Poster Session Presentations

1. The Ethics of Breaking Bad News in the Neonatal Intensive Care Unit
   Courtney Austin RN, BSN & Meghan Bjerke RN, BSN

   Abstract

   Purpose: Approximately 6 out of every 1,000 infants dies within the first year of life, many with prematurity and birth defects as leading causes for infant mortality. Delivering the bad news of impending death to the family of a critically ill or terminally-ill neonate is one of the most arduous aspects of a clinician’s professional role. Despite the frequency which breaking bad news occurs in the neonatal intensive care environment, teamwork and communication training is lacking higher education curricula and therefore is a relatively underdeveloped skill among hospital-based clinicians. Experts reported that 43.3-90% of perinatal/neonatal clinicians had “never” or “rarely” received any formal training in the communication of bad news. This poster will present the ethical implications of communicating a poor prognosis to families in a neonatal intensive care unit and recommend best practices which healthcare professionals can implement in their role, when tasked with breaking bad news.

   Methods: An integrative review of the literature was completed using the following databases: CINHAL, PubMed, PsychInfo and ProQuest. Recent articles published within the past 6 years, in the English language, and using human subjects, were included.

   Results: In 2013, infant deaths under 28 days old accounted for 33.8% of all deaths within the United States. Over 50% of all infant deaths are a result of preterm birth, birth defects, maternal complications of pregnancy, injuries and sudden infant death syndrome. A synthesis of the data within the literature revealed that 74-100% of clinicians who participated in a formal seminar or workshop, felt the training improved upon their ability to communicate effectively when conveying bad news to families. Additionally, 94.23% of participants felt that an ethics committee consult is necessary, prior to making a DNR order recommendation to parents.

   Limitations: There is a lack of emphasis on communication in both graduate nursing and medical education curricula. Upward of 79% of neonatal nurse practitioner students and 41% of neonatology fellows report never receiving training in communicating bad news to families. A review of the literature revealed that 6 articles cited varying simulation, mnemonics, framework for structured meetings, seminars and/or workshops had been developed and trialed to improve providers’ confidence in effectively communicating bad news to families. However, none of these teaching modalities have been investigated using a quality improvement model within neonatal intensive care, with outcomes reported in the literature.

   Implications for Practice: Didactic and simulation based training in graduate nursing and medical curricula is essential to facilitate an optimal role transition to that of advanced practice clinician. The use of a systematic framework or simple pneumonic reminder highlighting major communication priorities, can improve the approach to delivering bad news to families. Encouraging a standardized thought process which prioritizes a multidisciplinary approach, that can be differentiated as needed to meet the unique needs of individual families, can aid in the delivery of high-quality and compassionate care during end-of-life situations.
References


2. Twin-to-Twin Transfusion Syndrome: A Case Report with Review of Literature
   Tiffany Bautista, RN-NIC, BSN

Abstract

Purpose: Twin to Twin Transfusion Syndrome (TTTS) is the end-result of an aberrant distribution of placental blood flow in monochorionic twin pregnancies. An abnormal vascular connection, or anastomoses, develops within the architecture of the placenta and facilitates the aberrant intravascular volume imbalance between twins. Of all monochorionic gestations, 1-2% are monochorionic-monoamniotic (MCMA) and 24% are monochorionic-diamniotic (MCDA). Approximately 2,780-4,170 twin pregnancies are diagnosed with TTTS each year in the United States. TTTS is a significant risk factor for death and morbidity among monochorionic pregnancies. A case of a twin-to-twin transfusion syndrome within the rare population group of monochorionic monoamniotic twin gestation is presented, and followed by an examination of recent literature to report the etiology, pathophysiology, prenatal diagnosis, management, complications, prognosis and family considerations associated with this syndrome.

Methods: A detailed literature review of evidence-based research about twin-to-twin transfusion syndrome was initiated using MEDLINE via PubMed, CINAHL, ProQuest and Google scholar computerized databases. The keywords included fetofetal transfusion, twin-to-twin transfusion syndrome, monoamniotic, diamniotic, neurodevelopmental outcome, hydrops fetalis, anastomoses, loss, grief, and cardiac morbidity. The search resulted in 593 articles which 25 relevant articles were chosen. Articles were limited to publication within the last 5 years, English, and human subjects.

Results: Approximately 1 of every 250 cases of monochorionic twins acquire TTTS. MCDA presentations are the most precarious and are associated with the highest risk for TTTS, with 8-15% of all MCDA twins develop TTTS, compared to 2-3% of MCMA pregnancies. The case presented involves a 28-week gestation infant who was a single survivor of a monochorionic-monoamniotic twin gestation pregnancy, complicated by twin-to-twin transfusion syndrome. The progression of TTTS is unpredictable, non-treatment and early-onset have been associated with greater than 90% mortality of both twins. Neurodevelopmental impairment, preterm birth, renal hypoperfusion, and insufficiency, growth restriction, progressive cardiomyopathy related to volume overload, and fetal hydrops have been associated with the pathophysiology and disease process. This is related to the imbalance of blood flow that occurs as a result of the vascular intertwin connection via anastomoses, and the response of the endocrine systems of each twin.

Limitations: A paucity of original research and case reports exist which limits recommendations for optimal diagnosis, management and treatment regimens.

Implications for Practice: TTTS is unpredictable in the way it progresses, earlier identification of chorionicity, earlier diagnosis, improvement of treatment and management of the disease have the potential to improve the mortality and morbidity outcomes associated with this disease. In addition, neonatal providers and nurses with a better understanding of the vascular architecture, circulation pathophysiology of the anastomoses, and staging of the disease using Quintero staging can better manage the infants after delivery. As providers it is important to understand the impact a diagnosis of TTTS can cause to a family financially, emotionally, and physically before and after delivery.
References


Abstract

Purpose: Congenital heart defects (CHD) are the most common congenital malformation reported in the literature, with a global incidence of 8 per every 1000 live births. In the United States, approximately 40,000 infants are born each year with a CHD. Of the infants diagnosed with a CHD, 1 in every 4 heart defects are life threatening in origin. This poster presents a case of an infant born at a community hospital with an unknown arteriovenous canal (AV canal) complicated by dextrocardia. The importance of the cardiac assessment to facilitate early identification, diagnostic measures, management and implications which the unknown CHD places upon the family unit, will be highlighted.

Methods: A literature search was completed using PubMed, Cinahl, Google Scholar and Proquest databases; publications from 2012-2017 were included for review. Keywords included congenital heart defects, cardiac anomalies, neonatal/infant, newborn, atrioventricular canal, embryology, dextrocardia, cardiac assessment, physical assessment, heart and family.

Results: In the United States, 1 in every 2,120 babies are born with AV canal each year. Dextrocardia is less frequently reported, occurring in 1 out of every 12,000 pregnancies. The frequency of the complex presentation of dextrocardia with AV canal is not well known, despite the association being well documented in the literature. Early recognition of CHD increases treatment options and optimizes outcomes for the neonate. Proficient cardiac assessment by neonatal nurses and clinicians, as well as the consistent use of screening protocols for CHD, facilitate early identification and decreased neonatal mortality rates. Fear of the unknown plagues families, who must quickly understand their neonate’s condition and plan for transfer of care to an unfamiliar tertiary center, and the long road to discharge.

Limitations: There is a paucity of epidemiology, published research and case reports specific to dextrocardia with AV canal diagnosed in the neonatal population. Further research is needed to understand the physiologic effect this complex CHD imposes upon the neonate and psychosocial effects the undiagnosed CHD places upon the family unit.

Implications for practice: Early identification and treatment of congenital heart lesions, beginning with a comprehensive physical assessment after birth, is critical. For infants delivered at community based hospitals, the importance of the physical assessment, timing of diagnostic strategies, anticipatory planning, and inter-professional collaboration among referring and accepting centers, cannot be understated. Neonatal nurses can positively influence the unanticipated transition of care from a community hospital to a tertiary center through the provision of: “being with” the family, educating the family, facilitating inter-facility information sharing, and advocating for 1:1 communication between the transport team, accepting nurse and the family. These comfort care strategies offer families the opportunity to begin to develop trust in the tertiary center during this stressful transition of care.

References


4. Prevention of Airway Trauma in the Neonatal Intensive Care Unit

Meghan K. Cooper, BSN, RN & Casey H. Irvin, BSN, RN

Abstract

Purpose: Neonatal intubation is a lifesaving technique for critically ill infants. However, the initial intubation experience or subsequent replacement of an endotracheal tube can injure the neonatal airway, which can impose lifelong implications. The purpose of this poster is to describe the negative sequelae related to neonatal intubation, examine risk factors associated with the practice of intubation, and recommend strategies to promote a healthy airway during the provision of invasive airway support.

Methods: A comprehensive literature search was completed using PubMed, CINAHL, Google Scholar, and ProQuest databases to investigate the incidence of airway trauma in neonates from intubation. Articles were limited to the English language and human subjects.

Results: The complications related to endotracheal intubation in neonates include, but are not limited to, subglottic stenosis and esophageal perforation. The incidence of subglottic stenosis is 13-37% in premature infants. Laryngeal injuries have been documented in 73% of patients who were intubated for greater than 7 days. Management strategies by the neonatal professional team to promote a healthy airway include proper securement of the endotracheal tube, appropriate developmental positioning, and management of infant agitation. Proper securement of the endotracheal tube has decreased the unplanned extubation rate to 2.4 out of 100 ventilator days.

Limitations: Limitations affecting the evidence of airway trauma related to endotracheal intubation includes a lack of care bundles pertaining to the proper management and protection of the neonatal airway by multidisciplinary staff. The majority of publications are >5-10 years old, leaving clinicians with limited recent evidence with which to base practice decisions.

Implications for Practice: Airway care bundles can standardize hands-on care strategies and minimize the risk for endotracheal tube dislodgement among intubated neonates. Priorities for care bundles should include: a procedural ‘time out’ to fit test the skill of the clinician with the clinical situation and risk for traumatic injury based upon the clinician’s novice to expert status with psychomotor skills, a standardized securement method, two-person body repositioning to reduce the incidence of tube dislodgement, and frequent continuing education to reduce the risk for knowledge and skill regression among team members. As the NICU environment transitions to a less invasive arena, it is essential that a procedural expert be immediately available, at all times, to reduce the risk for intubation attempts and subsequent trauma. Simulation based training should include the rehearsal of steps included in this bundle, to ensure operational readiness in this fast-paced and critical care arena. The frequency of simulation training should be determined based upon continuous assessment of team member skill and on-going audits of airway integrity among hospitalized neonates.

Implications for Research: Research comparing the airway outcomes associated with cuffed vs. un-cuffed endotracheal tubes in the NICU is needed. Further investigation of the design of invasive airway devices as compared to the natural anatomic shape of the neonatal airway is indicated to minimize trauma imposed through the use of this life-saving equipment.
References


Purpose: Gestational alloimmune liver disease (GALD) is initiated by maternal antibodies that attack the fetal hepatocytes. The fetus’ immune response to the antibodies causes liver damage. The incidence of GALD is 4 per 100,000 live births in the United States; underdiagnoses and underreporting of this disease may implicate this statistic. Frequently, liver injury leads to fetal loss or neonatal demise, nonetheless GALD has a wide range of presentation, from repeated fetal losses to cases associated with a range of severity of sequela. Mortality risk is associated with the timing of diagnosis. The purpose for this poster is to aid viewers in recognizing the symptomatology associated with GALD to encourage early identification, diagnosis and management of this rare disease.

Methods: A comprehensive literature review of evidence-based research about gestational alloimmune liver disease was conducted using PubMed, CINAHL, Google Scholar, and ProQuest databases. The following key words were used: infant, infants, newborn, neonate, gestational alloimmune liver disease, neonatal hemochromatosis, iron accumulation, exchange transfusion, acute liver disease, immunoglobulins. The search was limited to peer reviewed articles within 5 years of publication.

Results: The first presentation of GALD is often missed due to either mild presentation or unexplained fetal loss or infant demise. Survival rates have increased from 20% to 80% due to changes in treatment and understanding of GALD. Previous treatment included decreasing iron overload and providing protection from oxidative injury. Current treatment is focused on supportive care with IVIG and exchange transfusions.

Limitations: Data is limited to one histopathologic study published in 2012 due to the rarity of the disease as well as the unrecognized cases of GALD. Compounding the knowledge deficit is the lack of information and education available in multiple neonatal textbooks. Hence, new providers are unaware of the possibility of GALD diagnosis, which delays recognition and treatment.

Implications for practice: Due to the rarity of GALD it is important to have an increased index of suspicion with maternal history of fetal and neonatal losses. Additional possible indicators of GALD include large placenta, preterm delivery, intrauterine growth restriction, hydrops, unremitting hypoglycemia, and signs and symptoms of early liver failure.

Implications for research: Reporting systems are in place for compiling diagnosed cases of GALD. However, data on rate of occurrence is skewed if a diagnosis is not obtained due to demise. This emphasizes the importance of performing autopsies in determining cause of death to help facilitate proper prenatal treatment and decreasing mortality. Even with the extensive knowledge that has been obtained throughout the past 10 years, the discovery of the specific alloantigen is still needed.

References


Terri Marin, PhD, NNP-BC, FAANP

Abstract

Neonatal acute kidney injury (NAKI) prevalence among infants in the neonatal intensive care unit (NICU) is approximately 30%\(^1\) with approximately 25-41% of premature infants being afflicted.\(^2,7\) Mortality rates associated with NAKI in very low birth weight infants is estimated between 50-80%, most likely due to compromised compensatory mechanisms.\(^8\) For survivors, the risk for chronic kidney disease and associated severe vascular compromise later in life doubles.\(^9\) Current diagnostic modalities for NAKI include serum creatinine elevation and diminished urine output; however, this approach is imprecise, which most likely leads to lack of recognition and delayed intervention suggesting prevalence rates are most likely higher than currently reported.\(^2,10\) Studies show that up to 50% of renal damage has already occurred by the time these indices appear abnormal.\(^11\) Therefore, a more precise approach to identify NAKI is required. Urinary biomarkers have been shown to accurately predict early NAKI before substantial damage has occurred.\(^3,11-13\) In addition, near-infrared spectroscopy (NIRS) continuously measures renal tissue bed oxygenation, which identifies tissue hypoxia and potential or actual ischemia.\(^14\) Combining these approaches may substantially increase prediction and early identification of NAKI prompting interventions to negate harmful consequences. The purpose of this presentation is to discuss NAKI risk factors and associated disease processes, provide an overview of short and long-term outcomes, describe innovative diagnostic approaches supported by scientific evidence, and identify future research direction needed to improve prediction and intervention strategies associated with NAKI.

References


7. Therapeutic Touch Methods Appropriate for Specific Neonatal Age Groups:
Michele Moscorelli, BSN, RNC

Abstract

Purpose: Identifying and managing the needs of the neonate makes a major impact in the way they grow and develop. Therapeutic touch (TT) has been repeatedly proven to be beneficial to the neonate for the reduction of stress while in the neonatal intensive care unit (NICU) environment. The purpose of this poster is to investigate the safety and efficacy of therapeutic touch modalities for hospitalized neonates. Recommendations, bundled by gestational ages, will be offered to guide the implementation of appropriate TT in NICUs.

Subjects: Neonates of all weights and ages; from extremely low birth weight infants to full term infants

Design: A comprehensive review of the literature

Method: Articles, from 2012 to the current date, were retrieved from databases, such as PubMed, CINAHL, Clinical Key, and Google Scholar. A combination of keywords were searched: “therapeutic touch”, “massage”, “kangaroo care”, “neonates”, “infants”, “neonatal intensive care units”, “infant, premature”, and “very low birth weight infant”.

Results: TT, both kinesthetic stimulation (KS) and tactile stimulation (TS) were reviewed. KS studies incorporating various massage and stroking methods, such as KS massage, craniosacral therapy, M Technique, and massage with or without oils, are useful for applying range of motion. TS studies involve a gentler method of touch, such as gentle human touch (GHT), kangaroo care (KC), facilitated tucking, and Yakson therapy. Infants included in both KS and TS studies ranged in age from 25 weeks to 37 weeks gestation or greater. Early preterm infants, 23 to 26 weeks gestation, had no adverse effects from KS and TS interventions. Full term infants, greater than 37 weeks gestation, had positive findings or response from these methods. Both KS and TS have been found to be safe and effective within specific neonatal age parameters.

Limitations: Energy therapies were excluded due to the nature of unsupported techniques during times of stress and discomfort for the neonate. Any TT studied in conjunction with specific diagnoses or related to infant feeding were excluded.

Implications for practice: TT interventions to relieve pain, stress, or discomfort in the neonate in the NICU is imperative. TT should be included as a standard of practice. The gestational age of the neonate is a major determining factor for incorporating these calming techniques of KS or TS. The individual need of the neonate should be addressed as well.

References


8. Neonatal Nurse Practitioner Managed Neonatal Abstinence Syndrome Continuity Clinics
Karen Parks, BSN, RN

Abstract

Background: Neonatal abstinence syndrome is newborn withdrawal from intrauterine exposure maternal use of opioids with varying degrees of severity of central nervous system, autonomic nervous system and gastrointestinal symptoms. The diagnosis has increased from 3.4 to 5.8 per 1,000 live births in the three-year period from 2009 to 2012. Comorbidities associated with NAS cost the healthcare system $90,000 more than the cost for care for a healthy term infant. These families historically lack the resources to be compliant with a discharge plan of care, follow-up and early intervention programs. They are mobile and distrustful of the healthcare system.

Purpose: The purpose of this poster is to explore the feasibility of a multidisciplinary clinic for newborns diagnosed with neonatal abstinence syndrome as a means to decrease length of stay and provide a consistent team approach from birth for the patient and their families affected by the challenges associated with their care.

Methods: A literature review of evidence-based research about Neonatal Abstinence Syndrome and the follow up care of infants diagnosed with NAS was conducted using MEDLINE, CINAHL, ProQuest and Google Scholar. Key words: Infant, drug exposed; continuity of patient care; transitional care; length of stay; neonatal nurse practitioner; neonatal abstinence syndrome. Search was limited to the last five years and human subjects.

Results: The effectiveness of nurse practitioner involvement in continuity of care after discharge has been well documented in the adult sector. The transitional care model has been used successfully for the adult being discharged after cardiac surgery. Several studies noted an increase in patient compliance with plan of care, decreased readmission rates and earlier identification of complications. Patients consistently rated their relationship with their nurse practitioner as caring and trustful. Only one setting was identified that involved NNPs from birth to discharge to weekly follow up visits for the NAS infant and his/her family.

Limitations: This project is a review of the literature and does not include an original research design. Further original research is needed to explore expanding the role of the NNP to include the newborn through two years of age.

Implications for Practice: Establish multidisciplinary follow-up clinics for NAS diagnosed infants utilizing NNPs to provide continuity of care from birth to two years. Increase the NNPs community outreach by supporting programs that concentrate on prevention strategies and early identification of mothers at risk for delivering an infant exposed to illicit drugs.

References


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9. Neonatal Nurse Practitioners in Level I, II Nurseries: A Case for Full Practice Authority
   Jeanne Perino, APRN, MSN, NNP & Amy Jnah, APRN, DNP, NNP-BC

Abstract

Purpose: Neonatal Nurse Practitioners (NNP) are the frontline providers of care to high-risk infants and children ranging from the cusp of viability up to two years of age. This poster will examine factors favoring and resisting independent practice authority for NNPs working outside the acute care, neonatal intensive care unit (NICU). Barriers as well as facilitators full practice authority, including financial, legal and quality outcomes, will be identified.

Design: An integrative review of the literature and applicable legislative agendas.

Methods: A comprehensive literature review of evidence-based research about the role of the Neonatal Nurse Practitioner in Level I - II nurseries as well as full practice authority was conducted using Pub Med (2013 - current), CINAHL (2013 - current) and Google Scholar (2013 - current) computerized databases. The following key words were used Full practice authority, Scope of Nursing Practice, Neonatal Nurse Practitioners AND full practice authority AND business model, AND Scope of practice, AND care model AND community hospital, Advance Practice Nurses AND scope of practice AND community hospitals, AND business practice. Publication dates were limited to five years and the search was confined to English language.

Results: In a 2014 workforce paper, one third of the respondents reported working in a level II or III nursery. Today, it is estimated that NNPs work in over 300 level I, II nurseries in the United States. Initially, the model of an NNP service line for level I, II nurseries was developed to meet the needs of the overflow of patients from level III units. However additional advantages, including patient safety, continuity of care, and financial benefits to families and healthcare organizations have been identified in the literature. Patient safety and family satisfaction increases with uninterrupted direct supervision by a NNP in the subacute, community hospital setting. The incidence of transfer of care to tertiary centers, for infants who could otherwise be managed safely in a subacute setting with continuous NNP supervision, is decreased, keeping families together. Nursing satisfaction is reportedly increased, due to improved perceptions of teamwork and communication with NNP service as compared to fragmented, episodic hospital visits by primary care pediatricians. Increased hospital revenue has also been reported using a NNP driven service line.

Limitations: NNPs currently staff level I and II nurseries throughout the United States. However, a paucity of data exists which quantifies full financial benefits associated with full practice authority. A paucity of full practice models is available in the literature, for adoption into practice once scope of practice for advanced practice nurses is expanded to be commensurate with the clinician’s training and national board certification.

Implications for nursing practice: Full practice authority for advanced practice nurses, including NNPs, has been granted in thirty-three (33) U.S. States. However, the majority of NNPs remain subject to practice restrictions. Restrictions to full practice prevent NNPs from practicing to their full extent of their education and training. The impact of full practice authority would include the ability to practice in community hospitals without restrictions thus increasing access to care.
References

Barfield, W. & Papile, L. (2012). Levels of Neonatal Care. AAP Committee on Fetus and Newborn and ACOG Committee on Obstetric Practice.


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Abstract

Background: In 2015, approximately 716,129 premature and critically-ill neonates were born and subsequently admitted to neonatal intensive care units (NICU) across the United States. Most of these neonates were born to women between 20-34 years of age. On average, parents visit hospitalized neonates for up to 21 hours (13%) of each week. Therefore, as much as 87% of every week involves indirect parental supervision, facilitated primarily through parent-initiated audio-only telephone conversations with bedside nurses or other members of the NICU team. However, ninety-two percent (92%) of women of childbearing age (18-29 years) own a smartphone, which offers expanded communication tools including applications which allow for videoconferencing. The integration of videoconferencing into daily parent-clinician communication may offer families a promising adjunct to live presence in the NICU, which has the potential to increase parental engagement and satisfaction during times of separation from their baby.

Purpose: The purpose for this poster is to identify factors, which favor and resist the utilization of videoconferencing technology as a family communication tool in the NICU.

Methods: A comprehensive literature review was completed using PubMed, Google Scholar, CINAHL, and ProQuest to examine factors associated with videoconferencing technology.

Results: Numerous studies have shown that mothers experience feelings of powerlessness, stress, loneliness, depression, anxiety, and loss of control when their newborn infant is admitted to the NICU for a prolonged birth hospitalization. Watson’s theory of human caring states that promotion of direct, constructive, and respective communication between parents and healthcare providers is preferred. Using technology as a communication tool between clinicians and family members is efficient, cost effective and family centric. Videoconferencing has been shown to facilitate trusting parent-clinician partnerships. Over 90% of parents and providers who participated in a study investigating the fidelity of videoconferencing in the NICU concluded that videoconferencing smartphone and tablet applications, including Skype and FaceTime, was uncomplicated and a preferred mechanism of communication when parents could not be physically present at their infant's bedside. Videoconferencing can positively influence parental engagement, satisfaction and feelings of empowerment.

Limitations: A paucity amount of literature exists related to videoconferencing in the NICU.

Implication for Practice: The inability for the parents to be physically present at their infant’s bedside is a barrier to communication with the healthcare providers. Videoconferencing allows family members a multisensory visitation opportunity and communication tool with neonatal clinicians. Smartphones and tablets are readily available technological devices, often used in NICUs for clinician-specific data entry into the electronic medical record, data collection for research purposes, and between-clinician communication. The innovative adoption of smartphone or tablet technology to facilitate videoconferencing is a free or low-cost and family centric communication strategy, which offers easy facial recognition of family members by clinicians to prevent unauthorized sharing of medical information and the ability for family members to “be with” their infant while away from the NICU.
References


Amanda Kish, RNC & Elizabeth Santiago, RN

Abstract

Background: Congenital cytomegalovirus (CMV) is a hidden viral infection, in that both pregnant women and newborns may present asymptomatic, yet seropositive, and carry the same morbidity risks as their symptomatic counterparts. CMV remains the most common congenital viral infection in the United States, affecting approximately 1 in every 150 births, or 30,000 infants annually. Approximately 5,500 – 8,000 of these infants will develop significant comorbidities.

Purpose: The purpose for this poster is to identify core knowledge of the pathophysiology, diagnosis and treatment of congenital CMV infection. A theoretical framework will be presented using Albert Bandura's Social Cognitive Theory as a guide for clinicians seeking to facilitate optimal maternal role adaptation at a time when the transition to home is interrupted by an extended birth hospitalization in a neonatal intensive care unit.

Methods: A literature review was completed via PubMed, CINAHL, Google Scholar, and ProQuest databases to identify the pathophysiology and implications associated with cytomegalovirus infection, along with care strategies using Bandura's social cognitive theory.

Results: CMV infection is a leading cause of hearing loss and intellectual disability, yet only 7% of men and 13% of women assessed in the 2010 HealthStyles national survey reported awareness of congenital CMV infection. A 2013 quantitative electronic survey assessing CMV knowledge within a group of midwives, showed only 8% felt well informed on cytomegalovirus and only 32.5% acknowledged being aware of behaviors that promote the spread of infection.

Limitations: This project is a review of the literature and does not include an original research design. Further original research is needed to demonstrate correlation between behavior modification and decrease in rate of transmission. Closer examination of the process of virus exposure and transmission as it relates to the placenta and the fetus would aid in understanding how the transmission process occurs and increase awareness of risk factors for expectant mothers. Models supporting theory-directed nursing practice, to aid in improving care and outcomes of congenital CMV infection in the neonatal population has yet to be established.

Implications for Practice: Continued promotion of education and sharing of information should be used to address existing knowledge gaps within practicing providers, affected families and the general population. Discussions of CMV pathophysiology and transmission risks should become a common occurrence within environments providing prenatal care, Neonatal Intensive Care Units, and primary care. Implementation of Bandura’s social cognitive theory as a guide for healthcare providers can encourage clinicians to role model mentoring behaviors, which can positively influence the environment of care and facilitate the psychosocial and maternal role adaptation.
References


12. Case Study: An Infant with Known Fetal Ventriculomegaly, Persistent Hypotonia and Very Long Chain Fatty Acid Abnormalities

**Caitlin R. Ratliff, APRN, NNP**

**History and Delivery:** Baby B is a term male infant born at 3440 grams to a 29-year-old G2P2 mother whose pregnancy was complicated by known fetal ventriculomegaly. A fetal MRI showed signs of previous intraventricular hemorrhage and an amniocentesis showed normal chromosomes and microarray. Maternal blood type is O positive and serologies are unremarkable except for positive GBS which was adequately treated prior to delivery. Baby B was born vertex via a scheduled repeat C-section with clear amniotic fluid. He required PPV prior to intubation at 6 minutes of life due to minimal respiratory effort. It was also noted that the infant had seizure like movements of his extremities and poor tone. He was shown to the parents and transferred to the NICU on a ventilator.

**Presentation:** This infant presented in the NICU with hypotonia, seizure like activity, apnea and respiratory distress. He also had a broad nasal bridge and widely spaced eyes. The respiratory distress began to resolve over his hospital course, however he still needed to be discharged home on 1L nasal cannula. A MRI was performed showing colpocephaly, distension of lateral ventricles, extensive bilateral perisylvian polymicrogyria, a small hippocampus, cysts near the caudothalamic grooves, gliosis and volume loss around the horizontal fissure. An EEG confirmed the seizure activity which required multiple loads of Keppra and Phenobarbital as well as maintenance dosing to control the seizures. TORCH titers were sent and all returned with negative results. Due to the hypotonia and ongoing somnolence further investigation included a genetic consult which recommended a CK and lactate (normal), SAA (essentially normal) UOA (normal), LFTs (normal), coags (normal), and VLCFA (abnormal).

**Pathophysiology:** Zellweger Syndrome is an autosomal recessive disorder characterized by a defect in peroxisome formation and caused by a mutation in one of the 13 PEX genes, most commonly the PEX 1 gene. PEX genes encode proteins called peroxins which are used in peroxisome formation and peroxisomal protein import. Peroxisomes are involved in anabolic and catabolic processes such as biosynthesis of phospholipids, α- and β- oxidation of fatty acids and detoxification of glyoxylate and reactive oxygen species. When there is a mutation in one of the PEX genes it results in accumulation of very long chain fatty acids (VLCFA). This accumulation damages developing organs (liver, kidney, bone) but is especially damaging to the brain.

**Diagnosis:** Testing for Zellweger syndrome includes VLCFA (elevated), di- and trihydroxycholestanoic acid (elevated), phytanic and pristanic acid (elevated but normal in newborns), and C26:0-lysoPC (elevated) in dried blood spots. Further analysis of the defective PEX gene will confirm the diagnosis. Genetic testing is also recommended to the family.

**Treatment:** There is no curative treatment for patients with Zellweger Syndrome. Interventions are aimed at supportive care and based on symptoms. This disorder has a more severe presentation in the neonatal-infantile period usually resulting in death within the first year of life.
References


Abstract

**Background:** Syphilis left untreated, or inadequately treated during pregnancy can result in congenital syphilis (CS). CS can lead to fetal, neonatal and infant deaths, or severe sequelae including meningitis, cerebral palsy, failure to thrive, and musculoskeletal impairments such as saddle nose.

**Purpose:** To review the epidemiological trends, pathophysiology, diagnosis, and management of CS, its implication on the mother-infant dyad and the importance of the neonatal nurses’ role in the prompt identification of CS and timely implementation of treatment to minimize sequelae.

**Methods:** A literature search was completed using the computerized databases of ProQuest, CINAHL, Google Scholar, and PubMed. All searches covered the publication range of 2012 to 2017. Keywords included congenital syphilis, pathophysiology, epidemiology, congenital infections, community health, screening, treatment, and management.

**Results:** The epidemiological trends of CS in the United States (U. S.) have seen fluctuations over the past few decades. After a decrease in cases from 1991 to 2005, a slight increase from 2005 to 2008 was followed by a decline from 2008 to 2012 and another increase from 2012 to 2015. Men who have sex with men (MSM) and women have the highest rates of syphilis, and surges in CS correlate with the overall increases in the adult population. The western and southern regions of the U.S. saw the greatest rise in CS. Syphilis is caused by the spirochete bacterium *Treponema pallidum* and is predominately transmitted by sexual contact with an infected lesion. Vertical transmission also occurs across the placenta from an infected mother to the unborn fetus, or the infection can be acquired while passing through the birth canal. Diagnosis is most commonly made with routine maternal serological screening during pregnancy, but can be missed if acquired late in pregnancy. A positive serum immunoglobulin (Ig)M for syphilis in the infant is indicative of CS. Effective treatment of syphilis with benzathine penicillin G during pregnancy or postnatally, may prevent mortality or severe morbidities. In addition to the socioeconomic burden on the family, untreated syphilis can result in emotional stress on the mother and pathophysiological consequences on the mother-infant dyad. Infected infants may have subtle signs or be asymptomatic at birth; therefore, neonatal nurses and practitioners need to be vigilant and detailed in their history taking and clinical evaluation to make an early diagnosis. Timely treatment is necessary to minimize the potentially devastating outcomes associated with CS.

**Limitations:** This project is a review of the literature and not an original research. There is scarcity of research focusing on CS, most likely due to the patient population being infants.

**Implications for Practice:** Evidence-based, multidisciplinary strategies, which promote collaborative perinatal/neonatal approach to care of the developing family unit, are indicated to curb the incidence of CS. Vigilant antenatal screening, health promotion, disease prevention, and neonatal follow-up programs are needed to improve outcomes related to CS. A lack of prior research studies on the topic provides an opportunity for future research.
References


14. Chromosome 16p13.11 Microdeletion Syndrome in a Newborn: A Case Study

Amanda Smith BSN, RNC-NIC, RN

Abstract

**Purpose:** Chromosome 16p13.11 microdeletion syndrome is a copy number variant that carries increased risks for mental retardation and other significant neuropsychiatric complications. This deletion is a rare genetic abnormality with a reported incidence of 1 in 14,000 live births. Early identification of clinical manifestations, the majority of which can be identified during routine nursing assessments, is essential. This poster will present a case of an infant with this unique syndrome identified in the neonatal period and highlight the importance of nursing assessment, interpersonal communication, and advocacy in the diagnosis of the abnormality.

**Methods:** A literature review was conducted using PubMed, CINAHL, Google Scholar, and ProQuest computerized databases. The key words included: neonate, neonates, neonatal, newborn, infant, chromosome, 16p13.11, deletion, microdeletion, syndrome, and abnormality.

**Results:** Multiple duplications occur at chromosomes 16, and as such, the risk for copy number variants on this chromosome is increased. Symptoms associated with chromosome 16p13.11 microdeletion syndrome in the neonatal period can include feeding difficulties, motor delay, microcephaly, facial dysmorphism, gastroesophageal reflux, heart defects, and cleft lip and/or palate. Lifelong complications may include autism, epilepsy, learning difficulties, and schizophrenia. It is important to be aware of the benefits and limitations of specific genetic tests. Multiplex ligation-dependent probe amplification, array comparative genomic hybridization, SNP-arrays, and sequencing can all be utilized to diagnose chromosome 16p13.11 deletions, each with their own benefits and limitations. Early diagnosis of the syndrome is beneficial to provide early additional therapies as indicated. The prognosis of this syndrome is based on each individual patient and their concurrent diagnoses.

**Limitations:** A paucity of original research and case reports exists, which limit recommendations for optimal diagnosis, management and treatment regimens for chromosome 16p13.11 microdeletion syndrome.

**Implications for Practice:** Neonatal providers need to be aware of potential chromosome deletions when caring for an infant with nonspecific symptoms. Neonatal providers also need to be aware of what information prenatal testing provides, as well as the benefits and limitations of the different genetic tests in the neonatal period. A thorough assessment is very important in identification of symptoms. Open communication among all providers, including the RNs caring for the infant, can facilitate early identification of potential abnormalities. Early identification of a chromosome abnormality can facilitate early referrals to physical therapists, occupational therapists, and other additional therapies, which will help these infants reach their full potential.

**References**


15. Case Study: Acyclovir-Resistant HSV

*Julia Taylor, MS, APRN, NNP-BC*

**Purpose:** To raise awareness on Acyclovir-resistant HSV and to change practice on HSV blood PCR to include regular sensitivities.

Baby boy S was delivered vaginally at 29 6/7 weeks gestation, weighted 1225 grams with Apgar's 5/6/6. He was intubated and given one dose Curosurf and transitioned to NCPAP by day of life 1 and in room air by day of life 4. Mother was 27-year-old admitted for PPROM for 11 days, all serologies negative, positive for Suboxone and used tobacco, she also received antibiotic and betamethasone due to PPROM. Infant also received Ampicillin and Gentamycin for 48-hour rule out with final blood cultures negative. On day of life 10 infant noted to have small clusters of pustules to left shoulder (there was no know HSV in maternal history), HSV surface and blood cultures drawn. The following day pustules noted to be spread down arm and infant noted to be having increased bradycardia/ desaturation events, he was placed back in HFNC at 5 LPM. Later on day 11 seizure activity noted and lumbar puncture was done and infant was started on Acyclovir, Vancomycin and Gentamycin. Blood culture where negative on day 5 of 5, however, HSV surface, blood PCR and CSF were all positive. Further testing done on head, eyes and hearing all had significant sequelae and GI and GU had mild involvement. This infant received two full courses of Acyclovir before test of cure; however, while on the Acyclovir suppressive therapy infant at 6 months of age in clinic was noted to have new lesions on neck and shoulder and dosing was increased and therapy was lengthened to 1 year. I am still following this infant’s course and will continue to update.

**Subject:** Herpes Simplex Virus (HSV) is a serious infection in the neonatal period leading to significant morbidities and high rates of mortality, even with anti-viral therapies. Acyclovir is the first line of anti-viral therapy in our neonatal population, but what if this is not enough or even further what if this was an Acyclovir-resistant HSV. There have been numerous research studies conducted on HSV drug resistance with in immunocompromised individuals (most on adolescence and adults) with HIV, organ transplant recipients and those individuals with cancers (Andrei & Snoeck, 2013). In the neonatal period our infants have developing immune systems that are immunocompromised; however, Acyclovir-resistance still goes unrecognized among neonates with HSV.

**Implications for Practice:**
I believe due to the rapid rise in cases of multi-resistance organisms including Acyclovir-resistance HSV that there should be regular sensitivities ran on all blood HSV PCR (similar to Aero/anaerobic blood cultures. It is imperative that we are treating these infants with the appropriate anti-viral drug in order to decrease the long term neurological sequelae or mortality.

**References:**


16. Little Lights Bereavement Photography Program
Patricia Vandergriff, DNP, APRN, NNP-BC; Dr. Christine Bishop; Deneen Bryan, Photographer

Abstract

Purpose: The Little Lights program was introduced as a solution to the local challenges involved with the need for bereavement photography of a dying infant. The program's purpose is to provide professional level bereavement photography, taken by specifically trained hospital staff and volunteers, during an infant’s end of life. These pictures allow families to capture that brief window of time with their infant, thereby validating their baby’s existence and importance within the family (Blood & Cacciatore, 2014). Lastly, the program helps aid in the grief, mourning, and healing process when families lose their child (Limbo & Kobler, 2010).

Subjects: Any family's infant that is actively dying or has died. It is available for all infants regardless of gestational age or physical condition.

Design: A voluntary bereavement photography program that is designed to function internally by hospital personnel and volunteers. These individuals are trained on professional photography equipment. The bereavement photography sessions focus on complimentary poses, detailed shots, remembrance items, and family poses. The staff has access to the equipment, environmental props, and clothing at any time and the ability to capture pictures before, during and after delivery. There are no limitations to the number of pictures taken or sessions held, therefore allowing family's to move at their own pace.

Methods: All families facing fetal demise or neonatal death are offered free of charge photography sessions as part of the bereavement protocol. While being culturally sensitive, the staff encourages bereaved families to have pictures taken. Bereaved family must sign photography consent for pictures to be taken and sent to them via email.

Results: Since initiation of the Little Lights program in December 2016, there have been a total of 55 losses and all families have consented to a photography session. All the requested sessions have successfully been converted into encrypted files. The departments that have participated in bereavement photography include Labor/Delivery, NICU, Antepartum, and ED. Twenty-eight voluntary staff have been trained to include: 2 volunteers, 21 nurses, 1 respiratory therapist, 1 NICU fellow, 1 NICU physician, 1 nurse’s aid, 1 secretary, and 1 nurse practitioner. The received parental feedback has all been positive of the mementos received.

Limitations: One limitation is that editing and delivery of photographs is currently taking about 2 weeks. The program's aim is to have pictures completed within 72-hours so that they could be available for memorial services. Another limitation was that the camera was misplaced for a period of time.

Implications for Practice: A sustainable voluntary hospital-led bereavement photography program that provides all bereaved families with free, compassionate, and professional level photographs to remember their infant. The program has allowed staff to actively give back to families during their time of need. Continuous refresher courses allow the staff members’ opportunities to learn to enhance their techniques for improved pictures.
References


Abstract

Purpose: The purpose of this poster is to present a case report involving the delivery of palliation within a neonatal setting, using an evidence-based palliative care delivery model. Identification of current barriers and facilitators to the implementation and practice of neonatal palliative care, to identify holistic, evidence-based palliative care delivery models, which can be implemented for neonatal patients, will be described.

Background: Palliative care is defined as "an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual." Neonatal mortality, or the death of children which occurs within the first 28 days of life, is estimated at 4 deaths per 1,000 live births. Infant mortality, or the death of an infant after 28 days of life and before 12 months of age, within the United States, is estimated at 5.89 deaths per 1,000 live births, making neonatal intensive care units the most common location for end-of-life saving measures, palliation and death. The adoption of a palliative care model can guide a standardized approach to palliation, offering families a holistic opportunity for support during this stressful time.

Methods: A literature review was completed using MEDLINE, PubMed, CINAHL, Google Scholar, and ProQuest to review neonatal palliative care delivery models, barriers and facilitators in the neonatal setting. Publication dates were limited to 5 years and the search was confined to the English language, human subjects, and peer reviewed medical and nursing journals.

Results: Barriers of neonatal palliative care delivery include staffing, communication, the physical environment, overuse of technology, and expectations of parents. Facilitators of neonatal palliative care include educational interventions and established policies and guidelines. One particular palliative care model, the supportive care model, is composed of six dimensions essential to the provision of palliative care. The six dimensions of valuing, connecting, empowering, doing for, finding meaning, and preserving integrity can be utilized in many settings, including palliation in the neonatal environment.

Conclusions: Many barriers and facilitators of neonatal palliation have been identified throughout the literature. Implementation of a best practice palliation delivery model within the neonatal care setting is imperative for optimal care delivery for neonates and families facing life-threatening illness.

Implications for Practice: Palliative care models offer neonatal clinicians the opportunity to provide a coordinated, timely and holistic approach to family-centric care during end-of-life experiences. This focused approach can reduce the risk for unintentional non-adherence to best practices and optimize the multidisciplinary approach during this stressful time.

References


Abstract

Purpose: The purpose of this project is to create and maintain a united, six-member community hospital group to collaborate on a continuous quality improvement (CQI) program. The CQI team collectively selects a targeted area of clinical interest. Each individual hospital team then reviews their own activities and/or process according to group selected data points specific to the area of concentration. This allows for group comparisons and the opportunity for improvement.

Subjects: The multi-state quality improvement team was initially created to address infants suffering from Neonatal Abstinence Syndrome (NAS), the result of opioid use during pregnancy. Infants suffering from narcotic withdrawal have reached epidemic proportions in the United States. These infants are costly, consuming $81 billion healthcare dollars yearly.

Design: The team consists of six community hospitals with differing bed capacity and acuity serving urban, suburban, and rural communities. These hospitals had used different medications to treat NAS and length of stay varied widely. A collaborative multicenter approach to the treatment of NAS has been shown to improve outcomes and decrease healthcare costs.

Methods: Caring for NAS infants in an open bay designed neonatal intensive care unit (NICU) can be detrimental to these babies. The CQI team used the shared treatment protocol and transitioned NAS infants to the pediatric floor in order to reduce healthcare costs and limit length of hospitalization. Specific data points, such as hospital charges and length of stay, were selected for comparison among the teams.

Results: Utilizing standard hospital reporting information, the team discovered that hospital days decreased from 21 days to 16 days and costs were reduced from $43,986.30 to $25,412.20 by transferring healthy NAS infants from the neonatal intensive care unit to pediatric floor care.

Limitations: The number of infants with neonatal abstinence syndrome was small. Increasing rates of opioid use and the increasing number infants with NAS calls for further research to improve care.

Implications for Practice: The results of this collaborative project suggest that lower cost pediatric care is an alternative model for expensive NICU care for NAS infants. By establishing selected metrics to track NAS treatment among grouped hospitals, a CQI team can determine best practice for NAS babies. A collaborative CQI team can share successful practices ideas, develop efficient processes and systems, create solutions for specific problems, focus on patient safety, develop quality metrics, influence patient outcomes, and decrease healthcare expenditures in a targeted population.
References


Abstract

**Introduction.** First-hand perspectives of an American Neonatal Nurse whom journeyed on an international delegation in March 2017 with the National Association of Neonatal Nurses (NANN) to explore Cuba’s history, culture and their uniquely, positive patient outcomes. The objectives of the delegation focused on the intricacies of maternal/child health in Havana, Cuba.

**Background** Cuba, a country historically stricken with limited economic resources and decades-long imposed embargo, has prioritized the creation of a socialistic healthcare model that offers free and remarkable access to healthcare for all citizens.

- Despite its status as a third world country, Cuba has reached record lows in infant mortality rate – lower than the United States. Infant mortality in Cuba is approximately 4.3 per 1000 live births compared to the U.S. at 5.8 deaths per 1,000 live births.\(^1\)\(^2\)
- Vaccination rates amongst the highest globally with greater than 95% compliance.\(^5\)\(^6\)
- Strong health literacy amongst citizens complimented by free education and mandates in school curriculum.
- Paid maternal and/or paternal care for up to 1 year after birth.\(^3\)

**Health Care Model**

- Highly organized, prevention-oriented system that has three dedicated levels of care.
- Focus on population health begins in the primary level within the consultorios (community clinics), polyclinics, and maternal homes.
- Secondary or tertiary levels of care are known as the hospitals or institutes. Patients are referred by their primary care physicians to those levels of care.

**Primary Level of Care**

**Consultorios:**

- Primary care at the local level with physicians and nurses providing services in the same community or office that they live.
- Patients are assigned their physician and nurse and must obtain permission from the government to switch providers.
- Physician/nurse dyad performs home visits, minimum of 12 prenatal visits & postpartum/newborn visits for the 1st 15 days of life.

**Polyclinic:**

- Outpatient clinic that provides consultation and diagnostic evaluation, i.e. prenatal lab work and ultrasounds.
Maternal Homes:

- Inpatient facilities designed for high risk pregnancies (i.e. twins, fetal growth restriction, glucose management) or rural mothers’ awaiting delivery close to the hospital. Women are referred from the community clinic after 32 weeks gestation.

Secondary Level of Care

Neonatal Intensive Care Unit:

- Three hospitals of reference provide care to infants <1500 grams in Havana.
- Mothers stay in the hospital for the duration of their infant’s NICU stay.
- Milk Banks are in popular demand, pasteurization occurs with minimal technology.

References


20. IVH Prevention Bundle Protocol

Lynette Cunday, RN BSN BFA

Abstract

Improvements in neonatal care over time has assisted in decreasing mortality and severe disability rates among extremely low birth weight (ELBW) and very low birth weight (VLBW) preterm infants. Intraventricular hemorrhage (IVH) is a common brain injury in these populations, which affects the neonate’s neurodevelopmental outcome. A reduction in IVH remains a crucial goal for the profession. IVH is a hemorrhage that initiates in the small, delicate blood vessels in the subependymal germinal matrix and may extend into the lateral ventricles (Volpe, 2015). Extrauterine transitional adaptation care, including gentle delivery room management, is vital to improving neurodevelopmental outcomes. The rate of the occurrence of IVH in this population will continue to decrease as stronger and more consistent protocols with rationales are created based on the most up-to-date evidence. Despite reductions over the last few decades, IVH remains a major contributor to mortality and disability occurring at a rate of approximately 45% in ELBW neonates weighing 500-700g (Szpecht, et al. 2017). Nationwide, the current rate for IVH grade III-IV is 11.5% (Stoll et al., 2015).

Purpose: The goal of this quality improvement project is to standardize a multidisciplinary protocol for the management of ELBW and VLBW neonates as they transition from fetal to neonatal life starting prior to delivery through the first week of life to decrease the rate of IVH.

Subjects: The IVH prevention protocol will focus on infants less than 1,500 grams and/or 31 6/7 weeks.

Design: The study design is a practice change through protocol development via a literature review.

Methods: Literature used for protocol formulation and intervention justification was collected using electronic databases: CINAHL, PubMed, Cochrane Library and Web of Science. To search these databases, the following terms were employed: IVH, intraventricular hemorrhage, premature neonates, ELBW, VLBW, neurodevelopmental outcomes, delivery room management, thermoregulation, premature resuscitation, IVH protocol, Golden Hour, IVH management, neurodevelopmental protection, small baby protocol, and neuroprotection. The literature provided evidence based information to develop the protocol.

Results: A comprehensive and multidisciplinary protocol was developed which will be presented to a multidisciplinary team at the UF Health Jacksonville NICU, a level III facility with 48 beds, for preparation of implementation and education of staff.

Limitations: The difficulty in conducting randomized control trials in ELBW and VLBW infant limits the overall strength of some of the interventions and recommendations creating gaps in the evidence in the creation of this protocol. These weaknesses have been noted within this protocol to help guide facilities in the adaptation and implementation of this protocol.

Implications for Practice: As the occurrence of high grade IVH has decreased nationwide over the past decade, the IVH rate in ELBW and VLBW neonates continue to be significant; especially as the profession improves the survivability of extreme prematurity. By updating the IVH prevention protocol with evidence based support and rationale, the multidisciplinary team will have a stronger understanding of the importance of the specific care needed for this population and encourage other NICUs to adopt similar practices.
References


21. Standardization of Cue-Based Feedings Utilizing Infant-Driven Feeding Scales

*Tara Jendzio, BSN, RN, RNC-NIC*

**Abstract**

**Purpose:** Variation in how health providers implement cue-based feedings of preterm infants is a significant problem in the neonatal intensive care unit (NICU). Variations in care can negatively impact patient outcomes including increased days from first to full oral feeds and increased length of stay. Furthermore, consistent, infant-driven feeding practices improve infant feeding performance. Therefore, it is important to examine the approach to cue-based feedings of preterm infants. The purpose of this project is to examine retrospective data on cue-based feeding practices of preterm infants in the NICU at UF health. This project is the first step in our overall goal of standardizing documentation of cue-based feedings by utilizing the Infant-Driven Feeding® (IDF) scale, an instrument that can be used to assess feeding readiness and quality in preterm infants.

**Subjects:** 30 charts of preterm infants (24-37 weeks gestation) admitted to the NICU in 2016 were randomly selected. Infants were eligible if they were ≥ 32 weeks post-conceptual age (PCA), were not receiving mechanical ventilation, continuous positive airway pressure, or inotrope medications, and did not have a surgical gastrointestinal condition for which they were NPO.

**Design:** The continuous quality improvement (CQI) model was used with plan-do-study-act (PDSA) cycle methodology. Retrospective chart reviews were performed in the first phase of the PDSA cycle to evaluate cue-based feeding practices.

**Methods:** Retrospective chart reviews were performed on infants meeting inclusion criteria. Outcome variables evaluated included PCA when, and if, orders were written to initiate oral feedings with cues, PCA when orders were written for ad lib feeds, PCA at discharge, weight at time of initiation of oral feeds, weight at discharge, length of stay from initiation of oral feeds to discharge, and documented cue-based feeding assessments and/or techniques.

**Results:** The averages were analyzed for birth gestational age of the infants (297), PCA when orders were written to initiate oral feedings with cues (332), PCA when orders were written for ad lib feeds (355), PCA at discharge (370), weight at time of initiation of oral feeds (1711 grams), weight at discharge (2426 grams), and length of stay from initiation of oral feeds to discharge (27 days). 77% of the charts reviewed had an order to oral feed with cues. The most common cue-based feeding documentation of assessment and/or technique was “no cues” and “with encouragement”, however cue-based feeding documentation varied. None of the charts reviewed had a documented cue-based feeding assessment charted with every oral feeding.

**Limitations:** The retrospective nature of this project may have introduced bias into the results. Additionally, the sample size is small and confounding factors such as accuracy of nursing documentation and provider-specific ordering practices may have affected results.

**Implications for Practice:** Variations in documentation and ordering practices display a need to continue this CQI project with subsequent phases including development, education, implementation and evaluation of the electronic Infant-Driven Feeding® (IDF) scale. Future research will include analysis of post-implementation cue-based feeding data to evaluate for decreased time to full oral feeds and decreased length of stay.
References


22. Program evaluation: Use of Video Titled "Commonly Performed Procedures in the NICU" to Enhance Obtaining Informed Consent

Jennifer A. Powell, DNP, RN, IBCLC

Abstract

Purpose/Aims: The purpose of this project was to fulfill three goals: standardize information provided to parents of infants in the NICU when obtaining consent, provide a tool for clinicians to obtain consent in a more timely manner, and most importantly, to create a tool which improves parent understanding of information presented during the consent process. True informed consent should be one of the goals of the nurse practitioner as patient advocate, therefore the use of a standardized procedure consent video could enhance the consent process for both the clinician and patient/parent.

Subjects: Clinicians obtaining consent in the Neonatal ICU

Design: Program evaluation/survey of clinicians’ perceptions of incorporating the use of a video presentation in obtaining procedure consent.

Methods: Clinicians who provided access to the video to parents of NICU patients were asked to complete a paper survey evaluating the ease of accessibility and timeliness of obtaining consent. Each time the physician obtained consent in the traditional verbal presentation or by providing parents access to the video prior to obtaining consent, they had the opportunity to complete the survey regardless of the number of times the physician has used the video or previously completed a survey.

Results: 50% of survey participants use the video in obtaining consent (N=20). Of those who used the video, 80% (p=0.09) noted a decrease in the amount of time spent in obtaining consent with the use of the video compared to previous experiences without the video. 100% of those who used the video viewed it as a positive enhancement, however, of all participants, only 80% viewed the availability of video led consent as a positive. The other 20% notated either a “not applicable” because they did not use the video (n=3) or a “no” (n=1) with no explanation for their feelings.

Limitations: The number of surveys collected was not reflective of the number of admissions occurring during the study period (14% of admissions in an 8-week period). Education about, and awareness of, the video was suboptimal due to a rotating resident schedule. Additionally, despite 92% of those attempting to use the video agreeing it was easy to access, the clinician was required to give the web address to the parents, leading to a small increase in workload. Lastly, because the consent video is only recorded in English at this time, parents who require a translator are excluded from using the video.

Implications for practice: Because standardization has been shown to improve patient outcomes, further studies need to be done measuring the degree in which using a standardized video presentation improves retention of information in parents with a child admitted to the Neonatal ICU. This program evaluation brought to light the fact that most clinicians would like to use a video presentation in hopes of saving time, but implementation processes need to be improved. Education reinforcing how to access the video, as well as frequent contact reminding the clinician of the video’s existence, are necessary to implement the use of the video into everyday practice.
References


Impact of Mother’s Own Milk on the Move (MOMM) Program on Breast Milk Feeding Rates at Discharge in a Freestanding Neonatal Intensive Care Unit

Traci L. Powell, MSN, NNP-BC; Yahdira M. Rodriguez-Prado, MD, CLC; Timothy M. Maul, CCP, PhD; Caroline Chua, MD

Abstract

Background: Initiation of breastfeeding soon after delivery has been shown to increase long-term breastfeeding rates. Infant transport to a neonatal intensive care unit (NICU) away from the birthing center separates mother and baby. Obstacles such as decreased skin-to-skin contact, maternal stress, and inconsistent breastfeeding education and support affect a mother’s ability to provide breast milk. We developed the Mother’s Own Milk on the Move (MOMM) program to mobilize lactation support to mothers of infants transported to our NICU to improve breast milk feeding rates at discharge. Therefore, the purpose of this study was to determine the effects of a novel lactation promotion and support program on breast milk feeding rates at discharge in a freestanding children’s hospital.


Design: Retrospective chart review comparing breast milk feeding rates before and after implementation of the MOMM program.

Methods: Exclusion criteria included admission after the first week of life, neonatal abstinence syndrome secondary to maternal illicit drug use, lactation consult declined and lactation consult not documented. Demographics and feeds at discharge were collected. The MOMM program included lactation consults, maternal education and provision of breast pumps. Initial lactation consults were completed in person in the NICU or via telephone within 48 hours of admission. Maternal education included discussion of breast milk benefits, pump usage, breast milk collection and storage and proper maternal diet. Hospital grade pumps were made available for pumping at the referral centers and in the NICU. Manual pumps were provided to mothers who did not have an electric pump at home. Ongoing in person or telephone breastfeeding support was provided at least twice weekly during the infant’s NICU stay. Ongoing breastfeeding support was provided at least twice weekly during NICU stay. Odds ratio analysis was conducted using SPSS software. p < 0.05 was considered statistically significant.

Results: A total of 180 patients were identified, with 102 admitted following the MOMM program initiation. Forty-four patients were excluded. Both groups had comparable median gestational age (38 weeks vs 37 weeks, p=0.227). The birth weight was slightly different (3120 grams vs 2970 grams, p=0.049) between the groups. Breast milk feeding rate at discharge improved from 59% to 83.3% with odds ratio of 3.7 (95% CI 1.8 – 7.4, p < 0.01) after implementation of the MOMM program.

Limitations: Inconsistent breastfeeding support and education at referral centers after delivery. Not all mothers were available for twice-weekly support calls/meetings.

Implications for practice: Mothers of infants admitted to the NICU face unique challenges to breastfeeding, aggravated by the transfer of the baby to another center for higher level of care. These circumstances delay breast milk production and impair access to breast milk as the sole source of nutrition. Breastfeeding promotion within 48 hours of admission to the NICU and ongoing lactation support increases breast milk feeding rates significantly at discharge in a freestanding children’s hospital NICU. Our study suggests that the MOMM program should be incorporated into routine clinical practice, particularly in referral centers.