ID: 101

TITLE: NEONATAL OBSERVATIONAL VASCULAR ACCESS (NOVA): AN AUSTRALIAN AUDIT

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CONTENT:

Sick and preterm neonates require the delivery of fluids, medications, nutrition or blood products during hospitalisation. Thus, lifesaving treatment is often dependant on vascular access to deliver these treatments. However, the expected dependability and subsequent complications for a number of neonatal vascular access devices (VADs) is poorly understood. Studies in adults and paediatrics have resulted in evidence-based strategies for VAD insertion and maintenance towards the reduction of preventable complications. This study sought to identify current neonatal VAD practice, utility and complications towards targeted improvement.

A prospective audit of VAD management and associated complications was conducted over 3 months at the Royal Brisbane and Women’s Hospital’s, Neonatal Unit (Australia). All neonates requiring a VAD were eligible to participate. Primary outcomes were: (i) VAD complication resulting in catheter failure and (ii) VAD-associated skin complications. Neonates were assessed second daily for primary outcomes, and clinical utility such as frequency of device use. Descriptive statistics have been used, relevant to data characteristics. Associations between VAD-complications and clinical characteristics were assessed using Chi-square, Mann-Whitney U and Kruskall-Wallis tests, as appropriate. Variables with p<0.05 were significant.

In total 140 neonates received 302 VADs, for 1375.3 catheter days. Median age was 33.8 weeks (30.4-37.4) and weight was 2006 (1352-2956) grams. Prematurity (86; 61%) or respiratory failure (73; 52%) were attributed to most admissions. Multiple VADs were needed frequently (62; 44%) with dwell time reported as 2.3 (1.5-3.9) days for peripheral venous; 4.9 (2.7-6.8) days for umbilical venous; and 11.8 (7.9-14.3) days for peripherally inserted central catheters (PICC). VAD failure effected: peripheral venous (68; 36.6%), PICCs (5, 20.0%), umbilical venous devices (6; 11.5%); at a rate of 58.9 (47.4-73.2) per 1000 catheter days. VAD insertions were chiefly for fluids and medications administration (peripheral (184, 98.9%) umbilical venous (52, 100%)). Daily checks reflected high/continuous use (> 87%) for VADs and skin complications impacted 12% of patients (23 complications in 17 patients).

VAD’s within this study were frequently accessed and often associated with complications. Comparison of results remains difficult, due to inadequate reporting of VAD complications within networks (e.g. ANZNN, VON). Harm associated with VAD complications is an important indicator for prevention of morbidity and mortality. This study has begun to identify causes of neonatal VAD failure which will inform strategies to reduce VAD complications.

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CONTENT:

EMPATHIC-N is a parent-satisfaction questionnaire in Neonatal Intensive Care Units (NICU) reflecting the values of Family Centred Care (FCC) and is recommended by the European Foundation for the Care of Newborn Infants (EFCNI). It consists of 59 statements on a 6-point scale, organized in 5 domains. It also includes one general satisfaction score and four open questions concerning admission, hospital stay and discharge of their child and general experiences. Translation and validation is performed in Italy, Brazil, Australia, France and Greece/Cyprus.

The aim of this study was to evaluate the EMPATHIC-N in Norwegian NICUs.

The questionnaire was translated according to Wild’s 10 steps for translation and cultural adaptation of instruments for patient-reported outcomes. According to parents’ feedback, statements concerning both nurses and doctors were divided resulting in a Norwegian version consisting of 77 statements.

The project was approved by the leadership of the department and the Data Protection Officer at Oslo University Hospital. 500 Norwegian speaking parents voluntarily answered the translated version anonymously.

The internal validity was measured by Cronbach’s alpha > 0.75, accepting Correlation > 0.40. The structure of the questionnaire was tested using Structural Equation Modelling analysis (SEM). The data from the four open questions were condensed and analysed qualitatively.

66 statements in the Norwegian version of EMPATHIC-N were found valid for the Norwegian NICU-parents. 11 statements were not valid within the original domains, mostly because of high missing or “not applicable”. Some statements may not be applicable for the majority NICU population, but important for small groups of patients. Invalid statements with high clinical importance will be placed in other domains and retested. Dividing the statements concerning doctors and nurses revealed minor differences in parental satisfaction with no importance for quality improvement-work.

Both mothers and fathers scored high on satisfaction (>5) in all domains, yet, the four open questions provided important information concerning parental frustration with routines and facilities as well as suggestions for improvements.

The Norwegian version of EMPATHIC-N was found valid for parents in Norwegian NICUs. Parents scored high in satisfaction in all 5 domains, yet the four open questions provided useful information for quality improvement work in the unit. The EMPATHIC-N questionnaire provides interesting data for studies, but far too much data for quality improvement work in a busy NICU. A short electronic version is needed.

COI: No conflicts to declare
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TITLE: SINGLE FAMILY ROOMS AND LATE ONSET SEPSIS IN PRETERM INFANTS - A RETROSPECTIVE COHORT STUDY AND MEDIATION ANALYSIS
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CONTENT:
Neonatal late onset sepsis is associated with increased morbidity and mortality, especially in preterm and very low birth weight infants, and has a multifactorial origin. During hospital stay, preterm infants are at increased risk of sepsis and most preventing strategies focus on reducing risk factors. Single family rooms (SFR) are associated with less sepsis events during hospital stay. However, potential mediators in the pathway between SFR and late-onset sepsis remain unidentified. We studied the effect of SFR on the incidence of late onset sepsis in preterm infants compared to open bay units (OBU).

A single center retrospective cohort study comparing the period of care in OBU (January 2012 through June 2014) versus care in SFR (January 2015 through December 2016) in our neonatal level 2 department. We included all preterm infants (gestational age <37 weeks) admitted (born at or transferred) to the hospital with a length of hospital stay ≥3 days. We applied a novel statistical technique with multiple imputation by chained equations for missing data and simple and multiple logistic regression models with 95% bootstrap confidence intervals to study the effect of SFR and potential mediators (with product-of-coefficients indirect effects) on late onset sepsis in our cohort. Secondary outcomes were growth during hospital stay, length of hospital stay and exclusive breastfeeding at discharge.

We analysed 1046 infants (468 in SFR and 578 in OBU, median gestational age 35+2 vs 34+6 weeks). SFR decreased the incidence of clinical suspected late onset sepsis (3.2 events/1,000 vs 5.6/1,000 hospitalisation days) and sepsis treated for at least 7 days with antibiotics (1.0 events/1,000 vs 2.1/1,000 hospitalisation days), also after adjusting for confounding factors (OR 0.492, 95%CI 0.296 – 0.816, p=0.0061). Intravenous catheters (indirect effect -1.749, 95%CI -2.751; -1.050) and parenteral nutrition (indirect effect -1.827, 95%CI -2.777; -1.135) were possible mediators of the effect of SFR on clinical and proven sepsis in our cohort. In multiple mediaton models the effect of SFR on sepsis was mainly mediated through parenteral nutrition (73%) and not through intravenous catheters (18%). We found no differences for growth, length of stay and exclusive breastfeeding at discharge.

In our study, single family rooms are associated with a decreased incidence of clinical suspected and proven late onset sepsis, and less use of intravenous devices and parenteral nutrition in preterm infants. Both intravenous catheters and parenteral nutrition were mediators in the pathway between SFR and late onset sepsis. In our analyses, the positive effect of SFR on sepsis was mainly mediated through a decreased use of parenteral nutrition.
The effect of SFR on sepsis – mediation analysis

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TITLE: PARENT’S PERCEPTIONS OF THE VERBAL AND WRITTEN INFORMATION GIVEN IN A NEONATAL CLINICAL TRIAL


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CONTENT:

Preterm birth is a burdening event for families. In earlier studies, parents expressed that information was one of the most important factors in managing their stress. In this study, we investigated how parents of extremely prematurely born children perceived the information they received in the informed consent process in connection to a clinical trial.

201 of 210 infants were included at this interim analysis. Parents either received a questionnaire from the study nurse at two time points or answered on our website when the infants were 7 days and 40 weeks postmenstrual age. Seven questions including the following topics were given: If the information was understandable, if the randomization procedure was clear enough to make a decision about participating, how long time they had for consideration and what influence the information had on parents’ sense of security during the trial.

The overall response rate was 78%. On the question “was the patient information clear enough to make a decision to participate?” 88,5% answered yes, 1,5% answered don’t know and 10% gave their own comments. On the question “was the randomization process clear enough to make a decision to participate or not?” 65% answered yes, 16,5% answered no, 11,5% answered don’t know and 7% gave their own comments. On the question “if the parents felt completely secure with the information received during the clinical trial” 79% felt completely secure, 18% felt rather secure, 2% felt insecure and 1% gave their own comments. Proposals that came up under their own comments was that the time and situation for when the information was given is important and that the information must be repeated throughout the clinical trial.

The results shows that most parents understand what it means to participate in a clinical trial and that they have enough time to make a decision, but that only 65% understood what it means to be randomized. The informed consent process not only depends on well-formulated information, but also on time and situation when the information is given.

IMAGES:
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COI: NONE DECLARED