



NK3 – Evidence-Based Practice

NK3a: Provide one example, with supporting evidence, of clinical nurses' implementation of an evidence-based practice that is new to the organization.

Introduction

The Nursing Research Sub-Council at KFSHRC-J guides decision-making within Nursing Affairs for research and evidence-based practice (EBP) activities. Strong emphasis is placed on the establishment of an evidence-based culture and practice. To achieve this, nurses need to be actively engaged in the research process. Nurses also need to develop a culture of inquiry that encourages and supports nurses at all levels of the organization to develop skills and confidence to ask questions, make evidence-based informed decisions, innovate and build new nursing knowledge in response to the changing needs of the organization. KFSHRC-J uses the John Hopkins' approach and toolkit (with permission) for evaluating evidence for EBP reviews.

Example NK3a: The Neonatal Intensive Care Unit (NICU) Introduces the Use of Colostrum Oral Care for All Neonates Using Evidence-Based Findings as a New Standard Operating Procedure (SOP)

Colostrum is recognized as oral immune therapy and is valuable to all NICU infants unable to feed orally. Oropharyngeal administration with colostrum or human milk mimics what would occur with a healthy term infant feeding by the breast. The colostrum comes into contact with the infant's mouth and oropharyngeal pouch and produces immune protection. Oropharyngeal administration of colostrum may decrease clinical sepsis, inhibit secretion of pro-inflammatory cytokines, and increase levels of circulating immune-protective factors (IgA, IgM, and lactoferrin) in extremely premature infants (Lee et al., 2015).

At KFSHRC-J, within the NICU, premature and sick infants who are being kept nil per mouth do not get the benefit of the immune-protective agents available in the colostrum in the early days in NICU. There is emerging evidence that colostrum can be used as an oral immune therapy even for the smallest and sickest infants in NICU.

The Maternal Child division had no clinical guideline for oral care for premature and critically ill neonates in NICU.

NICU defined an EBP project on April 23, 2018, using the John Hopkins Toolkit to review best evidence. All nurses who were part of this project had previously attended the EBP Information and Skills Workshop. Gina Lape, BSN RN, Clinical Nurse, and Salma El Najjar, BSN RN, CM CCNE, CPHQ, Nurse Clinician of NICU, lead the EBP project with the assistance of Gillian Sedgewick, BSN RN, MSc, Program Director, and Haya Kalaf, MSN RN, Quality Coordinator from the Nursing Practice and Research department (NPR) along with a team of clinical nurses.

Ten articles were appraised for the level of evidence and quality from the various Health Sciences databases, which included CINAHL, Embase, PubMed, and Scopus. The following recommendations from the collated best evidence were identified:

- Colostrum is recognized as oral immune therapy and is valuable to all NICU infants unable to feed orally.
- Oropharyngeal administration of colostrum is safe and feasible as an alternative method of providing colostrum to immunocompromised premature infants unable to receive enteral feeds.
- Colostrum may serve as a preventive strategy against clinical sepsis and necrotizing enterocolitis and Ventilator-Associated Pneumonia (VAP).
- Colostrum can be considered a natural oral care product in the VAP prevention bundle for preterm infants.
- When oropharyngeal administration of colostrum is used:
 - Infants tend to begin enteral feeds earlier.
 - Infants will reach full enteral feeds earlier.
 - Infants will have better weight gain.
 - The amount of time an infant requires total parental nutrition is reduced.
 - The number of peripherally inserted central catheter line days is decreased.
 - There is an association with increased rates of breast milk feeding up to six weeks of age and through discharge.
 - It engages the mother and family in the infant's daily care and helps them establish positive, healthy routines in the NICU setting.
 - Involving mothers with oral care motivates them to keep pumping and build up their milk supplies.

Evidence NK3a.1 John Hopkins Tool Summary of Evidence

On May 08, 2018, during the NICU Unit Council Meeting, Gina and Salma discussed the success of the journal club review on the use of colostrum and its benefits and importance especially for the sick neonates. **Evidence NK3A.2 NICU Unit Council Minutes May 08, 2018**

Table NK3a.1: Participants in EBP Project: Oropharyngeal Administration of Colostrum

Name	Position	Department
Salma El Najjar, BSN RN, CM CCNE, CPHQ	Nurse Clinician	NICU
Liza Cronje, MCur RN, Adv. Mid. Adv. NeonSc.	Head Nurse	NICU
Maram Al-Ghamdi, BSN RN	Staff Nurse 1 (SN1), Clinical Nurse	NICU
Gina Lape, BSN RN	SN1, Clinical Nurse	NICU
Rosemarie Genito, BSN RN	SN1, Clinical Nurse	NICU
Pamela Callo, BSN RN	SN1, Clinical Nurse	NICU
Heidi De Guzman, BSN RN	SN1, Clinical Nurse	NICU

Based on the evidence review, NICU introduced two best practices for nurses:

1. In September 2018, the recommendations from the EBP were translated into practice by including colostrum oral care into two clinical pathways for premature infants, i.e., 23-28 weeks and 29-32 weeks. The pathways guided clinical nurses on initiating oropharyngeal administration of colostrum within the first 48-hours post-delivery. This was safe and well-tolerated by even the extreme-low-birth-weight-infants weighing less than 1500g, thus using an alternative method of providing colostrum to immunocompromised premature infants and all neonates unable to receive enteral feeds. **Evidence NK3a.3 Clinical Pathways**
2. A new Standard Operating Procedure (SOP), NA-J-SOP-NICU 44, was developed: “The use of colostrum oral care for all neonates every six hours, who are kept nil per mouth” was approved by Mohammed Qabajah, BSN RN, Program Director, Nursing Speciality Services, on October 07, 2019. The SOP was approved by the Maternal Child Divisional Council, the Nursing Practice and Quality Committee, and Nurse Executive Council in October 2019. **Evidence NK3a.4 Scope of Practice NA-J- SOP- NICU 44**

Nurses from the Maternal Child division attended educational and awareness sessions titled “Oral care with human milk” on October 21 and 23, 2019, and March 02 and 04, 2020. In collaboration with the Nursing Practice and Research department, oral care with colostrum/human milk option was added to the electronic nursing documentation under the NICU activities of daily living, i.e., oral care under the personal hygiene section. Thus, compliance with the clinical pathway and SOP could be monitored and feedback provided to the NICU.

The parental breastfeeding information booklet was updated to include the clinical pathway and SOP best practice standards for colostrum. In September 2018, NICU presented an EBP poster on oral colostrum care at the World Breast Feeding week held at KFSHRC-J. On November 25-26, 2019, Salma presented at the 1st Conference Fostering Baby Friendly Community. On June 28, 2021, Fawisha Abdulrahman, BSN RN, SN1, presented the best practice of “Oropharyngeal colostrum therapy for neonates” at the Nursing Grand Round, which clinical nurses within the organization attended. **Evidence NK3a.5 EBP Poster, Acceptance for Poster Presentation, and Conference Program**

References

Lee, J., Kim, H. S., Jung, Y. H., Choi, K. Y., Shin, S. H., Kim, E. K., & Choi, J. H. (2015). Oropharyngeal colostrum administration in extremely premature infants: an RCT. *Pediatrics*, 135(2), e357-e366.