

Women and Childrens Current Awareness Bulletin

October 2017

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From NHS Academy of Fab Stuff:

North Staffordshire and Stoke on Trent CCGs have been using social media to engage with pregnant women and new mums and dads in the area.

With heavy focus from NHSE currently on transforming maternity services, the CCGs are committed to providing service users with a voice and to help them be involved with the future shaping of services which will improve outcomes for all women and babies.

The development of a closed Facebook group aimed at local women and their families is enabling the CCGs to gather and analyse the needs of the diverse local communities whilst also reaching out to seldom heard groups such as minority ethnic groups, lesbian, gay, bisexual, transgender (LGBT) groups, asylum seekers, refugees and young carers etc. The views of women and their families who have had an experience of local maternity services, whether they are straightforward pregnancies and births or experiences of neonatal, perinatal mental health, bereavement, diabetes, breastfeeding, smoking cessation services etc are instrumental in the transformation of Staffordshire's maternity services.

The closed Facebook group titled 'Improving Maternity Experiences in Staffordshire' has reached out to 250 pregnant women and new mums and dads within just two months of being created. During this time almost 120 items of feedback have been received on various areas.

As well as providing their views on areas that could be improved, many of our local mums and dads have also taken the time to offer outstanding praise and thanks to our hands-on maternity staff who "are amazing and to be valued".

As well as providing their views and experiences of maternity services, the group also enables families to find out about local events such as breastfeeding, baby massage and mental health groups etc which all help to improve their experience of being a new mum or dad.

Title: Mothers' experience of not breastfeeding in a breastfeeding culture

Citation: Journal of Clinical Nursing; Oct 2017; vol. 26 (no. 19-20); p. 3144

Author(s): Hvatum, Ingjerd; Glavin, Kari

Aims and objectives: To describe women's experience of not breastfeeding in a breastfeeding culture. **Background** Breastfeeding represents a fundamental cultural value in Norway and many other countries, and a mother may often have intense emotions about breastfeeding her child. Political and health authorities in many countries have given high priority to encourage breastfeeding among mothers. However, breastfeeding can be challenging and sometimes affects mothers' mental health and the joy of interaction. **Design** Qualitative design.

Methods: Individual semi-structured interviews with 12 mothers. Qualitative content analysis was used to analyse the interviews.

Results: Three main categories emerged from the data: (1) desire to adapt to Norwegian culture, (2) feeling as though one was breaking the law and (3) lack of and unbalanced information. The mothers in this study wanted to breastfeed, both to do the best for their child and to fulfil cultural expectations. They knew about the advantages of breastfeeding. When breastfeeding was stopped, they needed social support because they felt it was difficult to do the opposite of what was most common in the culture.

Conclusion: Healthcare workers should consider the mother's individual situation when providing breastfeeding guidance. Information about the advantages should be adequately balanced and nuanced to prevent shame and guilt. Healthcare workers should have sufficient knowledge about how to ensure that infant formula is used correctly. Relevance to clinical practice Healthcare workers should pay attention to the mother if she has limited social support, and they should organise peer support. Healthcare workers must ensure that mothers get balanced information about the benefits of breastfeeding and about the differences between breastmilk and infant formula. To ensure that infant formula is used correctly and to reduce stigma, healthcare workers should have sufficient knowledge about formula feeding and health authorities could provide information about how to prepare infant formula.

Title: A Prospective Comparison of Transcutaneous and Serum Bilirubin Within Brief Time Intervals.

Citation: Clinical Pediatrics; Oct 2017; vol. 56 (no. 11); p. 1013-1017

Author(s): Jones, Denise F.; McRea, Abigail R.; Knowles, James D.; Feng-Chang Lin; Burnette, Erin; Reller, Lara A.; Lohr, Jacob A.

Abstract: The American Academy of Pediatrics recommends screening newborns ≥ 35 weeks' gestation with total serum bilirubin (TSB) or transcutaneous bilirubin (TcB) to detect hyperbilirubinemia. Retrospective studies show TcB measurements strongly correlate with TSB; however, few prospective trials document this relationship. Furthermore, Dräger's newest TcB instrument, JM-105, remains unstudied in the United States. We measure TcB on foreheads and sternums of newborns using JM-105 and Bilichek devices within 30 minutes of TSB measurement. We find best overall TcB/TSB correlation with JM-105 on the sternum (mean TcB-TSB difference: -0.21 ± 1.15 mg/dL). Correlations between paired measurements for TcB on the sternum using JM-105 were 0.93 for all TSB levels ($n = 178$), 0.82 for $TSB > 10$ ($n = 19$), 0.69 for $TSB > 12$ ($n = 11$), and 0.52 for $TSB > 15$ ($n = 6$). TcB accuracy via JM-105 on the sternum significantly differed among races ($P < .001$). For 5% of paired measurements, TcB with JM-105 on the sternum underestimated TSB by ≥ 2 mg/dL, and for $< 1\%$ by ≥ 3 mg/dL.

Title: Effectiveness of interventions to improve medication use during rapid-sequence intubation in a pediatric emergency department.

Citation: American Journal of Health-System Pharmacy; Sep 2017; vol. 74 (no. 17); p. 1353-1362

Author(s): Caruso, Michelle C.; Dyas, Jenna R.; Mittiga, Matthew R.; Rinderknecht, Andrea S.; Kerrey, Benjamin T.

Purpose: Results of a study to determine whether checklist-based interventions improved the selection and administration of rapid-sequence intubation (RSI) medications in a pediatric emergency department (ED) are reported.

Methods: A retrospective study of data collected during a quality improvement project was conducted. Data sources included the electronic health record and video review. The central intervention was use of a 21-item RSI checklist, which included guidance for the physician team leader on medication selection and timing. A quick-reference card was developed to guide staff in preparing RSI medications. The main outcomes were (1) standard selection, defined as administration of indicated medications and avoidance of medications not indicated, and (2) efficient administration, defined as an interval of < 30 seconds from sedative to neuromuscular blocker (NMB) infusion.

Results: A total of 253 consecutive patients underwent RSI during 3 consecutive periods: the historical (preimprovement) period (n = 136), the checklist only period (n = 68), and the checklist/card period (n = 49). The rate of standard selection of 3 RSI medications (atropine, lidocaine, and rocuronium) did not improve. The rate of efficient sedative and NMB administration improved from 56% in the historical period to 88% in the checklist period (p = 0.005). The median duration of RSI medication administration decreased from 28 seconds (interquartile range [IQR], 23-44 seconds) in the historical period to 19 seconds (IQR, 15-25 seconds) in the checklist/card period (p = 0.004).

Conclusion: In a quality-improvement project in a pediatric ED, a checklist-based intervention improved RSI medication administration technique but not selection.

Title: Tongue-tie and breastfeeding: Identifying problems in the diagnostic and treatment journey.

Citation: British Journal of Midwifery; Sep 2017; vol. 25 (no. 9); p. 579-584

Author(s): Wakelin, Rachel; Howe, Amanda; Fleetcroft, Robert

Background: Tongue-tie is a common condition that often adversely affects breastfeeding. There is research that suggests that frenulotomy can improve breastfeeding but there is also evidence of lack of professional knowledge on tongue-tie.

Methods: This was a qualitative interview study with GPs, midwives, health visitors and nine mothers to explore facilitators and barriers to receiving a diagnosis of and treatment for tongue-tie.

Findings Mothers told a common story of having to push for support, experiencing diagnostic and treatment delays and suffering ongoing distress, which threatened their ability to establish breastfeeding. Mothers also described feeling vulnerable in the neonatal period and witnessing a variation in professional knowledge about tongue-tie.

Conclusions: Variable professional knowledge, conflicting advice, and a delayed diagnosis can lead to a difficult patient pathway. Assessment for tongue-tie should be considered when approaching infants with feeding difficulties. Frenulotomy should also be considered and services made available where findings suggest the cause is structural and breastfeeding support has not helped.

Title: Improving the Patient Experience: Call Light Intervention Bundle.

Citation: Journal of Pediatric Nursing; Sep 2017; vol. 36; p. 37-43

Author(s): Nelson, Jacqueline J.; Staffileno, Beth A.

Purpose: Delays in call light response are a significant patient quality and safety concern. Research on call light interventions and patient outcomes has focused exclusively on adult inpatients. This project examined the impact of increasing staff awareness and workflow redesign to improve the pediatric patient experience and outcomes based on timely response. Design and

Methods: A quality improvement project was conducted on two pediatric medical surgical units' (31 and 35 beds respectively) at a large Midwest academic medical center with patients' ages from to young adults. Data on staff knowledge, patient satisfaction, and fall rates was examined pre- and post-intervention of an evidence-based call light intervention bundle which included: 1) unit-based patient experience committees, 2) purposeful rounding, 3) pod buddy assignments, and 4) staff education.

Results: Post-intervention both units demonstrated improvement in staff knowledge on call light interventions and exhibited sustained improvement in patient satisfaction scores for promptness to

call. Likelihood to recommend the hospital and satisfaction with pain control improved for one of the two units. No impact on fall rates was noted over time for either unit.

Conclusions: A call light intervention bundle can positively impact patient satisfaction with promptness to call lights in pediatric medical surgical hospitalized patients and their families. Unlike adult patients, a call light intervention bundle did not impact fall rates in children and further study in pediatric fall reduction strategies is needed

Title: A targeted noise reduction observational study for reducing noise in a neonatal intensive unit.

Citation: Journal of Perinatology; Sep 2017; vol. 37 (no. 9); p. 1060-1064

Author(s): Chawla, S; Barach, P; Dwaihy, M; Kamat, D; Shankaran, S; Panaitescu, B; Wang, B; Natarajan, G

Background: Excessive noise in neonatal intensive care units (NICUs) can interfere with infants' growth, development and healing. Local problem: Sound levels in our NICUs exceeded the recommended levels by the World Health Organization.

Methods: We implemented a noise reduction strategy in an urban, tertiary academic medical center NICU that included baseline noise measurements. We conducted a survey involving staff and visitors regarding their opinions and perceptions of noise levels in the NICU. Ongoing feedback to staff after each measurement cycle was provided to improve awareness, engagement and adherence with noise reduction strategies. After widespread discussion with active clinician involvement, consensus building and iterative testing, changes were implemented including: lowering of equipment alarm sounds, designated 'quiet times' and implementing a customized education program for staff.

Interventions: A multiphase noise reduction quality improvement (QI) intervention to reduce ambient sound levels in a patient care room in our NICUs by 3 dB (20%) over 18 months.

Results: The noise in the NICU was reduced by 3 dB from baseline. Mean (s.d.) baseline, phase 2, 3 and 4 noise levels in the two NICUs were: LAeq: 57.0 (0.84), 56.8 (1.6), 55.3 (1.9) and 54.5 (2.6) dB, respectively (P90%).

Conclusions: Implementing a multipronged QI initiative resulted in significant noise level reduction in two multipod NICUs. It is feasible to reduce noise levels if QI interventions are coupled with active engagement of the clinical staff and following continuous process of improvement methods, measurements and protocols.

Title: Beyond the latch: A new approach to breastfeeding.

Citation: Nurse Education in Practice; Sep 2017; vol. 26; p. 115-117

Author(s): Robinson, Betty Ann; Hartrick Doane, Gweneth

Abstract: Health professionals supporting breastfeeding play an important role in women successfully achieving their breastfeeding goals. Instrumental knowledge has dominated health professionals' breastfeeding education and practice. Because breastfeeding is a contextual and embodied experience, a relational orientation is required to identify effective strategies to support women. A relational inquiry approach to breastfeeding practice offers a practical way to support women to better achieve their breastfeeding goals within the complexities of their own lives. Incorporating a relational inquiry approach to breastfeeding practice may assist health professionals to more effectively respond and engage with women in practice so that women's breastfeeding goals are protected; women's capacity and self-efficacy are promoted; and women

feel and experience the support from health professionals that they require to be successful with breastfeeding.

Title: Use of a Smartphone App to Assess Neonatal Jaundice.

Citation: Pediatrics; Sep 2017; vol. 140 (no. 3); p. 1-8

Author(s): Taylor, James A.; Stout, James W.; de Greef, Lilian; Goel, Mayank; Patel, Shwetak; Chung, Esther K.; Koduri, Aruna; McMahon, Shawn; Dickerson, Jane; Simpson, Elizabeth A.; Larson, Eric C.

Background: The assessment of jaundice in outpatient neonates is problematic. Visual assessment is inaccurate, and more exact methodologies are cumbersome and/or expensive. Our goal in this study was to assess the accuracy of a technology based on the analysis of digital images of newborns obtained using a smartphone application called BiliCam.

Methods: Paired BiliCam images and total serum bilirubin (TSB) levels were obtained in a diverse sample of newborns (<7 days old) at 7 sites across the United States. By using specialized software, data on color values in the images ("features") were extracted. Machine learning and regression analysis techniques were used to identify features for inclusion in models to predict an estimated bilirubin level for each newborn. The correlation between estimated bilirubin levels and TSB levels was calculated. In addition, the sensitivity and specificity of the estimated bilirubin levels in identifying newborns with high TSB levels were calculated by using 2 recommended decision rules for jaundice screening.

Results: Estimated bilirubin levels were calculated and compared with TSB levels in a diverse sample of 530 newborns (20.8% African American, 26.3% Hispanic, and 21.2% Asian American). The overall correlation was 0.91, and correlations among white, African American, Hispanic, and Asian American newborns were 0.92, 0.90, 0.91, and 0.88, respectively. The sensitivities of BiliCam in identifying newborns with high TSB levels were 84.6% and 100%, respectively, by using 2 decision rules; specificities were 75.1% and 76.4%, respectively.

Conclusions: BiliCam provided accurate estimates of TSB values, demonstrating that an inexpensive technology that uses commodity smartphones could be used to effectively screen newborns for jaundice.

Title: Maintaining pre-school children's health and wellbeing in the UK: a qualitative study of the views of migrant parents.

Citation: Journal of Public Health; Sep 2017; vol. 39 (no. 3); p. 455-463

Author(s): Condon, L. J.; McClean, S.

Background: There is evidence that key health behaviours of people who migrate deteriorate over time, which has a consequent impact upon the health of dependent children. As health in the early years sets the course for lifelong health, it is important to explore parents' views on maintaining children's health following migration.

Methods: Five focus groups were held with parents of preschool children who had migrated to the UK within the last 10 years (n = 28). Parents originated from Romania, Poland, Somalia and Pakistan, with one group of Roma Gypsy parents. Data collection took place in January to March 2015.

Results: All groups, apart from the Roma, perceived barriers to maintaining optimal health and well-being for their preschool children following migration to the UK. Eastern European parents

experienced difficulties in ensuring family financial security, while parents from more established communities focused on barriers to children's exercise, play and nutrition.

Conclusions: This study highlights aspects of public health where migrants and their children can experience adverse effects in the UK. These findings have implications for policymakers, commissioners and providers of health services who aim to promote good health among preschool children.

Title: Interventions Designed to Promote Exclusive Breastfeeding in High-Income Countries: A Systematic Review Update.

Citation: Breastfeeding medicine : the official journal of the Academy of Breastfeeding Medicine; Sep 2017

Author(s): Skouteris, Helen; Bailey, Cate; Nagle, Cate; Hauck, Yvonne; Bruce, Lauren; Morris, Heather

Background: Worldwide, women seldom reach the recommended target of exclusive breastfeeding up to 6 months postpartum. The aim of the current study was to update a previously published review that presented a conceptual and methodological synthesis of interventions designed to promote exclusive breastfeeding up to 6 months in high-income countries.

Materials and Methods: A systematic search of leading databases was conducted for scholarly, peer-reviewed, randomized controlled trials published from June 2013 to December 2016. Twelve new articles were identified as relevant; all were published in English and assessed exclusive breastfeeding with a follow-up period extending beyond 4 months postpartum. Articles were analyzed for overall quality of evidence in regard to duration of exclusive breastfeeding, using the Grading and Recommendations Assessment, Development, and Evaluation approach.

Results: A significant increase in the duration of exclusive breastfeeding was found in 4 of the 12 studies. All four successful interventions had long-duration postpartum programs, implemented by telephone, text message, or through a website. Some of the successful interventions also included prenatal education or in-hospital breastfeeding support.

Conclusions: Results from this review update correspond closely with previous findings, in that all of the successful interventions had lengthy postnatal support or an education component. More studies assessed intervention fidelity than in the previous review; however, there was little discussion of maternal body-mass index. While a pattern of successful interventions is beginning to emerge, further research is needed to provide a robust evidence base to inform future interventions, particularly with overweight and obese women.

Title: Umbilical cord bilirubin as a predictor of neonatal jaundice: a retrospective cohort study.

Citation: BMC pediatrics; Sep 2017; vol. 17 (no. 1); p. 186

Author(s): Jones, Kelsey D J; Grossman, S E; Kumaranayakam, Dharshini; Rao, Arati; Fegan, Greg; Aladangady, Narendra

Background: Hyperbilirubinaemia is a major cause of neonatal morbidity. Early identification of those infants most at risk might allow the development of targeted primary preventative therapy and follow-up. The objective of this study was to assess whether arterial umbilical cord bilirubin (aUCB) level at delivery predicts the development of neonatal jaundice in term deliveries.

Methods: Retrospective analysis of hospital biochemistry records identified term deliveries with recorded aUCB. Infant medical records were reviewed to identify those who developed neonatal hyperbilirubinaemia (requiring treatment according to UK NICE guidelines) with/without a positive direct antiglobulin test (DAT).

Results: Of 1411 term deliveries with a clearly recorded aUCB, 30 infants developed clinically-significant jaundice (2.7%), of whom 8 were DAT + ve (0.6%) mostly due to ABO incompatibility. aUCB strongly predicted the development of DAT + ve jaundice (area under the ROC curve = 0.996), as well as all-cause jaundice (area under the ROC curve = 0.74). However, this effect was critically dependent on maternal blood group. Amongst infants at risk of ABO incompatibility (maternal blood groups O + ve/O-ve, 39.7%) the predictive value of aUCB for all cause jaundice was strengthened (area under the ROC curve = 0.88). Amongst those not at risk (defined maternal blood group not O + ve/O-ve, 51.0%) it disappeared completely (area under the ROC curve = 0.46). A cutoff of 35 µmol/l for mothers with blood group O + ve/O-ve increased the pre-test probability for all-cause jaundice of 4% to a post-test probability of 30%.

Conclusions: For infants of mothers with blood group O, aUCB predicts development of neonatal jaundice. There was no evident utility for infants of mothers with other blood groups. Estimation of aUCB should be considered as a strategy for early identification of those at risk of neonatal haemolytic jaundice.

Title: Inclusion of pregnant and breastfeeding women in research - Efforts and Initiatives.

Citation: British journal of clinical pharmacology; Sep 2017

Author(s): Illamola, Sílvia M; Bucci-Rechtweg, Christina; Costantine, Maged M; Tsilou, Katerina; Sherwin, Catherine M; Zajicek, Anne

Abstract: Pregnant and breastfeeding women have been rendered therapeutic orphans as they have been historically excluded from clinical trials. Labeling for most approved drugs does not provide information about safety and efficacy during pregnancy. This lack of data is mainly due to ethico-legal challenges that have remained entrenched in the post-diethylstilbestrol and thalidomide era, and that have led to pregnancy being viewed in the clinical trial setting primarily through a pharmacovigilance lens. Policy considerations that encourage and/or require the inclusion of pregnant or lactating women in clinical trials may address the current lack of available information. However, there are additional pragmatic strategies, such the employment of pharmacometric tools and the introduction of innovative clinical trial designs, which could improve knowledge about the safety and efficacy of medication use during pregnancy and lactation. This paper provides a broad overview of the pharmacoepidemiology of drugs used during pregnancy and lactation, and offers recommendations for regulators and researchers in academia and industry to increase the available pharmacokinetic and -dynamic understanding of medication use in pregnancy.

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

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