Women and Children's Current Awareness Bulletin

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Title: Knowledge and health beliefs about gestational diabetes and healthy pregnancy's breastfeeding intention.

Author(s): Park, Seungmi; Lee, Jung Lim; In Sun, Jang; Kim, Youngji

Aims and objectives: If the knowledge and health beliefs relating to gestational diabetes mellitus during pregnancy are associated with behaviours during pregnancy and lactation, this suggests potential educational interventions.

Backgrounds: Women with gestational diabetes mellitus are more likely to develop type 2 diabetes mellitus, and babies with gestational diabetes mellitus incur increased risk of neonatal hypoglycaemia and childhood obesity. Breastfeeding is an effective way to improve maternal and lipid metabolism of gestational diabetes mothers, and to lower the risk of type 2 diabetes mellitus after birth, to prevent conception. Nurses have an important role in encouraging mothers to breastfeed for health promotion. The importance of cognitive factors such as knowledge, beliefs and attitudes is emphasised to increase the breastfeeding rate and to improve the quality of breastfeeding for pregnant women. Little research has been undertaken exploring cognitive factors and breastfeeding intention. Design: Cross-sectional descriptive survey in healthy pregnant women.

Methods: A questionnaire about gestational diabetes mellitus-related knowledge and health beliefs of gestational diabetes mellitus management composed of perceived susceptibility, severity, benefits, barriers and self-efficacy was developed by investigators. The association of two predictor variables of interest, gestational diabetes mellitus-related knowledge and health beliefs of gestational diabetes mellitus management, was tested with the outcome variable, breastfeeding intention, using chi-square test, t test, ANOVA and multiple logistic regression.

Results: Two hundred and thirty-seven of the 250 participants returned questionnaires for a final response rate of 94.8%. Breastfeeding intention after childbirth was associated with stronger perceived benefit, higher levels of self-efficacy and lower alcohol consumption.

Conclusion: History of drinking and health beliefs such as perceived benefits and self-efficacy were highly associated with breastfeeding intention relating to gestational diabetes mellitus. Education for breastfeeding in gestational diabetes mellitus mothers should focus upon the benefit of breastfeeding and strengthening self-efficacy.

Title: Reducing Alarm Fatigue in Two Neonatal Intensive Care Units through a Quality Improvement Collaboration.

Objective: To reduce nonactionable oximeter alarms by 80% without increasing time infants were hypoxemic (oxygen saturation [SpO 2] ≤ 80%) or hyperoxemic (SpO 2 > 95% while on supplemental oxygen).

Study Design: In 2015, a multidisciplinary team at Connecticut Children's Medical Center initiated a quality improvement project to reduce nonactionable oximeter alarms in two referral neonatal intensive care units (NICUs). Changes made through improvement cycles included reduction of the low oximeter alarm limit for specific populations, increased low

alarm delay, development of postmenstrual age-based alarm profiles, and updated bedside visual reminders. Manual alarm tallies and electronic SpO 2 data were collected throughout the project.

Results: Alarm tallies were collected for 158 patient care hours with SpO 2 data available for 138 of those hours. Mean number of total nonactionable alarms per patient per hour decreased from 9 to 2 (78% decrease) and the mean number of nonactionable low alarms per patient per hour decreased from 5 to 1 (80% decrease). No change was noted in the balancing measures of percentage time with SpO 2 ≤ 80% (mean 4.3%) or SpO 2 > 95% (mean 23.7%).

Conclusion: Through small changes in oximeter alarm settings, including revision of alarm limits, alarm delays, and age-specific alarm profiles, our NICUs significantly reduced nonactionable alarms without increasing hypoxemia.

Title: Outcome Measures in Interventions That Enhance Breastfeeding Initiation, Duration, and Exclusivity: A Systematic Review.

Author(s): Wood, Natsuko K.; Woods, Nancy F.

Objective: The purpose of this review was to examine outcome measures used in interventions focusing on enhancement of breastfeeding initiation, duration, and exclusivity.

Methods: A literature search guided by search terms on outcome measures of breastfeeding interventions was conducted using PubMed, CINAHL Plus, & PsycINFO databases on publications between 2006 and 2017.

Results: Nine studies were included in this review, using PRISMA guidelines. Rates of breastfeeding initiation, duration, and exclusivity were measured during specific points in time. Data collection methods involve interviews, self-report, observations, and/or feeding logs. Although breastfeeding types (exclusive breastfeeding, predominant breastfeeding, and complementary breastfeeding) were measured, methods of infant feeding (breastfeeding and bottle feeding) were rarely assessed, ignoring significant mediators or moderators of breastfeeding.

Conclusions: There were methodological limitations to the reviewed studies: (1) a 24-hour recall bias, (2) misclassification of breastfeeding categories, (3) lack of consistency in breastfeeding definitions, and (4) few reports of the reason for breastfeeding discontinuation. Future studies should focus on the modifiable cause of the problem: outcome measures attributed to the targets of the intervention, followed by breastfeeding initiation, duration, and/or exclusivity. This systematic review highlights gaps in the literature on interventions to promote breasting. Without a core set of measures that are consistently used by breastfeeding researchers, it is challenging to identify and design interventions that help new mothers meet their breastfeeding goals.

Title: Acupuncture for Infantile Colic: A Systematic Review of Randomised Controlled Trials.

Author(s): Lee, Dabin; Lee, Hojung; Kim, Jiwon; Kim, Taehun; Sung, Siyun; Leem, Jungtae; Kim, Tae-Hun

Introduction: Infantile colic is a common condition causing considerable deterioration in the quality of life of both infants and their parents. Minimal acupuncture, a gentle needling technique without strong muscle stimulation, has primarily been used to treat this condition, but the clinical evidence of its efficacy and safety is yet to be established. The objective of this review was to assess clinical evidence of the safety and efficacy of acupuncture for infantile colic.

Methods: To identify studies for inclusion, PubMed, Cochrane Library, Google Scholar, China Knowledge Resource Integrated Database, Wanfang, and Oriental Medicine Advanced Searching Integrated System were searched until January 2017. Only randomised controlled trials of infantile colic in patients aged 0 to 25 weeks, who were treated with acupuncture, were included. To assess the quality, the risk of bias was determined for each study by two authors. The intention was to perform a meta-analysis, but this was not possible in this study due to considerable clinical heterogeneity among the included studies.

Results: Of the 601 studies identified, only four randomized controlled trials were included in this review. All included studies were conducted in northern European countries. Most studies showed a low risk of bias in most domains. Minimal acupuncture on LI4 or ST36 without strong stimulation was used in all studies. From the narrative analysis, acupuncture appears to be effective in alleviating the symptoms of colic, including crying and feeding and stooling problems, and may have only minor adverse effects. However, clinical evidence could not be confirmed owing to considerable clinical heterogeneity and the small sample sizes of the included studies.

Conclusion: There is currently no conclusive evidence on the safety and efficacy of acupuncture for infantile colic. Rigorous full-scale randomized controlled trials will be necessary in future.

Title: Increasing Timely Family Meetings in Neonatal Intensive Care: A Quality Improvement Project.

Author(s): Sabnis, Animesh; Hagen, Eunice; Tarn, Derjung M; Zeltzer, Lonnie

Objectives: Timely multidisciplinary family meetings (TMFMs) promote shared decision-making. Despite guidelines that recommend meetings for all patients with serious illness, our NICU TMFM rate was 10%. In this study, we aimed to document a meeting within 5 days of hospitalization for 50% of all new NICU patients hospitalized for ≥5 days within 1 year of introducing interventions.

Methods: A multidisciplinary improvement team used the Model for Improvement to achieve the study aim by targeting key drivers of change. To make meetings easier, we introduced

scheduling and documentation tools. To make meetings more customary, we provided education and reminders to professionals. We defined a TMFM as a documented discussion between a parent, a neonatologist, and a nonphysician professional, such as a nurse, within 5 days of hospitalization. We used statistical process control charts to assess the monthly proportion of new patients with a TMFM. In surveys and feedback sessions, family and clinician satisfaction with communication was assessed.

Results: TMFM documentation tripled during the intervention year when compared with the previous year (28 of 267 [10.5%] vs 70 of 224 [31.3%]; P < .001), revealing evidence of special cause variation on the statistical process control chart. Clinicians predominantly used ad hoc documentation instead of our scheduling and documentation tools. Parental satisfaction with care and communication did not vary significantly after interventions. Most physicians reported satisfaction with meetings. Nurses reported feeling empowered to request meetings.

Conclusions: An academic, quaternary-care NICU tripled TMFM documentation after introducing a multifaceted intervention. This improvement may represent changes in professionals' attitudes about providing and documenting family meetings.

Title: Predictors of Referral to a Pediatric Outpatient Chronic Pain Clinic.

Author(s): Tumin, Dmitry; Miller, Rebecca; Mohammed Hakim; Shafy, Shabana Z; Drees, David; Wrona, Sharon; Smith, Timothy P; Tobias, Joseph D; Bhalla, Tarun

Objectives: To retrospectively characterize the rate of referrals to an outpatient chronic pain clinic among adolescents with chronic pain, and to identify factors associated with referral.

Methods: Adolescents 13-18 years of age seen in 2010-2015 at outpatient clinics associated with Nationwide Children's Hospital (NCH) and diagnosed with chronic pain were included if they lived near NCH and had not been previously referred to the NCH outpatient chronic pain clinic. Subsequent referrals to the pain clinic were tracked through December 2017 using a quality improvement database. Factors predicting referral were assessed at the initial encounter in another outpatient clinic, and analyzed using multivariable logistic regression.

Results: The analysis included 778 patients (569 female; median age 15 y), of whom 96 (12%) were subsequently referred to the chronic pain clinic, after a median period of 3 months. Generalized chronic pain (adjusted odds ratio [aOR]=1.8; 95% confidence interval [CI]: 1.1, 3.1; P=0.023) and regional pain syndromes (aOR=3.1; 95% CI: 1.5, 6.7; P=0.003) were associated with increased likelihood of referral. Referral was also more likely among female patients and among patients with a mental health comorbidity or recent surgery or hospitalization.

Discussion: Referrals to our chronic pain clinic were more likely for adolescents with generalized chronic pain, regional pain syndromes, and patients with mental health comorbidities. Recent hospitalization or surgery, but not recent emergency department visits, were associated with pain clinic referral. Multivariable analysis did not find disparities in referral by race or socioeconomic status.

Title: Lactation Assessment Tools: A Qualitative Analysis of Registered Nurses' Perceptions of Tool Limitations and Suggested Improvements.

Author(s): Chapman, Donna J.; Kuhnly, Joan Esper

Background: Several lactation assessment tools are available for in-hospital assessment of breastfeeding dyads, and their components vary widely. To date, no research has evaluated the perceptions of registered nurses (RNs) regarding the limitations and future improvements of these tools.

Research Aim: The aim was to describe RNs' perceptions of the limitations of currently used lactation assessment tools and how these tools could be enhanced.

Methods: Focus groups (n = 7) were conducted with RNs (N = 28) whose current responsibilities included in-hospital breastfeeding assessment. Recruitment occurred from April through July 2015 at regional and international lactation conferences. Focus groups were audiotaped and transcribed verbatim. Two lactation researchers analyzed the transcripts to identify emerging themes and subthemes.

Results: RNs identified three key limitations of the tools included being too subjective and time-consuming, difficulty in assessing audible swallows, and missing the big picture (e.g., overemphasizing numbers, being a snapshot in time). Suggested improvements focused on maternal characteristics (evolving breasts and nipples, holding it together, "got milk?," risk factors, embracing the role), infant characteristics (day of life, latch/suck/swallow, baby's "driving the bus," risk factors for supplemental feeding), their interaction (two to tango, positioning, better qualitative descriptors), and tool organization (formatting and multiple versions).

Conclusions: RNs suggested novel components for consideration when developing future lactation assessment scales, including removing audible swallowing, adding mother/infant interactions, infant output, and expressible colostrum, and developing criteria specific to infant age. Future research should translate these suggestions into evidence-based indicators and evaluate the resulting proposed tools for reliability and validity.

Title: Improving the quality of medical handover on a paediatric ward.

Author(s): Ahmed, Molla I; Nirmal, Neeraj; Al-Sabbagh, Afraa; Aslam, Mona

Abstract: Improving communication between health-care professionals is essential for patient safety. This article outlines a quality improvement project carried out to improve the quality of medical handover on a paediatric ward. The project incorporated the use of the SBAR (situation, background, assessment, recommendation) tool and use of a job book to highlight outstanding jobs in the daily handover. The project showed an improvement in the quality of handover and highlighted that a standardized approach to medical handover helped to ensure continuity of care of paediatric patients.

Title: Childhood Seizures After Phototherapy.

Author(s): Newman, Thomas B.; Wu, Yvonne W.; Kuzniewicz, Michael W.; Grimes, Barbara A.; McCulloch, Charles E.

Background and Objectives: In a recent Danish study, researchers found an increased risk of childhood epilepsy after phototherapy but only in boys. We investigated this association in a Kaiser Permanente Northern California cohort.

Methods: From 499 642 infants born at ≥35 weeks' gestation in 1995--2011 followed for ≥60 days, we excluded 1773 that exceeded exchange transfusion thresholds and 1237 with seizure diagnoses at <60 days. We ascertained phototherapy, covariates, and outcomes from electronic records and existing databases. Our primary outcome was ≥1 encounter with a seizure diagnosis plus ≥1 prescription for an antiepileptic drug. We used Cox and Poisson models to adjust for bilirubin levels and other confounding variables.

Results: A total of 37 683 (7.6%) infants received any phototherapy. The mean (SD) follow-up time was 8.1 (5.2) years. The crude incidence rate per 1000 person-years of the primary outcome was 1.24 among phototherapy-exposed children and 0.76 among those unexposed (rate ratio: 1.63; 95% confidence interval [CI]: 1.44 to 1.85). The adjusted hazard ratio (aHR) was 1.22 (95% CI: 1.05 to 1.42; P = .009). Boys were at higher risk of seizures overall (aHR = 1.18; 95% CI: 1.10 to 1.27) and had a higher aHR for phototherapy (1.33; 95% CI: 1.10 to 1.61) than girls (1.07; 95% CI: 0.84 to 1.37), although effect modification by sex was not statistically significant (P = .17). The adjusted 10-year excess risks per 1000 were 2.4 (95% CI: 0.6 to 4.1) overall, 3.7 (95% CI: 1.2 to 6.1) in boys, and 0.8 (95% CI: -1.7 to 3.2) in girls.

Conclusions: Phototherapy in newborns is associated with a small increased risk of childhood seizures, even after adjusting for bilirubin values, and the risk is more significant in boys.

Title: Hyperbilirubinemia, Phototherapy, and Childhood Asthma.

Author(s): Kuzniewicz, Michael W.; Niki, Hamid; Walsh, Eileen M.

Objectives: Our aim was to quantify the associations of both hyperbilirubinemia and phototherapy with childhood asthma using a population-based cohort with total serum bilirubin (TSB) levels.

Methods: Retrospective cohort study of infants born at ≥35 weeks' gestation in the Kaiser Permanente Northern California health system (n = 109 212) from 2010 to 2014. Cox models were used to estimate hazard ratios (HRs) for a diagnosis of asthma.

Results: In the study, 16.7% of infants had a maximum TSB level of ≥15 mg/dL, 4.5% of infants had a maximum TSB level of ≥18 mg/dL, and 11.5% of infants received phototherapy. Compared with children with a maximum TSB level of 3 to 5.9 mg/L, children with a TSB level of 9 to 11.9 mg/dL, 12 to 14.9 mg/dL, and 15 to 17.9 mg/dL were at an increased risk for asthma (HR: 1.22 [95% confidence interval (CI): 1.11--1.3], HR: 1.18 [95% CI: 1.08--1.29], and HR: 1.30 [95% CI: 1.18--1.43], respectively). Children with a TSB level of ≥18 mg/dL were not at an increased risk for asthma (HR: 1.04; 95% CI: 0.90--1.20). In

propensity-adjusted analyses, phototherapy was not associated with asthma (HR: 1.07; 95% CI: 0.96--1.20).

Conclusions: Modest levels of hyperbilirubinemia were associated with an increased risk of asthma, but an association was not seen at higher levels. No dose-response relationship was seen. Using phototherapy to prevent infants from reaching these modest TSB levels is unlikely to be protective against asthma.

Sources Used:

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

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