September 15th, 2021 08:30 - 10:30

PARALLEL SESSION 6 – EFCNI 1

ID 453. SUPPORTING PARENTS AS ESSENTIAL CARE PARTNERS IN NEONATAL UNITS DURING THE SARS-COV-2 PANDEMIC

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BACKGROUND During the pandemic, hospitals attempted to limit viral spread by restricting access to all but essential staff of inpatient areas. The benefits of parental caregiving in neonatal intensive care were not considered separately.
METHODS To review the evidence on safety of maintaining family integrated care practices and the effects of restricting parental participation in neonatal care during the SARS-CoV-2 pandemic. MEDLINE, EMBASE, PsycINFO and CINAHL databases were searched from inception to the 14th of October 2020. Records were included if they reported scientific, empirical research (qualitative, quantitative, or mixed methods) on the effects of restricting or promoting family integrated care practices for parents of hospitalized neonates during the SARS-CoV-2 pandemic. Two authors independently screened abstracts, appraised study quality with the Quality Assessment Tool for Studies with Diverse Designs and extracted study and outcome data.
RESULTS We retrieved 803 publications and assessed 75 full-text articles. Seven studies were included, reporting data on 854 healthcare professionals, 442 parents, 364 neonates and 26 other family members, within 286 neonatal units globally. The pandemic response resulted in significant changes in neonatal unit policies. Parents reported restrictive policies limiting their access and their ability to bond with their infant, or to participate in their infant's care or daily rounds. Parents received insufficient information and updates about their infants. Breastfeeding, parental mental health and staff stress were negatively impacted.
CONCLUSION This review highlights that SARS-CoV-2 pandemic-related hospital restrictions had adverse effects on care delivery and outcomes for neonates, families and staff. Recommendations for restoring essential family integrated care practices are discussed as it is time to (re)instate families as full partners in neonatal care delivery. It is needed to safely practice evidence-based family-centered and family-integrated care in all neonatal care settings despite the current pandemic and beyond.
None.

ID 476. Identifying the extent of specific nursing developmental care interventions for preterm infants in the neonatal intensive care unit: A systematic scoping review

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Background: The concept of developmental care (DC) is a neuroprotective and family oriented care philosophy that ultimately intends to promote optimal health outcomes in preterm infants and their families in neonatal intensive care units (NICU). Nurses have a substantial contribution to the implementation of DC interventions in NICUs. However, the extent and the types of nursing interventions that are considered DC remain unclear. Thus, it appears important to scope the literature to identify key interventions implemented by neonatal nurses.
Aim: To scope the scientific literature to identify specific nursing interventions that have been associated with DC for preterm infants in the NICU.
Methods: A scoping review was conducted in accordance with The Joanna Briggs Institute methodology. Eight databases and grey literature sources were searched to scope the literature (i.e., research papers, literature reviews, text and opinion papers, practice guidelines and theoretical papers) on 1) DC interventions, 2) delivered by nurses, 3) targeting preterm infants and their families, 4) in a NICU setting, and 5) discussing at least one parental or infant clinical outcome. References were screened independently by two review authors using Covidence software. Data extracted from the included pieces of literature included the category of DC intervention and details as per the Description and Replication checklist (TIDieR).
Results: A total of 20 042 unique references were retrieved from the initial literature search and 789 were eligible for full-text review. After completing the screening process, 276 references were included. We were able to categorize the nursing interventions into eight DC categories including 1) sensory control, 2) sensory stimulation, 3) family-centered care, 4) positioning and handling; 5) sleep protection; 6) reduction and management of pain, 7) skin and routine care, and 8) feeding.
Conclusion: A gap in the literature remains as many nursing interventions that we identified (e.g., oral stimulation, live music) were not explicitly identified by authors as being DC, but still intended to some extent to promote neuroprotection and family involvment. Thus, results of this scoping review allow a better understanding of the specific interventions neonatal nurses can implement daily in order to optimize preterm infants' and families' outcomes.

None declared

ID 17. Parent-infant skin-to-skin contact reduces the electrical activity of diaphragm in preterm infants

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BACKGROUND: Uncertainty of the physiological risks or benefits is a barrier to wider implementation of parent-infant skin-to-skin contact (SSC) in preterm infants with ventilatory support. We aimed to investigate whether SSC stabilizes the breathing compared to incubator care in preterm infants during their ventilatory support.
METHODS: The prospective observational cohort study was performed from March through December 2020 in the level III neonatal intensive care unit of Turku University Hospital, Finland. Preterm infants were eligible if they were born before 36 weeks of gestation and received respiratory support with either invasive or non-invasive neurally adjusted ventilatory assist (NAVA). SSC was applied as soon as possible after birth regardless of mechanical ventilatory support. Respiratory variables were recorded every day from the Servo-i or Servo-n ventilator. From the 24-hour data, we selected SSC episodes and compared them to matched control during incubator care.
RESULTS: A total of 167 episodes of SSC were selected from 17 preterm infants: 138 episodes during invasive NAVA and 29 episodes during non-invasive NAVA. During invasive NAVA, peak electrical activity of diaphragm (Edi), minimum Edi, respiratory rate, time on backup ventilation, peak inspiratory pressure and mean airway pressure were significantly lower in SSC compared to incubator care. During non-invasive NAVA, peak Edi, minimum Edi, time on backup ventilation and peak inspiratory pressure were significantly lower in SSC compared to incubator care. There was no difference in the number of desaturations or bradycardias between SSC and incubator care during either invasive or non-invasive NAVA.
CONCLUSION: Mechanically ventilated preterm infants exerted less breathing effort and their neural breathing was more stable during SSC compared to incubator care.

Table. Respiratory parameters comparison between skin-to-skin contact and incubator care during neurally adjusted ventilatory assist (NAVA)

	Invasive NAVA (n=138)			Non-invasive NAVA (n=29)		
	Skin-to-skin contact	Incubator care	P value	Skin-to-skin contact	Incubator care	P value
Peak Edi, µV	8.7 ± 2.4	9.9 ± 2.5	<0.001	8.6 ± 4.5	9.4 ± 5.0	0.035*
Minimum Edi, µV	2.3 ± 0.8	2.7 ± 1.0	<0.001	2.0 ± 0.7	2.4 ± 0.8	0.012*
Measured respiratory rate, /min	48.9 ± 8.9	51.6 ± 8.3	<0.001	52.2 ± 11.5	53.3 ± 10.7	0.426
Neural respiratory rate, /min	45.5 ± 12.7	48.7 ± 10.3	<0.001	50.3 ± 13.1	51.5 ± 11.8	0.411
Time on backup, %/min	10.0 ± 10.0	14.2 ± 16.7	0.016*	5.3 ± 7.2	6.6 ± 8.4	0.048*
Supplied Oxygen, %	31.2 ± 9.8	30.9 ± 9.5	0.397*	29.3 ± 10.3	28.5 ± 8.1	0.888*
Peak inspiratory pressure, cmH_2O	16.5 ± 3.2	16.9 ± 3.1	<0.001	14.5 ± 6.1	15.3 ± 4.7	0.042*
Positive end-expiratory pressure, cmH_2O	6.24 ± 0.86	6.27 ± 0.85	0.235	5.7 ± 1.2	5.8 ± 1.2	0.086
Mean airway pressure, cmH_2O	9.8 ± 1.6	10.1 ± 1.6	<0.001	8.7 ± 3.1	8.7 ± 2.9	0.581*
Expiratory tidal volume, ml/kg	4.1 ± 1.8	3.5 ± 1.8	<0.001	17.4 ± 13.8	18.4 ± 17.3	0.738*

Values are mean ± SD.
*Wilcoxon signed rank test; Otherwise paired T-test.
NAVA, neurally adjusted ventilatory assist; Edi, electrical activity of diaphragm.
Respiratory parameters comparison between skin-to-skin contact and incubator care during neurally adjusted ventilatory assist.
Respiratory parameters comparison between skin-to-skin contact and incubator care during neurally adjusted ventilatory assist
None declared

ID 61. Scaling up the Family Integrated Care model in a level IIIC neonatal intensive care unit: systematic approach to the methods and effort taken for implementation

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Background: Family Integrated Care (FICare) integrates parents in the direct care of their child while the healthcare personnel act as teacher and guide. Up to date, most reports on the feasibility of this model refer to stable preterm infants admitted to Neonatal Intensive Care Units (NICU).
The objectives were to scale up and adapt FICare to make it suitable in a level IIIC NICU, that cares for extreme prematurity and other complex medical or surgical neonatal conditions.

Methods: Step 1-Creation of the FICare implementation team (FICare-IT) and baseline analysis of current procedures for critical care to identify needs, wishes and requirements; protocol elaboration tailored to our cultural, architectural, and clinical context (March 2017-April 2018). Step 2-Dissemination strategy by FICare-IT acting as primary trainers and mentors to ensure the education of 90% of nursing staff (May 2018-July 2018). Step 3-Piloting and evaluation for procedures' refinement (July 2018-December 2020).

Results: A rigorous but flexible protocol was edited. The FICare educational manual included two curricula: for healthcare professionals/staff (Training the trainers) and for families (Education of caregivers), the latter being categorized in two intervention levels (basic and advanced), depending on the infant care needs and parent's decision. Seventy six families and 91 infants (74.7% preterm; 18.7% complex surgery; 6.6% others) were enrolled in the pilot. No differences in acceptance rate (overall 86.4%), or in the number of infant-family dyads in the program per month were observed, considering the pre- and post-Covid-19 pandemic periods. All families, except for one who dropped out of the program, completed the agreed individualized training. Mothers spent more time in NICU than fathers ($p<0.05$); uninterrupted time spent by mothers in NICU was longer during the pre-pandemic period ($p<0.01$). Observed time to reach proficiency by task was within the expected time in 70% of the program contents. The parents revealed educational manual, workshops and cot-side teaching sessions as essential for their training, and 100% would accept to enter the FICare program again.

Conclusions: The principles of FICare model are suitable in all levels of care in NICU. Leadership and continuous evaluation/refinement of implementation procedures are essential components to achieve the objectives.

None declared