

ID: 153

TITLE: RELEVANCE OF WAVEFORM INFORMATION DISPLAYED ON NURSES' HANDHELD DEVICES IN A SINGLE-FAMILY ROOM NEONATAL INTENSIVE CARE UNIT

AUTHORS: G. Varisco 1,2; H. van de Mortel 3; L. Cabrera-Quiros 1,2; L. Atallah 4; D. Hueske-Kraus 5; X. Long 6,7; E.J.E. Cottaar 1; D. Kommers 1,3; T. Mohns 3; P. Andriessen 3; C. van Pul 1,2

AFFILIATIONS: 1 Eindhoven University of technology, Applied Physics, Eindhoven, The Netherlands.

2 Maxima Medical Center, Clinical Physics, Veldhoven, The Netherlands.

3 Maxima Medical Center, Neonatology, Veldhoven, The Netherlands.

4 Philips Healthcare, Andover, United States of America.

5 Philips Healthcare, Böblingen, Germany.

6 Philips Research, Eindhoven, The Netherlands.

7 Eindhoven University of technology, Electrical Engineering, Eindhoven, The Netherlands.

CONTENT:

Patient monitoring devices are responsible for producing many false alarms, leading to desensitization and alarm fatigue. More intelligent alarm management can lead to an improved clinical workflow with positive effects on patient safety. Until recently, the NICU of Máxima Medical Center (MMC), Veldhoven, used a distributed alarm management system and handheld phones for nurses displaying alarm but missing waveform information. This feature gives contextual information about the patient status and can help reduce the number of false alarms.

This study evaluated the effect of Philips CareEvent, a new alarm management solution implemented in Sep 2018, making waveforms accessible from phones.

MMC has a 22-bed NICU with single-family rooms. Patient monitoring is implemented such that alarms are generated at the bedside and sent to both a central station and handheld phones carried by nurses. Since Sep 2018, phones show waveform information.

Different measures were developed to analyze relevant alarms, labeled as red (critical) or yellow (alerting), in 3-month reference periods: Oct-Dec 2017 (control) and Oct-Dec 2018 (post CareEvent integration). These were chosen in order to remove seasonality effects from the analysis.

The analysis included the average number of all alarms and specific alarms (e.g. desaturation). For all patients, the percentage of time spent outside the target SpO₂-range (89 to 95%) was calculated. All results were normalized by the number of patients' days.

The gestational age (GA) and postmenstrual age (PMA) of the patients were similar during both periods (29.3±1.0 vs 29.2±1.1 weeks GA, 32.1±1.0 vs 32.1±1.4 weeks PMA).

A slight decrease in the average number of all alarms per patient day was found in 2018 (245 vs 235.8). This reduction was also found with desaturation (28.8 vs 22.5) and SpO₂ low alarms (117.8 vs 113.5), the most frequent red and yellow alarms. Wilcoxon rank sum test was used to compare the number of these alarms per day in both periods. A significant difference in the two periods was found for the case of desaturation alarms (p-value<0.001).

The comparison of the two periods showed a reduction in the percentage of time spent with SpO₂ values both below 88% (10.5% vs 9.6%, 1.9% vs 1.6% below 80%) and above 95% (42.5% vs 39.3%).

This study showed a decrease in the percentage of time spent by babies below the target SpO₂-range and a significant reduction of desaturation alarms after CareEvent implementation. Nurses have been able to see waveforms from the phones, having more contextual information to provide care to babies.

Future analysis will also take into consideration the severity of illness and can provide new insights about the improvement in alarm load.

IMAGES:

<https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=09f4a285e9a0af45362fa010576e3b49-MjAxOS0wNSM1Y2UyNjY2YmUwNWZz>

Average number of Alarms/Patients days - Oct-Dec 2017 vs Oct-Dec 2018

COI: None declared

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TITLE: PARENTERAL STRESS IN NICU - WHO SUFFER GREATER: MOTHER OR FATHER?

AUTHORS: Halyna Pavlyshyn 1; Iryna Sarapuk 2; Neonila Skubenko 3

AFFILIATIONS: 1 Pediatrics Dept., I.Ya. Horbachevsky Ternopil National Medical University, Ternopil, Ukraine

2 Pediatrics Dept., I.Ya. Horbachevsky Ternopil National Medical University, Ternopil, Ukraine

3 Neonatal Intensive Care Unit, Ternopil Regional Perinatal Center, Ternopil, Ukraine

CONTENT:

The admission and treatment of an infant in the neonatal intensive care unit (NICU) is a great challenge for parents. Being separated with the baby, see own infant feeling pain and being sick, together with complexity of the NICU environment, mother and father experience great anxiety and stress. The stress experienced in the NICU can cause fatigue, sleeping disorders and depression after discharge, compromising bond and relationship between parents and child.

The purpose of the present study was to assess the parenteral stress levels and compare the sources of stress for mothers and fathers.

Descriptive study with a quantitative approach was conducted in NICUs of Ternopil region, Ukraine. Parents of 40 admitted to NICU infants participated in it. Parenteral stress levels were assessed using the questionnaire Parenteral Stressor Scale: NICU (PSS: NICU). The scale has 26 items, distributed in 3 subscales that measure the stress of parents relating with Sights and Sounds of NICU, Appearance and Behavior of the baby and Parenteral Role Alteration. In a type Likert scale, with a score between 1 and 5, parents indicated how stressful was the experience described in each item. Score "1" refers to not stressful and "5" to extremely stressful.

Mean scores (M) with standard deviation (SD) and t-test ("STATISTICA 13.0. FOR WINDOWS") were used for calculating PSS: NICU scores.

The average PSS:NICU score in mothers was 3,48 with SD=1,30. Parenteral Role Alteration was the most stressful for mothers (M=3,90; SD=1,12) followed by Infant Appearance (M=3,58; SD=1,22). The least stressful subscale - Sights and Sounds (M=2,61; SD=1,34). The same sequence of stressors were observed in fathers: M=3,45, SD=1,31; M=3,12, SD=1,29; M=2,28, SD=1,31 respectively; the average score (M=3,04; SD=1,36) was lower comparing to mother's one, $p < 0,05$.

The most stressful item in Parenteral Role Alteration for both mother and father was "Feeling helpless to protect baby from pain" (M=4,18; SD=1,05 and M=3,80; SD=1,15; $p < 0,05$). The most stressful item in Infant Appearance subscale for mothers – "Bruises on baby", for fathers – "Unusual breathing patterns". The noises of alarms were the greatest stressors in NICU for mothers and fathers (M=3,29; SD=1,30 and M=2,78; SD=1,40; $p < 0,05$).

Parents of newborns admitted in NICU experience significant stress. Level of mothers' stress is higher than fathers' according total scale and each subscale scores. Parenteral role alteration is the greatest stressor for both parents that show the need for interventions and counseling focus on parents role, their early involvement in infants care, and complete family centered care implementation.

COI: None declared

ID: 781

TITLE: CULTURALLY SENSITIVE NEONATAL CARE PROVISION TO INFANTS OF PARENTS FROM THE TRAVELLER COMMUNITY: A NURSING AND MIDWIFERY PERSPECTIVE ON PROVIDING PARENT CENTRED CARE

AUTHORS: Irene Beirne 1

Carmel Bradshaw 2

Roy Philip 3

AFFILIATIONS: Author 1: NICU, University Maternity Hospital Limerick, Ireland.

Author 2: University of Limerick, Ireland

Author 3: NICU, University Maternity Hospital, Limerick, Ireland

CONTENT:

Parents struggle to deal with fears of infant wellbeing in unfamiliar environments such as the neonatal intensive care unit. These challenges are further heightened for parents who do not perceive themselves to be fully integrated into the society in which they are receiving care, e.g. the Irish Traveller community. For nurses/midwives to provide family centred care, they must practice with cultural sensitivity, understanding of Traveller cultural beliefs, perceptions of illness, and past experiences with healthcare providers. There is paucity of focused studies on NICU staff perspectives on cultural issues influencing the care of newborn infants from the Traveller community.

The aim of this research was to explore neonatal nurses/midwives' experiences of providing culturally sensitive care to infants whose parents are members of the Irish Traveller community. The research sought to: determine views on the significance of attending to cultural needs within a neonatal unit, identify challenges and barriers encountered in providing culturally sensitive care and explore approaches utilised by neonatal nurses and/or midwives to enhance the quality of family centred, culturally sensitive care provision. Following ethical approval, a descriptive qualitative approach was used to conduct face-to-face semi structured interviews with ten nurses/midwives from an NICU in the Mid-West of Ireland.

Four themes identified were, 1. Barriers to breastfeeding for women from the Traveller community included sub-themes of cultural influences, impact of the Beutler test and nurse/midwife assumptions. 2. Cultural Issues around trust, religion, rigidity of the healthcare system and social supports. 3. Educational deficits relating to poor literacy of the Traveller community resulting in barriers to seek health promotion opportunities. 4. Nurses/midwives' concerns, incorporating infant discharge, post-discharge safety and perceived exposure to domestic violence. The influence of the culture of the Traveller group was recognised as having a major influence on decision-making and interactions of these families within the neonatal unit.

Information on challenges, such as reluctance to breast feed, issues of trust, cultural beliefs and 'norms', encountered by neonatal staff in providing culturally sensitive care to the Traveller population would assist in enhancing culturally sensitive neonatal care plans for this sub-population. Discharge planning and follow-up needs to be tailor-made to suit their geographical mobility within Ireland and across Europe.

COI: None Declared

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