Cómo apoyar la progresión a la lactancia directa al pecho en las unidades neonatales

Laura N. Haiek, MD, MSc
Ministerio de salud y de servicios sociales de Quebec
Departamento de medicina familiar, Universidad McGill

Protección, promoción y apoyo a la lactancia materna en recién nacidos pequeños, prematuros y enfermos: Neo-IHAN

10 octubre 2023

McGill

Santé et Services sociaux Québec

1

Objetivos de aprendizaje

Al final de la presentación, los participantes serán capaces de:

- Explicar por qué debe apoyarse la lactancia materna en las unidades neonatales, en particular la progresión hacia la lactancia directa al pecho.

- Cómo estamos planeando hacerlo en la provincia de Quebec (Canadá) siguiendo las recomendaciones de la OMS y UNICEF.

2

Enfoque en la leche humana

Porqué?

Transitioning Premature Infants from Gavage to Breast

Carla Nye, RN, DNP, CNE

In NICUs across the country, familiar conversations play out day after day. A mother asserts: "I am going to breastfeed, so my preemie is not allowed to have a pacifier." Another worries: "I don't know if he is getting any milk. Maybe I should give him a bottle." A third asks: "I really want to breastfeed, but I don't have much milk. What should I do?" For the nurse assisting the mother who wants to breastfeed her premature infant, the task encompasses complex cognitive, 50 to 75 percent.[2,3] This is close to the Healthy People 2010 goal of a 75 percent initiation rate.[4] The path from "intent to breastfeed" to "successfully breastfeeding at discharge" is a difficult one. The percentage of preterm infant/mother dyads successfully breastfeeding at discharge decreases to an average of 50 percent of those who initially chose to breastfeed.[3,5] Too often, the infant is discharged after a handful of successful breastfeedings to an environment where the mother,

Abstract

Breast milk provides physiologic and neurodevelopmental protection for premature infants. Most hospitals are breast-milk friendly, but the number of premature infants breastfeeding successfully at discharge is relatively small. There are evidence-based techniques to improve the odds of premature infants breastfeeding at discharge and

Pamela A. Harris-Haman, DNP, CRNP, NNP-BC, Section Editor

Practice Improvements in Neonatal Care

Encourage, Assess, Transition (EAT)

A Quality Improvement Project Implementing a Direct Breastfeeding Protocol for Preterm Hospitalized Infants

Nellie Munn Swanson, DNP, MPH, APRN, CPNP-PC, CLC; Kristin M. Elgersma, DM, MN, MM, RN; Anne Chevalier McKechnie, PhD, RN; Patricia L. McPherson, MSN, RN, NE-BC; Mark J. Bergeron, MD, MPH; Samantha A. Sommerness, DNP, APRN, CNM; Cheri L. Friedrich, DNP, APRN, CPNP-PC, IBCLC; Diane L. Spatz, PhD, RN-BC, FAAN

ABSTRACT

Background: The opportunity to establish a direct breastfeeding (DBF) relationship with a preterm infant, if desired by the mother or lactating parent, is a known driver of positive healthcare experiences. Preterm birth is an independent risk factor for early human milk (HM) cessation, and DBF at the first oral meal promotes continued DBF during hospitalization and HM duration beyond discharge. While the Spatz 10-step model for protecting and promoting HM and breastfeeding in vulnerable infants provides best practices, lack of standardized implementation results in missed opportunities to meet parents' DBF goals.

Purpose: To standardize clinical practices to increase DBF at the first oral meal, total DBF meals during hospitalization, and use of test weighing to measure milk transfer for preterm infants.

Methods: Quality improvement methods were used to develop and implement Encourage, Assess, Transition (EAT): a DBF protocol for infants less than 37 weeks gestation at birth, in a level II neonatal intensive care unit.

Results: Thirty-eight (85.%) infants from 27.7 to 36.7 weeks of gestation initiated the protocol. The proportion of infants' DBF at first oral meal increased from 22% to 54%; mean DBF meals during hospitalization increased from 13.3 to 20.3; and use of test weighing increased by 166%.

Implications for Practice and Research: Standardizing DBF practices with the EAT protocol increased DBF during hospitalization—a known driver of patient experience—and HM duration beyond discharge, in hospitalized preterm

In 2019, patient care experience data revealed that parents of former preterm infants cared for in our level II to IV neonatal system perceived limited support for their direct breastfeeding (DBF) goals, when compared with the lactation support they received for human milk (HM) feeding. Establishing a DBF relationship between a mother or lactating parent and their infant, defined as the experience of feeding the infant directly from the breast,[1] is a pivotal driver of positive healthcare experiences for parents of pre-

3

Mayor estabilidad en el pecho - I

Porqué?

Sheila Gephart, PhD, RN, Section Editor

Evidence-Based Practice Briefs

When Is It Safe to Initiate Breastfeeding for Preterm Infants?

 Smith

ABSTRACT

Background: Breast milk is the gold standard of nutrition for preterm infants. Yet, initiation of direct breastfeeding before 32 weeks' postconceptional age (PCA) is not common practice in many neonatal intensive care units (NICUs). Our clinical question was, "In preterm infants, when is it safe to initiate breastfeeding in infants <32 weeks PCA receiving enteral feedings?"

Search Strategy: A review of the literature was compiled between February 2013 and January 2015 by using the following databases: CINAHL, Cochrane Systematic Review, Scopus, and PubMed. Articles found were written in English and published after 1985. Key words were utilized during searches and references were hand checked.

Results: Our review reveled that stable preterm infants maintain their physiological status during exposure to the breast as early as 27 to 28 weeks' PCA. Several studies demonstrated infants during breastfeeding compared with bottle-feeding experienced minimal variation in oxygen saturation and heart rate during feeding. Some infants exposed to the breast before 30 weeks' PCA were exclusively breastfeeding (direct breastfeeding and breast milk) at 32.8 weeks' PCA. Skin-to-skin mother–infant contact is crucial to the successful transition to direct breastfeeding.

Implications for Practice and Research: The transition from enteral feedings to direct, exclusive breastfeeding should involve frequent mother–infant skin-to-skin contact requiring support and guidance from the NICU staff. Future research should involve creating standard protocols within NICUs to facilitate breastfeeding transition and exploring barriers that may prevent the preterm infant from achieving direct, exclusive breastfeeding.

Key Words: breastfeed, breastfeeding, kangaroo care, newborns/infancy/pediatrics, Nyqvist, oral motor function, preterm, skin-to-skin, sucking, term, very preterm

4

Mayor estabilidad en el pecho - II

Porqué ?

TABLE 1. Studies Exploring Safety and Factors That Impact Early Direct Breastfeeding

Author, Location	Results/Clinical Implications
Berger,[16] Israel	No significant difference between REE after BTL vs BF. However, BF versus BTL duration was significantly longer. BF does not compromise energy needed for growth as compared with BTL.
Bier,[17] USA	PO_2 desaturation occurred during BTL but not during BF BF infants gained less weight than BTL and may need to be supplemented
Bier,[18] USA	During BF, infants demonstrated higher PO_2 and T° and were less likely to desaturate (<90% PO_2) compared to BTL BF infants may need supplementation to ensure adequate weight gain
Chen,[19] Taiwan	BF infants had higher PO_2 and T° during feeding. During BTL, infants experienced episodes of PO_2< 90% and apnea

Author, Location	Results/Clinical Implications
Meier,[22] USA	During BF infants' demonstrated increased T° and stable $tcPO_2$ compared to decreased $tcPO_2$ during BTL
Meier,[23] USA	During BR VLBW infants demonstrated stable $tcPO_2$, RR, HR, and increased T° compared BTL. PT demonstrates different sucking pattern during BF compared to BTL
Meier,[24] USA	PT infants organize sucking and swallowing more effectively with BF than BTL. Alert states before BF increases infant feeding organization. Initial BF need not be delayed for infants to reach specific weight or PCA

5

Lactancia al pecho=más leche materna

Porqué ?

Location, author, year	Results
Israel Level III NICU (Suberi, et al. 2018)	More DBF associated with **more breastmilk in NICU & at discharge**
Southern USA Level II-III NICU (Pineda et al, 2011)	BB ever had DBF & w/ # of times DBF **breastmilk at discharge & duration of breastmilk feeding**
New England Level IV NICU (Briere et al, 2016)	≥ 1 DBF/day in NICU significantlv associated **still breastmilk 1 & 4 months post-discharge**
Israel Level III NICU (Pinchevski-Kadir, et al. 2017)	Any DBF in NICU significantly associated **baby still breastmilk at 6 months**

6

Lactancia al pecho: posible < 34 semanas de EPM

Porqué?

Nyqvist,[25] Sweden	At any PCA, infants exposed to the breast respond by rooting and sucking. At 28 wks' PCA, infants demonstrate rooting, areolar grasp and latching. At 32 wks' PCA, infants demonstrate repeated bursts of ≥10 sucks and maximum bursts of ≥30. At a mean PCA of 36 wks, 57 infants demonstrated a complete oral feeding by BF. At discharge, 67 infants were BF Guidelines for BF initiation and transition should be based on medical stability and not PCA or weight
Nyqvist,[3] Sweden	Infants demonstrated rooting, efficient areolar grasp, and repeated short sucking bursts at the breast at 29 wks' PCA. At 31 wks' PCA, infants demonstrated occasional long sucking bursts and repeated swallowing. During BF infants ranged between 5 and 24 sucks per burst, with a median of 17 sucks. Infants transitioned to complete BF at a median of 35 wks' PCA (range, 32-38 wks). The infants' weight gain when fully

OPEN ACCESS Freely available online PLOS ONE

Breastfeeding Progression in Preterm Infants Is Influenced by Factors in Infants, Mothers and Clinical Practice: The Results of a National Cohort Study with High Breastfeeding Initiation Rates

Ragnhild Maastrup[1,2,3*], Bo Moelholm Hansen[4], Hanne Kronborg[5], Susanne Norby Bojesen[3,4], Karin Hallum[3,6], Annemi Frandsen[3,7], Anne Kyhnaeb[3,8], Inge Svarer[3,9], Inger Hallström[2]

1 Knowledge Centre for Breastfeeding Infants with Special Needs at Department of Neonatology, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark, 2 Department of Health Sciences, Faculty of Medicine, Lund University, Lund, Sweden, 3 Danish National Panel of Experts on Breastfeeding Infants with Special Needs, Copenhagen, Denmark, 4 Department of Neonatology, Copenhagen University Hospital Herlev, Herlev, Denmark, 5 Department of Public Health, Section of Nursing, University of Aarhus, Aarhus, Denmark, 6 Department of Neonatology, Viborg Regional Hospital, Viborg, Denmark, 7 Paediatric Department, Holbaek University Hospital, Holbaek, Denmark, 8 Department of Neonatology, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark, 9 Department of Neonatology, Odense University Hospital, Odense, Denmark

Abstract

Background and Aim: Many preterm infants are not capable of exclusive breastfeeding from birth. To guide mothers in breastfeeding, it is important to know when preterm infants can initiate breastfeeding and progress. The aim was to analyse postmenstrual age (PMA) at breastfeeding milestones in different preterm gestational age (GA) groups, to describe rates of breastfeeding duration at pre-defined times, as well as analyse factors associated with PMA at the establishment of exclusive breastfeeding.

Methods: The study was part of a prospective survey of a national Danish cohort of preterm infants based on questionnaires and structured telephone interviews, including 1,221 mothers and their 1,488 preterm infants with GA of 24–36 weeks.

Results: Of the preterm infants, 99% initiated breastfeeding and 68% were discharged exclusively breastfed. Breastfeeding milestones were generally reached at different PMAs for different GA groups, but preterm infants were able to initiate breastfeeding at early times, with some delay in infants less than GA 32 weeks. Very preterm infants had lowest mean PMA (35.9 weeks), at first complete breastfeed, and moderate preterm infants had lowest mean PMA at the establishment of exclusive breastfeeding (36.4 weeks). Admitting mothers to the NICU together with the infant and minimising the use of a pacifier during breastfeeding transition were associated with 1.6 (95% CI 0.4–2.8) and 1.2 days (95% CI 0.1–2.3) earlier establishment of exclusive breastfeeding respectively. Infants that were small for gestational age were associated with 5.6 days (95% CI 4.1–7.0) later establishment of exclusive breastfeeding.

EPM: edad postmenstrual

7

Preocupación por un retraso en el alta

Porqué?

Evidence-Based Practice Brief

Breastfed or Bottle-Fed

Who Goes Home Sooner?

Carrie-Ellen Briere, PhD, RN, CLC

ABSTRACT

A literature search was conducted to answer the clinical question, "Do premature infants who breastfeed have different oral feeding outcomes compared with those who receive bottles?" The CINAHL, PubMed, and PsycInfo databases were queried for articles published in the past 10 years that reported original research available in English. Two studies specifically addressed a comparison between infants who received exclusive direct breastfeeding, mixed direct breast and bottle, and/or exclusive bottle-feeding. Additional studies were included that addressed oral feeding outcomes specific to either direct breastfeeding (n = 2) or those that grouped bottle and breastfeeding together (n = 3). The findings from these studies indicate that the statement that bottle-feeding leads to sooner discharge is not based in evidence. Although more data are needed to fully understand the differences between direct breastfeeding and bottle-feeding, neonatal intensive care unit staff should be aware of the message they send to breastfeeding families when they encourage the use of bottles over direct breastfeeding.

Key Words: bottle feeding, breastfeeding, direct breastfeeding, discharge, length of stay, neonatal intensive care, outcomes, premature infant, very low birth weight

BREASTFEEDING MEDICINE
Volume XX, Number XX, 2021
© Mary Ann Liebert, Inc.
DOI: 10.1089/bfm.2021.0066

Evaluation of Methods of Breast or Bottle Feeding on Length of Hospitalization of Preterm Infants

Wener,[1] Kimberly E. Dow,[2] and Sandra Fucile[1,2,i]

Kingston, ON

g is the optimal method of nourishing preterm infants. Preconceived notions
hat establishment of direct breastfeeding lengthens hospitalization. Thus far,
mains unknown.
this study was to assess the impact of direct breastfeeding establishment on
infants.
view on a sample of 101 mother–infant dyads was conducted in the neonatal
lealth Sciences Center (KHSC) in Ontario, Canada. The sample consisted of
breastfeeding group, defined as infants receiving ≥50% direct breastfeeds
breastfeeding group, defined as infants receiving <50% breastfeeds during
eding group, defined as infants only receiving bottle feeds during hospitali-
on model was performed to assess the relationship between length of hospi-
ds (modified direct breastfeeds vs. partial breastfeeds vs. bottle feeds) while
l age [GA], birth weight, 5 minutes Apgar score, ventilator support) and
maternal age, first-time mother, mental health conditions) factors.

Results: GA was inversely associated with length of hospitalization. The number of days on ventilator support was positively associated with length of hospitalization. Method of oral feed, birth weight, 5 minutes Apgar score, maternal age, first-time mother status, and maternal mental health conditions were not associated with duration of hospitalization.

Conclusions: Direct breastfeeding establishment does not lengthen hospitalization in preterm infants. This finding may aid health practitioners in increasing direct breastfeeding success in this population.

8

En resumen

Porqué ?

- Alimentación más segura (estabilidad fisiológica)
- Alimentación a una EPM más baja
- Más de leche materna, por más tiempo
- No retrasa el alta hospitalaria
- Más satisfacción parental

Cómo ?

¿Cómo podemos apoyar a las madres en su progresión hacia una lactancia directa al pecho en la unidad neonatal?

9

Cómo ?

¿Cuáles son las necesidades de las familias en el momento del alta?

Proyecto de demostración: Clínica “Préma-Allaitement"
Datos preliminares basados en 168 derivaciones de unidades de nivel III de la región de Montreal, 2022-2023*.

Razones de la derivación	N	%
Apoyo/transición hacia una lactancia directa al pecho	110	65%
Aumento en la producción láctea	105	63%
Otros problemas de lactancia	28	17%
Total de las derivaciones	**168**	**100%**

**Las categorías no son mutuamente excluyentes*

11

Cómo? Progresión hacia la lactancia directa

Un grupo de trabajo multidisciplinario* está elaborando materiales** para que los profesionales de las unidades de nivel 2 y 3 puedan usar para apoyar la progresión hacia la lactancia directa al pecho:

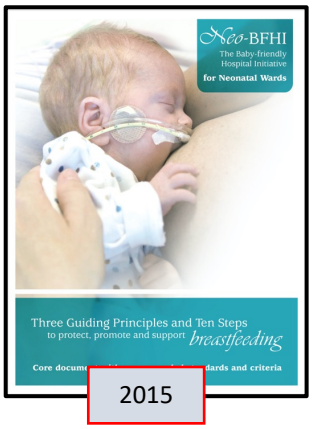
- Apoyando los objetivos de la familia
- Alineándose con las recomendaciones basadas en la evidencia de la OMS/UNICEF adaptadas a Quebec
- Llenando las brechas de las herramientas existentes (que presentan la alimentación con leche materna y la lactancia directa como equivalentes)

* *Médicos neonatólogos y pediatras, enfermeras IBCLC, terapista ocupacional, directores hospitalarios y profesionales de salud publica.*

** *Los documentos no son protocolos ni algoritmos decisionales.*

12

Cómo? IHAN adaptada a la neonatología



2015

https://ilca.org/neo-bfhi/

2020

https://www.who.int/publications/i/item/9789240005648

2021

https://publications.msss.gouv.qc.ca/msss/document-003166/

13

Cómo?

10 pasos adaptados a la neonatología

Paso 5 - Apoyar a las madres para que inicien y continúen la lactancia materna, y para que manejen las dificultades que puedan surgir.
Norma 5.6 - Se informa a las madres de bebés que no pueden tomar el pecho en ningún caso que el éxito de la progresión de la alimentación por sonda a la lactancia materna exclusiva depende del establecimiento de una buena producción de leche y de las oportunidades de amamantar durante la estadía en la unidad neonatal. *Fuente: OMS/UNICEF, 2020, p. 27.*
Norma 5.7 - Se apoya a las madres para que pongan su bebé en el pecho[x] tan pronto como estén estables, independientemente del peso o la edad gestacional o postmenstrual del bebé prematuro, o del tratamiento con un dispositivo CPAP *Fuente: OMS/UNICEF, 2018, p. 17.*
Norma 5.8 - Las madres de bebés que pueden tomar el pecho reciben apoyo cada vez que lo necesitan para prenderse y para reconocer la transferencia de leche, teniendo en cuenta de la madurez de sus bebés[xi]. *Fuente: OMS/UNICEF, 2018, p. 17 et 18.*

[x] Las primeras veces en que los bebés se ponen en el pecho, algunos sólo olfatean, mientras que otros empiezan lamiendo, saboreando o mamando.

https://publications.msss.gouv.qc.ca/msss/document-003166/

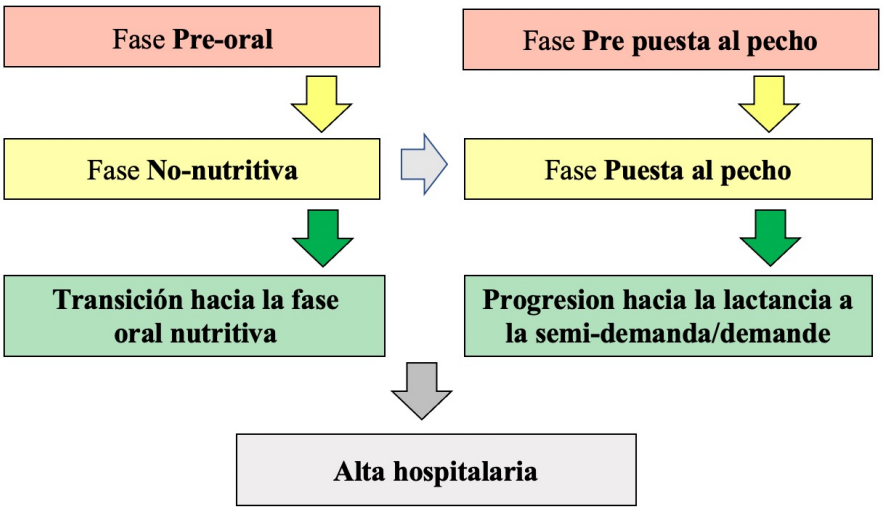
14

Cómo?

Proposición de un modelo teórico

Guiado por las competenciass del bebé (*infant-driven*)

Progresión hacia…



15

Proposición de un modelo teórico

Cómo?

Guiado por las competenciass del bebé *(infant-driven)*

Progresión hacia…

Fase **Pre-oral**

Fase **No-nutritiva**

Transición hacia la fase oral nutritiva

Fase **Pre puesta al pecho**

La forma de tomar el pecho puede variar de un bebé a otro: algunos pueden oler, lamer y saborear, mientras que otros pueden succionar y transferir la leche.

Progresion hacia la lactancia a la semi-demanda/demande

Alta hospitalaria

16

Modelo de prescripción médica

Cómo?

Rol de las enfermeras: plan de intervención para todas las fases

Ejemplo de orden médica

Fase **Pre puesta al pecho** → **Rx: Bebé estable puede ponerse al pecho**

Fase **Puesta al pecho** → **Rx: Ofrecer el pecho siempre que el bebé muestre interés. Ordén para un biberón si la madre está ausente.**

Progresion hacia la lactancia a la semi-demanda/demande → **Rx: completar la alimentación por sonda NG en base a la evaluación de la transferencia de leche.**

Alta hospitalaria

22

Conclusiones

- Es importante distinguir claramente entre la alimentación con leche materna y lactancia directa al pecho para apoyar mejor los objetivos de los padres.
- Para ello, debemos, entre otras cosas:
  - ✓ no limitarse a apoyar la extracción de leche, sino también apoyar la progresión hacia la lactancia directa durante toda la hospitalización, en lugar de esperar hasta el alta;
  - ✓ adaptar las prácticas y los protocolos para fomentar la lactancia directa lo antes y con la mayor frecuencia posible;
  - ✓ coordinar la continuación del apoyo con las unidades de nivel 1 y 2 y con los servicios ambulatorios tras el alta hospitalaria.

23

Gracias!

Para contactarme:
laura.haiek@msss.gouv.qc.ca

McGill

Santé et Services sociaux Québec

24

Referencias - I

- Allen E, Rumbold AR, Keir A, Collins CT, Gillis J, Suganuma H. Avoidance of bottles during the establishment of breastfeeds in preterm infants. Cochrane Database of Systematic Reviews 2021, Issue 10. Art. No.: CD005252. DOI: 10.1002/14651858.CD005252.pub5. Accessed 19 February 2023.
- Anderson, N., Narvey, M., Canadian Paediatric Society. Discharge planning of the preterm infant. Paediatr Child Health 2022;27:129-30.
- Bier JAB, Ferguson AE, Anderson L, Solomon E, Voltas C, Oh W, et al. Breast-feeding of very low birth weight infants. *J Pediatr*. 1993;123:773-778.
- Bier JAB, Ferguson AE, Morales Y, Liebling JA, Oh W, Vohr BR. Breastfeeding infants who were extremely low birth weight. *Pediatrics*. 1997;100:e3.
- Briere, C. E., & Gephart, S. (2015). Breastfed or bottle-fed. *Advances in neonatal care*, *15*(1), 65-69.
- Briere, C. E., McGrath, J. M., Cong, X., Brownell, E., Cusson, R. Direct-breastfeeding in the neonatal intensive care unit and breastfeeding duration for premature infants. Appl Nurs Res 2016;32:47-51.
- Chalmers, B., Levitt, C., Heaman, M., O'Brien, B., Sauve, R., Kaczorowski, J. Breastfeeding rates and hospital breastfeeding practices in Canada: A national survey of women. Birth 2009;36:122-32.
- Charette, C., Haiek, L. N. Allaitement et période critique. L'urgence d'agir dès une difficulté ! Le Médecin du Québec 2019;54:23-8.
- Chen C-H, Wang T-M, Chang H-M, Chi C-S. The effect of breast- and bottle-feeding on oxygen saturation and body temperature in preterm infants. *J Hum Lact*. 2000;16(1):21-27.
- Chiang, K. V., Sharma, A. J., Nelson, J. M., Olson, C. K., Perrine, C. G. Receipt of Breast Milk by Gestational Age - United States, 2017. MMWR Morb Mortal Wkly Rep 2019;68:489-93.
- Cossey, V., Jeurissen, A., Thelissen, M. J., Vanhole, C., & Schuermans, A. (2011). Expressed breast milk on a neonatal unit: A hazard analysis and critical control points approach. *American journal of infection control*, *39*(10), 832-838.
- Dalgleish, S. R., Kostecky, L. L., & Blachly, N. (2016). Eating in "SINC": safe individualized nipple-feeding competence, a quality improvement project to explore infant-driven oral feeding for very premature infants requiring noninvasive respiratory support. *Neonatal Network*, *35*(4), 217-227.
- Davanzo R, Strajn T, Kennedy J, Crocetta A, De Cunto A. From tube to breast: the bridging role of semi-demand breastfeeding. *J Hum Lact*. 2014;30(4):405-409.
- Dodrill, P., Donovan, T., Cleghorn, G., McMahon, S., Davies, P. S. Attainment of early feeding milestones in preterm neonates. J Perinatol 2008;28:549-55.
- Fucile, S., Wener, E., Dow, K. Enhancing breastfeeding establishment in preterm infants: A randomized clinical trial of two non-nutritive sucking approaches. Early Hum Dev 2021;156:105347.
- Kang, J. H., Son, H., Byun, S. Y., & Han, G. (2021). Effect of Direct Breastfeeding Program for Premature Infants in Neonatal Intensive Care Unit. *Journal of Korean Academy of Nursing*, *51*(1), 119-132.
- Kangaroo mother care: implementation strategy for scale-up adaptable to different country contexts. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

25

Referencias - II

- Kangaroo mother care: a transformative innovation in health care. Global position paper. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.
- Keim, S. A., Boone, K. M., Oza-Frank, R., Geraghty, S. R. Pumping Milk Without Ever Feeding at the Breast in the Moms2Moms Study. Breastfeed Med 2017;12:422-9.
- Lawrence, R. A. (1999). Storage of human milk and the influence of procedures on immunological components of human milk. Acta Paediatrica, 88, 14-18.
- Lubbe, W. (2018). Clinicians guide for cue-based transition to oral feeding in preterm infants: an easy-to-use clinical guide. Journal of Evaluation in Clinical Practice, 24(1), 80-88.
- Lucas, R. F., Smith, R. L., & Gephart, S. (2015). When is it safe to initiate breastfeeding for preterm infants?. Advances in neonatal care, 15(2), 134-141.
- Maastrup, R., Hansen, B. M., Kronborg, H., Bojesen, S. N., Hallum, K., Frandsen, A., Kyhnaeb, A., Svarer, I., Hallstrom, I. Breastfeeding progression in preterm infants is influenced by factors in infants, mothers and clinical practice: The results of a national cohort study with high breastfeeding initiation rates. PLoS One 2014;9:e108208.
- McGrath, J. M. (2012). Invitation to develop targeted interventions to support continued direct breast-feeding in the NICU. The Journal of perinatal & neonatal nursing, 26(4), 286-288.
- Meier PP. Bottle-and breast-feeding: effects on transcutaneous oxygen pressure and temperature in preterm infants. Nurs Res. 1988;37(1):36-41.
- Meier PP, Anderson G. Responses of small preterm infants to bottle- and breast-feeding. MCN Am J Matern Child Nurs. 1987;12: 97-105.
- Meier PP, Pugh E. Breast-feeding behavior of small preterm infants. MCN Am J Matern Child Nurs. 1985;10:396-401.
- Moral, A., Bolibar, I., Seguranyes, G., Ustrell, J. M., Sebastiá, G., Martínez-Barba, C., & Ríos, J.(2010). Mechanics of sucking: comparison between bottle feeding and breastfeeding. BMC pediatrics,10(1), 1-8.
- MSSS. 2021. L'initiative des amis des bébés - Orientations pour la mise en œuvre dans les établissements de santé et de services sociaux https://publications.msss.gouv.qc.ca/msss/document-003166/
- Munro, S., Buckett, C., Sou, J., Bansback, N., Lau, H. Shared decision making and breastfeeding: Supporting families' informed choices. British Columbia Medical Journal 2019;61:394.
- NICU, I. (2008). Transitioning premature infants from gavage to breast. Neonatal network, 27(1), 7.
- Nyqvist, K. H. Early attainment of breastfeeding competence in very preterm infants. Acta paediatrica (Oslo, Norway : 1992) 2008;97:776-81.
- Nyqvist KH, Maastrup R, Hansen MN, Haggkvist AP, Hannula L, Ezeonodo A, Kylberg E, Frandsen AL, Haiek LN. *Neo-BFHI: The Baby-friendly Hospital Initiative for Neonatal Wards. Core document with recommended standards and criteria.* Nordic and Quebec Working Group; 2015.

26

Referencias - III

- Nyqvist KH, Sjödén PO, Ewald U. The development of preterm infants' breastfeeding behavior. Early Hum Dev. 1999 Jul;55(3):247-64. doi: 10.1016/s0378-3782(99)00025-0. PMID: 10463789
- Nyqvist, K. H., Häggkvist, A. P., Hansen, M. N., Kylberg, E., Frandsen, A. L., Maastrup, R., Ezeonodo, A., Hannula, L., Koskinen, K., Haiek, L. N. Expansion of the ten steps to successful breastfeeding into neonatal intensive care: Expert group recommendations for three guiding principles. J Hum Lact 2012;28:289-96.
- Orovou, E., Tzitiridou-Chatzopoulou, M., Dagla, M., Eskitzis, P., Palaska, E., Iliadou, M., Iatrakis, G., Antoniou, E. Correlation between Pacifier Use in Preterm Neonates and Breastfeeding in Infancy: A Systematic Review. Children (Basel) 2022;9.
- Pang, W.W., Tan, P.T., Cai, S. *et al.* Nutrients or nursing? Understanding how breast milk feeding affects child cognition. *Eur J Nutr* **59**, 609–619 (2020). https://doi.org/10.1007/s00394-019-01929-2
- Pinchevski-Kadir, S., Shust-Barequet, S., Zajicek, M., Leibovich, M., Strauss, T., Leibovitch, L., Morag, I. Direct Feeding at the Breast Is Associated with Breast Milk Feeding Duration among Preterm Infants. Nutrients 2017;9.
- Pineda, R. Direct breast-feeding in the neonatal intensive care unit: is it important? J Perinatol 2011;31:540-5.
- Santé Canada, Rapport sur la santé périnatale au Canada, 2003. Ottawa : Ministre des Travaux publics et Services gouvernementaux Canada, 2003
- Suberi, M., Morag, I., Strauss, T., & Geva, R. (2018). Feeding imprinting: the extreme test case of premature infants born with very low birth weight. *Child development*, *89*(5), 1553-1566.
- Swanson, N. M., Elgersma, K. M., McKechnie, A. C., McPherson, P. L., Bergeron, M. J., Sommerness, S. A., ... & Spatz, D. L. (2022). Encourage, Assess, Transition (EAT): a quality improvement project implementing a direct breastfeeding protocol for preterm hospitalized infants. *Advances in Neonatal Care*, 10-1097.
- Tolppola, O., Renko, M., Sankilampi, U., Kiviranta, P., Hintikka, L., Kuitunen, I. Pacifier use and breastfeeding in term and preterm newborns-a systematic review and meta-analysis. Eur J Pediatr 2022;181:3421-8.
- Wener, E., Dow, K. E., Fucile, S. Evaluation of Methods of Breast or Bottle Feeding on Length of Hospitalization of Preterm Infants. Breastfeed Med 2021;16:899-903.
- White A, Parnell K. The transition from tube to full oral feeding (breast or bottle)—A cue-based developmental approach. *J Neonatal Nurs*. 2013;19:189-197.
- World Health Organization/UNICEF. Implementation Guidance: Protecting, Promoting, and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services; The Revised Baby-friendly Hospital Initiative. Geneva, Switzerland: WHO; 2018. (Accessed November 9, 2022, Available at https://www.who.int/publications/i/item/9789241513807.)
- World Health Organization/UNICEF. Protecting, Promoting and Supporting Breastfeeding: The Baby-friendly Hospital Initiative for Small, Sick and Preterm Newborns. Geneva, Switzerland: WHO; 2020. (Accessed November 9, 2022, Available at https://www.who.int/publications/i/item/9789240005648.)
- WHO recommendations for care of the preterm or low birth weight infant. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.
- Zachariassen, G., Faerk, J., Grytter, C., Esberg, B., Juvonen, P., Halken, S. Factors associated with successful establishment of breastfeeding in very preterm infants. Acta paediatrica (Oslo, Norway : 1992) 2010;99:1000-4.

27