

Women and Children's Current Awareness Bulletin

March 2021

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Title: Mental Health & Parental Concerns during COVID-19: The Experiences of New Mothers Amidst Social Isolation.

Citation: Midwifery; Mar 2021; vol. 94; p. 102902

Author(s): Ollivier, Rachel; Aston, Dr Megan; Price, Dr Sheri; Sim, Dr Meaghan; Benoit, Dr

Britney; Joy, Dr Phillip; Iduye, Damilola; Nassaji, Neda Akbari

Background: The COVID-19 pandemic has resulted in an unprecedented situation for new parents, with public health orders greatly affecting daily life as well as various aspects of parenting and new parent wellbeing.

Objectives: To understand the impact of the COVID-19 pandemic on mothers/parents across Nova Scotia who are caring for a child 0-12 months of age.

Design: This study utilized an online qualitative survey to collect data. Feminist poststructuralism and discourse analysis guided the analysis and discussion.

Setting: Nova Scotia, Canada PARTICIPANTS: : 68 participants were recruited from across the province of Nova Scotia.

Findings: Mental health and socialization were both major concerns for new mothers/parents, as many expressed feelings of worry, anxiety, loneliness, isolation, and stress.

Key Conclusions: Online support was sought by many new mothers/parents as a way of supporting their own mental health. Some found ways to make it meaningful for them, while others believed that it could not replace or offer the same benefits as in-person interaction and support.

Implications For Practice: Informal and formal support systems are both essential for new mothers. As public health systems and health care services learn to adapt to COVID-19, further research is required to examine how health services may best meet the needs of new mothers/parents.

Title: Long-term outcomes of children with severe chronic pain: Comparison of former patients with a community sample.

Citation: European journal of pain (London, England); Feb 2021

Author(s): Wager, Julia; Ruhe, Ann-Kristin; Stahlschmidt, Lorin; Leitsch, Kathrin; Claus, Benedikt B; Häuser, Winfried; Brähler, Elmar; Dinkel, Andreas; Kocalevent, Rüya; Zernikow, Boris

Background: Findings on the short- and long-term effectiveness of intensive interdisciplinary pain treatment (IIPT) for children with severe chronic functional pain are promising. However, a definitive appraisal of long-term effectiveness cannot be made due to a lack of comparison groups. The aim of the present study was to compare the health status of former patients with the health status of an age- and sex-matched comparison group from the community.

Methods: Data from two samples, a clinical sample of former patients (n=162; aged 14 to 26) and an age- and sex-matched community sample (n=162), were analyzed. Former patients provided data seven years after IIPT. Pain characteristics, physical and mental health status, autonomy, coping and health care utilization were compared between the two samples.

Results: Seven years after treatment, the majority (58%) of the clinical sample were completely pain-free. Compared to the community sample, the clinical sample demonstrated worse physical and mental health and continued to seek more frequent health care, irrespective of whether or not they experienced ongoing chronic pain. However, the clinical sample reported better coping strategies and a comparable level of autonomy.

Conclusion: Patients experiencing severe chronic pain in childhood who engage in IIPT are likely to have recovered from their pain in early adulthood. Long-term treatment effects may manifest in better coping strategies. However, reduced mental and physical health status may indicate a negative long-term effect of early chronic pain experiences or a general vulnerability in people developing a chronic pain condition in childhood.

Title: Supportive care and osteopathic medicine in pediatric oncology: perspectives of current oncology clinicians, caregivers, and patients.

Citation: Supportive care in cancer: official journal of the Multinational Association of Supportive Care in Cancer; Feb 2021; vol. 29 (no. 2); p. 1121-1128

Author(s): Belsky, Jennifer A; Stanek, Joseph; Skeens, Micah A; Gerhardt, Cynthia A; Rose, Melissa J

Background and Objective: Many children receiving chemotherapy struggle with therapy-induced side effects. To date, there has been no literature investigating the needs, knowledge, or implementation of osteopathic manipulative treatments (OMT) as a supportive care option in pediatric oncology. We hypothesized that pediatric oncology clinicians, caregivers, and patients have (a) limited knowledge of OMT and (b) dissatisfaction with current supportive care options and (c) would be interested in having OMT available during chemotherapy, once educated.

Methods: Participants included three cohorts: (1) children aged ≥ 9 years, diagnosed with cancer and actively receiving chemotherapy; (2) their caregivers; and (3) oncology clinicians at Nationwide Children's Hospital. Participants completed 1:1 semi-structured interviews, which were audio-recorded, transcribed, and analyzed for thematic content regarding their perception of supportive care measures and views on OMT. Quantitative data was summarized descriptively.

Results: A total of 60 participants completed the interview. Participants demonstrated limited awareness of osteopathic medicine; no participant had more than "some" knowledge of OMT. After education about OMT using a brief video, all clinicians, caregivers, and 95% of patients were receptive to OMT as a supportive care option. Major themes included the following: (a) patients have uncontrolled chemotherapy side effects, (b) improved supportive care options are desired, and (c) osteopathic medicine is a favorable supportive care adjunct.

Conclusions: Pediatric oncology clinicians, caregivers, and patients reported a need for better management of chemotherapy-associated side effects and an interest in utilizing OMT. These findings support further investigation into the safety, feasibility, and efficacy of implementing OMT in the pediatric oncology clinical setting.

Title: Multicenter study of risk factors of unplanned 30-day readmissions in pediatric oncology.

Citation: Cancer reports (Hoboken, N.J.); Feb 2021; p. e1343

Author(s): Hoenk, Kamila; Torno, Lilibeth; Feaster, William; Taraman, Sharief; Chang, Anthony; Weiss, Michael; Pugh, Karen; Anderson, Brittney; Ehwerhemuepha, Louis

Background: Pediatric oncology patients have high rates of hospital readmission but there is a dearth of research into risk factors for unplanned 30-day readmissions among this high-risk population.

Aim: In this study, we built a statistical model to provide insight into risk factors of unplanned readmissions in this pediatric oncology.

Methods: We retrieved 32 667 encounters from 10 418 pediatric patients with a neoplastic condition from 16 hospitals in the Cerner Health Facts Database and built a mixed-effects model with patients nested within hospitals for inference on 75% of the data and reserved the remaining as an independent test dataset.

Results: The mixed-effects model indicated that patients with acute lymphoid leukemia (in relapse), neuroblastoma, rhabdomyosarcoma, or bone/cartilage cancer have increased odds of readmission. The number of cancer medications taken by the patient and the administration of chemotherapy were associated with increased odds of readmission for all cancer types. Wilms Tumor had a significant interaction with administration of chemotherapy, indicating that the risk due to chemotherapy is exacerbated in patients with Wilms Tumor. A second two-way interaction between recent history of chemotherapy treatment and infections was associated with increased odds of readmission. The area under the receiver operator characteristic curve (and corresponding 95% confidence interval) of the mixed-effects model was 0.714 (0.702, 0.725) on the independent test dataset.

Conclusion: Readmission risk in oncology is modified by the specific type of cancer, current and past administration of chemotherapy, and increased health care utilization. Oncology-specific models can provide decision support where model built on other or mixed population has failed.

Title: The role of music therapy in the treatment of children with cancer: A systematic review of literature.

Citation: Complementary therapies in clinical practice; Feb 2021; vol. 42; p. 101289

Author(s): Facchini, Maria; Ruini, Chiara

Background and Purpose: Music Therapy has become a consolidated strategy to relief stress in children during hospitalization, and previous research demonstrated its efficacy on individuals' health. This is a systematic review of literature on the application of music therapy with children and adolescent with cancer, with the aim of evaluating its feasibility and its benefits, in terms of physical and mental health.

Methods: Database search was carried out via PubMed, PsycINFO and SCOPUS, using an age restriction of 0-24 years and the following keywords: (cancer OR oncology) AND music. Search was conducted from inception to June 2020.

Results: From 462 studies retrieved, 19 were selected and included in this research, with 596 participants. They received three different types of music therapy: receptive music therapy (n = 4), active music therapy (n = 9) and the combined method of receptive and active interventions (n = 6). These studies indicated a significant reduction of psychological distress (n = 9) and an increase in well-being (n = 8). 8 articles evaluated the effects on subjective pain and other biological parameters, with inconclusive results.

Conclusion: Music therapy, in paediatric oncology, seems to have a good feasibility and positive effects on mental and physical health. Nevertheless, some critical issues have emerged, such as the heterogeneity of interventions and study designs, which make generalizability still difficult. These and other clinical implications are discussed.

Title: Readability of Patient Educational Materials in Pediatric Orthopaedics.

Citation: The Journal of bone and joint surgery. American volume; Feb 2021

Author(s): Ó Doinn, Tiarnán; Broderick, James M; Abdelhalim, Muthana M; Quinlan, John F

Background: Parents are increasingly turning to the internet to seek pediatric health information. Numerous organizations advise that patient educational materials (PEMs) should not surpass the sixth-grade reading level. We aimed to assess the readability of online pediatric orthopaedic PEMs.

Methods: The readability of 176 articles pertaining to pediatric orthopaedics from the American Academy of Orthopaedic Surgeons (AAOS), Pediatric Orthopaedic Society of North America (POSNA), and American Academy of Pediatrics (AAP) websites was assessed with the use of 8 readability formulae: the Flesch-Kincaid Reading Grade Level, the Flesch Reading Ease Score, the Raygor Estimate, the SMOG, the Coleman-Liau, the Fry, the FORCAST, and the Gunning Fog. The mean reading grade level (RGL) of each article was compared with the sixth and eighth-grade reading levels. The mean RGL of each website's articles also was compared.

Results: The cumulative mean RGL was 10.2 (range, 6.6 to 16.0). No articles (0%) were written at the sixth-grade reading level, and only 7 articles (4.0%) were written at or below the eighth-grade reading level. The mean RGL was significantly higher than the sixth-grade (95% confidence interval [CI] for the difference, 4.0 to 4.4; p < 0.001) and eighth-grade (95% CI, 2.0 to 2.4; p < 0.001) reading levels. The mean RGL of articles on the POSNA website was significantly lower than the mean RGL of the articles on the AAOS (95% CI, -1.8 to -1.0; p < 0.001) and AAP (95% CI, -2.9 to -1.1; p < 0.001) websites.

Conclusions: Pediatric orthopaedic PEMs that are produced by the AAOS, the POSNA, and the AAP have readability scores that exceed recommendations. Given the increasing preference of parents and adolescents for online health information, the growing body of online PEMs, and the critical role that health literacy plays in patient outcomes, substantial work is required to address the readability of these materials

Title: What's New in Pediatric Orthopaedic Tumor Surgery.

Citation: Journal of pediatric orthopedics; Feb 2021; vol. 41 (no. 2); p. e174

Author(s): Williams, Amy K; Crawford, Brooke; Federman, Noah C; Bernthal, Nicholas;

Arkader, Alexandre

Background: Pediatric Orthopaedic Oncology is a developing subspecialty within the field of Pediatric Orthopaedics. Traditionally, the field of Orthopaedic Oncology has been focused on the skeletally mature individual, and the research tends to be all encompassing rather than truly evaluating isolated populations. The purpose of this review is to summarize the most clinically relevant literature in the field of Pediatric Orthopaedic Oncology over the last 6 years.

Methods: We evaluated the PubMed database utilizing keywords for pediatric orthopaedic oncology: sarcoma, osteosarcoma, Ewing sarcoma, bone cyst. In additionally, we further broadened our search by searching for relevant articles in the contents sections of major orthopaedic surgery journals that routinely publish both pediatric and orthopaedic oncology literature. In keeping with "What's New," we selected the most clinically relevant articles published in the last 6 years from January 1, 2014 through February 2020. Basic science and systemic therapies literature was widely reviewed and the research and clinical trials most relevant to pediatric sarcoma and neoplastic processes found in the pediatric population were included.

Results: Our search yielded 60 articles that met general criteria, from which 14 were determined to be most relevant to the goals of this paper. Of the papers presented in this review, there were papers related to management of benign tumors/tumor-like conditions, bone cysts, limb salvage procedures, and amputation procedures. Ultimately included in the review were 5 studies related to limb salvage, 4 related to bone cysts, 1 related to multiple hereditary exostoses, 2 related to osteofibrous dysplasia, 1 related to chondroblastoma, and 1 discussing cementation in skeletally immature patients. They were level III, IV, and V studies. Basic science and systemic therapies literature was widely reviewed and the research and clinical trials most relevant to pediatric sarcoma and neoplastic processes found in the pediatric population were included. Our search of the basic science and systemic therapies literature yielded 19 sources were found to be pertinent to our aims and 18 of those sources were published between 2015 and 2020.

Conclusions: There are many, varied, and creative procedures in the realm of limb salvage, though there remains a lack of high-level evidence to support some of the more novel procedures. In regards to benign bone tumors, despite a more solid base of literature, there still does not seem to be consensus as to the best treatment. In particular, there continue to be many schools of thought on the treatment of benign bone cysts. Research in the basic science arena and systemic therapies are advancing in exciting ways in regards to pediatric sarcoma. Orthopaedic oncologic research specific to the pediatric population overall continues to be impeded by low sample sizes and inadequate levels of evidence, which limits the ability of surgeons to draw definitive conclusions from the literature.

Title: Refilling Opioid Prescriptions After Pediatric Orthopaedic Surgery: An Analysis of Incidence and Risk Factors.

Citation: Journal of pediatric orthopedics; Mar 2021; vol. 41 (no. 3); p. e291

Author(s): Meza, Blake C; Swarup, Ishaan; Woodard, Thaddeus; Cazzulino, Alejandro; Talwar, Divya; Shah, Apurva S

Background: Understanding which pediatric patients seek opioid refills is crucial as prescription opioid use in childhood is associated with an increased risk of future opioid misuse. Orthopaedic surgeons are optimally positioned to lead the charge in addressing the opioid epidemic. The aim of this study was to describe the incidence of and risk factors associated with requiring opioid refills after pediatric orthopaedic surgery in children.

Methods: This retrospective case-control study included 1413 patients aged 0 to 18 years that underwent orthopaedic surgery at a single tertiary care children's hospital and were prescribed opioids at discharge. Using the state Prescription Drug Monitoring Program (PDMP) database, we determined which patients filled additional opioid prescriptions within 6 months following an orthopaedic procedure. Comparisons were made between patients that sought additional opioids and those that did not use bivariate analysis and binomial logistic regression.

Results: In total, 31 (2.2%) patients sought additional opioid prescriptions a median 41 days postoperatively (range, 2 to 184). Nearly half of these patients obtained refills from providers outside of our institution, suggesting that previous reports using hospital records may underestimate its prevalence. Factors associated with requiring opioid refills included receiving hydromorphone [odds ratio (OR)=3.04, P=0.04] or methadone (OR=38.14, P<0.01) while inpatient, surgery on the axial skeleton (OR=5.42, P=0.01) or lower extremity (OR=2.49, P=0.04), and nonfracture surgery (OR=3.27, P=0.01). Patients who obtained additional opioids received significantly more opioids during their inpatient recovery (32.9 vs. 11.1 morphine equivalents, P<0.01).

Conclusions: Approximately 2% of children and families obtain additional opioids within 6 months of orthopaedic surgery. The volume of opioids during inpatient hospitalization may predict the need for opioid prescription refills after discharge. Clinicians should maximize efforts to achieve pain control with multimodal analgesia and opioid alternatives, and use caution when administering high-dose opioids during postoperative hospitalization.

Level Of Evidence: Level III-prognostic.

Title: Modern Day Scurvy in Pediatric Orthopaedics: A Forgotten Illness.

Citation: Journal of pediatric orthopedics; Mar 2021; vol. 41 (no. 3); p. e279

Author(s): Pan, Tommy; Hennrikus, Eileen F; Hennrikus, William L

Introduction: Scurvy, or vitamin C deficiency, is rare. The goal of this study is to highlight the common risk factors and identify the orthopaedic presentation of scurvy in children.

Methods: A retrospective chart and radiograph review was performed of all patients consulted to the pediatric orthopaedic service from 2010 to 2019 who ultimately had the diagnosis of scurvy confirmed by an abnormally low serum vitamin C level. Data extracted included: patient age, sex, neurological conditions, prematurity, psychiatric conditions, dietary abnormalities, bone pain, arthritis, limb swelling, inability to walk, skin changes, child abuse evaluations, radiographic findings, additional vitamin deficiencies, lab studies, additional tests, response to treatment. Descriptive statistics were performed.

Results: Nine patients (7 males, 2 females) with scurvy were studied. The average age was 7 years (range 3 to 13 y). The average body mass index was 21.4 (range, 14 to 30). Five had autism, 2 had a neurological disorder. Two had been born premature. Two had a psychiatric disorder. Seven had an abnormal diet. One presented with bone pain. Four presented with limb swelling. Seven had unilateral and 2 had bilateral leg symptoms. Five presented with inability to walk. Six demonstrated skin changes with ecchymosis or petechiae. Three presented with gingival bleeding. Radiographic findings included subperiosteal hematoma in 2, ring epiphysis in 3, Pelkan spurs in 1, metaphyseal white lines (Frankel sign) in 6, and a metaphyseal zone of rarefaction (Trummerfeld zone) in 3. Seven had additional vitamin deficiencies including: A, B1, B6, B9, D, E, K, iron and zinc. Four had a bone marrow biopsy and 1 had lumbar puncture. All were anemic. The average erythrocyte sedimentation rate was 25.7 (range 6 to 35) and C-reactive protein was 1.5 (range 0.55 to 5.64). Six had a computed tomography, 3 had a magnetic resonance imaging. After treatment with vitamin C lasting 3.4 months (range, 2 wk to 7 mo), all symptoms gradually resolved, including leg pain and swelling. All children began to walk.

Conclusion: The pediatric orthopaedic surgeon should have an increased awareness about the diagnosis of scurvy when consulted on a child with bone pain or inability to walk. The most common orthopaedic presentation was the refusal to bear weight, the most common radiographic finding was the metaphyseal line of increased density (Frankel sign) and treatment with vitamin c supplementation was excellent in all cases.

Title: Is There Value in Venous Thromboembolism Chemoprophylaxis After Pediatric Scoliosis Surgery? A 28-Year Single Center Study.

Citation: Journal of pediatric orthopedics; Mar 2021; vol. 41 (no. 3); p. 138-142

Author(s): Erkilinc, Mehmet; Clarke, Amelia; Poe-Kochert, Connie; Thompson, George H;

Hardesty, Christina K; O'Malley, Natasha; Mistovich, R Justin

Background: With a recognized increase in the incidence of venous thromboembolism (VTE) in children, especially in those with complex, chronic conditions, it is important for patient safety and risk management to identify subgroups that would benefit from prophylactic treatment. The aim of our study was to assess whether scoliosis surgery in children was associated with an increased incidence of VTE, including deep venous thrombosis (DVT) and pulmonary embolism, and if chemoprophylaxis is warranted.

Methods: We reviewed our institution's Pediatric Orthopaedic Spine Database (1992-2019) to identify patients who had a symptomatic VTE postoperatively.

Results: There were 1471 patients (1035 female, 436 male) with a mean age at surgery of 12.1±3.2 years (range, 1 to 18 y) underwent posterior spinal fusion and instrumentation (2131 procedures). No patients were given pharmacological VTE prophylaxis, and no routine screening for VTE was performed. Two patients had a lower extremity DVT (0.13%) within 6 months following surgery, (range, 55 to 161 d). Neither patient had a subsequent pulmonary embolism. They were 9 and 17 years of age with a diagnosis of neuromuscular scoliosis (1 each postpolio and myelodysplasia). One affected patient had a central venous line inserted perioperatively, a known risk factor for thromboembolism. All DVTs were treated with appropriately dosed anticoagulants. None had a family history of hypercoagulation.

Conclusions: The risk of symptomatic VTE is extraordinarily low after pediatric spinal deformity surgery. Mechanical prophylaxis is sufficient in most cases. Further multi-center studies may help identify patient specific risk factors.

Title: Seasonal Variation in Parental Satisfaction With Pediatric Orthopaedics.

Citation: Journal of pediatric orthopedics; Mar 2021; vol. 41 (no. 3); p. e296

Author(s): Van de Velde, Samuel K; Cola, Kristin; Bompadre, Viviana; Steinman, Suzanne

Background: The degree of parental satisfaction with health care is determined by the family's characteristics and expectations. Many aspects of human physiology and behavior have seasonal rhythms. The purpose of the present study was to determine whether parental satisfaction scores vary across the year in a pediatric orthopaedic outpatient population.

Methods: We retrospectively reviewed a total of 22,951 parental satisfaction scores related to outpatient pediatric orthopaedic encounters between October 2015 and April 2019. Parental satisfaction was measured using the provider subdomain of the shortened version of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). Families were stratified according to various pediatric orthopaedic subspecialty services. **Results:** The satisfaction scores of all pediatric orthopaedic encounters combined did not vary significantly across the year (P=0.8745). When the families were stratified into groups by pediatric orthopaedic subspecialty clinic, variation in seasons was not associated with statistically significant variation in satisfaction scores for the elective surgery, sports medicine, trauma/fracture care, and hand/upper extremity services. However, satisfaction with the spine service was significantly lower in the winter compared with the summer and fall (73.9±3.8 vs. 83.5±5.3 and 82.6±3.6, respectively; P=0.0147).

Conclusions: The provision of pediatric spine care in a region with 4 distinct seasons received lower parental satisfaction scores during the winter than during the summer and fall. This seasonal variation is an additional source of bias in the measurement of satisfaction with health care.

Level Of Evidence: Level II-retrospective study

Title: 'Does compliance with BOAST guidelines matter for displaced supracondylar fractures in children?': the experience of a tertiary referral major trauma centre over a 3.5-year period.

Citation: Journal of pediatric orthopedics. Part B; Mar 2021; vol. 30 (no. 2); p. 154-160 **Author(s):** Tzatzairis, Themistoklis; Firth, Gregory; Loke, Wei Jie; Serlis, Athanasios; Ramachandran, Manoj

Abstract: Supracondylar fractures are the most frequently occurring paediatric fractures about the elbow and can be associated with neurovascular injury. For that reason, the British Orthopaedic Association has published the British Orthopaedic Association Standards for Trauma (BOAST) 11 guidelines, aiming to the best management of supracondylar fractures. The aim of this study was to assess adherence to the BOAST 11 guidelines for displaced supracondylar fractures at a Major Trauma Centre in London, UK between 2015 and 2018 and to see whether adherence to guidelines affected the outcomes. A retrospective review was carried out between January 2015 and August 2018 of all paediatric patients who underwent either closed reduction and percutaneous pinning or open reduction and fixation for a displaced supracondylar fracture of the humerus. One hundred nine patients between 1 and 16 years of age with isolated displaced extension type supracondylar fractures (Gartland II, III and IV) were included in the study. The current study did not manage to achieve complete compliance with the BOAST 11 guidelines. K-wire size, fixation technique and pre-, intra-, postoperative documentation were the most important points of lack of compliance. However, deviating from specific guidelines did not cause any adverse clinical outcomes. Lack of correct documentation either preoperatively or postoperatively could be detrimental to patient outcome, especially with respect to neurovascular status. Implementation of a clerking template for use in the electronic medical records for all children with displaced supracondylar fractures is of value in order to improve our documentation.

Title: Injury characteristics and management of orthopaedic trauma in refugee children.

Citation: International orthopaedics; Mar 2021; vol. 45 (no. 3); p. 649-656

Author(s): Bayrak, Alkan; Öztürk, Vedat; Koluman, Alican; Ziroğlu, Nezih; Duramaz, Altuğ

Purpose: Several factors affect injury types in childhood. The aim of the study was to evaluate the musculoskeletal injury types, treatment modalities, and demographic characteristics of refugee children and to reveal the differences from native children.

Methods: A total of 1297 patients (897 females, 400 males) treated in our clinic between January 2014 and January 2019 were included in the study. The mean age of the patients was 8.9 ± 5.1 in refugees and 7.5 ± 4.6 in the native group (range, 0-18 years). The patients were evaluated in terms of age, gender, mechanism of injury, location and type of fracture, presence of accompanying injuries, surgical technique, complications, and treatment modalities.

Results: The trauma mechanism differed significantly between the groups, high-energy traumas such as falling from a height, fight/assault injury, gunshot injury, and work injury were found more frequently in the refugee group (p = 0.001). The rates of CRIF, ORIF, graft/flap surgery, and hospitalization time were observed to be significantly higher in the refugee group (p = 0.013). No significant difference was observed between groups in terms of demographic distribution, injury location, and complications.

Conclusion: This population-based, cross-sectional study emphasizes that the refugee children have different injury mechanisms. Improved living conditions may reduce musculoskeletal injury in this population.

Title: The Use of Activity Trackers in Interventions for Childhood Cancer Patients and Survivors: A Systematic Review.

Citation: Journal of Adolescent & Young Adult Oncology; Feb 2021; vol. 10 (no. 1); p. 1-14 **Author(s):** Ha; Mizrahi, David; Wakefield, Claire E.; Cohn, Richard J.; Simar, David; Signorelli, Christina

Abstract: Activity trackers have emerged as promising devices used to motivate and/or objectively monitor physical activity (PA) levels. It is unknown how activity trackers have been used in interventions for children and adolescents affected by cancer. This review aimed to investigate the effectiveness of wearable activity trackers to monitor and/or improve PA levels and health outcomes in pediatric oncology. Based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses, we conducted an electronic search of four databases (Cumulative Index to Nursing and Allied Health Literature [CINAHL], Medline, Embase, and SportDiscus) between January 2000 and March 2020. The review included PA interventions that used an activity tracker with children (≤18 years) diagnosed with cancer. We excluded studies including adult participants (>18 at time of study participation) and cross-sectional or case-report studies. Twelve studies examining 517 children and adolescent patients and survivors of pediatric cancer (age range: 4–18 years) were included. Intervention delivery ranged from 2 weeks to 12 months. Two of 12 studies reported increases in PA and 6 showed improvements in health outcomes, including aerobic fitness and negative mood. PA interventions using activity trackers within pediatric oncology are highly diverse in study design, study population, and intervention features. Preliminary data suggest that interventions using wearable activity trackers may have a positive impact on health outcomes in children and adolescents affected by cancer. Future research is needed to establish optimal intervention approaches to using activity trackers to increase PA in children affected by cancer.

Title: An audit of UK audiological practice in specialist paediatric oncology centres regarding hearing assessment of children at risk of ototoxicity due to chemotherapy.

Citation: Journal of Laryngology & Otology; Jan 2021; vol. 135 (no. 1); p. 14-20

Author(s): Brown; Caimino, C; Benton, C L; Baguley, D M

Objective: Platinum-based chemotherapy drugs are associated with substantial ototoxicity. The hearing of children treated with these drugs should be closely monitored.

Method: A questionnaire was sent out to the 19 audiology departments associated with national paediatric cancer specialist centres in the UK looking at current practice in ototoxicity monitoring.

Results: Responses were received from 17 of 19 centres (89 per cent). All offered some form of audiometric monitoring service. Extended high-frequency testing (9–20 kHz) was only utilised by 7 services (29 per cent). A majority of respondents were reluctant to consider self-test devices in paediatric ototoxicity monitoring (n = 9; 53 per cent). Provision of long-term audiological follow up is sporadic with only 4 (23 per cent) respondents keeping all children with normal hearing under review once treatment is completed.

Conclusion: While some good practice in paediatric ototoxicity was identified, opportunities exist to improve clinical practice and protocols, promote multidisciplinary team working and to utilise technologies such as extended high frequency and self-test audiometry.

Title: Meal regularity is associated with self-esteem among grade 5 children.

Citation: American Journal of Clinical Nutrition; Feb 2021; vol. 113 (no. 2); p. 467-475 **Author(s):** Eckert; Asbridge, Mark; Campbell, Leslie Anne; Stewart, Sam; Bennett, Mark; Loewen, Olivia K; Veugelers, Paul J; Cahill, Leah E

Background: Meal regularity is associated with many aspects of mental health. However, few studies have examined whether a relationship exists between meal regularity and self-esteem in children. Objectives The objective of this study was to determine whether an association exists between meal regularity and self-esteem in grade 5 children.

Methods: Among 4009 grade 5 students (mean age = 11.0 years ± SEM = 0.006) from the 2011 Children's Lifestyle and School Performance Study (CLASS-II; Nova Scotia, Canada), cross-sectional meal regularity survey data (family supper, supper in front of the television, supper alone, skipping breakfast, and skipping lunch) were collected using the Harvard Youth/Adolescent Food Frequency Questionnaire and examined in relation to self-esteem. Multilevel mixed-effects logistic regression was used to determine the ORs and 95% Cls associated with low self-esteem. Analyses were stratified by sex and adjusted for sociodemographic and lifestyle covariates.

Results: Compared to children who ate supper in front of the television or alone either never or less than once/week, children had greater odds of low self-esteem if 5 or more times/week they ate supper in front of the television (OR = 1.85; 95% CI, 1.40-2.43) or alone (OR = 4.23; 95% CI, 2.58-6.95). Compared to children who ate family supper 5 or more times/week, children who ate family supper never or less than once/week had greater odds of low self-esteem (OR: 1.97; 95% CI, 1.51-2.56). Skipping breakfast and skipping lunch were associated with greater odds of low self-esteem [OR = 2.92 (95% CI, 1.87-4.57) and OR = 4.82 (95% CI, 2.14-10.87) respectively].

Conclusions: In our study of grade 5 children, all 5 indicators of meal regularity tested are significantly and consistently associated with self-esteem.

Title: Massage therapy for paediatric procedural pain: A rapid review.

Citation: Paediatrics & Child Health (1205-7088); Feb 2021; vol. 26 (no. 1)

Author(s): Bernstein; Karkhaneh, Mohammad; Zorzela, Liliane; Jou, Hsing; Vohra, Sunita

Background: Pain is a common paediatric problem, and procedural pain, in particular, can be difficult to manage. Complementary therapies are often sought for pain management, including massage therapy (MT). We assessed the evidence for use of MT for acute procedural pain management in children.

Methods: We searched five main databases for (i) primary studies in English, (ii) included children 0 to 18 years of age, (iii) compared MT for procedural pain management to standard care alone or placebo, and (iv) measured pain as the primary or secondary outcome. The data were extracted by one author and verified by a second author. Randomized controlled trials were evaluated using the Cochrane Risk of Bias tool.

Results: Eleven paediatric trials of procedural pain in neonatal, burn, and oncology populations, a total of 771 participants, were identified. Eight reported statistically significant

reductions in pain after MT compared to standard care. Pain was measured using validated pain scales, or physiologic indicators. The studies were heterogeneous in population, techniques, and outcome measures used. No adverse events associated with MT were identified.

Conclusion: MT may be an effective nonpharmacologic adjunct for management of procedural pain in children.

Title: Pediatric CNS imaging and long-term effects of irradiation in pediatric oncology patients.

Citation: Pediatrics International; Jan 2021; vol. 63 (no. 1); p. 81-87

Author(s): Kluge; Balermpas, Panagiotis; Lehrnbecher, Thomas; Porto, Luciana

Background: The aim of this study was to evaluate post-irradiation changes in the central nervous system (CNS) detected using magnetic resonance (MR) imaging.

Methods: Magnetic resonance images of 15 children with CNS tumors treated through whole-brain irradiation over 10 years were reviewed retrospectively. Variables such as age at the time of irradiation, total radiation dose, treatment length, and time interval between irradiation and MR changes, were evaluated.

Results: All patients included in the study had imaging abnormalities of the CNS. Eight patients (53%) developed CNS abnormalities within a short period of time – only a few months after irradiation (mean 4.8 months). Seven patients (47%) developed CNS abnormalities within a long time interval after treatment (mean 4.6 years). In almost all patients, a T2 increase in supra- and infratentorial white matter was observed. Follow-up examinations showed nine patients (60%) with cerebellar atrophy.

Conclusions: In this sample of pediatric patients who underwent whole-brain irradiation, the time receiving irradiation was not related to the severity of the MR changes. A correlation between the age of the child or the length of the radiotherapy and the extent of the changes could not be confirmed. However, we observed a trend towards stronger brain parenchymal degeneration with cystic changes in the younger age group of children in our sample. Older children who received irradiation seem to be more susceptible to vascular dysplasia with cavernous hemangiomas and microbleeding.

Title: The Relationship of Ankyloglossia With Gender in Children and the Ideal Timing of Surgery in Ankyloglossia.

Citation: ENT: Ear, Nose & Throat Journal; Mar 2021; vol. 100 (no. 3)

Author(s): Ata; Alataş, Necat; Yılmaz, Esra; Adam, Ayşe Bülbül; Gezgin, Bahri

Introduction: Ankyloglossia is a congenital condition that restricts tongue mobility. The aim of this study is to evaluate the relationship between gender and pediatric ankyloglossia and evaluate the planning of ideal timing of surgery.

Methods: The files of pediatric patients in the Turkish population treated surgically for tongue-tie between June 2014 to June 2018 were scanned retrospectively.

Results: Three hundred and eighty-two pediatric patients were included in the study. Of these, 115 (30.1%) were female and 267 (69.9%) were male. The prevalence of ankyloglossia was significantly higher in males than in females (P <.001). The age of the patients at time of surgery ranged from 1 day to 114 months. The most common indication

was sucking/feeding difficulties (82%) in patients younger than 2 years, and the most common symptom was speech problems (67%) in patients aged 2 years and older.

Conclusion: In our study, the prevalence of ankyloglossia in Turkish society was significantly higher in males. Frenectomy surgery is a safe procedure that can be performed on the first day of life in newborns.

Title: Improving the quality of neonatal acute kidney injury care: neonatal-specific response to the 22nd Acute Disease Quality Initiative (ADQI) conference.

Source: Journal of Perinatology; Feb 2021; vol. 41 (no. 2); p. 185-195

Author(s): Harer; Selewski, David T.; Kashani, Kianoush; Basu, Rajit K.; Gist, Katja M.; Jetton, Jennifer G.; Sutherland, Scott M.; Zappitelli, Michael; Goldstein, Stuart L.; Mottes, Theresa Ann; Askenazi, David J.

Abstract: With the adoption of standardized neonatal acute kidney injury (AKI) definitions over the past decade and the concomitant surge in research studies, the epidemiology of and risk factors for neonatal AKI have become much better understood. Thus, there is now a need to focus on strategies designed to improve AKI care processes with the goal of reducing the morbidity and mortality associated with neonatal AKI. The 22nd Acute Dialysis/Disease Quality Improvement (ADQI) report provides a framework for such quality improvement in adults at risk for AKI and its sequelae. While many of the concepts can be translated to neonates, there are a number of specific nuances which differ in neonatal AKI care. A group of experts in pediatric nephrology and neonatology came together to provide neonatal-specific responses to each of the 22nd ADQI consensus statements.

Title: Improving Care and Outcomes for Pediatric Musculoskeletal Infections.

Citation: Pediatrics; Feb 2021; vol. 147 (no. 2); p. 1-11

Author(s): Hester; Nickel, Amanda J.; Watson, David; Swanson, Gloria; Laine, Jennifer C.;

Bergmann, Kelly R.

Background: Pediatric musculoskeletal infection (MSKI) is a common cause of hospitalization with associated morbidity. To improve the care of pediatric MSKI, our objectives were to achieve 3 specific aims within 24 months of our quality improvement (QI) interventions: (1) 50% reduction in peripherally inserted central catheter (PICC) use, (2) 25% reduction in sedations per patient, and (3) 50% reduction in empirical vancomycin administration.

Methods: We implemented 4 prospective QI interventions at our tertiary children's hospital: (1) provider education, (2) centralization of admission location, (3) coordination of radiology-orthopedic communication, and (4) implementation of an MSKI infection algorithm and order set. We included patients 6 months to 18 years of age with acute osteomyelitis, septic arthritis, or pyomyositis and excluded patients with complex chronic conditions or ICU admission. We used statistical process control charts to analyze outcomes over 2 general periods: baseline (January 2015-October 17, 2016) and implementation (October 18, 2016-April 2019).

Results: In total, 224 patients were included. The mean age was 6.1 years, and there were no substantive demographic or clinical differences between baseline and implementation groups. There was an 81% relative reduction in PICC use (centerline shift 54%-11%; 95% confidence interval 70-92) and 33% relative reduction in sedations per patient (centerline

shift 1.8-1.2; 95% confidence interval 21-46). Empirical vancomycin use did not change (centerline 20%).

Conclusions: Our multidisciplinary MSKI QI interventions were associated with a significant decrease in the use of PICCs and sedations per patient but not empirical vancomycin administration.

Title: Quality improvement for NICU graduates: Feasible, relevant, impactful.

Citation: Seminars in fetal & neonatal medicine; Feb 2021; p. 101205

Author(s): Litt, Jonathan S; Hintz, Susan R

Abstract: Continuous quality improvement (CQI) has become a vital component of newborn medicine. Applying core principles - robust measurement, repeated small tests of change, collaborative learning through data sharing - have led to improvements in care quality, safety, and outcomes in the Neonatal Intensive Care Unit (NICU). High-risk infant follow-up programs (HRIF) have historically aided such quality improvement efforts by providing outcomes data about NICU interventions. Though as a discipline, HRIF has not universally embraced CQI for its own practice. In this review, we summarize the history of CQI in neonatology and applications of improvement science in healthcare and describe examples of CQI in HRIF. We identify the need for consensus on what defines 'high-risk' and constitutes meaningful outcomes. Last, we outline four areas for future investment: establishing evidence-based care delivery systems, standardizing outcomes and their measures, embracing a family-centered approach prioritizing parent goals, and developing professional standards of care for HRIF.

Title: Interventions to Improve the Cast Removal Experience for Children and Their Families: A Scoping Review.

Citation: Children (Basel, Switzerland): Feb 2021; vol. 8 (no. 2)

Author(s): Maharjan, Pramila; Murdock, Dustin; Tielemans, Nicholas; Goodall, Nancy;

Temple, Beverley; Askin, Nicole; Wittmeier, Kristy

Background: Cast removal can be a distressing experience for a child. This scoping review aims to provide a comprehensive review of interventions designed to reduce anxiety and improve the child's and family's experience of pediatric cast removal.

Methods: A scoping review was conducted (Medline, Embase, PsycINFO, CINAHL, Scopus, grey literature sources).

Inclusion Criteria: studies published January 1975-October 2019 with a primary focus on pediatric patients undergoing cast removal/cast room procedures. Screening, full text review, data extraction, and quality appraisal were conducted in duplicate.

Results: 974 unique articles and 1 video were screened. Nine articles (eight unique studies) with a total of 763 participants were included. Interventions included the following, alone or in combination: noise reduction, electronic device use, preparatory information, music therapy, play therapy, and child life specialist-directed intervention. Heart rate was used as a primary (88%) or secondary (12%) outcome measure across studies. Each study reported some positive effect of the intervention, however effects varied by age, outcome measure, and measurement timing. Studies scored low on outcome measure validity and blinding as assessed by the Joanna Briggs Institute Critical Appraisal Checklist for Randomized Controlled Trials.

Conclusion: Various methods have been tested to improve the pediatric cast removal experience. Results are promising, however the variation in observed effectiveness suggests a need for the use of consistent and valid outcome measures. In addition, future research and quality improvement projects should evaluate interventions that are tailored to a child's age and child/family preference.

Title: Identifying distinct trajectories of acute otitis media in children: a prospective cohort study.

Citation: Clinical otolaryngology: official journal of ENT-UK; official journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery; Feb 2021

Author(s): van Ingen, Gijs; le Clercq, Carlijn M P; Jaddoe, Vincent W V; Moll, Henriette A; Duijts, Liesbeth; Raat, Hein; Baatenburg de Jong, Robert J; van der Schroeff, Marc P

Objectives: To identify possibly distinct acute otitis media (AOM) trajectories in childhood, and identify determinants associated with specific AOM trajectories. To explore which child will become prone to recurrent AOM episodes, and which will not.

Design: Population-based prospective cohort study among 7,863 children from birth until 10 years and their mothers.

Methods: This study was embedded in the Generation R Study: a population-based prospective cohort study. Data on AOM and determinants were collected by repeated parental questionnaires. Distinct AOM trajectories within the population were identified with latent-class-analyses. Next, using multivariate analysis we checked if specific determinants were associated with specific trajectories.

Results: Three distinct trajectories were identified; i.e., non-otitis-prone, early-AOM - i.e. children who suffered AOM episodes until 3 years of age but not beyond, and persistent-AOM - i.e. children who remained otitis-prone. Male gender (OR 1.26, CI 1.11 - 1.43) and day-care attendance (OR 1.31, CI 1.06-1.60) were associated with increased odds of early-AOM. Breastfeeding was beneficial for children in both the early-AOM and persistent-AOM trajectory (OR 0.78, and 0.77 respectively). Birth in the summer or autumn as compared with birth in the spring decreased odds of AOM only in the persistent-AOM trajectory. Half of all AOM-prone children recovered after the age of 3 years.

Conclusion: Specific determinants are associated with different AOM-trajectories. Future research is needed to better predict which child will remain otitis-prone and which recovers after the age of 3 years to better tailor treatment towards the needs of the individual child.

Title: Children's mental health: the UK government needs to be far more ambitious

Citation: BMJ: British Medical Journal (Online); Mar 2021; vol. 372

Author(s): Watson, Michael Craig; Lloyd, John

Title: Fabricated illness: guidance is updated as survey shows nearly all paediatricians see potential cases

Citation: BMJ: British Medical Journal (Online); Mar 2021; vol. 372

Author(s): Mahase, Elisabeth

Abstract: The Royal College of Paediatrics and Child Health (RCPCH) has provided new guidance on how to spot and investigate potential cases of fabricated or induced illness (FII) and discuss the findings with parents or care givers.1 The guidance, an update from 2009, provides procedures for safeguarding children who present with perplexing presentations (PP) or FII and advice on how to minimise harm to children. "The term 'perplexing presentation' has been introduced to describe the commonly encountered situation when there are alerting signs of possible FII (not yet amounting to likely or actual significant harm), when the actual state of the child's physical health, mental health, and neurodevelopment is not yet clear, but there is no perceived risk of immediate serious harm to the child's health or life," it said. The guidance outlined signs that could indicate possible FII, such as inexplicably poor response to prescribed treatment, the child repeatedly not being brought to appointments, or the parents or carers objecting to communication between professionals.

Title: Do text messages about health and development in young children affect caregiver behaviour and child outcomes? A systematic review

Citation: The Health Education Journal; Mar 2021; vol. 80 (no. 2); p. 225

Author(s): Richardson, Brittany Paige; van der Linde Jeannie; Pillay Bhavani; Swanepoel De Wet

Introduction: Inadequate caregiving conditions interfere with successful health and development outcomes. Access to appropriate information can result in improved health and development outcomes in children. Health promotion text messaging, a primary mHealth strategy, has been implemented in various countries to reach communities where the majority of the population may be living in poverty and lacks access to information and health services. This systematic review investigated what effect the provision of information regarding health and development in young children, using text messages, has on caregiver behaviour and child outcomes.

Method: The review was conducted according to the PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) guidelines. Studies were retrieved from Scopus, MEDLINE, PubMed, Web of Science Core Collection and Cochrane library using primary search phrases. The search was not limited to a specific period. Thematic analysis was used to organise and synthesise the information extracted from selected studies into main and sub-themes.

Results: In total, 19 studies were identified, including randomised controlled trials (RCTs) (n = 13, 68.42%), observational studies (n = 3, 15.79%) and non-RCTs (n = 3, 15.79%). Message content included educational information regarding health and development (89.47%), reminders (36.84%) and caregiver support (52.63%). The majority of studies (n = 17; 89.47%) found statistically significant positive effects of text message intervention on caregiver behaviour. Text messages also affected child outcomes, with 15.79% (n = 3) of studies reporting a positive effect.

Conclusion: Text messaging is an effective tool to influence caregiver behaviour and child outcomes in health. There is however limited evidence regarding text message intervention effectiveness on child development, both in quality and in quantity. More research, especially in low- and middle-income countries, is necessary.

Title: Improving maternal and child health outcomes through active male partner involvement in perinatal care.

Citation: British Journal of Midwifery; Mar 2021; vol. 29 (no. 3); p. 130-138

Author(s): Berthran; Odetola, Titilayo Dorothy; Abiona, Mary Oluwabukunmi

Background: With poor maternal and child health outcomes in developing countries, improvement strategies have become preponderant.

Aim: To obtain the perception of University of Ibadan postgraduates on how active male involvement in perinatal care can influence the improvement of maternal and child health in developing countries.

Methods: A descriptive statistical analysis, using a cluster sampling technique was employed. Self-structured questionnaire was used for the research data collection from 241 postgraduate students.

Findings: In this study, majority of the respondents agreed that male involvement in perinatal care could reduce maternal stress (83.4%), promote healthy behaviours (83.8%), and promote safety of the wife's pregnancy and childbirth (90.5%); thus, improving maternal and child health outcomes.

Conclusion: When men in developing countries become actively involved in perinatal care, it will foster increased attendance and compliance to antenatal clinics, breastfeeding, immunisation and family planning which in turn will improve maternal and child health.

Title: Oral mucositis in childhood cancer patients receiving high-dose methotrexate: Prevalence, relationship with other toxicities and methotrexate elimination.

Citation: International Journal of Paediatric Dentistry; Mar 2021; vol. 31 (no. 2); p. 238-246 **Author(s):** Valer; Curra, Marina; Gabriel, Amanda de Farias; Schmidt, Tuany Rafaeli; Ferreira, Maria Beatriz Cardoso; Roesler, Rafael; Evangelista, Junior Mario Correa; Martins, Marco Antonio Trevizani; Gregianin, Lauro; Martins, Manoela Domingues

Background: Oral mucositis (OM) is one of the main adverse effects of the chemotherapeutic agent methotrexate (MTX).

Aim: To evaluate the relationship of OM with MTX metabolism time and other toxicities in childhood, cancer patients receiving high-dose of methotrexate (HD-MTX).

Design: Seventy-seven childhood patients receiving HD-MTX for treatment of leukaemia, osteosarcoma or lymphoma were evaluated. MTX serum level, hepatic and renal function parameters, and presence and intensity of OM were analysed.

Results: The patients were submitted to 255 cycles of chemotherapy. OM was diagnosed in 191 (74.9%) cycles. Of these, 119 (46.6%) presented ulcerative lesions. Lymphoma was associated with severe OM (P =.01). OM was associated with higher serum levels of aspartate aminotransferase (P =.006), alanine aminotransferase (P =.04) and creatinine (P =.008). Increase of one unit of total bilirubin and indirect bilirubin associated, respectively, with 11% and 39% higher prevalence of OM. For each increase of one unit of creatinine serum level, it was observed a 37% higher prevalence of OM in patients with lymphoma. No association was found between delayed excretion of MTX and OM development.

Conclusions: OM is a prevalent complication of childhood cancer patients receiving HD-MTX. Renal and hepatic toxicity could be considered risk factors for OM, especially in patients with lymphoma.

Title: Exploration of the dietary habits, lifestyle patterns and barriers to healthy eating in UK post-partum women.

Citation: Nutrition Bulletin; Mar 2021; vol. 46 (no. 1); p. 26-39

Author(s): Stevens; Kelaiditi, E.; Myrissa, K.

Abstract: Maternal nutrition during the post-partum period (PPP) is important for optimal health. The aim of this study was to explore dietary habits, lifestyle patterns and barriers to healthy eating in post-partum women. An online survey exploring eating habits, weight status, sleep duration, breastfeeding, nutrition knowledge, physical activity, provision of advice and barriers to healthy eating was completed by 228 women (56.1% were 25-34 years, mean PPP of 5.73 ± 3.31 months). A sub-sample of 34 women (50% were 35-44 years) completed an optional online multiple-pass 24-hour recall. At 6 months post-partum (n = 60), 72.3% of participants weighed more than their pre-pregnancy weight (mean 5.56 ± 4.61 kg). In addition, while 60.8% (n = 107) of women had a healthy body mass index (BMI) pre-pregnancy, this dropped to 46.7% (n = 77) in the PPP. Only 2.2% of women were meeting current UK physical activity guidelines and 73.7% were not meeting the 5 A DAY fruit and vegetable recommendations. Consumption of high calorie snacks and meal skipping were significantly higher during the PPP compared to pre-pregnancy (P < 0.01). Meal skipping was significantly associated with poor nutrition knowledge (P < 0.05). Women who were breastfeeding had significantly lower BMI than those who were bottle-feeding after adjusting for age of baby, education, socio-economic status and BMI pre-pregnancy (P < 0.05). Fatigue, lack of time and feeling stressed were the most common self-reported barriers to healthy eating, and these were greater for women with low combined household income and those having ≥3 children (P < 0.05). Dietary analysis showed that women were not meeting the national recommendations for energy, fibre, iron and vitamin D. Diet and lifestyle advice given to post-partum women needs to be tailored to different sociodemographic characteristics, pre-pregnancy health status and baseline nutrition knowledge, with a greater focus on those experiencing more barriers to healthy eating.

Title: Feeding frozen complementary foods promotes food acceptance in infants: The randomized intervention trial Baby Gourmet.

Citation: Nutrition Research; Mar 2021; vol. 87; p. 49-56

Author(s): Kalhoff; Schmidt, Inga V.; Heindl, Ines; Kunert, Joachim; Kersting, Mathilde

Abstract: Infancy may represent a sensitive window for establishing food preferences that could affect the individual's long-term potential to establish healthy eating patterns. Our study was based on the hypothesis that preserving the natural flavor of the ingredients of commercially prepared complementary foods would increase the acceptance of new foods, especially vegetables. Frozen vegetable-based meals for infants were developed to preserve the natural taste of the ingredients better than sterilization of meals in jars. In a 3-month randomized, controlled intervention study, 51 infants were fed either frozen menus (intervention group) or commercial sterilized meals in jars (control group) on at least 5 days per week. Then the acceptability of a known vegetable-based puree was tested in comparison to an unknown puree, measuring the quantities consumed and also the mother's assessment of the infants' liking. In conclusion, the results of this study clearly indicated that infants fed vegetable-based frozen meals for 3 months accepted a new vegetable better than infants fed sterilized commercial meals in jars.

Title: Family presence during paediatric resuscitation and invasive procedures: the parental experience: An integrative review.

Citation: Scandinavian Journal of Caring Sciences; Mar 2021; vol. 35 (no. 1); p. 20-36

Author(s): Mark

Background: The evolvement of family-centred care has been an ongoing process since the Platt Report 1959. Family-centred care has become the modern working model in paediatrics and obstetrics. Parental participation is central to family-centred care. Whether it is applied consistently remains to be concluded.

Aim: The aim of the study was to describe the family experiences of being present during paediatric resuscitation and invasive procedures.

Method: The design used in this study is an integrative review by Whittemore & Knafl. Databases PubMed and CINAHL were searched for primary research concerning the parental experiences of participating in paediatric resuscitation and invasive procedures. Eighteen studies were included in the study. A quality assessment tool was applied. Findings: A pro-parental presence was the results of 17 of the 18 included studies. Six common themes were found: 'Being there', 'Calming child', 'Calming parent', 'Having the right', 'Do it again' and 'Seeing is believing'.

Conclusion: Including family in resuscitation and invasive procedures requires openness as a working model and demands organisational changes and the updating of guidelines. The inseparability of parent—child is attachment theory practised, an innate quality of being a child as well as a parent. Recommendations are to have a facilitator present during resuscitation and invasive procedures to alleviate stress on everyone's part, enabling family participation.

Title: Women who experience feelings of aversion while breastfeeding: A metaethnographic review.

Citation: Women & Birth; Mar 2021; vol. 34 (no. 2); p. 128-135 **Author(s):** Morns; Steel, Amie E.; Burns, Elaine; McIntyre, Erica

Abstract: Limited literature is available about women who wish to breastfeed but experience unexpected feelings of aversion in reaction to their infant suckling at the breast while breastfeeding. Breastfeeding benefits mothers, infants and society yet breastfeeding rates continue to fall below recommendations in part due to inadequate tailored support after hospital discharge. Influences on breastfeeding are complex and include many physiological, psychosocial and cultural factors. To better understand the experience of women who have feelings of aversion during breastfeeding by synthesising the existing literature. MEDLINE, CINAHL, PsycINFO, Maternity and Infant Care databases were searched for relevant literature published between 2000 to 2019. Using Covidence software, five qualitative research studies were identified. Studies were then analysed using metaethnographic qualitative synthesis. Feelings of aversion during breastfeeding were described as visceral and overwhelming; leading to feelings of shame and inadequacy. This synthesis identified five findings; a central conceptual category of "it's such a strong feeling of get away from me" with four key metaphors translated from this central conceptual category: "I do it because I feel it is best for my baby", "I can't control those feelings", "I should be able to breastfeed my son and enjoy it", and "I'm glad I did it". This phenomenon may negatively affect a women's sense of self and impact on the mother-infant relationship. Some women who want to breastfeed can experience feelings of aversion while breastfeeding. The

feelings of 'aversion' while breastfeeding can inhibit women from achieving their personal breastfeeding goals.

Title: COVID-19 Illness: Mother-Baby Separation, Viruses, and Breastfeeding.

Citation: Clinical Lactation; Feb 2021; vol. 12 (no. 1); p. 6-14

Author(s): Duran; Johnston, Jarold T.

Objectives: Some hospitals have instituted separation of mothers and their newborn(s) when SARS-CoV-2 is suspected or confirmed in the mother. Limited data are available for SARS-CoV-2 vertical transmission, including studies on breast milk. This article looks at SARS CoV-2 case studies and data to date as well as prior pertinent research.

Methods: Informal searches of PUBMED, CINAHL and Ovid Emcare were used to identify early reports of vertical transmissions of the novel Coronavirus, case reports, and population based reports of early evolving protocols and their outcomes. As this is a novel virus the authors used previously identified anti-infectivity and antiviral mechanisms of human milk on other similar viruses to guide analysis. Further this article reviewed the well established literature regarding the risks of undue infant separation which negatively affect nearly every aspect of infant and maternal health.

Results: Informal searches conducted in the spring and early summer of 2020 identified 14 early reports attempting to analyze the initial and evolving global response to SARS-CoV-2 and the effects of the virus on the maternal-infant dyad.

Conclusion: The feasibility of single-family rooms and support for breastfeeding as an alternative approach that addresses many of the risks favorably and reduces economic cost, both in lifetime disease burden and direct care are discussed. Initial reports seem to indicate that immediate separation of the mother from her newborn is likely to increase the risk to both mother and infant.

Title: Lactation Support During the COVID-19 Pandemic: Keeping Our Distance but Remaining Connected.

Citation: Clinical Lactation; Feb 2021; vol. 12 (no. 1); p. 15-21 **Author(s):** Pasadino ; Ellett, Gladys Vallespir; DeMarco, Kathleen

Objective: The Center for Perinatal Education and Lactation at NYU Langone Hospitals, in one of the initial epicenters of the COVID-19 pandemic in New York City, due to state and local mandates, had to abruptly cancel all in-person educational sessions and support groups. Determining how to best provide prenatal and postnatal breastfeeding support became a major challenge and we had to expediently identify innovative avenues to continue to provide guidance and support for our expectant and new families.

Discussion: This article discusses how the NYU Langone Hospitals Lactation Department creatively revised the approach to prenatal and post discharge breastfeeding support by implementing a telehealth format which commenced in March of 2020 and by expanding post discharge telephone support. We were able to successfully transition rapidly into providing lactation education and post discharge via a virtual framework during this time of the COVID-19 pandemic and we increased our telephone support for vulnerable dyads. Conclusion: A virtual technology format is a viable alternative means of providing lactation education and supporting optimal infant feeding within the context of the COVOD-19

pandemic. Virtual platforms could reasonably become the permanent way of delivering lactation guidance and support for the foreseeable future.

Title: Lactation Support Case Report During COVID-19.

Citation: Clinical Lactation; Feb 2021; vol. 12 (no. 1); p. 39-41

Author(s): Parajon

Objective: To highlight a new format, a newborn clinic is providing lactation care during the pandemic. COVID-19 is affecting many families, and lactation consultants can adapt during these times. Families are staying isolated in their homes to reduce exposure to the virus, but problems concerning lactation still exist, and in-person appointments are discouraged. Families continue to get lactation advice and care through scheduled telephone appointments and simultaneous viewing of Global Health Media breastfeeding videos sent through secure message emails.

Case Report: Details the specific response at the newborn clinic which include discussion of videos and answering questions through no-cost telephone appointments until the family reaches their goals. Conclusions: Infant- and mother-related lactation problems continue to exist during the pandemic, but because of in-person restrictions, families are not able to attend clinic appointments. The scheduled telephone appointments and the simultaneous video viewing addresses many lactation problems with great success and satisfaction among the families.

Title: A Quality Improvement Initiative to Reduce Unnecessary Rapid Responses Using Early Warning Scores.

Citation: Pediatrics; Mar 2021; vol. 147 (no. 3)

Author(s): Penney, Scott W; O'Hara-Wood, Scarlett N; McFarlan, Lisa M; Slaughter, Robert

P; Cox, Carla S; Gibbons, Amber N; Sam, Ashley E; Matos, Renée I

Objectives: The Pediatric Early Warning Score (PEWS) is an evidence-based tool that allows early collaborative assessment and intervention for a rapid response team (RRT) activation. The goal of our quality improvement initiative was to reduce the percentage of unnecessary RRT activations by 50% over 2 years without increasing PICU transfers or compromising patient safety and timely evaluation.

Methods: A PEWS system replaced preexisting vital signs-based pediatric RRT criteria and was modified through plan-do-study-act cycles. Unnecessary RRT activations, total RRT activation rate, transfers to the PICU, total clinical interventions performed per RRT, and missed RRT activation rate were compared between intervention periods. Likert scale surveys were administered to measure satisfaction with each modification.

Results: There was a significant decrease in the percentage of unnecessary RRT activations from 33% to 3.5% after the implementation of the PEWS and modified-PEWS systems (P < .05). The RRT activation rate decreased from 22.6 to 13.3 RRT activations per 1000 patient care days after implementation of the PEWS and modified-PEWS systems (P < .05), without changes in PICU transfer rates. Physicians reported that the PEWS system improved nursing communication and accuracy of RRT criteria (P < .05). Nursing reported that the PEWS system improved patient management and clinical autonomy (P < .05).

Conclusions: The PEWS systems have been an effective means of identifying deteriorating pediatric patients and reducing unnecessary RRT activations. The new system fosters

collaboration and communication at the bedside to prevent acute deterioration, perform timely interventions, and ultimately improve patient safety and outcomes.

Title: Reducing Caesarean Section Surgical Site Infection (SSI) by 50%: A Collaborative Approach.

Citation: Journal for healthcare quality: official publication of the National Association for Healthcare Quality; 2021; vol. 43 (no. 2); p. 67-75

Author(s): Corbett, Gillian A; O'Shea, Evelyn; Nazir, Syeda Farah; Hanniffy, Rosena; Chawke, Geraldine; Rothwell, Alison; Gilsenan, Fiona; MacIntyre, Anne; Meenan, Anne Marie; O'Sullivan, Niamh; Maher, Niamh; Tan, Terry; Sheehan, Sharon R

Objective: Caesarean section surgical site infection (SSI) is a surgical wound site infection occurring within 30 days of surgery with a reported incidence of 3-15%. This quality improvement (QI) project aimed to reduce caesarean section SSI by 50% in a tertiary maternity center.

Methods: Using multidisciplinary team approach, the project was designed with evidence-based interventions. The Royal College of Physicians of Ireland/Royal College of Surgeons in Ireland "Preventing Surgical Site Infections Key Recommendations for Practice" guideline was used as standard perioperative care. A care bundle was designed targeting preoperative personal patient preparation, preoperative prophylactic antibiotics, and strict skin preparation technique, all measured using a patient survey. The rate of SSI was followed for 14 months. The Model for Improvement methodology was used to implement change.

Results: Surgical site infection rate decreased from 6.7% (n = 684 caesarean sections, n = 46 SSI) to 3.45% (n = 3,206 caesarean sections, n = 110 SSI), p = .0006. Reduction occurred in both elective (4.4%-2.7%) and emergency (9.1%-4.1%) caesarean section groups. There was excellent adherence to all three elements of the care bundle. The 50% reduction in caesarean section SSI was sustained over the 14-month period, significantly reducing maternal morbidity.

Conclusions: The success of this QI project is attributable to frontline ownership and empowerment of patients and staff.

Title: Creation of a chemotherapy-induced nausea/vomiting dashboard to improve outcomes for pediatric cancer patients.

Citation: Supportive care in cancer: official journal of the Multinational Association of Supportive Care in Cancer; Mar 2021; vol. 29 (no. 3); p. 1549-1555

Author(s): Walsh, Alexandra M; Hess, Jennifer; Rees, Melissa; Wetmore, Cynthia; Vadiya, Vinay

Purpose: Two of the most common acute side effects of chemotherapy are nausea and vomiting. Nausea and vomiting impact quality of life, nutritional status, and ability to tolerate further chemotherapy. Parents of pediatric oncology patients rank nausea as one of the most bothersome treatment-related symptoms.

Methods: Utilizing Quality Improvement methodology, we developed a dashboard interface to facilitate extraction of data from the electronic medical record (EMR), which is presented via a visual display that summarizes the type of chemotherapy and antiemetic medications, use of as needed medications, and number of episodes of emesis.

Results: This dashboard interface allows for rapid and efficient identification of patients whose antiemetic regimen is mismatched for the emetogenicity of ordered chemotherapy, thus providing a timely opportunity to modify the antiemetic regimen based on published guidelines before administration of chemotherapy drugs. It also allows measurement of the effectiveness of the antiemetic regimen in terms of the number of break through emesis and the need for as needed medications.

Conclusions: A novel CINV dashboard was created, which visually conveys complex information about antiemetics, chemotherapy emetogenicity, as needed medications, and breakthrough vomiting for inpatient pediatric oncology patients.

Title: Paediatric trainees' training experiences during the COVID-19 pandemic: a national survey.

Citation: Archives of disease in childhood. Education and practice edition; Feb 2021 **Author(s):** Harmer, Matthew James; Southgate, Genevieve; Raja, Maduri; Alam, Shouja

Abstract: This study examines trainees' experiences of paediatric education and training during the COVID-19 pandemic. Paediatric trainees across the UK undertook an online survey. 368 of approximately 4000 trainees responded; quantitative and qualitative data were collected. Although the majority of trainees remained in their specialties, there was significant disruption to training events, teaching and learning opportunities. Despite this, for many, novel opportunities presented themselves that may not have otherwise been accessible. Trainees reported increased virtual learning, reflection, leadership and management opportunities. A breadth of trainee-identified web-based paediatric training resources were also highlighted. As the COVID-19 pandemic persists, these trainee experiences inform educators to adopt helpful training practices from other regions, including sharing of virtual learning regionally and acting-up opportunities. Trainees highlighted previously under-recognised areas of concern that can inform quality improvement initiatives, such as enhancing patient safety through tackling trainee fatigue, combating reduced clinical experience or instituting protected supporting professional activity time.

Title: Improving Antibiotic Timing in Febrile Neutropenia for Pediatric Oncology Patients with a Central Line.

Citation: Journal of pediatric oncology nursing: official journal of the Association of

Pediatric Oncology Nurses; Feb 2021; p. 1043454221992294

Author(s): Roseland, Jenae

Background: Febrile neutropenia in pediatric oncology patients is considered a medical emergency. This population is at risk for infection-related complications due to their immunocompromised state. The purpose of this evidence-based quality improvement project was to reduce the time in minutes from admission to antibiotic administration to within 60 min in at least 90% of pediatric oncology patients with a central line presenting with febrile neutropenia.

Methods: An order set titled "FAST BREAK-Fever Neutropenia Admission" was created to expedite care during the first hour of admission, including labs, blood cultures, and a one-time STAT dose of intravenous cefepime. Education was provided to all providers and nursing staff on the unit through inservices, handouts, emails, and computer reminders. Results: Within three months from the FAST BREAK order set implementation, compliance for administering antibiotics within 60 min from admission occurred in 100% of admissions.

Other outcomes included 100% compliance in provider utilization of the order set, reduction in the average time from admission to antibiotic administration, and cost reduction related to cefepime waste.

Discussion: The FAST BREAK order set is now considered the standard of care in the Pediatric Cancer Center at the University of Iowa Stead Family Children's Hospital. Maintaining the expectation of prompt antibiotic administration for febrile neutropenia in pediatric oncology patients with a central line will improve patient care, reduce adverse outcomes in this vulnerable population, and correlate with national guidelines for antibiotic administration in febrile oncology patients.

Title: Preventing critical failure. Can routinely collected data be repurposed to predict avoidable patient harm? A quantitative descriptive study.

Citation: BMJ quality & safety; Mar 2021; vol. 30 (no. 3); p. 186-194

Author(s): Nowotny, Benjamin Michael; Davies-Tuck, Miranda; Scott, Belinda; Stewart, Michael; Cox, Elizabeth; Cusack, Karen; Fletcher, Martin; Saar, Eva; Farrell, Tanya; Anil, Shirin; McKinlay, Louise; Wallace, Euan M

Objectives: To determine whether sharing of routinely collected health service performance data could have predicted a critical safety failure at an Australian maternity service.

Design: Observational quantitative descriptive study.

Setting: A public hospital maternity service in Victoria, Australia.

Data Sources: A public health service; the Victorian state health quality and safety office-Safer Care Victoria; the Health Complaints Commission; Victorian Managed Insurance Authority; Consultative Council on Obstetric and Paediatric Mortality and Morbidity; Paediatric Infant Perinatal Emergency Retrieval; Australian Health Practitioner Regulation Agency.

Main Outcome Measures: Numbers and rates for events (activity, deaths, complaints, litigation, practitioner notifications). Correlation coefficients.

Results: Between 2000 and 2014 annual birth numbers at the index hospital more than doubled with no change in bed capacity, to be significantly busier than similar services as determined using an independent samples t-test (p<0.001). There were 36 newborn deaths, 11 of which were considered avoidable. Pearson correlations revealed a weak but significant relationship between number of births per birth suite room birth and perinatal mortality ($r^2 = 0.18$, p=0.003). Independent samples t-tests demonstrated that the rates of emergency neonatal and perinatal transfer were both significantly lower than similar services (both p<0.001). Direct-to-service patient complaints increased ahead of recognised excess perinatal mortality.

Conclusion: While clinical activity data and direct-to-service patient complaints appear to offer promise as potential predictors of health service stress, complaints to regulators and medicolegal activity are less promising as predictors of system failure. Significant changes to how all data are handled would be required to progress such an approach to predicting health service failure

Title: Delivery and breastfeeding in pregnant patients with COVID-19 (Review).

Citation: Experimental and therapeutic medicine; Mar 2021; vol. 21 (no. 3); p. 278 **Author(s):** Dumitrascu, Mihai Cristian; Cirstoiu, Monica Mihaela; Nenciu, Adina-Elena; Petca, Aida; Sandru, Florica; Petca, Razvan-Cosmin; Nenciu, Catalin George

Abstract: COVID-19 infection has rapidly become a global issue that has brought essential changes in the daily life of patients and doctors. The pandemic outbreak represents a significant burden on humankind; yet, life still moves on with approximately 350,000 babies being born every day around the world (UNICEF-2018). Some of these mothers will have other conditions, including COVID-19 infection. As healthcare providers, it is our responsibility to treat all women equal no matter what illness they have and to offer them the best possible conditions to give birth vaginally or via Caesarian section, in a safe environment for them and their babies. The main concern is represented by the limitation of the disease transmission to pregnant patients and newborns while managing maternal or fetal emergencies. We have limited information regarding COVID-19 infection, and the data are constantly changing and evolving. New information is brought to light almost on a weekly basis. This review aims to synthesize the recommendations and current experience regarding the birth method for infected women, labor management, Caesarian section management, and breastfeeding indications in these cases.

Title: The Effects of opioids on female fertility, pregnancy and the breastfeeding mother-infant dyad: A Review.

Citation: Basic & clinical pharmacology & toxicology; Mar 2021

Author(s): Corsi, Daniel J; Sq Murphy, Malia

Abstract: Opioids cover a broad class of natural, synthetic and semi-synthetic drugs that act on opioid receptors to produce powerful analgesic effects. Rates of opioid use and opioid agonist maintenance treatment have increased substantially in recent years, particularly among women. Trends and outcomes of opioids use on fertility, pregnancy and breastfeeding, and longer-term child developmental outcomes have not been well-described. Here, we review the existing evidence on the health effects of opioid use on female fertility, pregnancy, breastmilk and the exposed infant. We find that the current literature is primarily concentrated on the impact of opioid use in pregnancy and neonatal outcomes, with little exploration of its effects on fertility. Studies are limited in number, with small sample sizes, and are hampered by methodological challenges related to confounding and other potential biases. Opioid use is becoming more prevalent. More research is needed to better elucidate its effects on reproductive health among younger women to support the development of evidence-based recommendations for safe prescription practices and public health messaging.

Title: COVID-19 guidelines for pregnant women and new mothers: A systematic evidence review.

Citation: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Mar 2021

Author(s): DiLorenzo, Madeline A; O'Connor, Sarah; Ezekwesili, Caroline; Sampath, Spoorthi; Zhao, Molly; Yarrington, Christina; Pierre, Cassandra

Background: Nearly a year after COVID-19 was initially detected, guidance for pregnant and new mothers remains varied.

Objective: The goal of this systematic review is to summarize recommendations for three areas of maternal and fetal care - breastfeeding, post-partum social distancing, and decontamination.

Search Strategy: We searched PubMed, Embase and Web of Science spanning from inception to November 09, 2020.

Selection Criteria: Articles were included if they focused on COVID-positive mothers, commented on at least one of the three areas of interest, and were published in English.

Data Collection and Analysis: Our combined database search yielded 385 articles. After removing duplicates and articles that did not cover the correct populations or subject matter, a total of 74 articles remained in our analysis.

Main Results: Most articles recommended direct breastfeeding with enhanced precaution measures. Recommendations regarding post-partum social distancing varied, although articles published more recently often recommended keeping the mother and newborn in the same room when possible. Decontamination recommendations emphasized mask wearing, good hand hygiene, and proper cleaning of surfaces.

Conclusion: In general, there was a focus on shared decision making when approaching topics such as breastfeeding and post-partum social distancing. Guidelines for decontamination were fairly uniform.

Title: Challenges of phototherapy for neonatal hyperbilirubinemia (Review).

Citation: Experimental and therapeutic medicine; Mar 2021; vol. 21 (no. 3); p. 231 **Author(s):** Wang, Juan; Guo, Genxin; Li, Aimin; Cai, Wen-Qi; Wang, Xianwang

Abstract: Phototherapy is universally recognized as the first option for treating neonatal jaundice due to its unparalleled efficiency and safety in reducing the high serum free bilirubin levels and limiting its neurotoxic effects. However, several studies have suggested that phototherapy may elicit a series of short- and long-term adverse reactions associated with pediatric diseases, including hemolysis, allergic diseases, DNA damage or even cancer. The aim of the present review was to summarize the etiology, mechanism, associated risks and therapeutic strategies for reducing high neonatal serum bilirubin levels. In order to shed light on the negative effects of phototherapy and to encourage implementation of a reasonable and standardized phototherapy scheme in the clinic, the present review sought to highlight the current understanding of the adverse reactions of phototherapy, as it is necessary to further study the mechanism underlying the development of the adverse effects of phototherapy in infants in order to explore novel therapeutic alternatives.

Title: Over a third of childbearing women with HIV would like to breastfeed: A UK survey of women living with HIV.

Citation: International journal of STD & AIDS; Feb 2021; p. 956462421999951

Author(s): Nyatsanza, Farai; Gubbin, Jessica; Gubbin, Thomas; Seery, Paula; Farrugia, Pippa; Croucher, Adam; Gilleece, Yvonne; Rosenvinge, Melanie; Roedling, Sherie; Sarner, Liat; Nayagam, Dayawathie; Stradling, Clare; Namiba, Angelina; Fearnley, Nicola; Lyall, Hermione

Background: The World Health Organisation advice for post-partum women living with HIV (WLHs) in low- and middle-income countries is to breastfeed on suppressive antiretroviral treatment and use infant postnatal prophylaxis. In resource-rich settings, where formula feeding is safe, avoidance of breastfeed is advised.

Methods: A questionnaire was created to survey attitudes to breastfeeding in WLHs in the United Kingdom. This was offered to all eligible pregnant women in the third trimester or within 3 months post-partum who attended HIV outpatient clinics from 2017 to 2018.

Results: Ninety-four women completed the questionnaire, 69% were Black African and 92% had an undetectable HIV viral load. Thirty eight percent stated they would like to breastfeed and 89% said they would breastfeed if they were HIV negative. Sixty two percent had community members question why they did not breastfeed, and 66% felt forced to invent a reason why they were not breastfeeding.

Conclusion: Current UK guidelines recommend formula feeding, proposing a harm reduction approach to support women with suppressed HIV who wish to breastfeed. Over a third of respondents said they would like to breastfeed because stigma and secrecy remain an issue for WLHs. This suggests that over time more women may choose this option.

Sources Used:

The following databases are used in the creation of this bulletin: Amed, British Nursing Index, Cinahl & Medline.

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