




Mapping of nursing interventions on breastfeeding establishment in a neonatal unit

Mapeamento das intervenções de enfermagem no estabelecimento da amamentação em uma unidade de internação neonatal

Suellen Cristina Dias Emidio¹ , Victoria Regina Ribeiro Ferraz Oliveira² , Elenice Valentim Carmona² 

ABSTRACT

Objective: To map the nursing interventions performed by the healthcare team during breastfeeding in a neonatal unit, comparing them with the Nursing Interventions for breastfeeding proposed by the Nursing Intervention Classification. **Method:** A descriptive and cross-sectional study composed of 61 pairs. Data were collected through videos of mothers breastfeeding their infants and medical records. **Results:** Five of the nine NIC interventions studied were the most frequent - Infant Care: Newborn (6824); Kangaroo Care (6840); Lactation Counseling (5244); Infant Care (6820); Infant Care: Preterm (6826). **Conclusion:** The comparison between the nursing care recorded in the patients' medical records and the NIC interventions showed that records are scarce. In addition, care related to bonding and coping seems to be undervalued.

Descriptors: Breast Feeding; Nursing Care; Classification; Nursing Process.

RESUMO

Objetivo: Mapear as intervenções de enfermagem realizadas pela equipe durante a amamentação em uma unidade de internação neonatal, comparando-as com as Intervenções de Enfermagem para a amamentação propostas pela Nursing Intervention Classification (NIC). **Método:** Estudo descritivo e transversal composto por 61 binômios. Os dados foram colhidos por meio de vídeos das mães amamentando seus filhos e registros em prontuários. **Resultados:** Dentre as nove intervenções da NIC estudadas, cinco foram as mais frequentes — Cuidado infantil: neonato (6824); Cuidado neonatal: método canguru (6840); Aconselhamento para a lactação (5244); Cuidados com o lactente (6820); Cuidado infantil: pré-termo (6826). **Conclusão:** A comparação entre o cuidado de enfermagem registrado no prontuário dos pacientes e as intervenções da NIC demonstrou que os registros são escassos. Além disso, cuidados relacionados a vínculo e enfrentamento parecem ser pouco valorizados.

Descritores: Aleitamento Materno; Cuidados de Enfermagem; Classificação; Processo de Enfermagem.

¹Boston College – Boston, USA. E-mail: suellen.emidio@outlook.com

²State University of Campinas – Campinas (SP), Brazil. E-mails: vitoria.rferraz@gmail.com, elenicevalentim@yahoo.com.br

How to cite this article: Emidio SCD, Oliveira VRRF, Carmona EV. Mapping of nursing interventions on breastfeeding establishment in a neonatal unit. Rev. Eletr. Enferm. [Internet]. 2020 [cited on: _____];22:61840. Available at: <https://doi.org/10.5216/ree.v22.61840>.

Received on: 12/21/2019. Accepted on: 06/22/2020. Available on: 09/30/2020.

INTRODUCTION

Breastfeeding (BF) is a natural strategy to develop and promote bonding, protection, and nutrition for infants. It is a sensible, economical and effective intervention to reduce infant morbidity and mortality, and also to positively impact the holistic health of the mother-infant pair⁽¹⁻³⁾. In infants who need hospitalization, BF becomes even more important for maintaining their health. However, clinical conditions and the hospital environment can make breastfeeding establishment challenging for hospitalized infants and their mothers^(4,5).

Nurses are among the professionals who play a decisive role in the care of mothers and infants who are establishing breastfeeding. Thus, it is essential that they have knowledge and practices based on updated and reliable literature, in order to develop relevant activities, considering the needs of both the mother and infant^(3,4). Moreover, in this context, nurses must make use of the nursing process, which is a systematic guide for clinical reasoning, to direct their actions, through dynamic and interrelated steps.

To strengthen and qualify the nursing process in health services, the literature has recommended standardization of language, to make communication between professionals more effective and promote continuity of care. In addition, uniform language can facilitate the adoption of an electronic medical record system, in which nursing process records can be easily consulted by the healthcare team, as well as quantified and submitted to scientific investigation^(6,7).

Among the taxonomies in nursing used to standardize language, the Nursing Interventions Classification (NIC) refers to nursing interventions. The present study mapped these interventions carried out by the healthcare team regarding breastfeeding in a neonatal unit. The sixth edition of the NIC, published in Portuguese⁽⁸⁾, was used as a reference.

It is relevant to investigate the documented care in medical records for breastfeeding assistance, in order to help the multidimensional understanding of this process, in addition to making care more objective, documented and, therefore, better shared with other members of the healthcare team. It is also believed that such documentation will also strengthen the nursing process in maternal and infant care by assisting in the identification of potential aspects to be improved upon in intervention records. This refers to the neonatal unit in question, but may also inspire other neonatal units.

Given the relevance of the topic, the objective was to map the nursing interventions performed by the team during breastfeeding in a neonatal unit, comparing them with the Nursing Interventions for breastfeeding proposed by the NIC.

METHOD

Design

This is a descriptive and cross-sectional study aimed at mapping nursing interventions related to the process of breastfeeding establishment in a neonatal unit.

Site

The research was carried out in the neonatal unit of a public teaching hospital that participates in the *Iniciativa Hospital Amigo da Criança* (Baby-Friendly Hospital Initiative), in the city of Campinas, São Paulo. This unit has 30 beds, 15 for intensive care and 15 for semi-intensive care, which are attended to by a multidisciplinary team.

Subjects

Hospitalized infants and their mothers in the process of breastfeeding establishment, in semi-intensive care, were included in the study. The infants had adequate hemodynamic stability, weight, and gestational age for the initiation of breastfeeding, with at least 24 hours of nutritive sucking on maternal breast, premature or at term, currently using or not using a gastric catheter.

The following were excluded: infants with a medical diagnosis of neonatal anoxia, genetic syndromes, heart disease and malformations; infants receiving continuous intravenous infusion; women breastfeeding twins; mothers who declared to the team that they did not want to breastfeed or had impediments related to the clinical and/or cognitive condition to do so.

Sample size

The sample size was determined by a formula to estimate a proportion in a finite population. The calculation assumed a proportion equal to 0.50, a sampling error of 5%, a significance level of 5% and a population composed of 72 infants (number of infants admitted to the NICU in a three-month period). This period was used because the hospital collects its assessment indicators quarterly. The sample size obtained was 61 pairs.

Data collection procedure and instrument

Data collection took place from May to November 2018. The data collection instrument was tested on nine pairs that were not included in the sample. First, the researchers verified the pairs eligible to participate in the study by means of a preliminary analysis of their medical records, also considering the sequence of hospitalizations. When the mother and infant met the inclusion criteria, the mothers were invited to participate, as well as being asked to sign an Informed Consent Form (ICF), after reading it and clarifying the study's objectives and doubts. The informed consent form was also signed by the health professionals who might be present at the time of data collection.

For each pair included in the study, the nursing diagnoses (ND) of NANDA International (NANDA-I)⁽⁹⁾ were chosen by the researchers considering data collected from medical records and clinical discussion with the nurse responsible for care. The established NDs were Ineffective infant feeding pattern (00107), Ineffective breastfeeding (00104), Interrupted breastfeeding (00105) and Effort to improve breastfeeding (00106). The authors of the study have clinical and teaching experience in maternal and infant nursing and in the use of standardized nursing language. The studied unit performed the survey of ND upon the infant's admission, and only the nursing prescriptions were modified at each shift in a specific form that was not based on the NIC.

To characterize the sample, sociodemographic and clinical data were collected from the patient's medical record, as well as data from the records on the nursing interventions prescribed and performed for breastfeeding in the 24 hours prior to data collection.

After characterizing the sample, and with the consent of the mothers and health professionals taking care of the pairs at the time of data collection, the researchers filmed the mother and infant while breastfeeding at the time of inclusion in the study, and after 24 hours and 48 hours, totaling 183 shots. Health professionals provided care for each pair, without any interference from the researchers. In this study, a Canon Rebel T3i DSLR digital video camera with a tripod was used. The pairs were identified by numbers, from one to 61.

During filming, the researchers independently used an instrument containing: the NIC nursing interventions and activities that could occur during breastfeeding; interventions noted in the medical record by the nursing team; and, interventions performed by professionals, but not described in the NIC.

The NIC interventions and activities considered for this study were based on the nursing diagnoses established for the sample, taking into account the recommendations of the NIC and the clinical experience of the researchers. Among the list of activities for each intervention, the researchers agreed upon those that would best suit the neonatal context to compose the data collection instrument. The instrument also provided space for adding unplanned interventions and those in the prescriptions and notes for the past 24 hours. Chart 1 shows the NIC⁽⁸⁾ interventions used in this study.

After filming, the researchers talked to the team about the difficulties encountered by the pair, in order to propose specific interventions and care for the mother and infant.

Data analysis

The videos were independently evaluated by the researchers after filming and compared to the notes taken during recording. The interventions not contained in the NIC or that raised questions among the researchers were discussed through the analysis of the videos together.

The sample characterization data, the nursing interventions collected from the medical records and the videos were recorded in an Excel 8.0 spreadsheet and later analyzed by the Statistical Package for the Social Sciences (SPSS), version 20.0. The data were analyzed according to descriptive statistics. To describe the profile of the sample, absolute (n) and relative (%) frequency tables were constructed.

The interventions recorded in the medical records were compared with the Nursing Interventions proposed by the NIC. By decision of the research team, only interventions that had a frequency greater than or equal to five were discussed among the subjects.

Ethical considerations

This research complied with the determinations proposed by Resolution 466/2012 of the National Health Council that regulates the ethical norms for research involving human beings, with the Opinion of the Research Ethics Committee (CEP) n. 2,001,355⁽¹⁰⁾.

RESULTS

Table 1 presents the characterization data of the 61 pairs evaluated in the process of breastfeeding establishment.

Most of the infants were born premature (n=52; 85.2%) and appropriate for gestational age (39; 63.9%). The average birth weight was 1859 g (SD 654.3), with a gestational age of 34.1 (SD 2.7) weeks. Nutritive sucking started at around 14.1 days of life (SD 13.7) and the corrected gestational age at the beginning of this proposal was 35.8 weeks (SD 1.60). Most of the infants (85.2%) were admitted to the unit with a medical diagnosis of prematurity.

Chart 1. Nursing interventions of the Nursing Intervention Classification⁽⁸⁾ used in the study. Campinas, São Paulo, Brazil, 2018.

NIC Intervention	Number of activities
Emotional Support (5270)	12
Infant Care (6820)	6
Infant Care: Preterm (6826)	4
Infant Care: Newborn (6824)	7
Kangaroo Care (6840)	4
Teaching: Infant Nutrition 0–3 months (5640)	1
Lactation Counseling (5244)	26
Coping Enhancement (5230)	3
Attachment Promotion (6710)	9

Table 1. Characterization of pairs. Campinas, São Paulo, Brazil, 2018. (n=61).

Characteristic	n (%) or mean±SD	Min-Max
Newborn		
Sex		
Female	30 (49.1%)	
Male	31 (50.9%)	
Classification according to gestational age		
Premature	52 (85.2%)	
Term	9 (14.8%)	
Classification by weight and gestational age		
Small for gestational age	20 (32.7%)	
Appropriate for gestational age	39 (63.9%)	
Large for gestational age	2 (3.4%)	
Birth weight (g)	1859±654.3	820–4245
Gestational age (weeks)	34.1±2.7	27–40
Days of life at initiation of nutritive sucking	14.1±13.7	2–48
Corrected gestational age at initiation of nutritive sucking	35.8±1.60	33.6–41.4
Weight on the day of data collection (grams)	2072±488.1	1450–4120
Inpatient diagnosis		
Prematurity	52 (85.2%)	
Respiratory disorder	28 (45.9%)	
Metabolic disorder	27 (44.2%)	
Infection	14 (22.9%)	
Mother		
Maternal age	28.4±6.9	18–40
Marital status		
Married	52 (85.2%)	
Single	9 (17.8%)	
Parity		
Primiparous	6 (9.8%)	
Multiparous*	55 (90.2%)	
Type of delivery		
Normal birth	25 (40.9%)	
Caesarean	36 (59.1%)	
Breastfeeding history of previous child**		
Exclusively breastfed	19 (34.5%)	
Mixed feeding	31 (56.3%)	
Did not breastfeed	5 (9.2%)	

*Women with more than 2 children; **history of breastfeeding until the sixth month of life of previous child; SD: standard deviation.

Regarding the mothers, 28.4 years (SD 6.9) was the average age and 85.2% had a partner. The most common type of delivery was cesarean (59.1%). For the breastfeeding history of the women who had other pregnancies (n=55), 34.5% exclusively breastfed their other children, 56.3% did mixed feeding and 9.2% did not breastfeed.

Most of the pairs (n=46; 75.4%) had a ND of Ineffective Breastfeeding (00104), while 15 (24.6%) showed an Effort to Improve Breastfeeding (00106). Of the total of 72 activities investigated from the nine interventions studied, 35 were identified. Each pair, considering videos and medical records, received between two and 13 nursing activities related to breastfeeding, with an average of five activities per pair.

Table 2 shows the frequency with which NIC interventions were identified in the sample, as well as their respective activities.

Table 3 presents activities that were performed by professionals, collected through videos and records in medical records, but are not described in the NIC.

Table 2. Frequency of interventions related to the initiation of breastfeeding. Campinas, São Paulo, Brazil, 2019. (n=61).

Intervention	n	%
Infant Care: Newborn (6824)		
Monitor newborn's suck reflex during feeding	61	100
Kangaroo Care (6840)		
Support parent in nurturing and providing hands-on care for infant	61	100
Lactation Counseling (5244)		
Discuss options for milk expression, including nonelectrical pumping and electrical pumping	57	93.4
Instruct on appropriate handling of expressed milk	57	93.4
Assist in ensuring proper infant attachment to breast	27	44.3
Monitor infant's ability to suck	15	24.6
Assist in determining need for supplemental feedings	7	11.5
Instruct on various feeding positions	6	9.8
Discuss strategies aimed at optimizing milk supply	5	8.2
Instruct on how to break suction of nursing infant, if necessary	5	8.2
Infant Care (6820)		
Monitor intake and output	18	29.5
Infant Care: Preterm (6826)		
Instruct parents to recognize infant cues and states	6	9.8

Table 3. Activities performed by professionals that are not described in the Nursing Intervention Classification. Campinas, São Paulo, Brazil, 2018. (n=61).

Activities	n	%
Monitor food intolerance	38	62.3
Stimulation of PTNB* and sleep management	15	24.6
Provide a comfortable environment for the mother to breastfeed	5	8.2
Assessment of the breast and milk production	5	8.2

*PTNB: Preterm Newborn.

In 61 pairs, the intervention Emotional Support (5270) was not identified. The activities “Arrange situations that encourage patient’s autonomy” in Coping Enhancement (5230) and “Reinforce caregiver role behaviors” in Attachment Promotion (6710) were found in two pairs, through the analysis of the videos.

DISCUSSION

Mother-infant separation, resulting from hospitalization, is a factor that can significantly contribute to breastfeeding failure^(11,12). Among the patients admitted to the unit studied, the majority were premature, resulting in additional challenges for breastfeeding establishment^(11-15,16,19).

The initiation of nutritive sucking depends on several factors, such as gestational age, weight, clinical characteristics of the infant, as well as institutional protocols. Normally, infants can initiate nutritive sucking between 32 and 34 weeks of gestational age, but it is from 35 weeks onwards that they better coordinate sucking and breathing, as well as satisfactorily maintaining grip⁽¹⁸⁾. In the sample studied, weight and gestational age at the beginning of nutritive sucking respected these premises and proved to be similar to other studies^(16,17).

The maternal profile regarding age, marital status and type of delivery also corroborated with findings of other authors^(16,19,20). The characteristics of the sample of mothers and infants are also related to the fact that the hospital is a reference for high-risk pregnancies.

Mixed feeding in previous children was the most frequent, which is also a risk factor for breastfeeding failure. Factors such as early return to work, inexperience in breastfeeding, lack of support from a partner or family, nipple pain, baby weight loss and insufficient milk production are the most common causes for introducing complementary feeding and early weaning^(15,21).

The ND of Ineffective Breastfeeding (00104) was the most frequent in the sample. Although the components of this ND describe more aspects related to the mother, the assessment of mother and infant in the breastfeeding process is inseparable, requiring attention and professional preparation.

Among the five most frequent NIC interventions, the one with the largest number of activities in the sample was “Lactation Counseling (5244)”, with eight activities identified; while the others had a specific activity for each. Next, the five interventions will be discussed.

The activity monitor newborn’s suck reflex during feeding stood out in the intervention “Infant Care: Newborn”. This shows the concern of health professionals with the child’s ability to suck, as one of the priorities for breastfeeding^(11,12,15). This care is related to the relevance of verifying if adequate stimulus is taking place in the areola-nipple region to promote milk production and ejection, in addition to the concern to evaluate the baby’s ability to extract breast milk to feed itself.

The intervention “Kangaroo Care (6840)” was represented by the activity of support parent in nurturing and providing hands-on care for infant. Considering that the unit in question is a reference for the Kangaroo Method in the country, mothers are encouraged to be present and make skin-to-skin contact with infants, in addition to directly participating in the care of their child whenever possible, regardless of the method phase. In addition to issues related to bond and milk production, skin-to-skin contact with the infant and the maternal presence in the neonatal unit induces the woman to produce antibodies against nosocomial pathogens to which the infant is exposed. These antibodies are passed onto the infant through breast milk⁽¹²⁾.

The intervention “Lactation Counseling (5244)” was the most frequent in this study, with mapped activities that are relevant to breastfeeding establishment. The larger number of activities may have been a bias, as many of them are part of a nursing prescription form, with pre-established activities, in which the nurse determines the inclusion of the item and the frequency with which care will be given.

There are numerous ways that members of the nursing team can offer support to women in the breastfeeding process, which are not limited to helping to feed the infant through the breast. Activities such as teaching about the importance of breastfeeding, strategies for maintaining milk production, information about manual breastfeeding or with a breast pump, offering educational leaflets, as well as identifying family members who can support the mothers are also important^(11,12).

The intervention “Infant Care (6820)” was represented by the activity of monitor intake and output. This monitoring helps the professional determine if the infant is able to extract milk from the breast and feed properly. This assessment

should also be shared with the mother because it is a useful learning experience for her, besides relating to the next activity that will be discussed. On the other hand, it is emphasized that breastfeeding is dynamic and can be different in each episode, especially in the context of hospitalization. Thus, this complex and affective experience cannot be limited to monitoring alone⁽¹⁵⁾.

The activity instruct parent to recognize infant cues and states, belonging to the intervention “Infant Care: Preterm” (6826), was only identified in 6 pairs during the observed feedings. This activity is not part of the standardized prescription of the unit and depends on the sensitivity of the health professional to perceive the mother-infant interaction and intervene. This is an essential aspect of care, since observing the infant’s behavior and learning to understand it reinforces the self-perception of competence, reducing mothers’ anxiety and reinforcing their confidence^(14,15).

Since breastfeeding is a psychobiological phenomenon, it is noteworthy that, in 61 pairs, no activity of the intervention “Emotional Support (5270)” was identified. In addition, other interventions such as “Coping Enhancement (5230)” and “Attachment Promotion (6710)” were not among the most frequent. This highlights that the subjective issues of breastfeeding care are not valued enough to be registered or performed, despite the ambivalence that involves the hospitalization of an infant^(11,12,15).

In the analysis of the videos and medical records, four activities were identified that are not described in the NIC, but are relevant to breastfeeding establishment, especially in cases of preterm newborns (PTNBs): monitor food intolerance; stimulation of PTNBs and sleep management; provide a comfortable environment for the mother to breastfeed and assessment of the breast and milk production.

Therefore, it is recommended that studies be developed so that activities are added to existing interventions in the NIC to address the specificities of premature newborns. For example, the activities provide a comfortable environment for the mother to breastfeed and assessment of the breast and milk production could be added to the intervention “Lactation Counseling (5244)”. While care and specific assessments for breastfeeding PTNBs could be included in the intervention entitled “Infant Care: Preterm” (6826). In addition, considering that premature infants experience a process of food transition from the gastric catheter to the oral route, activities should be added to this last intervention that describe monitoring of food intolerance.

In relation to a comfortable environment for breastfeeding and issues related to attachment, the lack of privacy is also an aspect of concern in a neonatal unit, as it inhibits spontaneous interaction between mother and

infant, decreases their bond and may delay the milk ejection reflex^(11,15). One cannot lose sight of the relevance of offering opportunities for meaningful contact between mothers and infants, avoiding associating the mother’s contributions only with breastfeeding.

The literature points out that mothers’ experiences in traditional neonatal units can discourage them from breastfeeding. This is when professionals make breastfeeding the main objective, limit the mother-infant relationship and decrease their privacy^(15,17). The promotion of breastfeeding during hospitalization requires health professionals to act in a conscious, deliberate, continuous, and persistent manner. Maternal support has a significant effect on breastfeeding initiation rates, duration and exclusivity, proving the need for this support throughout the pregnancy and postpartum process⁽²²⁾.

The NIC offers content that can assist healthcare teams in targeting interventions that promote breastfeeding. However, some interventions have fewer specific activities, which can raise uncertainty in their execution by professionals, especially for those who are less experienced. Thus, in the case of a classification that aims to qualify professional practice, it is extremely important that its content is revised, making it more understandable and didactic for professionals. This will be possible upon its use by health professionals, leading them to question and develop studies that will increase its content.

Some limitations of this study were: the difficulty to collect care activities from the medical records, considering the large number of notes that did not demonstrate the individuality of patients and mothers, with similar phrases and few descriptive notes on breastfeeding; as it is documentary research, the lack of medical records and the presence of unintelligible data made it difficult to access quality information; and, lack of similar publications to help discuss the results.

CONCLUSION

Considering 61 pairs in the process of breastfeeding establishment, in the context of the neonatal unit, five interventions proposed by the NIC were most frequently identified: Infant Care: Newborn (6824); Kangaroo Care (6840); Lactation Counseling (5244); Infant Care (6820); Infant Care: Preterm (6826). Two interventions occurred less frequently, being present in at least five pairs: Coping Enhancement (5230) and Attachment Promotion (6710).

The comparison between the nursing care recorded in the patients’ medical records and the NIC interventions showed that the records on care are very scarce. In addition, care related to bonding and coping seems to be little valued, although the literature points to its relevance in neonatal units.

The documentation of the activities performed by the nursing team assists in evaluating the care provided, which needs to be improved. The use of standardized nursing language can assist in this improvement. Thus, further studies should be carried out on the application of this language in the context of breastfeeding. It is worth mentioning that, even when not using standardized language, nurses must document decisions about the activities to be implemented, aiming at individualized and quality care, with an impact on the care, performed by them and their team.

This study also identified the need to include activities in NIC interventions that describe specific care for premature infants.

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