Poster Abstracts Presented at the Fall 2022 National Neonatal, Advanced Practice, and Mother Baby Nurses Conferences

September 7–10, 2022

These are the abstracts for the **poster presentations** from Fall 2022 National Neonatal, Advanced Practice, and Mother Baby Nurses Conferences. They represent a broad range of neonatal issues. By sharing this information, we hope to increase awareness of research and innovative programs within the neonatal health care community and to support evidence-based nursing practice. Some abstracts have been edited for publication.

Collaboration in Clinical Education and Research

Cailey Oates, BSN, RN, CEN
Stephanie Stewart, PhD, RN
Mandy Karstens, MSN, RNC-NIC
Sonja Ranck MSN, RN, FACHE
UNIVERSITY OF IOWA STEAD FAMILY CHILDREN'S HOSPITAL
IOWA CITY, IOWA

In a collaborative effort of 3 teams, simulated neonatal resuscitation content was designed and produced for two separate audiences and learning outcomes. A clinical health care educator, a clinical research team, and a mobile learning company together designed, filmed, and produced engaging multimedia content for maternal and neonatal clinical research and education purposes.

The research team began developing an intervention for mothers with impending delivery of a premature infant in the hospital. This team sought to build and study an interactive web-based application that would include simulated video content to assist mothers in preparing for their experiences during preterm delivery.

Meanwhile, the mobile learning company's clinical and multimedia specialists developed a web and mobile application for NRP certification preparation. Simulated NRP skills videos, high-level practice questions, and other multimedia content were developed with the assistance of the clinical health care educator. This content allows health care providers to complete self-study of NRP at their own pace, improving efficiency for learning and retention of critical skills.

Our 3 teams worked in partnership around a shared goal of providing multipurpose educational content about neonatal resuscitation. This collaboration provided support and valuable insight for all projects and generated additional opportunities for future teamwork.

Family-Centered Care versus Mobile-Enhanced Family Integrated Care on Preterm Infant Outcomes: A Time-Lagged Study

Diana M. Cormier, DNP
COMMUNITY REGIONAL MEDICAL CENTER
FRESNO, CALIFORNIA

Research from multiple countries has demonstrated improved outcomes for preterm infants and families when NICUs practice family integrated care (FICare) compared with family-centered care (FCC). No studies of FICare have been conducted in the United States to date.

In a multisite, time-lagged study, we enrolled 253 parent-infant dyads to receive either usual FCC or mobile-enhanced (m)FICare (141 FCC, 112 mFICare). The primary outcome was infant standardized weight gain; secondary outcomes included nosocomial infection, bronchopulmonary dysplasia, retinopathy of prematurity, and human milk feeding at discharge. Intention-to-treat and per-protocol effects were evaluated using linear mixed models and logistic regression.

No group differences in primary or secondary outcomes were observed. Infants whose parents were mentor paired or who participated in >80 percent of weekday rounds gained more weight (standard deviation [SD], 0.128; 95 percent confidence interval [CI], 0.030, 0.227; SD, 0.084, 95 percent CI, 0.015, 0.154). Infants whose parents participated in >2 rounds or participated in >1 class had lower odds of nosocomial infection (odds ratio [OR], 0.340; 95 percent CI, 0.121 0.958; OR, 0.221; 95 percent CI, 0.054, 0.738).

mFICare can be delivered safely in the United States and may reduce nosocomial infections. Parent peer mentorship and active participation in weekday rounds may increase infant weight gain. Further research on mFICare immediate and long-term outcomes in U.S. NICUs is warranted.

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Modification and Implementation of a Clinical Practice Guideline for Neonates with Neonatal Abstinence Syndrome

Shannon Harriger, DNP
Christy Cook, DNP
SANFORD HEALTH
BEMIDJI, MINNESOTA

Problem: In the United States, there has been an increase in opioid use among mothers and in neonates born with neonatal abstinence syndrome (NAS), increasing hospital expenditures. A clinical practice guideline (CPG) was implemented to support infants diagnosed with NAS at birth to address the maternal opioid epidemic in rural Minnesota.

Methodology/Literature Review: Translational methods were used to develop the NAS CPG after a review of evidence from 25 studies. A quantitative, descriptive, and correlational design was used to evaluate outcome data.

Data Analysis/Interpretation: There was a statistically significant increase in nurses' confidence scores from the pretest (M, 3.29; standard deviation [SD], 0.22) to the posttest (M, 4.22; SD, 0.14); $t(3) = -20.21$, $p < .000$. Neonates with NAS had an increase of LOT days from a total average of 10.14 to 10.71 days. The mean total length of stay (LOS) increased from 14.64 days to 15.19 days. NAS assessment score severity decreased from a mean of 4.63 to 4.43. Increased LOS and LOT in this sample may have been due to improved nurse assessment skills. Study findings suggest that a multidisciplinary approach to modifying and implementing a CPG immediately influences nurses' knowledge and confidence and may enhance their assessment skills and decrease neonate symptom severity.

Correlation of Cytomegalovirus and Hearing Loss in the Newborn

Christine Okpomeshine, PhD, WHNP, SANE, RN
Mary Carty, MA, BHA, RN
METROPOLITAN HOSPITAL NEW YORK CITY
EAST HARLEM, NEW YORK

Human cytomegalovirus (CMV), belonging to the neurotropic beta-herpesvirus family, is the most complex and largest virus in the human herpesvirus family. It can infect just about every human cell type. An association between congenital CMV and hearing loss was first noted almost 6 decades ago. However, inner ear involvement is still unclear, because most newborns are asymptomatic at birth, and there are few adequate early screening protocols.

New York State requires that all newborns be screened with hearing tests before discharge from the hospital. Some researchers over the past 15 years have concluded that there is a correlation between newborn hearing loss and positive maternal CMV. As such, in 2019, the New York State mandate was revised to include screening of newborns for CMV when the hearing screen failed. Charts were reviewed from 2,000 newborns who failed their hearing screen from January 2018 through June 2021.

It is still not possible to predict which children with cCMV infection will develop hearing loss and to what degree. Accordingly, continuing study and regular screening, testing, and data collection for ongoing research are recommended.

Development of a Neonatal Nursing Training Program for Nurses Working in Community Hospitals

Constance E. Hymas, DNP-L, MN, MSHS, NNP-BC, RNC-NIC, NPD-BC
BRIGHAM CITY COMMUNITY HOSPITAL AND CACHE VALLEY HOSPITAL
BRIGHAM CITY AND LOGAN, UTAH

Nurses working in maternal and neonatal units must be prepared to resuscitate and stabilize newborn infants who are ill or premature. Nurses working in small community hospitals without NICUs lacked standardized education and training for unexpected high-risk deliveries. This project aimed to develop an education program to increase the competence of nurses working at these facilities in caring for this patient population. Evaluation results demonstrated that the nurses found the class informational and believed it would change their practice. Continued education on the care of ill or premature infants due to this project will be further disseminated system-wide to increase nurses' competence in caring for these patients and their families.

How Educational Interventions Influenced the Reduction of the Nulliparous Term Singleton Vertex Cesarean Rate

Roselyn Young, MSN, RNC-OB, C-EFM, IBCLC
Ann Marie Conte, DNP, RN, MSN, CPN
Rocel Besa, PhD, RN, CV-BC, NPD-BC, CNE

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Danielle Howey, BSN, RN-BC
Amy Zambella, RNC
Jenna Blackburn, BSN, RNC
HACKENSACK MERIDIAN HEALTH JERSEY SHORE UNIVERSITY MEDICAL CENTER
NEPTUNE, NEW JERSEY

Current public health efforts in the United States focus on reducing the overall number of medically unnecessary cesarean births among first-time mothers with potentially "low-risk" births. Centers for Disease Control and Prevention provisional data from 2019 (released May 20, 2020) show that 31.7 percent of all births were by cesarean deliveries and 25.6 percent of the nulliparous term singleton vertex (NTSV; "low-risk") population had cesarean births. Current trends in maternity care show that many pregnant women undergo procedures such as first/repeat cesarean sections and labor inductions that may not be medically necessary. Cesarean sections can be lifesaving procedures when medically necessary, but they carry a higher risk of negative outcomes for mothers and babies. Even though the organization's NTSV delivery rate is 20 percent, which is lower than the national average, the team strongly believed that every effort to prevent unnecessary cesarean section delivery for low-risk population such as in first time mothers can prevent future subsequent cesarean section deliveries and reduces unnecessary risks and possible complications to both mothers and babies as well as overall cost. The interdisciplinary team started a performance improvement project with a focus on educational interventions offered to all nurses and residents, emphasizing fetal assessment and safe labor management, intrapartum management, and Clark algorithm. The NTSV cesarean delivery rate was reduced by 20 percent when comparing pre-and postintervention data.

An Education Program for RNs on the Psychosocial Issues of Parents of Children with Autism Spectrum Disorder

Ann Marie Conte, DNP, RN, MSN, CPN
Rocel Besa, PhD, RN, CV-BC, NPD-BC, CNE
HACKENSACK MERIDIAN HEALTH JERSEY SHORE UNIVERSITY MEDICAL CENTER
NEPTUNE, NEW JERSEY

Autism affects 1 in 59 individuals, according to the Centers for Disease Control and Prevention. The condition results in adaptive behaviors such as aggression, self-injury, and destructive behaviors, resulting in a higher level of stress to parents of these children. It is important for nurses caring for this population to understand the psychosocial issues of parents, so that they can provide education and support and partner with parents to care for the patients. This study aims to evaluate an education program for RNs on the psychosocial issues of parents of children with autism spectrum disorder.

Evaluation of Patient Access to Spanish-Language Concordant Care on a Postpartum Unit

Jennifer Jensen, MSN, MPH, RN, IBCLC
E. Nicole Teal, MD, MPH
Raunak Mahtani, MID
Alison Sweeney, MD
Carolina Gill, MS
Alison M. Stuebe, MD, MSc
Kristin Tully, PhD
UNC HEALTH
CHAPEL HILL, NORTH CAROLINA

Objective: To evaluate patient access to Spanish-language concordant care on a postnatal unit and identify interpreter utilization facilitators and barriers.

Design: A cross-sectional chart review from September to December 2019 and semistructured interviews from June to December 2020.

Setting: A tertiary academic medical center in the southeastern United States.

Problem: Limited English proficiency patients are at risk for poor health outcomes when they are unable to communicate with clinicians in their preferred language.

Participants: We conducted a chart review of 50 randomly selected mother-infant couplets and interviews with 19 inpatient health care team members.

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Measurements: The chart review examined patient and health care team characteristics and interpreter utilization metrics. Interviews evaluated facilitators and barriers to interpreter utilization.

Results: A clinician certified in medical Spanish or an interpreter was offered to 24 percent of couplets upon admission to the unit and 14 percent of couplets for daily rounds. Clinicians reported long and unpredictable wait times to access interpreters and low use of interpreters for "noncritical" encounters.

Conclusion: Interpreters and other forms of Spanish-language care were underused on the postnatal unit. This deviation from national standards may put families at risk for harm. Recommendations include changes to staffing, workflow, evaluation metrics, and culture.

Maternal Satisfaction with Breastfeeding Using a Wearable versus Traditional Breast Pump

Melissa Heitzman, DNP, RN

Nisha Nair, DNP, WHNP-BC, CNS, CNE, IBCLC

April L Yerges, PhD, RN, CPN

EDGEWOOD COLLEGE
MADISON, WISCONSIN

Traditional corded breast pumps have been the only electric breast pump options for women who want to breastfeed and use a pump. A traditional breast pump is typically a large, visible device with a motorized pump and is powered by an electrical cord that allows a woman to express breast milk. However, in recent years, a wearable rechargeable breast pump has become available. This wireless pump allows a woman to express breast milk via a discrete wearable device with a chargeable unit and collection cup. It is powered by a built-in rechargeable battery that plugs into the wall between pumping sessions. With wireless breast pumps becoming more available, it is unknown how the type of breast pump may impact women's overall experiences of lactation and breastfeeding success. This lack of research led the authors to query women aged 18 years or older who were currently breastfeeding/pumping or who breastfed/pumped milk. A modified Maternal Breastfeeding Evaluation Scale (Leff, 1984) was used to measure women's perception of breastfeeding success in women who used various types of breast pumps. Data collection is currently in process, with 160 participants already reporting. Results and analysis are to be completed by August 2022.

Using the Lean Management System to Improve Teamwork in the Golden Hour

Kristin Trawinski, MSN, RN

Susan W. Aucott, MD

GREATER BALTIMORE MEDICAL CENTER
BALTIMORE, MARYLAND

Problem: The process of the NICU care delivery team attending deliveries of babies weighing less than 1,500 g was not standardized. The lack of process standardization led to a compliance rate of 55 percent, achieving our goal of euthermic admission temperatures in this patient population.

Evidence: Wastes identified in the current state were extra processing, nonused talent, inventory, and motion.

Strategy: The Lean Management System is an innovative tool that works through significant process changes that lead to multiple subprocesses that the team will improve. Standardization, stakeholder involvement, and sustainability are woven into the process of lean management from beginning to end.

Practice Change: Standardization of team members' roles, code cart supplies, calls from labor and delivery to the NICU for deliveries, documentation, and debriefing was created through the process of lean management.

Evaluation: Process confirmation allows us to confirm that the standard is followed over time.

Results: In 2020, the compliance rate for 53 babies weighing less than 1,500 g was 55 percent. In 2021, the compliance rate for 68 babies weighing less than 1,500 g was 78 percent.

Recommendations: High engagement from all stakeholders involved in the resuscitation efforts of low-birth-weight babies is key to process improvement.

Increasing Neonatal Transport Rates: On the Road to Quality Improvement

Jan Gill, DNP, APRN, NNP-BC

PROHEALTH CARE
WAUKESHA, WISCONSIN

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Objective: The goal was to increase neonatal transport acceptance rates from internal and referring hospitals and prevent deferring transports to nonaffiliated transport teams.

Design: Retrospective transport data from 2016 to 2017 were reviewed. Metrics included transports requested, performed, and deferred. Postintervention data from 2017–2019 were then analyzed using the same metrics to determine outcomes.

Setting: This setting was a midwestern hospital with a 24-bed level III NICU with a unit-staffed neonatal ground transport team. The team's configuration included a respiratory therapist, a NICU transport RN, a neonatal nurse practitioner as warranted, and a unit-based neonatologist for medical control.

Sample: The sample included 50 medically indicated transport requests performed and deferred over a 3-year span.

Methods: Quality improvement measures were implemented using the Plan, Do, Study, Act model.

Implementation Strategies: Stakeholders were involved in implementing measures to improve transport request acceptance rates. Interventions included securing neonatology NICU coverage during transports, ensuring committed ambulance service, and increasing the number of transport RNs.

Results: Transport acceptance rates increased by 1–7 percent, with deferral rates reduced by 6–33 percent.

Conclusion: Quality improvement measures were successful in increasing transport acceptance rates and decreasing deferral rates. Ongoing monitoring is key to ensuring sustainability.

Creating a Framework for Neonatal Acoustic Neuroprotection

Peyton Lewis, RN
Katherine Dudding, PhD, RN, RNC-NIC, CNE
Patricia Patrician, PhD, RN, FAAN
UNIVERSITY OF ALABAMA
BIRMINGHAM, ALABAMA

Hearing impairment is seen in 2–10 percent of the neonatal population, which is 100 times more than in the general pediatric population. Hearing impairment is often a result of sustained noise levels >45 dB and results in both short-term and long-term sequelae, such as vital sign changes and hearing loss. Based on these disturbing facts, the concept of neonatal acoustic neuroprotection emerged and evolved into the Neonatal Acoustic Neuroprotection framework. The purpose of creating this theoretical framework was to underpin this concept and give direction for current and future research. From the literature, a framework was developed using Als's Synactive Theory of Development, Roy's Adaptation Model, and Levine's Conservation Theory. The results of combining all 3 models created a framework, attributing an underlying knowledge of the Synactive Theory to reach a conservation of wholeness of subsystems, with the creation of external coping mechanisms applied by the nurses and health care workers. Although there are interventions that attempt to protect the acoustic/auditory systems of neonates, this framework gives researchers a guide to tailor interventions to a neonate's specific needs and gestational age for improved neonatal hearing outcomes.

Interventions for Acoustic Protection of the Neonate: A Literature Review

Peyton Lewis, RN
Katherine Dudding, PhD, RN, RNC-NIC, CNE
Patricia Patrician, PhD, RN, FAAN
Tracey K. Dick, PhD, RN, CNE, COI
UNIVERSITY OF ALABAMA
BIRMINGHAM, ALABAMA

It has long been noted that the NICU and transport environments are much louder than the amount of noise recommended by the American Academy of Pediatrics. Short- and long-term sequelae are often seen from this toxic amount of noise, from vital sign changes to long-term hearing loss. A literature review was conducted to assess the interventions that are being used and their effectiveness in protecting the hearing of the neonate in the NICU and transport environments (e.g., helicopter/rotor and ground/ambulance). Using a narrative literature review framework, 45 articles resulted from the search using PubMed, Cochrane, Science Direct, and Google Scholar. Inclusion criteria were articles from the past 20 years, qualitative and quantitative studies, quality improvement projects, dissertations, literature reviews, and peer-reviewed articles. Synthesis of the literature revealed interventions to decrease the ambient noise level. However, currently, there are no interventions capable of reducing the noise level to less than 45 dB. This gap warrants further investigation to seek out new interventions or the introduction of an intervention bundle, which needs to occur to fully protect and support the neonatal hearing development during this delicate and stressful time for this vulnerable population.

Development of a Clinical Model to Assess Gentleness of Materials on Intact and Damaged Skin

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DISCLOSURE: THE AUTHORS BELOW RECEIVE A SALARY FROM PROCTER & GAMBLE

Robert J. O'Connor, MS
Jan Streicher-Scott, PhD
Lijuan Li, PhD
Jennifer Gustin, BS
Mary Beth Davis, BS
Yu Wang, MS
Andrew N. Carr, PhD
PROCTER & GAMBLE
CINCINNATI, OHIO

Newborn skin is prone to damage. Softer materials are desirable to reduce the risk of skin damage (e.g., neonatal opioid withdrawal syndrome or diaper dermatitis). An adult forearm model was developed to assess material gentleness using biomarker recovery after repetitive rubbing of healthy or damaged skin.

The study enrolled healthy women aged 18–45. Four sites per forearm were demarcated, with half mildly damaged by serial tape stripping and half left undamaged. A gentle material (satin), a more abrasive control (paper towel), and a diaper material (outer cover) were wiped across damaged or undamaged sites 50 times. The materials were analyzed for 3 skin biomarkers: natural moisturizing factor (NMF), histamine, and total soluble protein.

Amounts of NMF and histamine recovered from materials successfully rank-ordered materials, with paper towel being most abrasive, satin the least, and diaper outer cover being similar to satin. Total soluble protein was recovered from most paper towel samples but was rarely or not recovered from satin and diaper outer cover materials.

All biomarkers from the study materials rank ordered similarly under conditions of damaged and undamaged skin. This model may be useful to evaluate material gentleness on underdeveloped infant skin and situations of irritation or damage (i.e., NOWS, diaper dermatitis).

Promoting Emergency Readiness for a Low-Volume NICU

Diana Bianco, MSN, RN, CNL
Shayla Fort, MSN, RNC-MNN, CLC
WELLSTAR DOUGLAS HOSPITAL
DOUGLASVILLE, GEORGIA

Introduction: Low patient volumes and minimal high-risk deliveries in a community-based hospital NICU do not allow the neonatal nurse to have repeated exposure to complex nursing interventions for life-threatening emergencies. In addition, having limited access to resources places the NICU RN at a disadvantage for emergency readiness.

Methods: This project uses performance-based education through skill-based drills, role playing, mock codes, and "just in time" education. The education team engaged the staff in scenarios to promote skill building and critical thinking. Questionnaires identified the nurse's targeted interests, and surveys were used to evaluate if the learning method was successful.

Implications: Low patient volume, employee turnover, and the COVID-19 pandemic contributed to the increased risk of losing skills related to nurses' role. Providing opportunities to prepare nurses for emergencies aims to help use resources needed to provide lifesaving measures within the nurse's scope of practice.

Results: Increases in competency among staff nurses were demonstrated by improvements in performance-based activities, collaborative teamwork, and knowledge recall.

Discussion/Conclusion: Sustainability of these efforts through collaboration from both the NICU and labor and delivery teams will provide consistent opportunities to practice skills and maintain patient safety.

Risky Business: Development and Implementation of a Risk Assessment Tool for Attendance at Deliveries

Margaret Bischoff, MSN, RNC-NIC
Jennifer Guzman, BSN, RNC-OB, CEFM
THE VALLEY HOSPITAL
RIDGEWOOD, NEW JERSEY

The Neonatal Resuscitation Program guidelines support the presence of two qualified personnel to be at all deliveries that have neonatal risk factors. However, in our community-based hospital, we found that appropriate personnel were present at deliveries only 81

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percent of the time. With the influx of novice staff, it was suggested that some form of checklist be implemented to help guide decision making. The NICU clinical practice specialist created a customized, innovative checklist to capture key clinical data from both the mother and fetus. This assessment tool produced a scoring matrix for risk—low, medium, or high—that would guide what type of personnel should be present at delivery, including the pediatrician, neonatologist, nurse, and respiratory therapist. Following targeted education about, and then a successful implementation of, the Risk Assessment Tool, audits of deliveries over the first 3-month period revealed that appropriate personnel were present at 90.2 percent of deliveries. Audits at 6 months after intervention showed that that number increased to 96.6 percent, and we continue to sustain this safety practice. This innovative risk assessment tool is simple to use; is flexible to change as maternal or fetal condition changes; and, most important, is easy to communicate between providers.

Facilitating Caregiver Competency in an ESC Family Setting Using Videos and Care Diaries on a Bedside Mobile Device

Maureen Shogan, MN, RNC

DISCLOSURE: THIS AUTHOR IS ON THE SPEAKER'S BUREAU FOR MEAD JOHNSON NUTRITION.

Crystal L. Smith, PhD

Kim Johnson, MBA

Theresa Bowden, MSN, RN, CCRN, CFRN

Sterling M. McPherson, PhD, MS, BA, BA

MANAGED HEALTH CONNECTIONS
WASHINGTON STATE UNIVERSITY

Problem: In caregivers with substance use disorder, stigma can reduce confidence and ability to parent.

Literature Review: Consistent information on care techniques for newborns exposed prenatally is lacking (Kim et al., 2022; McRae, 2021).

Purpose: Compare parental confidence in newborn care after using an electronic care diary with imbedded education videos versus a paper diary.

Methodology: A within-subjects design was used to compare paper and mobile device bedside electronic care diaries. A convenience sample of 6 mothers participating in an Eat, Sleep, Console program consented. The mobile device contained videos explaining each component of the care diary, as well as recommended care techniques. Five mothers completed pre- and post-program self-assessment of confidence in facilitating their baby's ability to eat, sleep, and calm. Nineteen RNs completed pre- and post-program perceptions of mothers' ability to use care techniques viewed electronically.

Data Analysis: All mothers were confident/very confident in their "ability to care for their infant" and scored themselves high in performing care during electronic diary use. Eighty percent preferred the mobile device. RNs easily accessed the mother's electronic diary, and program data revealed that the electronic care diary was fully completed.

Interpretation: Using a mobile device with imbedded videos and consistent newborn care content enhanced confidence. Variation reduction in nurse-provided education was also noted.

When Urinary Catheterization Fails: A Role for Point-of-Care Ultrasound-Guided Suprapubic Aspiration

Christine Manipon, MSN, NNP-BC

Jacklin Tong, MSN, NNP-BC

Shelby Vallandingham, DNP, NNP-BC

LUCILE PACKARD CHILDREN'S HOSPITAL
PALO ALTO, CALIFORNIA

Incidence: Acute urinary retention coupled with unknown urethral obstruction in a neonate who was previously voiding spontaneously is an uncommon occurrence. Urinary retention itself is usually easily mitigated with straight catheterization. When catheter placement fails due to unknown obstruction or false tract formation, there is a role for the less commonly performed procedure: ultrasound-guided suprapubic aspiration.

Diagnosis: Oliguria, acute urinary retention, and failure to pass a catheter were observed in a 3-day-old, term, postoperative male neonate.

Diagnostics/Management: Multiple noninvasive interventions were performed, including the Credé maneuver and positional manipulation of the penis, in an attempt to yield urine. After several failed attempts to place catheters in decreasing sizes, point-of-care ultrasound was used to assess for the presence of urine in the bladder. An ultrasound-guided suprapubic bladder aspiration (SPA) was performed to decompress the distended bladder.

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Outcomes: The SPA yielded 55 mL of urine without completely decompressing the whole bladder.

Implications: Our case study adds additional noninvasive steps for management to include bladder scan (Point of Care Ultrasound) to evaluate the bladder and the presence of urine. It also spotlights an uncommon procedure and its value in unique cases when urology consultation and expeditious intervention may not be readily available.

Neonatal Pain Scales: Friend or Foe?

Katherine Dudding, PhD, RN, RNC-NIC, CNE

Jane Carrington, PhD, RN, FAAN, FAMIA

UNIVERSITY OF ALABAMA
BIRMINGHAM, ALABAMA

There are more than 40 pain scales to assess and score neonatal pain. Despite the numerous pain scales, this continues to be a challenge among neonatal nurses to score neonatal pain. The purposes of this research were to learn nurses' perceptions of pain in the neonate and to specifically explore nurses' perceptions of the pain scale to assist in the detection of pain in the neonate. Thirty neonatal nurses participated in a qualitative descriptive study and were interviewed. Interviews were transcribed and analyzed using inductive content analysis. The study was deemed to be trustworthy through credibility, transferability, dependability, and confirmability. The nurses' perceptions emerged in the category of technology. Nurses perceived the pain scale to be beneficial with scoring pain, assisting with assessing pain in the neonate, supporting the novice nurse, providing triggers, assisting to score and document pain, and support nurse decision making. The limitations of the pain scale are communicating pain in the neonate, not being useful, an inactive tool, and subjectivity. The pain scale also was perceived as lacking individualization, intensity, and real-time assessment and being unhelpful for assessing pain, unintuitive, vague, unreliable, and inaccurate. This research will inform future work to assist nurses to effectively assess and score neonatal pain.

Leveraging Clinical Experiences to Inform Optimal Neonatal Outcomes Through Technology

Katherine Dudding, PhD, RN, RNC-NIC, CNE

Allyson N. Sanders, MSN, RN, CNE

Peyton Lewis, RN

Fei Zhao, MS

Chengcui Zhang, PhD

Jane Carrington, PhD, RN, FAAN, FAMIA

UNIVERSITY OF ALABAMA
BIRMINGHAM, ALABAMA

Nursing clinical experience is often an undervalued commodity. With the innovation of technology in the NICU, routine nursing tasks are being automated, such as vital sign capture within the electronic health record. Technology used within the NICU should be informed by the nurses and nurse practitioners working in that environment; however, this is not always the case. Here, we will describe how neonatal nursing clinical experience was used to assess neonatal video images to inform an innovative technology for optimal neonatal outcomes. The process of establishing a neonatal team for assessment was foundational to building a protocol. Our neonatal team consisted of 3 neonatal experts with various levels of expertise. During our first meeting, we created a protocol with step-by-step directions for our assessments. This protocol was established before viewing the neonatal video images. Assessments were done individually and then discussed, and discrepancies were resolved. The established protocol was a dynamic document that was changed and updated on an as-needed basis. Through this process, we also discovered several strengths and limitations. Most important, we learned the value of our expertise to inform future technologies to improve neonatal outcomes.

Infants with Prenatal Substance Exposure in Foster Care: The Safe Babies Program

Lenora Marcellus, RN, BSN, MN, PhD

VANCOUVER ISLAND FOSTER PARENT SUPPORT SERVICES SOCIETY
VICTORIA, BRITISH COLUMBIA, CANADA

From 2004 to 2016, the incidence of neonatal abstinence Syndrome in the United States increased from 1.6 to 8.8 per 1,000 hospital births. Also, the number of foster care admissions attributable to parental drug use increased 147 percent between 2000 and 2017. The demand for skilled foster families within the child welfare system remains critical to support optimal outcomes for infants. In British Columbia, Canada, the Safe Babies Program was developed to provide foster families with the opportunity to develop the knowledge and

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skills required to care for this complex population and to provide ongoing resources and supports to promote high-quality care and retention. In this presentation, the process of development of the program will be reviewed, key program elements will be described, and factors influencing sustainability and success will be explored. Collaboration across health and child welfare sectors will be addressed, including transition from hospital to home and the role of neonatal nurses highlighted in contributions to the evidence-informed foundations of the program.

The Use of Prophylactic Fluconazole in Preterm Infants

Katherine M. Adam, MSN, RN, RNC-NIC

VANDERBILT UNIVERSITY
NASHVILLE, TENNESSEE

The use of antimicrobials to treat bacterial sepsis is common in the NICU population; however, overuse has led to resistance to these drugs. Bacterial sepsis treated with broad-spectrum antibiotics can lead to a decrease in normal flora and cause fungal infections, specifically invasive candidiasis. A literature review was conducted asking the question, Should the prophylactic use of fluconazole for the prevention invasive candidiasis infection in premature infants be continued despite its potential to increase antimicrobial resistance? The purpose of this review was to assess the prophylactic use of fluconazole in premature infants who are defined as <750 g to 1,500 g and <28 weeks' gestation in the NICU. Literature supports the use of fluconazole for the prevention of invasive candidiasis. Studies recommend that NICUs with invasive candidiasis incidence rates greater than 5 percent use intravenous or enteral fluconazole prophylaxis for 6 weeks in extremely low birth weight infants.

A Quality Improvement Project to Reduce Necrotizing Enterocolitis in High-Risk Neonates

DISCLOSURE: JENNIFER FANG RECEIVES ROYALTIES, IS A STOCK SHAREHOLDER, AND HAS LICENSED INTELLECTUAL PROPERTY WITH TELADOC HEALTH.

Maria C. Gallup, MSN, APRN, CCNS-N, NNP-BC
Stephanie Mavis, MD
Megan Misgen, APRN, CNP, MSN
Laura Schram, APRN, CNP, MSN
Danielle Herzog, RDN, LD
Brandi Smith, PharmD, BCPPS
Angela Giese, RN
Roxanne K. Torgerson
Raymond C. Stetson, MD, MS
Jennifer Fang, MD, MS

MAYO CLINIC
ROCHESTER, MINNESOTA

Objective: An increase in necrotizing enterocolitis (NEC) in our NICU prompted this quality improvement (QI) project. Our aim was to decrease the rate of NEC (Bell's Stage 2 or greater) in very low birth weight infants (VLBW) by 50 percent over 18 months without adversely affecting central line–associated bloodstream infections (CLABSI) rates.

Design/Methods: We used the Define-Measure-Analyze-Improve-Control improvement model. Using a key driver diagram and root cause analyses, we identified dysbiosis as an area to focus on. We conducted six-PDSA cycles with interventions aimed at increasing administration rates of oral cares during the first 2 weeks of life, promoting early maternal milk supply, increasing access to donor breast milk, centralizing milk preparation, and reducing the gavage tube dwell times.

Results: A total of 147 neonates were included in the QI project, with a median gestational age of 28.1 weeks and a median birth weight of 1,070 g. Combined stages 2 and 3 NEC rates in VLBW infants decreased from 19 percent to 6 percent (p=.03). Oral care administration increased, and maximal gavage tube dwell times were reduced. In a review of monthly data, CLABSI rates were not affected.

Conclusion(s): NEC rates decreased during this QI project through a combination of multidisciplinary interventions aimed at reducing dysbiosis.

Bundles, Tools, Education, and Time: Decrease Ventilator-Associated Pneumonia and Ventilator-Associated Events

Ja-Yee A. Chu, DNP, RN, CNS, CCRN-K, C-NNIC

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KAISER PERMANENTE LOS ANGELES MEDICAL CENTER
LOS ANGELES, CALIFORNIA

Ventilation is crucial in lifesaving measures in the NICU. Preventing ventilator-associated events (VAEs) decreases a neonate's overall number of ventilator days and length of stay. The purpose of this quality improvement project was to create, implement, and maintain a VAE bundle to decrease ventilator-associated pneumonia (VAP) and other adverse events. Practice changes were provided for all patients with respiratory support greater than high-flow nasal cannula. In 2018, the NICU had 18 VAP cases. Initial interventions included rounding, a VAP prevention bundle, and the Infant Positioning Assessment Tool (IPAT), which became a part of the standardized daily nursing progress note. Additional interventions were an intubation timeout and checklist, a noninvasive ventilation checklist, and an unplanned extubation algorithm and debriefing form. After 2018, there has been 1 VAP case per year. In the first quarter of 2022, an unplanned extubation algorithm and debriefing form was implemented, with 0 VAP cases currently. Maintenance of these practice changes include standard VAP/VAE prevention orientation education, electronic health record audits, staff meeting bundle quizzes and audit results, and positive nurse recognition. In addition to a decline in VAPs and VAEs, multidisciplinary communication and IPAT scores improved, and plagiocephaly decreased.

Utilization of the PALS Program to Increase Resuscitation Self-Efficacy in Neonatal Nurse Practitioners

Sara M. Corpuz, DNP (c), APRN, NNP-BC
UNIVERSITY OF MISSOURI–KANSAS CITY
KANSAS CITY, MISSOURI

Infants with congenital heart disease are predisposed to develop intrinsic rhythm abnormalities due to differences in the heart's structural and conduction systems. Arrhythmias require emergent medical intervention, depending on the type of arrhythmia and patient tolerance. No established guidelines exist on using the Neonatal Resuscitation Program versus the Pediatric Advanced Life Support algorithm in the NICU setting, leading to a knowledge gap for Neonatal Nurse Practitioners managing cardiopulmonary resuscitations. Pediatric Advanced Life Support education and methodology were explored in research studies. A full-text review of 34 studies was included in the evidence synthesis. Theme topics were resuscitation education and self-efficacy, Neonatal Resuscitation Program versus Pediatric Advanced Life Support, and the role of the neonatal nurse practitioner. The project design will be a quasi-experimental one-group cohort with a pretest-posttest design comparing neonatal nurse practitioner resuscitation self-efficacy before, after, and in the 3 months after educational intervention. The aim is for neonatal nurse practitioners working in a level IV intensive care nursery to experience improved resuscitation self-efficacy by increasing the knowledge base and behavioral competencies required to identify, assess, and manage cardiopulmonary decompensation.

Implementing SBIRT to Address Maternal Marijuana Use

Emily Latiolais, DNP, APRN, NNP-BC
Courtney Morse, DNP, APRN, NNP-BC
Keleigh Warnke, DNP, APRN, NNP-BC
Sharron Forest, DNP, APRN, NNP-BC
THREE SEPARATE HOSPITALS IN 3 DIFFERENT CITIES IN TEXAS.

Background: Infants exposed to tetrahydrocannabinol, a cannabinoid found in marijuana and excreted through human milk, may experience neurodevelopmental deficits. The American Academy of Pediatrics recommends counseling mothers against the use of marijuana while breastfeeding.

Purpose: A quality improvement project was conducted in the NICU and postpartum units at 3 Texas hospitals to address maternal marijuana use among breastfeeding mothers.

Framework: The new systematic process used the evidence-based Screening, Brief Intervention, Referral to Treatment (SBIRT) model.

Interventions: Nurses screened all postpartum mothers for marijuana use at each of the 3 hospitals. Mothers who reported ever using marijuana were advised to abstain while breastfeeding and were given educational materials and a treatment referral card.

Results: Among all 3 hospitals, the mean nurses' adherence to the SBIRT process was 69 percent, exceeding the project aim of 50 percent.

Implications for Practice: SBIRT, which has been used extensively among other populations and settings, was easily translated into practice for use with postpartum mothers who reported using marijuana. A systematic process using SBIRT may help mitigate the risk of harm for infants of mothers who use marijuana.

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Sudden Unexpected Postnatal Collapse of the Newborn: Education for Nurses and Parents in a Perinatal Network

Lisa Festle, MSN, RNC-NIC, APRN
Stephanie Loiacono, MS, RNC-OB, CBC
LOYOLA ADMINISTRATIVE PERINATAL CENTER
MAYWOOD, ILLINOIS

Skin-to-skin care (SSC) and breastfeeding (BF) initiatives may have unintended consequences that contribute to sudden unexpected postnatal collapse (SUPC) of the newborn. Although rare, SUPC is a devastating event involving the sudden collapse and cardiorespiratory failure of an apparently healthy newborn. Resuscitation is required, and death occurs in half of reported cases. Most survivors experience neurologic damage with disabilities. Collapses usually occur within the first 7 days of life, both in the hospital and at home. We surveyed 6 delivering hospitals within our administrative perinatal center's network and found that some education on safe sleep, SSC, BF, and fall prevention practices were in place for nurses and parents, but only 3 had some SUPC-specific education in place. SUPC is likely more common than reported, and most hospitals don't screen for it, or have standardized protocols/teaching materials. Research supports that SUPC education and prevention bundles make a difference in SUPC rates, so we partnered with our perinatal network educators to develop a standardized SUPC education program for nurses and parents and their families. Perinatal nurses will now be able to recognize at-risk mothers and newborns, prevent SUPC, and report events that previously would have been unidentified.

Prevalence of Prenatal Fentanyl Exposure and Co-Exposure to Commonly Abused Drugs in a High-Risk Population

Mary Jones, NRCC-TC
UNITED STATES DRUG TESTING LABORATORIES, INC.
DES PLAINES, ILLINOIS

Prenatal exposure to fentanyl may lead to neonatal abstinence syndrome, a constellation of symptoms observed when newborns begin withdrawing from addictive substances such as opioids. The use of umbilical cord (UC) tissue segments for newborn toxicology has been increasing due to its apparent long detection window, sensitivity, and ease of collection. However, very little has been reported in the literature concerning the prevalence of in utero exposure to fentanyl and co-exposure with other commonly abused substances. The specific aims of this retrospective study are twofold. We will report the prevalence of neonatal exposure to fentanyl for a nationwide high-risk population using UC submitted to a national reference laboratory for routine forensic toxicology analysis and the coexposure patterns observed for these fentanyl-exposed neonates.

Safe Sleep Survey for Expectant Mothers

Penny K. Smith, BSN, RNC-NIC
UNIVERSITY OF IOWA STEAD FAMILY CHILDREN'S HOSPITAL
IOWA CITY, IOWA

In this study, we aimed to examine the knowledge, attitudes, and planned infant sleep practices of expectant mothers and how they change or remain the same after the baby is born. The second aim was to determine if the children's book *Sleep Baby, Safe and Snug* incrementally increases safe sleep knowledge, attitudes, and practices over traditional education. Expectant mothers received a gift box at their 28-week prenatal visit that included a HALO SleepSack and University of Iowa safe sleep flyer. Gift boxes were randomized to also include the children's book. Participants completed a safe sleep survey at their 28-week prenatal visit and their 6-week postpartum visit; 355 matched surveys were collected. Descriptive and statistical analyses will be reported in the poster presentation. We'll compare survey responses of mothers who received the children's book with those who did not, related to their confidence in providing a safe place for baby to sleep, their practices related to infant sleeping environment and sleep position, and their intentions for safe sleep prenatally compared with their actual practices at 6 weeks postpartum. We hope to gain a better understanding of what methods are most effective in educating expectant mothers about safe sleep and barriers to implementing SSP.

It's Just a Matter of Timeliness: Hardwiring Evidenced-Based Decision-Making Tools to Reduce the Cesarean Rate

Dawn Stanley, MSN, RNC
Jayne Haley, MS, RNC-OB, C-EFM
NM DELNOR HOSPITAL

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GENEVA, ILLINOIS

Purpose: The purpose of the project was to decrease cesarean section rates by improving interprofessional collaboration.

Background: Cesarean section rates are a nationwide focus because of the higher incidence of maternal and neonatal mortality. Inconsistent collaboration between Labor and Delivery (L&D) RN and apos;s and obstetricians leads to an increase in the cesarean section rate at a community hospital.

Evidence: The California Maternal Quality Care Collaborative (CMQCC) interprofessional evidenced-based tools to support vaginal birth are designed to gain professional consensus prior to performing a cesarean section.

Practice Change: Improve L&D RN and obstetrician collaboration interventions:

1. CMQCC Collaborate Tool and Category II Algorithm for fetal monitoring placed in patient's chart
2. Charge nurse facilitation and oversight of collaboration
3. Staff and provider education
4. One hundred percent of cesarean section cases reviewed by an interprofessional team with committee oversight

Evaluation: From July 2021 to September 2021, the use of the collaborative tool increased from 79 percent in fiscal year 2020 to 100 percent in fiscal year 2021. The nulliparous term singleton vertex (NTSV) rate decreased from 28.5 percent in fiscal year 2020 to 23.02 percent in fiscal year 2021. The overall cesarean section rate decreased from 31.5 percent in fiscal year 2020 to 28.98 percent in fiscal year 2021.

Outcome: Consistent collaboration between L&D RNand apos;s and obstetricians leads to a decrease in cesarean section rates (NTSV 5.48%) and overall cesarean section rate by 2.52 percent.

Implementing an EQUITY Tool to Dismantle Racial Inequities in Perinatal and Neonatal Care

Katrina Vigo, MSN, RNC-MNN

Samelle Arhin, BSN, RN

Nubia Tyehimba, BSN, RN

NYU LANGONE HEALTH
NEW YORK, NEW YORK

Maternal and infant morbidity and mortality are significantly higher in Black women and infants than in White women and infants. The purpose of this intervention was to develop an EQUITY tool to address racial inequities in care related to racism, discrimination, and stress, which contribute to these statistics. By examining themes identified in New York State listening sessions, we developed a tool that addresses the concerns from this affected population. After development of the tool, nurses participated in role-play scenarios using this tool to practice having conversations surrounding racial inequities in care. Prior to the intervention, only 20 percent of nurses strongly agreed that they knew how to respond to a racial inequity in care, and after the training, more than 80 percent of nurses strongly agreed with this statement. In addition, the number of nurses who strongly agreed that they felt empowered to speak to a patient or provider more than doubled, from 30 percent to 68 percent and from 30 percent to 61 percent, respectively.

Developing a Standardized Approach for Delayed Cord Clamping and Implementing NRP 8th Edition Changes

Jessica Lewis, BSN, RNC-NIC

Brittney Jackson, RNC-NIC

Jennifer Loftin, BSN, RNC-OB

HOUSTON METHODIST THE WOODLANDS
THE WOODLANDS, TEXAS

A process improvement project establishes which patients should receive delayed cord clamping, standardizes time, improves documentation of umbilical cord management, and determines when delayed cord clamping is contraindicated. Evidence supports significant benefits to delayed cord clamping and very little risk. Evidence shows that delayed cord clamping in preterm infants provides more time for the physiologic transition from fetal to newborn life, creating reductions in intraventricular hemorrhage and necrotizing enterocolitis. Delayed cord clamping also shows an increase in hemoglobin, hematocrit, iron stores, and increased cognitive development in the term infant. After review of our umbilical cord management process, it was determined that we lacked consistency among providers regarding delayed cord clamping duration. It was also discovered that nursing documentation failed to clearly represent exact time measurements. Physician and staff education was provided on the benefits and low risks of delayed cord clamping with a duration of 30 to 60 seconds, which is supported by evidence-based research. An improved delayed cord clamping process was instituted for all deliveries as

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a highly beneficial and low-cost intervention to improve patient outcomes. Discussion of umbilical management plan at timeouts and delivery prebriefs align with NRP 8th Edition updates.

Standardizing Oral Feeding Practices in the NICU

Brittney Jackson, RNC-NIC
Christy Adams, BSN, RNC-NIC
Jessica Lewis BSN, RN, RNC-NIC
HOUSTON METHODIST THE WOODLANDS
THE WOODLANDS, TEXAS

Background: There is no standard of practice for transitioning premature infants to oral feedings in the NICU or what feeding techniques to use during bottle feeds. This absence of standardization often leads to poor communication, increased patient length of stay, and frustration among the multidisciplinary care team.

Purpose: In the NICU, does the use of a cue-based feeding program to standardize oral feeding increase nursing satisfaction and decrease infant length of stay as compared with the practice of volume-driven feeds?

Methods: Pre- and postimplementation surveys were sent to staff to measure education on infant neurodevelopment and cue-based feeds. Pre-/postimplementation chart audits were conducted on infants meeting gestational age/medical criteria for the feeding guidelines. Education handouts were provided to parents, and in-service training was provided to the nurses.

Results: Nursing posteducation course survey results increased by 19 points, proving an increase in feeding knowledge. No statistical difference was observed in total length of stay or length to full feeds for infants using the program compared with those with previous feeding approach.

Conclusion: Although no statistically relevant data were revealed from chart audits, nursing and medical staff have reported increased satisfaction, and better-quality feeding care is being provided to patients using this feeding protocol.

Controversies in Patent Ductus Arteriosus Treatment

Tammy Miller, RNC, BSN
VANDERBILT UNIVERSITY
NASHVILLE, TENNESSEE

The purpose of this poster presentation is to present a literature review of the treatments of Patent ductus arteriosus (PDAs) in the NICU. This review is about the 3 medications that are available and how they affect the infant.

Nursing-Led Morbidity and Mortality Conference in the Neonatal ICU: Inspiring Growth and Fostering a Culture of Quality Improvement

Bianca Taurozzi, BSN, RN, CCRN
Marissa Rodriguez, BSN, RN, CCRN
Jessica Villarreal, MSN, RN, CCRN
Naomi Hanoch, BSN, RN, CCRN
Joanne Pasinski, MSN, RN, CCRN, CNL
Katharine Rosa, BSN, RN, CCRN
Kelly Tomlinson, BSN, RN, CCRN
Cassandra Martin-Walters, MSN, RN, NE-BC
Krystyna Toczylowski, MSN, RN
HACKENSACK MERIDIAN HEALTH
HACKENSACK, NEW JERSEY

Aim(s): A nurse-driven approach to improving the quality of care in the NICU was used by providing a productive avenue for discussing patient care scenarios where gaps in knowledge or care were identified.

Background/Problem: There exists no organized format where staff can discuss patient care situations in a formal, nonjudgmental atmosphere where opportunities for growth are fostered and encouraged.

Method(s): A committee formed by the unit-based council developed a structured care conference to dissect patient care scenarios using a blame-free quality improvement process.

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Results: A unique template was created to organize and guide conference discussion. After each presentation, an action plan was formed. For every case, there were salient education points disseminated to staff, as well as other outcomes, such as the development of an interdisciplinary unit-based pain committee and the creation of operating room kits and a perioperative nursing care checklist.

Conclusion(s): This project seeks to inspire fellow nurses in encouraging one another to take an honest look at the care we provide to our patients and to have the courage to recognize where gaps could serve as opportunities for growth rather than blame or penalty.

Best Practice for Early Pumping

Jennifer Meckley, MSN, RN, RNC-NIC, NPD-BC

Jill Cathey, RN, RNC-OB

TEXAS HEALTH HURST-EULESS-BEDFORD HOSPITAL
BEDFORD, TEXAS

Background: NICU infants are a vulnerable population who are most in need of mom's milk and the least likely to receive it through discharge. Early initiation of breast milk pumping is the best predictor for continued breast milk supply (Spatz, 2018). Within our NICU, some mothers were unable to provide enough breast milk throughout their NICU stay. We found our hospital's time to first pumping postdelivery needed improvement. The focus population for this EBP was postpartum NICU mothers of infants born at <34 weeks' gestation.

Procedures and Results: Q1 2020 data collection found greater than 50 percent of postpartum NICU mothers began breast pump initiation more than 6 hours after delivery. Staff education on supporting evidence was provided in March 2020. Barriers found were working the breast pump setup into nurses' workflow and pump availability. To address barriers identified, breast pumps were placed in the Labor and Delivery recovery room to facilitate easier nurse workflow. Additional breast pumps were placed into circulation for patient use. After staff education, 81.5 percent of postpartum NICU mothers began breast pump initiation within 6 hours after delivery. Therefore, this change in practice has improved patient outcomes by increasing the provision of mother's own breast milk for NICU babies.

Fight the Burnout: Phase 1 of a NICU Nurse Wellness Bundle

Megan T. Weisbart, MSN, RNC-NIC, CNL, PHN

Heather Hackett, MSN, RN, NEA-BC, RNC-NIC

Julie Sasinski, MSN, CNS, RNC-NIC, C-ELBW

UCLA SANTA MONICA MEDICAL CENTER
SANTA MONICA, CALIFORNIA

Background: ICU environments contribute to nurse burnout. Burnout costs include fatigue, depression, anxiety, worse health outcomes, high turnover, and high organizational cost. Meaningful recognition, strong interpersonal connections, and mindfulness-based interventions can decrease burnout.

Purpose: To decrease NICU nurse burnout using a wellness bundle that fosters meaningful recognition and interpersonal connections and includes mindfulness-based interventions.

Methods: Version 5 of the Professional Quality of Life Scale was used to measure burnout before bundle implementation and will be given after 6 months and yearly for 3 years. Meaningful recognition bundle items include quick response code submission and posting of staff shoutouts, recognition events, and an employee recognition program. Fostering of interpersonal connections bundle items include monthly staff games with prizes, social events, raffle fundraisers, unit newsletters, unit wellness basket, new staff posts, and a wellness resource sheet. HeartMath education was implemented as a mindfulness-based intervention.

Results: The mean baseline NICU nurse burnout score was 20.71 (higher end of low). The range was 13–28, with 3 nurses experiencing moderate burnout.

Conclusion: Implementation and evaluation of the NICU wellness bundle will continue until March 2025. Interventions that include meaningful recognition, fostering of interpersonal connections, and mindfulness-based activities can improve work environments and decrease nurse burnout.

Neuroprotection Through Developmental Care for Extremely Premature Infants

Danica C. Iaia, DNP-NNP

SAINT JOSEPH HOSPITAL
DENVER, COLORADO

Purpose: The purpose of this project is to decrease the rate of intraventricular hemorrhages (IVHs) in extremely premature infants.

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Background: Infants born prior to 30 weeks' gestation are at an increased risk of developing IVH, especially if they are experiencing stress and overstimulation with routine nursing care. Currently, a little over half of the time neuroprotective care is being performed during routine nursing care on infants born prior to 30 weeks' gestation and within the first 72 hours of life.

Methods: Education will be provided for all staff members to be familiar with the signs of overstimulation and interventions that can help the infant to handle the stress. Education will be done via poster and one-to-one education.

Results: Posteducation observational audits showed that 93 percent of the time the staff was responding appropriately to the infants' stress cues during routine nursing care. Approximately 90 percent of the time, infants received 1 full minute of hand hugging prior to being touched to help the infant adapt to being touched. Preliminary results showed that 10 percent of the infants had developed IVH during the first week of life, and further cranial ultrasounds are warranted closer to term.

Neonatal Pain, Agitation, and Sedation Scale versus Faces, Legs, Activity, Cry and Consolability Pain Assessment

Isabella Kearns, BSN, RN II

CHILDREN'S HOSPITAL LOS ANGELES
LOS ANGELES, CALIFORNIA

The purpose of this evidence-based practice project is to evaluate the efficacy of using the Faces, Legs, Activity, Cry and Consolability (FLACC) Behavioral Pain Assessment versus Neonatal Pain, Agitation, and Sedation Scale (NPASS) in the Newborn and Infant Critical Care (NICCU) at Children's Hospital Los Angeles (CHLA). The use of the FLACC and NPASS measurements is standard-of-care practice. This application is being submitted to evaluate the impact of using the appropriate pain scale to identify the need for pharmacological intervention. The population of focus for this project includes all infants in the NICCU over 44 weeks' corrected gestational age off of sedation. Data collection involved capturing the FLACC and NPASS pain scores for patients identified as eligible as part of their standard-of-care pain assessment at each of their assessment times. The number of data collection points is based on the number of assessments and not the numbers of individual patients. Documentation of the FLACC and NPASS pain assessment scores for eligible patients was part of their routine nursing assessments over a 6-month period. This project has 3 sources of data collection: (1) FLACC score, (2) NPASS score, and (3) whether an as-needed medication is indicated. This project is intended to improve institutional practice and clinical care outcomes in the local setting of NICCU patients at CHLA.

Evolution of Learning Needs of Neonatal Nurses Before and Through the Pandemic

Heather Etzl, MSN, RN, CBC

Christina Choyce, MSN, RNC-NIC, CCCTM, CBC, C-ELBW

THOMAS JEFFERSON UNIVERSITY HOSPITAL
PHILADELPHIA, PENNSYLVANIA

Prior to the COVID-19 pandemic, education programs at our Level III NICU in an academic medical center were delivered via in-person instruction or via email. Based on the needs assessment performed in 2019, the key areas of learning most identified by staff were leadership development, database searching, and development of unit-based education. Once the pandemic affected the ability to deliver education in person, instruction was performed using online learning platforms such as Zoom, Nearpod, and the hospital learning platform for new and ongoing education. The needs assessment performed in 2021 demonstrated that an evolution in learning needs and preferences on education delivery method were established. Outcomes from this demonstrated a strong staff desire to know how to use online education platforms and how to set up a virtual meeting; however, the preferred delivery method remained in-person via lunch and learn or instructor-led courses over e-Learning. Additionally, the staff indicated needs in emotional care delivery, understanding of the budget, and how to care for patients in difficult situations. Overall, though the pandemic brought an innovation in delivery methods of education to staff, the preference remains for in-person education, but changes were made to reflect the new challenges faced during the pandemic.

The Respiratory Pattern of Preterm Infants and the Mother's Perception at the Corrected Age of 33–37 Weeks: A Case Report

Aya Nakai, PhD, RN

GRADUATE SCHOOL OF NURSING, CHIBA UNIVERSITY
CHIBA, JAPAN

The respiration of preterm infants often appears prone to fluctuation during their stays in NICUs, and this seems to result in anxiety for their parents. However, the individual trajectory of the respiratory pattern of infants and their parents' perceptions of the same are not

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well known. Therefore, this study aims to provide an in-depth understanding of the individual respiratory pattern of preterm infants and how parents perceive their infants' unstable respiration. In this context, the researcher will explain one result as a case report.

The infant observed via video recording demonstrated an unstable respiratory pattern, particularly strained respiration with mild desaturation, which seemed to result in a significant energy loss at the corrected age (CA) of 33 weeks. The mother found her baby to be more relaxed when she held the infant against her chest at the CA of 35 weeks. The infant attained stabile respiration toward the CA of 37 weeks. Based on these findings, this case report suggests that the mother's cuddling led the infant to relax when demonstrating insufficient respiration patterns. Thus, it is essential to focus on educating parents on infants' respiratory patterns so that they can help calm their infants down.

Streamlining the NICU Admission Process

Sarah Viray, BSN, RN
Lindsey Young, MSN, RNC-NIC
Agne Schwarz, RN-BSN
Jennifer Bushen, MSN, MBA, RNC-NIC
LOYOLA UNIVERSITY MEDICAL CENTER
MAYWOOD, ILLINOIS

Background: Admitting an infant to the NICU can be a challenge for the entire staff. To improve this process, there was multidisciplinary collaboration.

Purpose: To streamline admissions by standardizing practice to increase Golden Hour success rates, decrease staff stress levels, and ultimately improve patient outcomes.

Interventions: With pending admission, the incubators are set up in a standardized fashion. Our admission cart brings the stockroom to the bedside, with all supplies neatly organized and labeled. Prior to birth, the infants are preadmitted into the EMR and the STAT admission order set (ampicillin, gentamicin, and D10W) is pended. Immediately after birth, the patient is admitted to the NICU census, the pended order is activated, birth weight is documented, and the pharmacy starts preparing weight-based medications. The ordering provider completes the gestational age–/weight-based admission order sets to standardize practice. The admission nurse's patients are absorbed by other RNs to allow a complete focus on new admission. During admission, the nurses use a Golden Hour admission checklist to make notes of measurements and timing of events, as well as to ensure the admission process is completed.

Outcome: Improved Golden Hour success rates and decreased staff stress levels.

When Light Can Lead to Harm: Neonatal Total Parenteral Nutrition and Lipid Light Protection

Lindsey Young, MSN, RNC-NIC
Pamela Nicoski, PharmD, BCPS
Jessica A. Bothie, BSN, RN
Janice Hart, BSN, RN
Jennifer Bushen, MSN, MBA, RNC-NIC
Patricia Hester-Lund, BSN, RN
LOYOLA UNIVERSITY MEDICAL CENTER
MAYWOOD, IL

Although parenteral nutrition (PN) is crucial in improving health outcomes in sick term and preterm infants, it is not without risk and may be susceptible to significant effects associated with degradation, including oxidation, when exposed to light. Neonates and infants have a higher exposure and are at higher risk from these breakdown products than are children and adults. Due to their weakened antioxidant defense system and exposure to other oxidative stress (i.e., oxygen therapy, phototherapy), premature infants may be put at even further risk for morbidities, including chronic lung disease, retinopathy of prematurity, and necrotizing enterocolitis.

The American Society of Enteral and Parenteral Nutrition (ASPEN) recently recommended light protection for all neonatal PN, lipids, and tubing. Studies have shown a significant reduction of oxidants (free radicals) using PN and lipid light protection tubing. To achieve this goal, Loyola University Medical Center formed a multidisciplinary team (neonatal pharmacist, supply chain, and NICU nursing) to determine the products and procedure to provide light protection for PN, lipids, and tubing while performing a sterile line setup. The process was challenging, but the ASPEN recommendation is an important step in reducing neonatal exposure to additional oxidants and toxic agents during neonates' stay.

Scimitar Syndrome: A Case Presentation

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Barbara A. Reyna, PhD, RN, NNP-BC
UNIVERSITY OF VIRGINIA
CHARLOTTESVILLE, VIRGINIA

A female infant was born at 37 and 5/7 weeks with a late prenatal ultrasound finding of an atrioventricular (AV) canal defect. Prenatal care was provided outside of the United States, and family had knowledge that there was a cardiac anomaly. The infant presented at delivery with respiratory distress. The infant was admitted to the NICU and placed on a high-flow nasal cannula at 2 L/min. A chest radiograph showed right upper lobe atelectasis and elevated right diaphragm. The initial echocardiogram showed a small secundum atrial septal defect and a large, bidirectional patent ductus arteriosus (PDA). An AV canal was not appreciated but difficult to evaluate completely secondary to the PDA. Due to increasing opacification of the right lung, further studies were obtained that confirmed the diagnosis of scimitar syndrome.

Scimitar syndrome is a rare congenital heart defect involving the right pulmonary artery, resulting in hypoplasia of the right lung. The incidence is 1–3 per 100,000 live births and presents in up to 6 percent of patients with a partial anomalous pulmonary venous connection. The shape of the right pulmonary vein on a radiograph resembles a scimitar, which is a curved Middle Eastern sword.

This case will highlight the presentation, diagnosis, and management of an infant with scimitar syndrome.

Placental/Umbilical Blood Sampling in Very Low Birth Weight Infants

Jami Vaca, BSN, RNC-NIC, C-ELBW, C-NNIC
Martha A. Rivera, BSN, C-ELBW
MILLER CHILDREN'S AND WOMEN'S HOSPITAL LONG BEACH
LONG BEACH, CALIFORNIA

Problem/Background: Very low birth weight (VLBW) infants experience their greatest phlebotomy blood loss on their first day of life. Placental/umbilical blood sampling (PUBS) is a strategy to reduce this blood loss and has been demonstrated to reduce the incidence of phlebotomy-associated anemia, early red blood cell (RBC) transfusions, and associated morbidities.

Aim/Purpose: To decrease the incidence of RBC transfusions during the first 14 days of life.

Target Population: Inborn infants with a gestational age <32 weeks or a birth weight <1,500 g.

Implementation: Development of new policy and procedure, standard operating procedure, competency checklist, and reference video. Clinical nurses were trained to create a PUBS team. An order set was created for physicians to use for VLBW admissions.

Results: The average rate of PUBS obtained from eligible infants was 60 percent; however, the rate of clotted specimens requiring a repeat sample was 24 percent. There has been minimal improvement in the rate of RBC transfusions in the first week of life. Two infants had positive blood culture results from PUBS with group B *Streptococcus* species.

Nursing Implications: PUBS is a readily available and abundant source of blood that can be derived directly from the infant that is an underused resource in the care of preterm infants.

Following the NICU Graduate

Valerie Yu, DNP, APRN, CPNP-PC, NP-C, NNP-BC
BRYAN MEDICAL CENTER
LINCOLN, NEBRASKA

In the NICU, the focus is on the infant's survival, and the goal is to discharge the baby home, but what happens then? A developmental clinic created by a level III NICU in a community hospital assesses infants' development at 6 months' adjusted age and follows the child through age 3. The developmental clinic staff recommends referrals for therapy services and schedules follow-up clinic visits. Infants requiring additional services are identified and referred to the specific specialty needed. Another benefit of the clinic is that primary care providers can refer any child under 3 years of age to the clinic if they have concerns. One barrier for the clinic is motivating parents to bring the child to the clinic. Often, infants who need the assessment the most are the ones who do not show up for their appointment. As the number of infants requiring developmental assessments increases, the clinic staff will continue working to identify barriers for parents not coming to clinic appointments.

Neonatal Book Club: A Novel Approach to Promote Nursing Resilience

Jeanne M. Perino, APRN, MSN, NNP
Kylie Cavanah, MSN, APRN, NNP-BC
SAINT FRANCIS MEDICAL CENTER
PEORIA, ILLINOIS

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The purpose of this article was to describe how a group of nurses participating in a book club was able to find support and encouragement during a pandemic. The neonatal critical care book club began with a common passion for reading and a need for socialization. There was also the hope that the club would foster a positive work culture, increase staff morale and resilience. In addition, the book club provided a mechanism for obtaining continuing education.

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Podium Abstracts Presented at the Fall 2022 National Neonatal, Advanced Practice, and Mother Baby Nurses Conferences

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These are the abstracts for the **podium presentations** from the Fall 2022 National Neonatal, Advanced Practice, and Mother Baby Nurses Conferences. They represent a broad range of neonatal issues. By sharing this information, we hope to increase awareness of research and innovative programs within the neonatal health care community and to support evidence-based nursing practice. Some abstracts have been edited for publication.

Neonatal Effects of Labeling Parents in the NICU

Stephanie Abbu, DNP, RN, CNML

Family-centered care is a goal in NICUs; yet the culture of assigning labels is a barrier to fostering a team approach to care, optimal outcomes, and discharge readiness. In the NICU, parents can be assigned informal labels. Those who are assigned a negative label are less likely to be asked care preferences, more likely to have suggestions dismissed, and not offered as many opportunities to participate in care as parents assigned positive labels. Developing mutual understanding with patients and families through effective communication has been identified as a major facilitator to providing quality care to diverse patients.

Changing the culture of "label assignment" is vital as we work to improve these relationships and foster a team approach to care, optimal outcomes, and discharge education. So, where do we go from here? How can we change the culture? Let's establish a sense of urgency and implement a strategy focused on enlightening the mind, appealing to the heart, and moving others to action. Let's focus on increasing awareness, mentor and coach our teams to care for culturally and linguistically diverse patients, hire and retain a diverse workforce, and listen to and address concerns related to patient care quality and satisfaction.

Implementation of Trauma-Informed Communication Simulation Training for Nurses: One NICU's Experience

Karen Rose, MSN, RN, CNS, ACCNS-N, RNC-NIC

Jennifer Ferrick, MSN, RN, CNS

Background: Having a baby admitted to the NICU is a traumatic event that can put parents at increased risk for depression and post-traumatic stress disorder. A trauma-informed approach to nurse–parent communication can help mitigate some of this risk. Despite the benefits of trauma-informed care, NICU nurses may have little to no training on the approach.

Purpose: To design and implement trauma-informed communication-based simulation training for nurses and to evaluate the experience of NICU nurses participating in the training.

Methods: A NICU team designed 9 nurse–parent interaction scenarios for simulation. Following simulation, the nurse debriefed with 3 RN colleagues, a communication expert, and the actor who played the role of the parent. The RN also completed a standardized evaluation of their experience.

Results: All NICU RNs (n = 31) have completed 1 of 3 required simulation sessions and provided feedback. Evaluations of the experience demonstrated that most participants felt they gained new skills or built on existing skills, felt safe in the simulation setting, and found value in debriefing.

Conclusion: Communication-based simulation training is feasible to implement. Initial data demonstrate the experience of the RN participating in simulation training is positive across multiple indicators.

Flipping the Script: Implementation of the Flipped Classroom for NICU Orientation

Amy Mattingly, DNP, APN, ACCNS-N, RNC-NIC, CNL

Anita Pryor, MSN, RN, CPN

The COVID-19 pandemic forced a shift in the landscape of health care education requiring distance, innovative use of technology, and augmented clinical experiences for new graduate nurses. Also, nursing shortages emphasized the demand for succinct yet comprehensive orientation for nurses to get them productive sooner. Compounding the issue is a scarcity of resources, including restricted room capacities with high orientee volumes, unavailability of supplies, and a reduced number of available instructors. Given these factors, Cincinnati Children's NICU replaced traditional lecture-based orientation in favor of a student-centered modality, called the flipped classroom (FC). The FC combines web-based learning with the classroom setting to provide a more flexible learning environment. Since

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January 2022, more than 40 nurse orientees have participated in the FC curriculum. Evaluations indicate learners have greater confidence in their skills, enjoy the autonomy to self-pace through the computer-based prework, and have high engagement in classroom skills. From an educator perspective, the FC provides consistency in content delivery, tailoring the FC timing on the basis of a nurse's experience, more time for problem-solving during skills, and cost savings from reduced time lecturing.

Mothers with a Prenatal Diagnosis of a Fetal Anomaly: Needs in the Neonatal Period

Janet Tucker, PhD, MSN, RNC-OB

Fetal anomalies are the leading cause of infant mortality, impacting 120,000 U.S. mothers annually. Due to advances in prenatal diagnosis, mothers receive fetal diagnosis earlier in pregnancy, living with this knowledge months before delivery. Following delivery, infants are transferred to level III/IV NICUs for further care, testing, and surgery. Understanding the unique journey and maternal distress related to fetal anomaly diagnosis can guide practice for neonatal nurses and maternal-child nurses.

Recasting Hope Theory guided understanding of mothers' adaptation following prenatal fetal anomaly diagnosis.

Mothers experience shock, denial, anxiety, and stress upon learning of a fetal anomaly diagnosis.

During pregnancy, mothers experience isolation, fragmented health care, uncertainty, loss, grief, and decision-making dilemmas.

A descriptive qualitative approach explored mothers' perceptions of fetal anomaly diagnosis from prenatal through postpartum. The study was conducted in a high-risk obstetric clinic in a pediatric hospital. Data were analyzed using thematic analysis. Institutional review board approval was obtained.

Semistructured interviews revealed an overarching theme: pregnancy forever changed. Mothers described prenatal experiences complicated by uncertainty, disclosure, anxiety, information needs, loss and grief, decision dilemmas, fragmented health care, isolation, foreknowledge, waiting, and adaptation. Mothers' distress continued into the postpartum period. Learning what mothers value can inform care by providing additional information, anticipatory guidance, and support.

Not One Is Like the Other: An Individualized Approach to Neonatal Pain

Katherine Dudding, PhD, RN, RNC-NIC, CNE

Assessing and delivering pain management to neonates in pain is a routine aspect of care. However, have you ever noticed how neonates present with certain types of pain and scenarios very differently? The purpose of this research was to learn nurses' perceptions of pain in the neonate, specifically how the neonate communicates their pain to the nurse. Thirty neonatal nurses participated in a qualitative descriptive study and were interviewed. Interviews were transcribed and analyzed using inductive content analysis. The study was deemed to be trustworthy through credibility, transferability, dependability, and confirmability. The nurses' perceptions of pain in the neonate emerged in the category of neonatal communication and subcategory pain differences in the neonate. Nurses noticed pain differences among neonates during 5 instances, including the ventilated, surgical, micropreemies, drug withdrawing, and during periods of extreme pain. This knowledge will inform future work to assist nurses to effectively assess and manage neonatal pain.

It's All in the Eyes: Enhancing an Existing Retinopathy of Prematurity Program

Lori Falk, RN, BSN

Premature infants born at less than 31 weeks' gestation and 1,500 g are at risk for retinopathy of prematurity (ROP), a devastating eye disease. These infants are routinely screened for ROP, allowing early intervention. Randall Children's Hospital is a 45-bed level IV NICU in Portland, Oregon, with 650 admissions annually and resuscitation of infants as young as 22 weeks. Important components, outside of screening, are necessary to ensure a successful eye program. Using a dedicated RN ROP coordinator, we enhanced our existing screening process, providing a safer and more comprehensive program. This involved a multidisciplinary approach, focusing on patient safety and quality. Standard workflows and protocols were created for the exam process and treatment processes. Incorporating music therapy into our exams prioritized appropriate developmental care and comfort for our babies and increased parental experience during exams. Partnering with central sterile, we revamped our equipment sterilization process. Development of enriched staff and family education and communication was prioritized. Last, we implemented a bedside bevacizumab treatment protocol. Providing safe, high-quality exams to this vulnerable population is crucial to their outcomes. It truly is about so much more than just the eyes.

Advanced Practice Infants with Congenital Heart Disease Have Poorer Cerebrovascular Stability Than Healthy Control Subjects

Nhu Tran, PhD, RN, CCRN, CCRP

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Background: Congenital heart disease (CHD) is a common birth defect. Impaired cerebrovascular autoregulation (CA) may contribute to neurologic abnormalities in infants with CHD. However, we do not know if infants with CHD have altered CA; thus, we examined the association of CA in infants with CHD and healthy control subjects (HC).

Methods: We conducted a prospective, longitudinal study in infants with CHD and HC. We measured CA at 2 age points (birth and 3 months). We calculated a surrogate for CA, using postural changes and regional cerebral oxygenation with near-infrared spectroscopy, termed cerebrovascular stability (CS). Repeated measures analysis of variance quantified the relationship between group and CS.

Results: We assessed 71 infants with CHD and 90 HC (neonate, 39 CHD and 44 HC; 3 months, 32 CHD and 46 HC). Infants with CHD had significantly lower brain oxygenation in response to the tilt as neonates (67 percent to 66 percent CHD vs. 80 percent to 79 percent HC; $p<.001$) and at 3 months (53 percent to 51 percent CHD vs. 64 percent to 63 percent HC; $p=.001$) compared with HC.

Conclusion: We found poorer CS in the CHD group, suggesting that infants with CHD may have impaired CA. We are continuing to collect data on CA and neurodevelopmental outcomes in both groups to better understand the mechanism of injury.

When Urinary Catheterization Fails: A Role for Point-of-Care Ultrasound-Guided Suprapubic Aspiration

Christine Manipon, MSN, NNP-BC

Incidence: Acute urinary retention coupled with unknown urethral obstruction in a neonate who was previously voiding spontaneously is an uncommon occurrence. Urinary retention itself is usually easily mitigated with straight catheterization. When catheter placement fails due to unknown obstruction or false tract formation, there is a role for the less commonly performed procedure: ultrasound-guided suprapubic aspiration.

Diagnosis: Oliguria and acute urinary retention of a 3-day old, term, postoperative male neonate, and failure to pass a catheter.

Diagnostic/Management: Multiple noninvasive interventions were performed, including the Credé maneuver and positional manipulation of the penis, in an attempt to yield urine. After several failed attempts to place catheters in decreasing sizes, point-of-care ultrasound was used to assess for the presence of urine in the bladder. An ultrasound-guided suprapubic bladder aspiration (SPA) was performed to decompress the distended bladder.

Outcomes: The SPA yielded 55 mL of urine without completely decompressing the whole bladder.

Implications: Our case study adds additional noninvasive steps for management to include bladder scan point-of-care ultrasound to evaluate the bladder and presence of urine. It also spotlights an uncommon procedure, and its value in unique cases when urology consultation and expeditious intervention may not be readily available.

Implementing Eat Sleep Console Care Model to Improve Outcomes Related to Neonatal Opioid Withdrawal Syndrome

Jan Gill, DNP, APRN, NNP-BC

Background: Newborn opiate withdrawal syndrome (NOWS) is a universal dilemma associated with increased hospitalization cost, resources, and length of stay (LOS) in addition to family separation due to a NICU admission.

Objective: To implement the Eat Sleep Console (ESC) model of care for infants with NOWS to decrease pharmacologic intervention and LOS.

Setting: This setting was a Wisconsin hospital system consisting of 2 birthing centers with 12- and 31-bed capacity, respectively, a 16-bed Level III NICU, and a 5-bed Level II NICU.

Sample: The sample consisted of 26 mother-infant dyads.

Results: Prior to ESC, infants with NOWS requiring pharmacologic treatment based on modified Finnegan scores were admitted to the NICU with an average LOS of 21.1 days. From January to October 2020, infants with NOWS were admitted to the NICU for pharmacologic therapy and received an average of 132.75 morphine doses. After ESC implementation from 2020 to 2022, 26 infants with NOWS were managed in the birthing units, with an average LOS of 4.8 days and 2 newborns requiring an average of 1.5 doses of morphine.

Conclusions: The ESC care model significantly reduced LOS and morphine therapy. Additionally, newborns are cared for by their mothers in their room rather than being separated by a NICU admission.

The Lived Experience of Expectant First-Time Fathers During Their Partner's Pregnancy

Gladys Vallespir Ellett, PhD, RN, IBCLC, LCCE

Although researchers have focused on women's experience of expectant motherhood during pregnancy, less is known about men's lived experience of first-time fatherhood during their partner's pregnancy. This was especially true during the unexpected COVID-19 global pandemic. This phenomenological study examined men's lived experience of becoming a first-time father during their partner's

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pregnancy within the context of the novel COVID-19 pandemic. Max van Manen's hermeneutic phenomenological research methodology was used to describe and interpret men's lived experiences and the meanings they ascribed to becoming a first-time father during their partner's pregnancy. Purposive and snowball sampling yielded 10 first-time expectant fathers from 5 states. Participants shared their thoughts and feelings in a dialogic, cocreative process to discover the meaning of their lived experiences via in-depth telephone interviews. Findings revealed an overarching theme ("I'm going to be a dad!") with 8 subthemes that reflected the lived experience as a psychosocial–emotional transition with an essence of a miracle among the chaos. Various strategies established the trustworthiness of findings, which contributed to the methodological rigor of the study. Findings may offer insight into the development of father-specific information, education, and guidance to support men's transition to first-time fatherhood in pregnancy and continuing to the postpartum period.

Relationship Between Maternal COVID-19 Infection and In-hospital Exclusive Breastfeeding for Term Newborns

Jessica Gomez, PhD(c), MSN, APRN, NNP-BC, IBCLC

Objective: To evaluate the relationship between maternal COVID-19 infection and the odds of in-hospital exclusive breastfeeding for term newborns.

Design: Retrospective descriptive quantitative.

Setting: A large, urban hospital with more than 6,000 births annually.

Sample: Term newborns born between March 1, 2020, and March 31, 2021 (n = 6,151).

Methods: We retrospectively extracted data from electronic health records to evaluate the relationship of maternal COVID-19 infection with the odds of in-hospital exclusive breastfeeding using univariate analysis and logistic regression models. The covariates included insurance type, race/ethnicity, glucose gel administration, length of stay, newborn gestational age, newborn birth weight, and maternal COVID-19 infection.

Results: Maternal COVID-19 infection was not significantly related to the odds of in-hospital exclusive breastfeeding (p=.138) after adjusting for covariates in the logistic regression model. However, when newborns who received pasteurized donor human milk supplementation were excluded from the logistic regression model, maternal COVID-19 infection significantly decreased the odds of in-hospital exclusive breastfeeding (p=.043).

Conclusion: Maternal COVID-19 infection was not significantly related to the odds of in-hospital exclusive breastfeeding when newborns received donor human milk supplementation. Access to donor human milk for supplementation for term newborns may protect the odds of in-hospital exclusive breastfeeding.

A Novel Approach to Newborn Transition: Use of Bubble Continuous Positive Airway Pressure to Preserve the Birth Dyad

Deidre Miller, MSN-Ed, RNC-NIC, C-ONQS

The Neonatal Resuscitation Program (NRP) was developed to provide an evidence-based approach to newborn resuscitation. From the time a birth is imminent until stabilization, the resuscitation team must evaluate and make critical decisions to guide their care. With only 5 percent of the newborn population needing care beyond warm, dry stimulation, this is a high-risk, low-frequency event that causes stress for the team. We will focus on the 5 blocks of the NRP algorithm. These blocks address all aspects of care from early identification of failure to transition, application of respiratory support, placement of an advanced airway, access, and administration of fluids and medication. In a best-case scenario, a newborn will fall within this algorithm and recover as expected. However, often in the higher-intensity situations, infants fall outside of the guidelines, adding to the stress of the situation. Using a real case scenario, we will discuss each decision point, the best practice, and how to determine next steps when a newborn does not fit nicely into the algorithm.

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