benefits were observed across different pediatric age groups, including very young children. Position statements further emphasized that AID systems can safely support physical activity when individualized adjustments are applied before, during, and after exercise. Digital Health Interventions: Mobile applications, telemedicine platforms, remote monitoring systems, educational software, and gamified interventions improved diabetes self-management, treatment adherence, communication between families and healthcare professionals, and diabetes-related knowledge. Digital reminders for insulin administration, carbohydrate counting, glucose recording, and educational feedback supported daily disease management. Several studies also reported improvements in health literacy, treatment confidence, and patient engagement, particularly among adolescents. Telehealth interventions enabled continuous specialist support while reducing unnecessary hospital visits. Exercise-Related Glycemic Management: Physical activity remains challenging because of unpredictable glucose changes. Recent consensus statements recommend combining CGM with AID technologies to optimize insulin adjustments before and during exercise. Real-world studies demonstrated that individualized exercise planning, glucose trend monitoring, temporary insulin modifications, and carbohydrate strategies reduced exercise-associated hypoglycemia while maintaining glycemic stability. Exercise training also improved cardiovascular fitness, insulin sensitivity, and overall quality of life without increasing severe adverse events. Overall, recent digital technologies have transformed pediatric diabetes care from reactive glucose correction toward proactive and personalized disease management. Integrating CGM, automated insulin delivery, digital health platforms, and structured exercise guidance provides complementary clinical benefits that improve metabolic outcomes, increase treatment safety, reduce family burden, strengthen patient engagement, and support long-term self-management. Successful implementation requires multidisciplinary education, equal access to advanced technologies, family-centered training, and healthcare policies that facilitate widespread adoption in pediatric diabetes services. Conclusion This review demonstrates that digital and device-based technologies have substantially improved the management of pediatric type 1 diabetes. Continuous glucose monitoring, automated insulin delivery systems, digital health interventions, and evidence-based exercise strategies collectively improve glycemic outcomes, treatment safety, self-management skills, and quality of life for children and their families. Future pediatric diabetes care should prioritize integrated technology-based approaches supported by multidisciplinary teams, structured patient education, and equitable access to advanced devices. Continued research should evaluate long-term effectiveness, cost-effectiveness, implementation in resource-limited settings, and personalized digital solutions to further optimize outcomes for children living with type 1 diabetes.

Storytelling-Based Interventions in Pain Management and Treatment Cooperation Among Hospitalized Children

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abstract: Introduction: Children may experience a range of negative effects, including pain, anxiety, fear, and unwillingness to cooperate with treatment, due to hospitalization, invasive procedures, and exposure to new situations. Accordingly, this article's purpose is to provide a narrative review of existing studies related to storytelling-based intervention in terms of pain alleviation as well as treatment cooperation for children in hospitals. Methods: The present narrative review involved a literature search in studies available on PubMed, Scopus, Web of Science, ScienceDirect, and Google Scholar. In the process, various keywords were used, such as Storytelling and Digital Storytelling, Hospitalized Children, Pediatric Pain, Procedural Pain, as well as Treatment Cooperation, etc. The literature available in the specified databases from 2016 until 2026 was included in accordance with the inclusive and exclusive criteria established prior to the literature search. Findings: The research showed that storytelling can contribute to alleviating pain and stress problems for hospitalized boys and girls by bringing down anxiety levels and contributing to effective coping mechanisms. Previous research demonstrated the correlation between the use of storytelling and the increase in positive emotions, better stress management, and lower perceived pain level for sick kids. What is important, research has proved that storytelling is an efficient tool for diminishing children's anxiety related to hospitalization, making children adapt better to the hospital setting. Studies aimed at therapeutic play and distraction-oriented treatment showed that narrative techniques can help fight children's unwillingness to cooperate with medical treatment (e.g., injections, blood sampling, and other invasive interventions) and enhance their compliance with treatment recommendations. Thus, digital storytelling can be regarded as a progressive instrument that can be applied within the pediatric area to boost children's involvement and improve communication with families and healthcare service providers. Conclusion: Interventions that are based on storytelling are regarded as effective, safe, and different from pharmacological child-centered methods of pain management, reducing anxiety, and improving compliance in treatment in a hospital. Today's evidence shows some hopes for effectiveness, yet it will be necessary to conduct more quality trials with larger samples and long-term outcomes assessment for determining what the real effectiveness of the mentioned interventions is. Keywords: Storytelling, Digital Storytelling, Pediatric Pain, Treatment Cooperation, Hospitalized Children, Pediatric Nursing.

The Effectiveness of the Naji Iriano Health Video Game in Enhancing Physical Activity Outcomes in Children: A Randomized Controlled Trial

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abstract: Background: Childhood obesity and physical inactivity are growing global concerns, particularly in developing countries. Traditional interventions have shown limited success in fostering sustained physical activity (PA) behaviors among children. Serious games and active video games offer an engaging alternative by integrating behavior change techniques within immersive digital environments. This study evaluated the effectiveness of Naji Iriano, a culturally adapted health video game, in improving motivation, self-efficacy, and PA prioritization among children in Bushehr, Iran. Methods: This randomized clinical trial included 128 primary school students aged 9–12 years, who were allocated to either an intervention group (Naji Iriano) or a control group (no intervention). Assessments were conducted at baseline, 6 weeks post-intervention onset (Post-test-1), and 6 weeks post-intervention completion (Post-test-2). Data collection tools included questionnaires measuring PA motivation, self-efficacy, prioritization, and the Physical Activity Questionnaire for Children (PAQ-C). Data were analyzed using SPSS version 20, employing chi-square tests, independent t-tests, and analysis of covariance (ANCOVA) with a significance level of 0.05. Results: The adjusted ANCOVA analysis showed significant group differences. The intervention group showed significant improvements in PA self-efficacy (p 0.001), PA prioritization (p 0.001), and PA levels (p 0.001) at both Post-test-1 and Post-test-2 compared to the control group. However, no significant changes were observed in body mass index (BMI) between the groups (p = 0.799). Although PA motivation increased at Post-test-1, this effect was not sustained at Post-test-2 after controlling for covariates (p = 0.968). Conclusions: Health video games such as Naji Iriano can effectively enhance psychological and behavioral determinants of PA in children, providing a scalable, engaging strategy for obesity prevention. Future research should explore long-term adherence, emphasizing the role of parental involvement and environmental support in sustaining behavior change. Trial registration: This trial was registered in the Iranian Registry of Clinical Trials (IRCT) on 2019-01-02, registration number: IRCT20130317012830N33. Keywords: Health Video Game, Students, Self-Efficacy, Motivation, Physical Activity