ID: 6

TITLE: NURSING INTERVENTIONS TO REDUCE THE INCIDENCE OF INTRAVENTRICULAR HEMORRHAGE IN PRETERM INFANTS: A MULTICENTER COHORT STUDY.

AUTHORS: (1) Karen de Bijl-Marcus 1
(2) Mieke Brouwer 1,3
(3) Linda de Vries 1
(4) Floris Groenendaal 1
(5) Gerda van Wezel-Meijler 2

AFFILIATIONS: (1) Department of Neonatology, Wilhelmina Children’s Hospital, University Medical Center Utrecht, Utrecht, The Netherlands.
(2) Department of Neonatology, Isala Women and Children’s Hospital, Zwolle, The Netherlands.
(3) University of Applied Sciences Utrecht, Utrecht, The Netherlands.

CONTENT:

Germinal matrix-intraventricular hemorrhage (GMH-IVH) is a major, frequently occurring complication of preterm birth. Nursing interventions aimed at maintaining a more stable cerebral blood flow and decreasing cerebral venous congestion have been suggested to reduce the risk of GMH-IVH in preterm infants. The objective of the present study was to investigate the effect of a nursing intervention bundle (NIB) on the incidence of GMH-IVH in very preterm infants (gestational age, GA, <30 weeks).

Two Dutch tertiary neonatal intensive care units participated in this cohort study. The intervention group consisted of 140 neonates per center, whereas 140 infants per center served as historical controls (GA<30 weeks). The NIB was implemented and applied during the first 72 hours after birth. The NIB consisted of maintaining the head in the midline, tilting the head of the incubator and avoidance of flushing/rapid withdrawal of blood and sudden elevation of the legs. The incidence of GMH-IVH occurring after the first ultrasound (but within 72 hours), progressive GMH-IVH, cystic periventricular leukomalacia (cPVL) and/or in-hospital death was the primary composite outcome measure. Logistic regression analysis was used to explore statistically significant differences between groups.

The NIB was associated with a lower risk of developing a GMH-IVH (any degree), cPVL and/or mortality (OR 0.42, 95%CI 0.28-0.65). In the group receiving the NIB, severe GMH-IVH, cPVL and/or death were less often observed (OR 0.55, 95% CI 0.33-0.91).

There was a more pronounced effect on the incidence of severe GMH-IVH compared to low grade hemorrhages. In addition: the beneficial effect of the NIB was greater in extreme premature infants (GA<27 weeks). No disadvantages of the NIB were observed.

The application of a bundle of nursing interventions reduces the risk of a new/progressive (severe) GMH-IVH, cPVL and/or mortality in preterm infants when applied during the first 72 hours after birth. Since it is relatively easy and cheap to apply and no disadvantages of the NIB were observed, we advise the routine use of this NIB in all preterm neonates during the first 72 postnatal hours, especially in those born extremely prematurely.

COI: None declared
ID: 12

TITLE: WHAT HAPPENS NOW AND WHAT DO PARENTS WANT? A QUALITY IMPROVEMENT APPROACH TO UNDERSTAND PARENT INFORMATION NEEDS IN NEONATAL CARE.

AUTHORS: Susanna Sakonidou 1; Sophia Kotzamanis 2,3; Izabela Andrzejewska 1; Wendy Carnegie 2; Neena Modi 1; Derek Bell 2; Christopher Gale 1

AFFILIATIONS: 1 Imperial College London, Neonatal Medicine, London, United Kingdom. 2 National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care, Northwest London, London, United Kingdom. 3 Neonatal parent representative

CONTENT:

1 in 8 babies born in the UK require neonatal care. This is stressful for parents, who are often dissatisfied with the information provided by neonatal staff. Our aim was to map and describe the current information exchange in neonatal care, elicit the key information themes that are exchanged between parents and neonatal staff members and explore parents’ needs regarding the optimal content, format and delivery of information.

A prospective process-mapping study to explore information exchange with staff at a UK tertiary neonatal unit, and with parents whose babies had received UK neonatal care. We approached parents nationwide using social media. We held an interactive session with staff to temporally map information transfer on the neonatal unit; for parents we held a focus group which was audio-recorded and for parents unable to attend we developed an online survey and collated free text entries. We used a grounded theory approach to code feedback and group it into information themes. We plotted themes temporally in relation to an infant’s journey, creating a virtual map of information flow. We examined the themes most important to parents and their preferred way of receiving information.

Staff: 47 staff members reported discussing 20 themes with parents (Figure 1). Verbal clinical updates were shared with parents throughout the neonatal journey; written information was provided only at the beginning, middle and end. Parent involvement information was not shared during clinical deteriorations, infant transfers and when making clinical decisions. Parents: 76 engaged online, 4 participated in the focus group and 50 completed the online survey. Parents reported discussing 10 themes with staff, 8 matching with staff and 2 new (Figure 1). Parents identified 7 themes as most important, prioritising clinical updates; we categorised these into infant-specific and unit-specific information. Overall, parents agreed with staff on the type of information shared, but wanted it communicated in a different way: more objective, consistent, readily available and jargon-free.

Communication with parents in neonatal care predominantly involves verbal updates. Written information is inconsistent through an infant’s journey. Parents and staff agree on the type of information shared between them but parents want it delivered more consistently, in easily understandable language. A communication tool providing written information in a parent-centred way could be a valuable adjunct to verbal communication in neonatal care.

IMAGES: https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=58e3b058e09a4c55f97d31d36651af22-MjAxOS0wNSM1Y2UyNjY2Yml1M2RI

Figure 1. Information themes discussed in neonatal care, as they emerge temporally in infant journeys: 20 themes reported by staff (all shown), 8 of them were also reported by parents (highlighted in red). 2 themes were only reported by parents (in blue boxes).
COI: SS has received research grants from the National Institute of Health Research (NIHR), the NIHR CLAHRC NWL, Rosetrees Trust and CW+ charity. NM is Director of the Neonatal Data Analysis Unit at Imperial College London. In the last five years NM has served on the Board of Trustees of the Royal College of Paediatrics and Child Health, David Harvey Trust, Medical Women’s Federation and Medact; and is a member of the Nestle Scientific Advisory Board. NM has received research grants from the British Heart Foundation, Medical Research Council, National Institute of Health Research, Westminster Research Fund, Collaboration for Leadership in Applied Health and Care Northwest London, Healthcare Quality Improvement Partnership, Bliss, Prolacta Life Sciences, Chiesi, Shire and HCA International; travel and accommodation expenses from, Nutricia, Prolacta, Nestle and Chiesi; honoraria from Ferring Pharmaceuticals and Alexion Pharmaceuticals for contributions to expert advisory boards, and Chiesi for contributing to a lecture programme. CG is funded by the United Kingdom Medical Research Council (MRC) through a Clinician Scientist Fellowship award. He has received support from Chiesi Pharmaceuticals to attend an educational conference; in the past 5 years he has been investigator on received research grants from Medical Research Council, National Institute of Health Research, Canadian Institute of Health Research, Department of Health in England, Mason Medical Research Foundation, Westminster Medical School Research Trust and Chiesi Pharmaceuticals. SK, IA, WC, DB: none declared.
ID: 40

TITLE: ULTRASONOGRAPHY FOR UMBILICAL CATHETER PLACEMENT; ELEARNING FOR NEONATOLOGISTS

AUTHORS: Rikke Kaæ 1; Jette Led Sørensen 2; Simon Trautner 3; Christian A. Frederiksen 4; Kasper Jacobsen Kyng 1; Tine Brink Henriksen 1

AFFILIATIONS: 1: Division of Neonatology, Department of Child and Adolescent Medicine, Aarhus University Hospital, Denmark
2: Juliane Marie Centre for Children, Women and Reproduction, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark
3: Division of Neonatology and Pediatric Intensive Care, Juliane Marie Centre for Children, Women and Reproduction, Rigshospitalet, University of Copenhagen, Denmark
4: Department of Cardiology, Aarhus University Hospital, Denmark

CONTENT:

Several studies have documented that ultrasonography (US) performed by experienced ultrasound examiners may be superior to X-ray in accurately detecting the position of umbilical catheter tips. However, prior to introduction of US for this application in the neonatal intensive care unit (NICU), sufficient US skills need to be established for all “on-call” neonatologists when conducting the US task as the overall procedural quality will depend on the ultimate US skill of each of the physicians involved. A national survey of Canadian neonatologists (2010) and a survey among neonatal-perinatal United States residents (2015) have indicated, that the obstacles in the use of point-of-care US, were the lack of instructors and standardized teaching. A challenge is that neonatologists are learners with a high degree of mobility, with busy day-to-day schedules, day and night shifts and who may have different levels of previous US experience and competences.

eLearning may be a solution for overcoming some of these obstacles. eLearning has been shown to impact knowledge and skill acquisition compared to more traditional teaching methods. In addition it provides a flexible, standardized, teacher-independent educational tool. However, the feasibility and learning outcome of eLearning in neonatology related to point-of-care US has not been studied.

We aimed to investigate the change in knowledge related to neonatologists’ US skills from before to after a 1.5-hour eLearning program in ultrasonography-based examination of umbilical catheter placement stratified by a priori experience in point-of-care US.

All 48 neonatologists employed at the four university based tertiary NICUs in Denmark were included. Based on their self-reported practical experience with point-of-care US, the neonatologists were categorized into one of the following three groups; 1) perform less than one US examination per month, 2) perform one or more US examinations per month but less than one per week, 3) perform one or more US examinations per week but less than one per day and 4) perform one or more US examination per day. The eLearning comprised video examples with voiceover. The effect of eLearning was tested with a validated 25-item Multiple Choice Questionnaire (MCQ). Range in MCQ score 1 to 25. The learning outcome was measured as the changes in MCQ score from before to after the eLearning.

The characteristics of the 48 neonatologists are presented in Table 1. The average MCQ scores before and after completing the eLearning were 18 (95% confidence interval (CI) 17; 19) and 24 (95% CI 23; 24), respectively. The mean MCQ score difference between the pre- and post-MCQ score was 5 (95% CI 5; 6). Prior to eLearning the neonatologists’ mean pre-MCQ score varied by their self-reported level of US experience prior to the study. A relationship between US experience and performance in the pre-MCQ score was identified; the more US experience the higher pre-MCQ performance. After eLearning exposure the difference in MCQ score performance between neonatologists with different prior US experience was no longer detectable. The change in MCQ score for neonatologists by differences in their clinical use of point-of-care US are presented in Table 2.
The use of a short dedicated eLearning program was a feasible educational strategy to provide all Danish neonatologists employed in tertiary NICUs the knowledge of skills concerning the US task for examination of umbilical catheter placement. eLearning homogenized and increased the knowledge of the US skill in the overall group of neonatologists.

**IMAGES:**
https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=b49ef74a8d3e66359514e6bd9e998c83-MjAxOS0wNSM1Y2UyNjY2YMjJMzcx

Table 1. Characteristics of all neonatologists (n=48) employed in the four tertiary Neonatal Intensive Care Units in Denmark by January 2019.

Table 2. Mean multiple-choice questionnaire (MCQ)-score and changes in score from before to after eLearning in 48 neonatologists with different self-reported levels of ultrasound experience prior to the study.

**COI:** None declared
ID: 204

TITLE: EFFECTIVENESS OF A POSTNATAL PARENTAL EDUCATION PROGRAM: A RANDOMIZED CONTROLLED TRIAL

AUTHORS: Veronique Brevaut-Malaty 1; Laura Hostalery 1; Sylvie Arlotto 2; Elisabeth Jouve 2; Sophie Tardieu 2.


CONTENT:

Pediatric Emergency Department (ED) visits are continually increasing. Teaching families preventive care skills has been shown to reduce inappropriate pediatric ED visits. Early parental perinatal education is recommended by the World Health Organization. Knowing how to provide necessary care during the neonatal period can raise the mother’s confidence and reduce false beliefs about neonatal care, thereby reducing neonatal morbidity and mortality rates. We hypothesized that a formalized, maternity ward postnatal parental education program (PPEP) could improve parental knowledge and decrease inappropriate ED visits during the first month after discharge.

This was a prospective, single-center, comparative, randomized, controlled, open-label study performed in the maternity ward of a Level III regional university perinatal center. We included 100 mothers who delivered of healthy, term eutrophic newborns. The intervention was one hour of structured PPEP (intervention group, n = 50) compared to routine general newborn care information (control group, n = 50). The primary outcome measure was maternal knowledge, using newborn care knowledge questionnaire, before (« Pre-test ») and after (« post-test ») the PPEP. Secondary outcomes included assessment of maternal knowledge at 1 month (“Recall-test”), maternal anxiety (STAI before and after the PPEP and at 1 month) and the appropriateness of medical referral at 1 month.

The mean of the total scores between the pre- and post-tests increased significantly in the intervention group (13.2 vs. 15.8, p=0.000), this was not true of the control group (13.7 vs 14.1, p=0.221). Additionally, 51.5% of the intervention group mothers increased their scores by at least 3 points between the pre- and post-tests, as compared to only 15.2% of the mothers in the control group (p=0.002). PPEP significantly reduced maternal anxiety in the intervention group (32.8 vs. 29.1, p=0.036). The recall-test mean score was not different between the two groups, but the maternal knowledge regarding the sleeping mode remained higher in the interventional group (93.8% vs. 70.6% correct answer, p=0.048). At one month, the PPEP did not improve maternal knowledge nor support the relevance of the healthcare utilization.

The PPEP improved parenting knowledge and reduced maternal anxiety in the short term (measured from discharge). Upon leaving the maternity ward, the PPEP allowed mothers to be less anxious, better understand caring for their newborn, and able to recognize possible pathologies and the best ways to respond. However, these improvements did not persist at 1 month, except for the specific question of the newborn’s sleeping position.

IMAGES:
https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=f159ab0e4b6131df2aa35697511750d1-MjAxOS0wNSM1Y2UyNjY2YmYyNzI4

Figure 1. Flow chart
Figure 2. Primary outcome: assessment of maternal knowledge after the PPEP, intention-to-treat analysis (matched samples)
Figure 3. Assessment of Maternal Anxiety, before the PPEP (STAI-pre), after the PPEP or at discharge (STAI-post), and at 1 month of life (STAI-recall)
Table 1. Cohort Characteristics
Table 2. Secondary outcomes, per-protocol analysis
COI: None declared
ID: 257
TITLE: AN EPIC INTERVENTION: PEER TO PEER SUPPORT NETWORK AND POSITIVE FEEDBACK SYSTEM TO IMPROVE JUNIOR DOCTOR MORALE AND WELLBEING WITHIN THE NEONATAL UNIT.
AUTHORS: Magali Dubus 1; Olatokunbo Sanwo 2; Shaveta Mulla 3
AFFILIATIONS: Neonatal Intensive Care Unit, William Harvey Hospital, Ashford, Kent, United Kingdom.

CONTENT:

Burnout is increasingly recognised as a problem among junior doctors; contributing to low morale, physical and mental health issues. Within the United Kingdom there are various regional and national initiatives to support doctors, however local support is variable. Paediatric and neonatal doctors often work in isolation from other specialties, rarely getting the opportunity to share experiences and discuss difficulties with colleagues. We aimed to lead a regular peer-led meeting discussing positive and negative aspects of training, allowing colleagues to come together to solve problems. We also aimed to improve the amount of positive feedback given within the department.

We introduced a monthly peer-led meeting called "Holding Hands" with a set agenda addressing both positive and negative aspects (clinical and non-clinical) of working life, inviting all paediatric and neonatal junior doctors. A dedicated consultant who helped develop the project, provided support and promoted the project also attended one meeting every three months. In conjunction with this we introduced Encouraging Praise in Colleagues (EPiC), a formal positive feedback system, where members of the healthcare team were encouraged to provide feedback on examples of good clinical and personal practice. Data on EPiC were collated via the nomination system. We distributed a modified Copenhagen Psychosocial Questionnaire at the start of the project and after 6 months of Holding Hands meetings.

Likert scales were used to measure a number of outcomes; in comparison to the pre-meeting questionnaire less people felt there was an uneven distribution of work, more people felt supported by colleagues, motivated, involved in work and that they had positive feedback from seniors. 88.9% knew where they could find support for an emotionally challenging situation. EPiC was widely accepted in the department, reflected in the increasing number of nominations which grew to involve the whole multidisciplinary team. This was such a success that it has been adopted by other specialties and will be implemented trust-wide. We also gained qualitative data confirming that this initiative has been helpful to attendees.

In order to deliver high quality and excellent levels of patient care, we have a responsibility to look after our own and our colleagues’ wellbeing. Holding Hands and EPiC have provided a safe, supportive atmosphere for trainees to develop and improve resilience, equipping them with the emotional skills to be able to handle the pressures of clinical work while embedding a culture of positive feedback and community within the team.

COI: None declared
ID: 345
TITLE: HOSPITALISING PRETERM INFANTS IN SINGLE FAMILY ROOMS VERSUS OPEN BAY UNITS - EFFECT ON PARENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS
AUTHORS: Nicole R. van Veenendaal 1; Jacqueline Limpens 2; Johanna H. van der Lee 3; Professor Johannes B. van Goudoever 3; Anne A.M.W. van Kempen 1; Sophie R.D. van der Schoor 1
AFFILIATIONS: 1 Department of Neonatology, OLVG, Amsterdam, The Netherlands
2 Medical Library, Amsterdam UMC, University of Amsterdam, Vrije Universiteit, Amsterdam, The Netherlands
3 Emma Children’s Hospital, Amsterdam UMC, University of Amsterdam, Vrije Universiteit, Amsterdam, The Netherlands

CONTENT:

Having a preterm baby is a very stressful life event for parents. Due to the setting of the modern neonatal ward, the physical and emotional closeness between the parents and their preterm infants is usually impaired as the infant is admitted to an open bay unit. The effect of the hospital environment on health and specifically psychological outcomes in parents of preterm infants remains under debate. We assessed outcomes of parents of preterm infants hospitalised in single family rooms compared to common open bay units.

For this systematic review and meta-analysis, we searched MEDLINE, EMBASE, PsycINFO, the Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science, and Clinicaltrials.gov from inception to the 25th of March 2019 using controlled terms (i.e. MeSH-terms) and text words related to prematurity and NICU design. We included randomised and non-randomised studies. Methodological quality was assessed using The Cochrane Collaboration’s Risk of Bias Tool for randomised controlled trials and the Cochrane Risk of Bias Tool for Non-Randomised Studies of Interventions. Summary estimates for meta-analysis were calculated using random effects models with standardized mean differences (SMD).

We identified 503 records. Ten study populations with parents from 1,568 infants were included. Single family rooms are associated with lower levels of parental stress at discharge (n=454 parents, SMD -0.41, 95%CI -0.61, -0.22, p<0.0001, I² =0%), during follow-up at 3 months (n=381, SMD -0.20, 95%CI -0.41, 0.01, p=0.06, I² =0%), and parental anxiety at discharge (n=162, SMD -0.61, 95%CI -0.93, -0.29, p=0.0002, I² =0%). Higher levels of parental presence, participation, empowerment, degree of family centred care, and satisfaction was found in a majority of studies. No differences were found for scores on parental depression at discharge. No studies examined the effect on post-traumatic stress in parents and parent-infant bonding.

Single family rooms should be considered to hospitalise preterm infants, as beneficial outcomes are present for the parents at discharge of the infant from the hospital and during follow-up after discharge.

COI: PROSPERO registration number: CRD42016050643. NR van Veenendaal is supported by an unrestricted research grant, provided by Nutricia, the Netherlands.
ID: 423

TITLE: EFFICACY AND SAFETY EVALUATION OF KEDRION HUMAN HEPATITIS B IMMUNOGLOBULIN FOR INTRAMUSCULAR USE IN THE PREVENTION OF HEPATITIS B IN NEONATES BORN TO HEPATITIS B VIRUS CARRIER-MOTHERS: MULTICENTRE, OPEN-LABEL, PHASE IV CLINICAL TRIAL - PRELIMINARY REPORT

AUTHORS: Paolo Biban 1, Andrea Ronchi 1, Patrizia Garzia 3, Silvia Perlini 1, Beatrice Ghirardi 2, Carlo Pietrasanta 2, Angela Bossi 3, Ilaria Bottino 2, Assunta Serena Bongiovanni 4, Chiara Guarnieri 5, Massimo Agosti 3, Fabio Mosca 2, Lorenza Pugni 2

AFFILIATIONS: 1 UOC Pediatria ad Indirizzo Critico, Azienda Ospedaliera Universitaria Integrata di Verona
2 NICU, Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Università degli Studi di Milano
3 NICU, Ospedale Del Ponte - Asst Settelaghi Varese, Università degli Studi dell’Insubria
4 Clinical Research, Kedrion S.p.A. - Castelvecchio Pascoli, Lucca
5 Global Medical Affairs, Kedrion S.p.A. - Castelvecchio Pascoli, Lucca

CONTENT:

HBV infection is an important public health problem worldwide: around 240 million people are chronic carriers of HBV and 780,000 people/year die from the infection. Those born from HBsAg-positive women have a high risk to contract the infection at the time of delivery. Following the introduction of the anti-HBV vaccine in the 1980s, passive-active immunoprophylaxis with anti-HBV immunoglobulin (HBIG) and HBV vaccine proved to be effective in preventing perinatal transmission of HBV infection: the percentage of neonates born to HBsAg-positive mothers dramatically dropped from 30-85% to 0.7-1.1%.

Open label, multicenter, phase IV study. The study is designed to enroll 184 neonates born to HBsAg-positive mothers not treated with HBIG during pregnancy. The study protocol involves the administration of HBV vaccine in the first day of life together with the administration of the first dose of Kedrion HBIG in accordance with SmPC. Subsequently, infants enrolled in the study receive HBV vaccine according to the Italian vaccination schedule. The anti-HBs antibody level is determined in each subject at 1, 3 or 4 months and, when needed, at 13 and 15 months in order to verify that a protective antibody level of ≥10 UI/L persist; if the antibody level is <10 UI/L, an additional dose of Kedrion HBIG is administered. At the beginning and at the end of the study, HBsAg test is also performed.

This is a preliminary analysis of the data from the first 116 enrolled subjects during the period 2012-2017 (GA ≥37 weeks in 87.9%, medium birth weight at the delivery 3140 ± 550 g). All subjects were HBsAg-negative at birth and received a HBV vaccine dose together with Kedrion HBIG in the first day of life. Ninety subjects out of 116 (77.6%) completed the study (10 drop-out; 3 screening failure; 13 missing data). Fifty-six subjects out of 90 (62.2%) showed seroconversion at the second visit, 26 (28.9%) at the third visit and 8 (8.9%) at the fourth visit. All subjects were HBsAg-negative at the study termination and nobody needed an additional dose of Kedrion HBIG. During the study, 21 adverse events were collected, none related to Kedrion HBIG administration.

One hundred percent of the enrolled subjects were HBsAg-negative at the end of the study, supporting the efficacy of Kedrion HBIG if administered together with HBV vaccine in the prevention of vertical transmission from HBV mothers to neonates. Moreover, these data confirm that Kedrion HBIG was also well tolerated by all the enrolled subjects.

COI: Chiara Guarnieri and Serena Bongiovanni are Kedrion SpA employees
For all other authors None declared
ID: 461
TITLE: PARENTS AS CARERS ON A NEONATAL UNIT IN A LOW-INCOME COUNTRY – DIFFERENT PERCEPTIONS OF PARENTS AND STAFF.
AUTHORS: Lissauer T1,4, Ndiaye S2, Bosowski J2, Tuvisenge L3, Penn-Kekana L2, Moxon S2
AFFILIATIONS: 1 Paediatric Dept, Imperial College London UK
2 London school of Hygiene and Tropical Medicine, London
3 Pediatric Dept, University Teaching Hospital of Kigali
4 Pediatric Dept, University of Rwanda, Rwanda

CONTENT:

Some of the key concepts of increased parental participation embodied in family centred and family integrated care were derived from LMICs. We aimed to identify what care is actually provided by mothers and family in a neonatal unit in a low-income setting, determine the parent’s experiences, and how they and the staff perceive the parent’s role. We also wished to explore the attitude of parents and staff towards extending parents’ role as primary carers, as in family integrated care. The study was conducted in a busy rural hospital in Rwanda, a low-income country in East Africa, which has made considerable progress in reducing neonatal mortality, to 17 per 1000 live births in 2016.

Observation and qualitative analysis of parent and staff interviews were performed by 2 researchers over a 2 week period. 10 mothers and 2 fathers and 15 staff members were interviewed. A semi-structured questionnaire was used. Interviews were audio-recorded and thematic content analysis was performed. The study was conducted in a neonatal unit with 800 admissions/year, 10 incubators, 15 cots and 5 Kangaroo Mother Care (KMC) beds. CPAP and wall oxygen was available, but no milk storage. Water was from tanks; alcohol gel was available. Ethical approval was obtained in the UK and Rwanda.

Mothers provided all non-technical care; breastmilk via nasogastric tube, cup or breast; comforted and cleaned their babies even in incubators. KMC in separate room when infant stable, but babies often left on mother’s bed during the day. Nurses had little time to talk to parents as only 9 nurses in total, 3 on long-term leave; bed to nurse ratio 7:1 to 31:1. Thematic analysis revealed parental satisfaction with care but mothers felt very stressed from need to provide breastmilk directly day and night, fear of baby dying, loneliness from lack of visitors, difficulty in finding food, financial worries and concern about family and home. Nurses preoccupied by shortage of staff limiting care. Discharge - parents desperate to get home, staff concerned about parental ability to provide care and follow-up; thought their educating mothers was key. Neither thought parent’s role could be extended.

Nurses and parents perspectives differed. Nurses thought improving parent’s experience required more nurses, but unavailable. Parents satisfied with care although feared baby’s death, but had severe concerns around practical issues of hospital stay, more likely alleviated by non-clinical assistance e.g. experienced mothers. Post-discharge, nurses wanted to educate mothers, but parent’s had practical concerns, requiring community support.

COI: None declared
ID: 511

TITLE: NEONATAL OUTCOMES FOLLOWING IMPLEMENTATION OF A FAMILY INTEGRATED CARE BUNDLE INCLUDING A PARENT SUPPORTING MOBILE APPLICATION IN A UK NEONATAL SERVICE

AUTHORS: Aniko Deierl 1; Annie Aloysius 1; Karen Platonos 1; Ines Silva 1; Jayanta Banerjee 1,2;

AFFILIATIONS: 1 Imperial College Healthcare NHS Trust
2 Imperial College London

CONTENT:

Imperial Neonatal service implemented a Quality Improvement program called Family Integrated Care (FIC) bundle named Integrated Family Delivered Care (IFDC) model including a parent supporting mobile application in our level 3 (Queen Charlotte’s and Chelsea hospital) and level 2 (St Mary’s Hospital) neonatal units. The aim was to improve parent experience, parent-infant bonding, parental mental health and infant health outcomes.

In collaboration with veteran parents’ focus groups a competency based, experience co-designed training and educational material for parents was created including the IFDC mobile application. Parents were supported to become primary caregivers for their baby from admission (starting at the intensive care nursery) through a competency based training, and parent led ward rounds were introduced. Care bundle was implemented in April 2017. IFDC care was open to all patients and families, but outcome data was collected and analysed after one year of implementation on infants participated in this care model and completed their entire care episode in our service with a gestational age (GA) at birth 14days. Primary outcome was length of stay (LOS).

Over 14 month period, 89 families were recruited into IFDC care with full participation achieving primary caregiver role through competency based training; 37 infants completed their entire care in our units with a minimum LOS >14 days. GA and birth weight matched 57 control infants were selected from a retrospective cohort between January 2016 and March 2017 before the implementation of IFDC care.

Median LOS was shorter for infants in the IFDC model, [41 (32-63) days compared to 55 (41-73) in the control group; p=0.022]. When LOS was analysed by level of care the special care days were significantly lower in the IFDC group [30 (21-41) compared to 40 (31-46); p=0.006]. This was more apparent in the infants born at <30 weeks’ gestation [35 (20-46) vs 49 (45-59) days (p=0.001)]. The rate of any maternal breast milk at discharge was high in both groups 34 (92%) and 54 (95%).

The Family Integrated Care bundle has significantly reduced length of stay in the neonatal unit for patients completing the entire care episode in our service which is more apparent in babies who were born at <30 weeks of gestational age and resulted high level of breastfeeding well above UK national levels.

COI: Nil.
ID: 514  
TITLE: PARENT EXPERIENCE FOLLOWING IMPLEMENTATION OF A FAMILY INTEGRATED CARE BUNDLE IN A UK NEONATAL SERVICE  
AUTHORS: Aniko Deierl 1; Emilie Seager 1; Karen Platonos 1; Ines Silva 1; Jayanta Banerjee 1;  
AFFILIATIONS: 1 Imperial College Healthcare NHS Trust, London, UK  
2 Imperial College London, UK  

CONTENT:  
Imperial Neonatal service implemented a Family Integrated Care (FIC) bundle named Integrated Family Delivered Care (IFDC) model to improve parent experience, parent-infant bonding, parental mental health and infant health outcomes. The IFDC model provided structured material for training and support of parents and staff and the neonatal unit provided environment conducive of empowering families to be primary carers of their admitted infants alongwith psychosocial support. Ad-hoc spot and discharge questionnaires were designed to gather qualitative parent feedback about this model of care and to identify areas that work well and those that require further development.  
The IFDC care bundle was implemented in April 2017, and feedback data was collected during the first 15 months after implementation. The spot questionnaires were completed by parents of infants who were participating in IFDC care model at random intervals during their stay. A total of 11 questions were asked (9 quantitative and 2 free text). A discharge questionnaire was provided to families to capture feedback at discharge; asking for detailed free text feedback on care received, ideas for improvement and three words to describe IFDC. Completion of these questionnaires was voluntary, and self-reported data was collected. Responses were anonymised and confidential. Descriptive analysis was performed alongwith thematic analysis of the free text answers.  
During 14-month period, 50 spot questionnaires were completed. 84% of respondents were mothers, 10% fathers and 6% both parents. IFDC was described as: supportive, helpful, friendly, informative, educational, compassionate, kind, inclusive, empowering, humane and collaborative (Figure 1). 26 completed the discharge questionnaire: 81% mothers, 11% fathers and 8% both. Themes identified were: advantages of being involved in baby’s cares, values of cotside and group teaching sessions, feeling well informed, and value of parent-led ward rounds. Parents reported: ‘the project .. has given structure to my journey’, ‘the support and teaching received were outstanding. I feel more confident to go home’. Common theme for improvement was inconsistency in communication, “mixed messages from different staff” and “on how staff relay messages to parents”.  
The findings from these spot and discharge parent questionnaires demonstrated the positive impact of IFDC model on families during their vulnerable time on the neonatal unit. This new care model was felt to be supportive, informative, educational, empowering and helpful; and majority of parents felt confident and empowered during their stay as well as at the time of discharge from the neonatal unit.  

IMAGES:  
https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=dc8d4074f0e2c334f21d5f0a3a7673ae-MjAxOS0wNSM1Y2UyNjY2YzdjN2Rm  

Figure 1. Parent responses for question to summarize Integrated Family Delivered Care in three words.  

COI: Nil
ID: 543

TITLE: EARLY PRE-, PERI AND POSTNATAL VARIABLES ASSOCIATED WITH INFANTS DEVELOPING SEVERE RETINOPATHY OF PREMATURITY

AUTHORS: Chatarina Löfqvist 1,2; Eva M Andersson 3; Gunnel Hellgren 4; Karin Sävman 5; Lois EH Smith, 6, Ann Hellström 2

AFFILIATIONS: 1 Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
2 Section for Ophthalmology, Department of Clinical Neuroscience, Institute of Neuroscience and Physiology, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
3 Department of Public Health and Community Medicine at Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
4 Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
5 Department of Pediatrics, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden
6 Department of Ophthalmology, Boston Children’s Hospital, Harvard Medical School, Boston, Massachusetts, US

CONTENT:

Retinopathy of prematurity (ROP) ROP is a multifactorial disease involving many factors. Low-gestational age, low-birth weight, sepsis, oxygen therapy, respiratory distress syndrome, and blood transfusion have been suspected to influence the incidence of ROP. In addition, postnatal circulating biomarkers such as growth factors and fatty acids have in clinical studies been strongly associated to ROP development. The goal of this project is to identify prenatal and perinatal variables together with early circulating biomarkers that best can be used together for prediction for ROP development.

Longitudinal (up to 10 measurements per infant) data, including clinical variables and biomarkers available from a cohort of 90 extremely preterm infants (born in gestational weeks 22-27), was analyzed. The variables were categorized into : 1. Birth characteristics; 2. Respiratory support; 3. Maternal factors; 4. Prenatal/Perinatal; 5. Serum/Plasma factors; 5. Comorbidities and Treatments. Within each category, multivariable logistic regression was used to assess which predictors that were associated with severe treatment-needing ROP. The variable with the strongest association in each category was then chosen for further multivariate analysis (SPSS 24.0).

Seventeen infants developed no ROP, 8 ROP stage 1, 22 ROP stage 2 and 31 infants ROP stage 3. Within the different categories we found that the following variables best discriminated between infants born extremely preterm who developed any (including severe) ROP compared with infants who developed no ROP. 1. Birth characteristics: Birth weight and sex; 2. Respiratory support: number of days with CPAP, Ventilator >7 days; 3. Maternal factors: Clinical notes on “Has the mother any relevant medical history during pregnancy”; 4. Prenatal/Perinatal: Antenatal steroids, Way of delivery, APGAR score 10 minutes; 5. Serum/Plasma factors: Brain-Derived Neurotrophic Factor Levels days 7 and 14, Adiponectin level days 1 and 7, Insulin-Like Growth Factor-1 levels at 28 days; 6. Comorbidities and Treatments. BPD, exposure to postnatal steroids.

We have identified a combination of clinical variables and biomarkers that might be used to safely and timely identify infants at risk for severe ROP needing treatment on an individual level. However, these variables need to undergo extensive statistical analyses to determine which can discriminate between preterm infants likely to develop severe ROP needing treatment and those likely to have normal vascular development at an individual level.

COI: None declared
ID: 775

**TITLE:** CONGENITAL HEART DISEASE IN TRISOMY 21: A SINGLE CENTRE EXPERIENCE

**AUTHORS:** Dr Alexander Yule  
Dr Sirisha Balmuri

**AFFILIATIONS:** Dr Alexander Yule - Paediatric ST2 Doctor, Nottingham Children's Hospital, Queen's Medical Centre, Nottingham, United Kingdom  
Dr Sirisha Balmuri - Paediatric Consultant, Nottingham Children's Hospital, Queen's Medical Centre, Nottingham, United Kingdom

**CONTENT:**

Due to the association that Trisomy 21 (T21) has with congenital heart disease (CHD), prompt diagnosis of CHD and treatment is needed to prevent irreversible pulmonary vascular disease (PVD). In the UK, national guidelines have been developed by specialist interest groups for the management of a neonate found to have T21 including recommendations on the investigation of CHD and the use of echocardiograms. At Nottingham Children’s Hospitals, we’ve developed our own guidelines that are in keeping with these recommendations. The purpose of this audit is to determine whether as a team we are complying with our guidelines and highlight any improvements that can be made with our pathway.

A list of all neonates born with trisomy 21 within Queen’s Medical Centre and Nottingham City Hospital between January 2016 and December 2017 was collected for retrospective analysis. Data was collected from two computer programmes; NoTIS (clinic letters and results) and Digital Health Records (electronic copies of written notes). Data was collected for: demographics, grade of most senior person reviewing patient, date of 1st echocardiogram and ECG, echocardiogram diagnosis, time to follow up. Each patient was compared against our local guideline algorithm and then also compared against key aims from the national recommendations; that CHD is diagnosed or excluded by 6 weeks of age and all are discussed with a Paediatric Cardiologist / Paediatrician with a special interest in Cardiology.

In total 28 patients were identified. 61% had T21 identified during their neonatal period. CHD was very prevalent in the population with 27 out of 28 having some abnormality identified. The most common cardiac abnormalities were AVSD and PDA. 100% of patients had an echocardiogram performed during initial work up or at cardiac clinic follow up. The average time till first echocardiogram was 6.4 days. 18 out of 28 patients (64%) followed the local pathways. Non-compliance with local guidelines was commonly due to delayed referral to follow up. Performance against national guidelines: 26 of 27 patients (one patient excluded as had immigrated to the UK aged 2 years) through current practice, had either a serious CHD identified or excluded within 6 weeks of birth. For review by a Cardiologist, 89% (24 out of 27) of patients had been reviewed by 6 weeks of age.

This audit has found that as a service, we are good at rapidly identifying CHD in the population of neonates with T21 and that the echocardiogram is the mainstay diagnostic tool. Serious CHD abnormalities are referred promptly to specialist services. Areas for improvement include the use of ECG’s as part of initial work up for all neonates with suspected T21. Further work will be to create a streamlined referral pathway for patients with CHD.

**COI:** We have no conflict of interests to declare.
ID: 777

TITLE: NEO-TRAIN QUALITY IMPROVEMENT INITIATIVE TO IMPROVE EOSIN (EARLY ONSET SEPSIS IN NEONATES) CARE AS PER NICE RECOMMENDATION

AUTHORS: Anoj Oommen 1; Nitesh Singh 2; Kamini Yadav 3; Divya Saxena 4; Adam Bonfield 5; Marks Ainsworth 6; Ali Pamina 7

AFFILIATIONS: Department of Neonates, Leicester Royal Infirmary Hospital, Leicester, United Kingdom

CONTENT:

Neonatal sepsis is a serious systemic infection and a leading cause of neonatal morbidity and mortality. Recognizing neonates at risk of sepsis and early identification of sepsis followed by immediate treatment is key to reducing adverse outcomes. National Institute of Clinical Excellence guidelines on neonatal sepsis recommends administration of antibiotics within 1 hour of suspecting sepsis. Achieving this target can be challenging in a busy NICU. Adult and pediatric services have addressed this by introducing 1-hour sepsis care bundles.

Aim:

Improve adherence to NICE sepsis standard for administration of antibiotics within 1 hour of suspecting sepsis and following antibiotic stewardship

A quality improvement methodology of process mapping and fishbone analysis was used to study workforce pathways and system tools to identify barriers. Four Plan-Do-Study-Act (PDSA) cycles were run in two six monthly blocks between 02/2017 to 07/2017 and 08/2018 to 01/2019.

Cycle 1: Baseline issues and QI strategy defined.
Issues identified: delay in time to treatment, measurement of second CRP, reporting of blood culture within 36 hours.

Cycle 2: Significant delay in transport and processing of blood culture were leading to delay in reports.

Cycle 3: Pareto chart based staff survey were used to understand aspects of human behavior. Incomplete documentation identified.

Cycle 4: Time of 36 hours blood culture reports not available for babies on postnatal ward.

1. The outcome improved the average time of antibiotic administration from 120 minutes to 90 minutes.
2. Early reporting of blood culture results of neonates from postnatal ward which helped in early discharge from the ward when cultures were negative.
3. Improved awareness among staff about the importance of completing sepsis screen within 1 hour.
4. Changes implemented to bring about early delivery of blood culture bottles to the lab.

ACTIONS IN EACH CYCLE:

Cycle 1:
Sepsis Screening Pit-stop was implemented. An educational initiative 'Neo Train' was started and posters displayed in clinical areas.

Cycle 2:
Persuasion of stakeholders: pottering services and microbiology department to obtain blood culture results within 36 hours.

Cycle 3:
Staff education undertaken. A sepsis booklet created and implemented.

Cycle 4:
Negotiation with microbiology department.

1. A Plan-Do-Check-Act quality improvement initiative for service innovation was used to improve care pathway for babies with risk factors for neonatal sepsis.
2. Value stream mapping helped to identify barriers and potential key areas for improvement.
3. Key feature for the success of the Neo-train Quality Improvement initiative was its use of a multidisciplinary team approach to strategically design and deliver the implementation program.

IMAGES: https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=c2fc1f30502959f6426a84b2a7a66f5f-MjAxOS0wNSM1Y2UyNjY2Y2UxZTM4

COI: NONE DECLARED
ID: 844

TITLE: DELIVERY ROOM CUDDLES FOR EXTREMELY PRETERM BABIES: A QUESTIONNAIRE SURVEY OF MOTHERS’ VIEWS, EXPERIENCES, AND MEMORIES

AUTHORS: Paul Clarke 1; Emma Allen 2; Paul Cawley 1

AFFILIATIONS: 1 Neonatal Intensive Care Unit, Norfolk and Norwich University Hospitals NHS Foundation Trust, Norwich, UK
2 Expert Parent Representative, Diss, UK

CONTENT:

Parents of extremely preterm babies are rarely allowed a delivery-room cuddle (DRC). Urgent NICU admission is usually considered the immediate priority after stabilisation of such newborns. Many weeks can pass before parents first get to hold their babies. This period is inevitably very traumatic for mothers and may affect bonding/milk expression. Our unit strives to facilitate the DRC between mothers and their preterm infants after the initial stabilisation but before NICU admission. Yet there is scant data on parents’ experiences of the DRC practice. We aimed to survey views of mothers of extremely preterm babies born at <27 weeks’ gestation who had experienced a DRC in our centre.

We reviewed electronic medical records of all extremely preterm babies born at <27 weeks’ gestation who were admitted to our NICU in the 13-year period 2006–2018. We identified all inborn babies who had received a documented maternal DRC at birth recorded in their admission notes. We identified still-living children, and invited all non-bereaved mothers (n=24) who had received a facilitated DRC to participate in a structured web-based questionnaire survey asking about their reflections on, and memories, experience, and valuation of their DRC. This study was a service evaluation of a routinely-offered practice and did not require any formal ethics approval.

12 (50%) of 24 invited mothers completed the survey. Of respondents, most (80%) vividly remembered their DRC and rated it very important to them as a new mother. Feelings commonly recalled about the first DRC included initial relief/reassurance (50%), intense pride and love (50%), and being initially scared at the prospect of holding their tiny baby (33%). 75% of mothers reported being able to get a photograph/video recording of their first cuddle. The vast majority (92%) considered it very important that neonatal doctors/nurses should try to offer mothers of newborn very preterm babies a DRC before their baby is removed to NICU.

Free-text comments included:
“...It meant the world to me to have those few seconds bonding with my beautiful boy”
“It was incredibly important as I did not get to hold my son again for 2 weeks as he was too sick. That cuddle helped to initiate my breast milk...”.

Cuddling the human newborn is instinctive and invaluable for all parents, and parents of extremely preterm infants are no exception. Most mothers given the chance to briefly cuddle their baby in the delivery room before the NICU admission greatly valued the experience. The DRC may enhance bonding and breast milk expression and should be facilitated for all mothers and fathers with their babies, wherever possible, irrespective of birth gestation.

COI: None to declare.
ID: 855  
**TITLE:** INTEGRATION OF OBSTETRICS AND LEVEL 2 NEONATOLOGY: AN INFRASTRUCTURE TO FACILITATE PARENT EMPOWERMENT  
**AUTHORS:** Mireille Stelwagen 1, Anne van Kempen 2, Alvin Westmaas 3, Yvonne Blees 4, Fedde Scheele 5.  
**AFFILIATIONS:** Mireille A. Stelwagen, Registered Nurse and Master of Science Nursing, PhD-student at the Teaching Hospital Department OLVG, Amsterdam, The Netherlands  
Dr. Anne A.M.W. van Kempen (MD, PhD), Neonatologist at the Department of Pediatrics, OLVG, Amsterdam, The Netherlands  
Dr. Alvin Westmaas (MSc, PhD), Associate professor at the department of Social Psychology Maastricht University, Maastricht, The Netherlands/Lecturer, Faculty of Health at the University of Applied Sciences Leiden.  
Yvonne J. Blees, Registered Nurse, Head nurse Neonatology, OLVG, Amsterdam, The Netherlands  
Prof. Dr. Fedde Scheele (MD, PhD), Professor in Health Systems Innovation and Education at VU University Amsterdam, Gynecologist and Dean Teaching hospital OLVG, Amsterdam, The Netherlands  
**CONTENT:**  
Empowerment of parents is beneficial for the quality of healthcare for newborns and parents. Family Integrated Care (FIC) is described to support parent empowerment in NICUs. A prerequisite for parent empowerment is closeness between the parents and their newborn. Single Family Rooms (SFR) and co-care should facilitate closeness and FIC. It is not yet common practice to provide co-care in the same room for mothers and newborns who both need specialized care for a prolonged period of time. The object of the study was to explore the conditions which were fulfilled by designing and implementing a fully integrated Mother-and-Child Center to optimize parent empowerment in neonatal level 2 care.  
The study was conducted between September 2016 and April 2017 at the new Mother-and-Child Center, OLVG hospital Amsterdam. The current rate of births in this center is 3000 per year, around 1300 newborns a year receive level 1 or 2 neonatal care, 70 of these premature receive post-intensive-care. Using a case study research approach. Selecting and analyzing all available policy reports and other related documents that were produced during the transition process between April 2010 and October 2014. Supplemented with in-depth, semi-structured interviews, which were transcribed. Data collection and thematic analysis were alternately conducted using MaxQDA 2007. The categories that emerged were assigned to the themes, the main categories and the three levels of a model of patient empowerment.  
The following themes were identified. At the healthcare system level, ‘Joint vision and goal’, ‘Integration of three wards into one ward with SFR’, ‘Organization of the healthcare team in SFR’ and ‘New equipment’. At the healthcare providers level, ‘Training for extension of professional goals’, ‘Intensifying coaching of parents’, ‘Implementing patient centeredness’. At the patient level, ‘Options and experiences of parents’.  
The change process started with the Obstetrics and Neonatology units developing a shared vision. The SFR made it possible to organize the healthcare provision of the two specialties geared around mothers and newborns. Training programs for health personnel and a new nurse position, the specialized Mother & Newborn nurse, were implemented for co-care. The medical visiting rounds were planned at the SFR with parents, including open visiting hours for family/friends.  
The design and implementation of a infrastructure for obstetrics and neonatology to facilitate parent empowerment consist of Family Integrated care and co-care in Single Family Rooms by a fully integration of the units obstetrics and neonatology. Our case study demonstrated that the design showed a good fit with the model for patient empowerment of Bravo. This infrastructure therefore appears to be able to optimize and promote parent empowerment.  
**COI:** Non declared
ID: 859

TITLE: EDUCATIONAL PROGRAMME TO PREVENT HYPOTHERMIA IN A LOW RESOURCE SETTING NICU

AUTHORS: Aoife Hurley 1
Kunda Mutseu-Kapembwa 2
Sylvia Machona-Muyunda 3

AFFILIATIONS: 1. Neonatal unit, University Teaching Hospital, Lusaka, Zambia
2. Neonatal unit, Leeds Teaching Hospital Trust, Leeds, UK

CONTENT:

Hypothermia is defined as <36.5 degrees and is a challenge in the LMIC as well as high income countries. Data from the NHS improvement Academy shows that over60% admissions to neonatal units are term babies and this number is increasing despite a reduction in term births. The commonest reasons are hypoglycaemia, jaundice and respiratory symptoms which was the commonest 25%. ATAIN data25% of babies admitted with respiratory symptoms had a temp<36.5. Maintaining an optimal thermal environment can reduce term admissions for hypoglycaemia and respiratory symptoms. The NICU at University Teaching Hospital Lusaka is Zambia's only tertiary NICU, with up to 100 inpatients and 20 admissions daily.

It was observed by staff that the majority of infants are admitted to UTH NICU hypothermic, with little measures in place to prevent this. The aim of the project was to establish the incidence of admission hypothermia in the baby unit in UTH. To introduce an educational programme to prevent hypothermia with an aim to reduce the incidence of temperatures <36.5. Data collected from admission book over a 6 month period from October 2018 to March 2019. Temperatures collated into hypothermia < 36.4, normal 36.6-37.5 and high temperatures > 37.5. All babies included.

The intervention was 3 half study days in April 2019 to midwives from labour ward postnatal ward and NICU nursing staff. Attended by more than 60 staff. Teaching after weekly meeting to medical and nursing staff on NICU.

Over the pre intervention study period there were 2263 admissions of which 1905 had an admission temperature recorded. Between 52-68% admissions per month had an admission temperature of <36.5.

Post intervention in April there is a reduction in hypothermic babies and a rise in normothermic babies across total admissions seen in figure 1 attached.

In line with the NHSI work, we looked at term babies who were hypothermic. Gestational age is variably calculated and documented in Zambia, so we used a birth weight of 2.5kg as a surrogate identifier of term.

After the intervention programme, there was a reduction in the hypothermic term babies admitted to the unit.

We also looked at primary reason for admission in all the hypothermic babies of the pre intervention study period, these admission diagnoses are in line with the ATAIN work in the UK.

A simple educational programme has been shown to reduce the number of term admissions by reducing the number of hypothermic babies.

Ongoing work includes maternal education and information regarding simple measures to alleviate hypothermia. Posters will be used in the labour ward, postnatal areas and mothers area.

IMAGES:
https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=349e647bf8c70b0f9b5ce2ccabf60b9d-MjAxOS0wNSM1Y2UyNjY2ZDBmNzU2

COI: non declared
ID: 907
TITLE: VALIDATING THE PREDICTIVE UTILITY OF THE VICTOR SCN EARLY WARNING CHART
AUTHORS: Jia Ming Lee 1; Yi Fei Hu 2; Vincent Lee 3; Kenneth Tan 4
AFFILIATIONS: 1 Department of Paediatrics, Monash University, Melbourne, Victoria, Australia
2 Faculty of Information Technology, Monash University, Melbourne, Victoria, Australia
3 Faculty of Information Technology, Monash University, Melbourne, Victoria, Australia
4 Department of Paediatrics, Monash University & Monash Newborn, Monash Children's Hospital. Melbourne, Victoria, Australia

CONTENT:

Derangement in vital signs are known antecedents of clinical deterioration. This underlies Early Warning Systems (EWS), which detect patient deterioration and trigger responses such as a Medical Emergency Team (MET) attendance. In Victoria, the Victorian Children’s Tool for Observation and Response (ViCTOR) Special Care Nursery (SCN) observation chart has been proposed as the standard of care for infants admitted to a SCN. Its predictive utility has however not been previously validated. The aim of this study was to therefore assess the ViCTOR SCN MET call criteria’s predictive utility.

A prospective study was designed and carried out over a two month period in 2018. Parameters (heart rate, oxygen saturation, respiratory rate) for admitted SCN infants with a length of stay > 24 hours were continuously recorded from every bedside monitor using the Draeger eData-grabber program. Temperature, blood pressure, infant skin color, level of activity and blood glucose measurements were also retrospectively collected from standardised nurse observation recordings. The ViCTOR parameter thresholds were then applied to the dataset, and analysed against outcomes, defined as any clinical deterioration event. The correlation of derangements in parameters with outcomes was then used to calculate predictive utility. Data analysis was performed using MATLAB, Stata and MS-Excel.

Over the data collection period, data was recorded for 214 infants. 60 patients recorded 93 episodes of clinical deterioration, the majority of which were respiratory decompensations. 80% of these events had >1 documented antecedent. The current ViCTOR MET call criteria mandate a MET response when three vital signs breach a predefined threshold. This criterion showed a sensitivity of 93.9% [84.99, 98.30] and a specificity of 66.7% [57.83 to 74.72].

The current ViCTOR SCN MET thresholds have a sensitivity of 93.9% and a specificity of 66.7%, making it an appropriate screening tool for patient deterioration.

IMAGES:
https://www.eiseverywhere.com/eeselectv3/v3/events/351149/submission/files/download?fileID=621983f34ed0f1d2ac781b8c6fb9a83c-MjAxs0wNSM1Y2UvNjY2ZDIxMjcy

Table 1. Predictive utility of the selected ViCTOR SCN Chart MET Criteria

COI: None declared