

## **NURSES' PERCEPTIONS ABOUT THE FEEDING OF PRETERM NEWBORNS**

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### **ABSTRACT**

**Objective:** to analyze nurses' perceptions about the feeding of preterm newborns and their motivations in using feeding methods during hospitalization in the neonatology unit.

**Method:** descriptive study with a qualitative approach. Data collection was carried out between July 2019 and January 2020, using semi-structured interviews with 30 nurses from a neonatology unit. The analysis of interview data was carried out using lexicographical textual analysis, the descending hierarchical classification, and similarity analysis through IRaMuTeQ - R Interface software.

**Results:** 876 text segments were analyzed in the descending hierarchical classification, retaining 86.3% of the total for the creation of five classes that resulted from content participation. The similarity analysis of the words representing the nurses' perception about oral feeding and the choice of feeding method led to three central cores, represented by the words: *think, give, bottle*.

**Conclusion:** Nurses recognize the importance of continuing education and training in the assessment of oral skills. The reason for choosing the feeding method is often based on criteria such as preference, speed, and ease.

**DESCRIPTORS:** Nurses. Child nutrition. Feeding methods. Neonatology. Preterm newborn.

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# PERCEPÇÃO DOS ENFERMEIROS SOBRE A ALIMENTAÇÃO DO RECÉM-NASCIDO PRÉ-TERMO

## RESUMO

**Objetivo:** analisar a percepção do enfermeiro sobre a alimentação do recém-nascido pré-termo e as suas motivações na aplicação dos métodos de alimentação, durante o internamento na unidade de neonatologia.

**Método:** estudo descritivo, com abordagem qualitativa. Recolha de dados, feita entre julho de 2019 e janeiro de 2020, com recurso à entrevista semiestruturada, a 30 enfermeiros de uma unidade de neonatologia. A análise dos dados que resultaram do conteúdo das entrevistas, fez-se com recurso à análise textual lexicográfica, recorrendo à Classificação Hierárquica Descendente e análise de similitude, através do software IRaMuTeQ - *Interface de R*.

**Resultados:** na Classificação Hierárquica Descendente, foram analisados 876 segmentos de texto, retendo 86,3% do total para a criação de cinco classes, resultantes da participação do conteúdo. A análise de similitude das palavras representativas da percepção dos enfermeiros, sobre a alimentação oral e a escolha do método de alimentação, conduziu à formação de três núcleos centrais, representados pelas palavras: *achar, dar, biberão*.

**Conclusão:** os enfermeiros reconhecem a importância da formação contínua e do treino na avaliação das competências orais. O motivo de escolha do método de alimentação baseia-se, frequentemente, em critérios como a preferência, rapidez e facilidade.

**DESCRITORES:** Enfermeiros e enfermeiras. Nutrição da criança. Métodos de alimentação. Neonatologia. Recém-nascido pré-termo.

# PERCEPCIÓN DE ENFERMEROS SOBRE LA ALIMENTACIÓN DEL RECIÉN NACIDO PREMATURO

## RESUMEN

**Objetivo:** analizar la percepción del enfermero sobre la alimentación del recién nacido prematuro y sus motivaciones para aplicación de los métodos de alimentación durante la internación en la unidad de neonatología.

**Método:** estudio descriptivo con abordaje cualitativo. Datos recolectados entre julio de 2019 y enero de 2020, aplicándose entrevista semiestructurada a 30 enfermeros de una unidad de neonatología. El análisis de datos resultante del contenido de las entrevistas se efectuó mediante análisis textual lexicográfico, recurriéndose a la Clasificación Jerárquica Descendente y al análisis de similitud, utilizándose *software* IRaMuTeQ – Interfaz de R.

**Resultados:** en la Clasificación Jerárquica Descendente fueron analizados 876 segmentos textuales, reteniéndose el 86,3% del total para creación de cinco clases, resultantes de la participación del contenido. El análisis de similitud de palabras representativas de la percepción de los enfermeros sobre alimentación oral y elección del método de alimentación determinó la conformación de tres núcleos centrales, representados por las palabras *creer, dar, biberón*.

**Conclusión:** los enfermeros reconocen la importancia de la educación continua y de la capacitación en evaluación de las competencias orales. La razón de elección del método de alimentación se fundamenta, frecuentemente, en criterios como preferencia, rapidez y facilidad.

**DESCRITORES:** Enfermeras y enfermeros. Nutrición del niño; Métodos de alimentación. Neonatología. Recién nacido prematuro.

## INTRODUCTION

Oral feeding is one of the most important activities for preterm newborns (NB) during hospitalization in the Neonatology Unit (NU), and to be successful, the preterm NB must reach the appropriate maturational development to initiate it<sup>1</sup>. However, about 30% of preterm admitted to the NU have difficulties to begin feeding, making food support one of the priority interventions in nursing care<sup>2</sup>.

As a nursing intervention, feeding requires nurses' skills and scientific knowledge for responsible and informed decision-making. However, there has been a decrease in the importance of feeding for some professionals in recent years<sup>3</sup>, because oral feeding is often delegated to nurses with less experience and competence, who may be unable to identify more subtle signs of neurobehavioral disorders in preterm NB<sup>4</sup>. This fact contributes to experiencing repeated stressful eating experiences, with a negative impact on these children's diet and neurodevelopment<sup>4</sup>.

Some authors<sup>5</sup> mention the lack of scientific evidence to support the effectiveness of nursing interventions in oral feeding. This may be the reason why there is no planning of interventions for the development of oral-motor skills, and the reason why the choice of the oral feeding method is based, above all, on the nurses' opinions and convictions<sup>6</sup>, rather than scientific evidence<sup>7</sup>. Therefore, continuous training on feeding is important for well-based decision-making in the NU.

This study aims to analyze nurses' perceptions about the feeding of preterm newborns and their motivations to use oral feeding methods during hospitalization in the NU.

## METHOD

The present study is descriptive with a qualitative approach, and followed the guidelines required by COREQ. Thirty nurses participated, which is approximately half of the nursing team common to an NU and pediatrics unit.

The nurses were selected by convenience, and the number of participants considered the professional group heterogeneity, using the variables length of professional experience and length of neonatology experience. The aim was to verify the ratio between the length of professional neonatology experience and the participants' opinions and knowledge regarding oral feeding for preterm NB. Participants were classified according to Benner's levels of proficiency (novice, advanced beginner, competent, proficient, and expert)<sup>8</sup>.

Interviews were conducted by the main researcher, who works at the NU where the study took place, thus there was a professional relationship between interviewer and interviewees. For this reason, special attention was given to the process of obtaining informed consent, and to the interviewing environment, a private room at the NU with only the interviewer and the interviewee. Interview time ranged from 13 to 30 minutes.

Data collection took place between July 2019 and January 2020 and started after the study was approved by the Health Ethics Committee of the hospital where the study was conducted, and the free informed consent and audio recording consent were signed by the participants, ensuring their anonymity. Doubts about the study, contents, and objectives of the interview were clarified to all participants. Of the 31 nurses contacted, one refused to participate, which may be related to the proximity between researcher and participants.

The semi-structured interview method was used for data collection, consisting of four questions that addressed the influence of oral feeding on the neurodevelopment of preterm NBs and family relationships; the nurse's intervention in oral feeding; the criteria for starting oral feeding,

and the motivations for choosing the oral feeding method. Prior to data collection, two interviews were conducted to validate the content of the questions and confirm that the data met the objectives proposed.

The interviews were later transcribed and prepared in a text corpus for the lexicographical textual analysis using the IRaMuTeQ - R Interface software. IRaMuTeQ is a free open-source software created by Pierre Ratinaud, in 2009, under a GNU GPL (v2) license, which allows for the statistical analysis of the text corpus<sup>9</sup>. The data that resulted from the analysis were analyzed and discussed by the two researchers. Descending hierarchical classification (DHC) and similarity analysis were used to process the data. The software made cuts every 40 characters to carry out the lexical analysis of the text corpus, which corresponds to the text segments analyzed.

## RESULTS

Of the 30 nurses who participated in the study, five (16.7%) were male, and 25 (83.3%) female. The mean age of participants was approximately 33 (mean=32.9), with a standard deviation of approximately six years (sd=5.6), a minimum age of 22, and a maximum age of 43. The average number of years of professional experience was almost 10 years (mean=9.9) with a standard deviation of approximately six years (sd=5.7), with nurses having at least 1 year and at most 20 years of experience. The average number of years of neonatology experience was 9 years, with a standard deviation of approximately five years (sd=5.4).

Regarding the level of expertise of the 30 nurses interviewed, 3 were classified as novice, 4 as advanced beginners, 2 as competent, 6 as proficient, and 15 as experts.

Textual analysis resulting from the interviews revealed 31,851 occurrences of words, distributed throughout 1870 forms, with an average of 17 words per form. The criterion used as a cutoff point for the inclusion of elements in the dendrogram classes was twice the mean frequency ( $17 \times 2 = 34$ ) in the corpus, and an association with the class by the value of  $X^2 \geq 3.84$ , with calculation defined according to a significance level of 95%<sup>10</sup>. All words have an  $X^2$  above the reference value and with p-value  $< 0.0001$ .

Eight hundred and seventy-six text segments were analyzed through the DHC, retaining 86.3% of the total to create 5 classes which resulted from content participation regarding the perception of nurses about oral feeding of preterm NB in the NU, as shown in Table 1.

The vocabulary in class 1 called for the name "Good Feeding Practices" in the process of developing oral feeding competences in preterm NB, accounting for 22% of the text segments analyzed in the corpus. The words: *care*, *change*, *nurse*, *difference*, *trust*, and *quality* translate how feeding is one of the central care practices for nurses.

Family-centered care and care partnership are central concepts in pediatric nursing; however, they are not always effectively implemented, which reflects the quality of oral feeding care.

**Table 1** – Classes of text segments obtained through the text corpus analysis. Lisbon, Portugal, 2020.

Words	X <sup>2</sup>	%
Class 1 “Good feeding practices” (22%)		
Care	46.78	48.48
Change	45.5	93.33
Nurse	38.22	40.67
Difference	27.38	90.00
Quality	25.11	100.00
Class 2 “Choice of feeding method” (32.9%)		
Finger-feeding	83.15	79.22
Bottle	70.64	67.57
Breast	52.65	76.79
Cup	35.49	88.00
Class 3 “Reason to initiate feeding” (13.4%)		
Gestational age	89.17	74.07
Reflex	72.06	61.76
Tongue	51.43	90.00
Class 4 “Nurse intervention in the health team” (13.4%)		
Appreciation	76.81	72.00
Intervention	63.57	58.82
Multidisciplinary team	52.41	78.57
Class 5 “Benefits of feeding” (18.4%)		
Development	142.83	67.95
Family relationships	89.69	95.45
Bonding	43.05	81.25

The speeches demonstrate that, although nurses recognize the parents’ role, they are not always given the opportunity to participate in feeding care:

[...] *we know that we should ask for an opinion on the quality of care, but there is difficulty in communicating with the population we care for [...] and we have difficulty seeing these mothers’ lives beyond the hospital* (e12).

[...] *it influences the way they see our care, as they are providing different forms of care in the same situation, and this will change the parents’ opinions about this or that nurse* (e26).

[...] *we are systematically evaluated [...] the way we approach childcare also ends up influencing their trust in the nurse* (e30).

Although they statistically present no reference values, words that reinforce those statistically significant for the class emerge due to their semantics. The words *coherence*, *study*, and *standardization* stand out among them, for they are in 100% of the class 1 text segments, reinforcing the relevance of the nurses’ training for standardized and evidence-based practices to achieve quality nursing care within the scope of feeding.

Class 2 was named “Choice of Feeding Method” and corresponds to 32.9% of the textual data analyzed. The words *finger-feeding*, *bottle*, *breast*, and *cup* refer to the methods most used by nurses to feed NB. This class reflects the nurses’ reasons for choosing a certain method:

[...] *when the baby goes to the breast, we end up stimulating it with finger-feeding, we make this distinction more if the NB is going to be breastfed or not* (e08).

[...] *what leads most nurses to choose a feeding technique is whether it is their favorite and how easy it is to give a bottle* (e10).

[...] *the choice of feeding technique, I think it is also related to the nurse's adaptation to the technique itself, I do not adapt to the cup, I choose the syringe to [...] assess the baby's reflexes and finger-feeding* (e18).

The finger-feeding method is mentioned as the one that allows the best assessment of the NB's oral skills. The main criterion for applying the bottle is whether the NB is already adapted to the breast or not. Many nurses mention they are not comfortable using the cup.

Class 3 was named "Reason to Start Feeding" and corresponded to 13.4% of the corpus analyzed with the main words: *gestational age*, *reflex*, and *tongue*. When they start feeding, most nurses consider the gestational age and the NB's reflexes, which emerges from the lexical vocabulary of class 3, as noted:

[...] *what is considered to start oral feeding are the signals the baby transmits to us, the issue of gestational age, when babies look for the breast, the rooting reflex, the protrusion of the tongue, we see many times they are desperately looking for the comfort of feeding* (e01).

[...] *to start feeding we must pay attention to whether the baby is prepared [...] we cannot fixate on weight, gestational age, and corrected age* (e11).

The words *rooting reflex* and *signs of hunger* appeared in 100% of the class 3 text segments, and the words *suck reflex*, *interest* and *search* were significantly associated with the lexical conception of the class (<0.0001). The expressions *signs of hunger*, *interest*, and *rooting* refer to the assessment of feeding readiness behaviors. It is noteworthy that the word *evaluate* also has significance to the lexical conception <0.0001.

Class 4 represents 13.4% of the textual segments and was named "Nurse Intervention in the Health Team", as it contains the expressions *appreciation*, *intervention*, and *multidisciplinary team*. In this class, the nurses' appreciation of their interventions clearly impacts how the health team and parents understand and value nursing feeding care, as observed in the following statements:

[...] *the nurses' role is vital because we can make a lot of interventions, autonomous interventions that depend only on our work, and if we all start to make these interventions in a more homogeneous way among all, maybe we will be more recognized by other professionals* (e08).

[...] *at the multidisciplinary team level, in addition to thinking that we have a main role, we also have a moderating one, that is, basically we are the link between parents and the multidisciplinary team* (e11).

[...] *these professionals are also more alert and appreciate nursing care [...], we work as a team, and as a team we convey an image to the outside world, both to parents and other professionals, as well as to ourselves* (e29).

The expressions *lack of knowledge* and *turnover* are factors that influence nursing care at the level of nutrition and appear in 100% of the class 4 text segments.

Class 5 was given the name "Benefits of Feeding", and covered 18.4% of the corpus analyzed, with the expressions *development*, *family relationships*, and *bonding*, which refer to the importance of feeding in the NB's development in both short and long-term, and its impact on parenting skills:

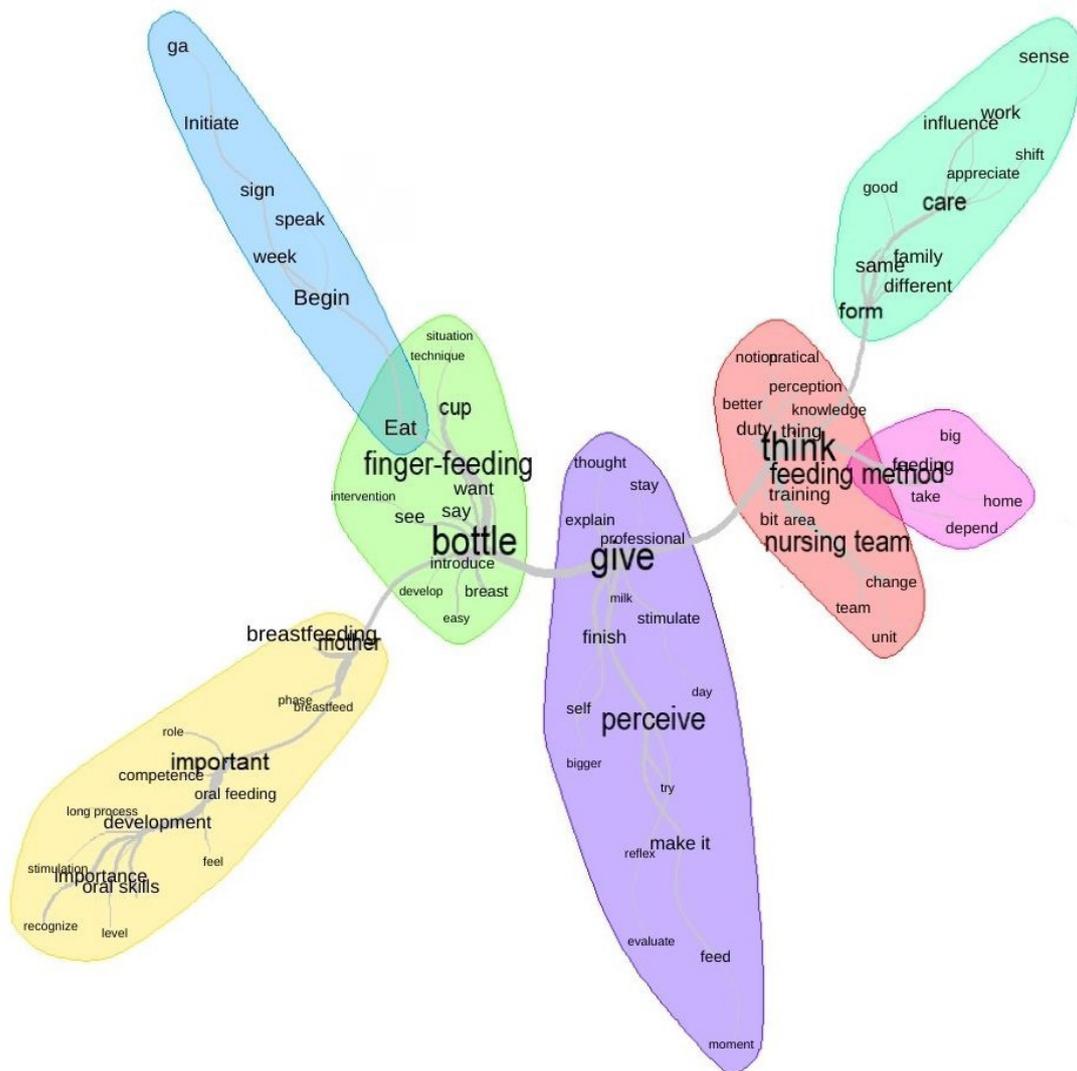
[...] *oral feeding is very important for the development of premature infants and for family relationships, it is one of the points in which fathers contribute more and especially mothers with the purpose of breastfeeding* (e11).

[...] *oral feeding is important for premature babies, their growth and development due to the caloric intake, early contact with the mother because of the importance of breastfeeding* (e14).

[...] if the family manages to intervene in feeding properly, if the baby does not show signs of stress and it is a pleasurable moment for both, the bond will be better established (e22).

The analysis of this class showed that nurses perceive the importance of the quality of the stimulus provided to the NB during feeding and how it positively or negatively influences their oral muscular, motor, neurological, and emotional development, as well as the level of anxiety associated with feeding.

The similarity analysis led to the composition of three central cores, as seen in Figure 1, represented by the words: *think*, *give*, *bottle*. The ramification between these cores reveals how the terms are strongly interconnected and convey the notion that the process of developing feeding competences is continuous, as well as the nurse's role through it. In this process, the nurses' knowledge is essential to assess oral skills to start feeding and to choose the feeding method.



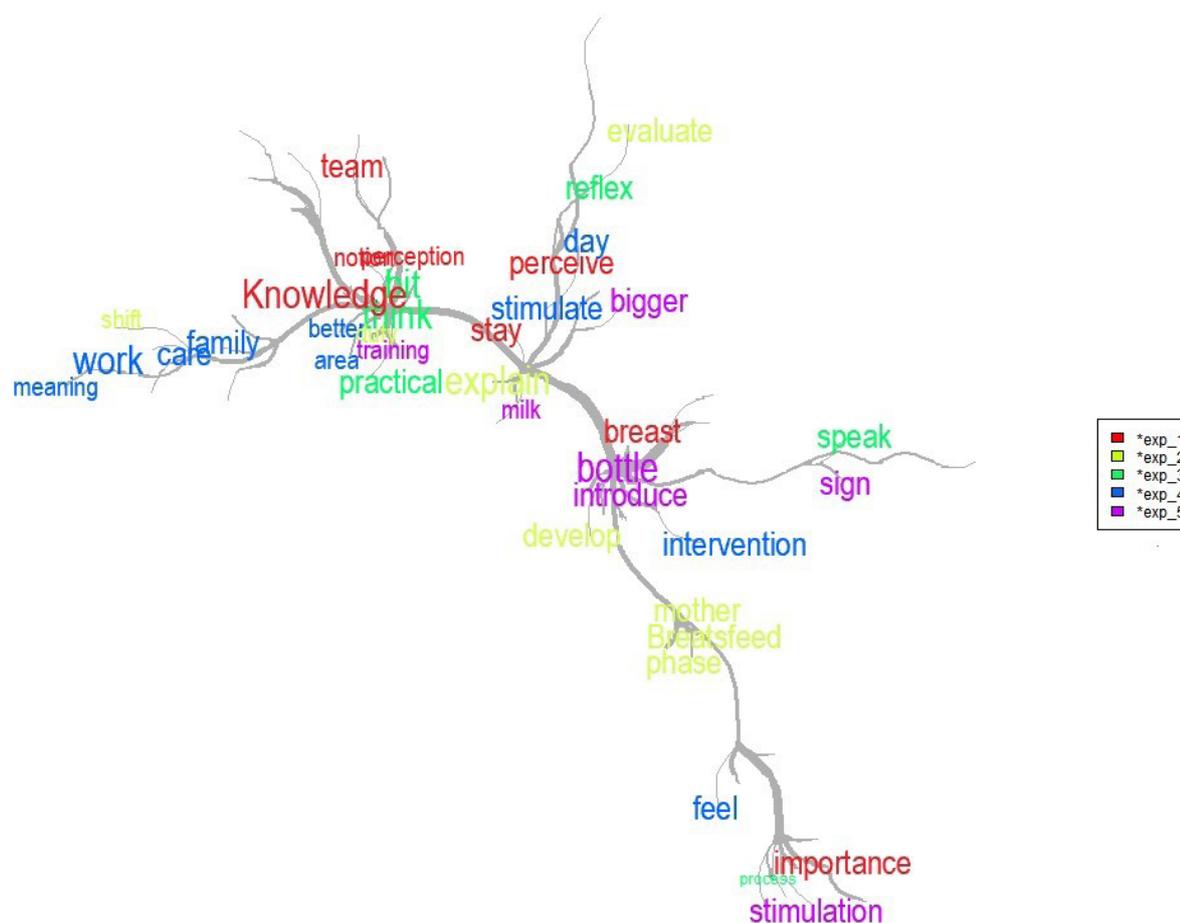
**Figure 1** – Tree of co-occurrence among the words of the text corpus. Lisbon, Portugal, 2020.

The branches with the greatest degree of connectivity in the core think are care and form, followed by the terms nursing team and feeding method. As mentioned in class 1, this core shows that nurses' decision-making is often based on opinion, especially on the choice of feeding method.

Regarding the core with the term give, the degrees of connectivity between the different branches perceive and important are relatively homogeneous. The importance of evaluating oral reflexes to start feeding and the importance of oral skills in the NB's development stand out through the interconnection of the different terms. This evidence is in line with what is mentioned in classes 3 and 5 of DHC.

Finally, the core with the term bottle has two main branches: finger-feeding and mother. This core shows that the main feeding methods used are the bottle, finger-feeding, and the cup. It is worth mentioning that the cup has a lower degree of connectivity compared to other methods. As mentioned in DHC class 2, the branch with the word mother contains the criteria for choosing feeding methods.

The variable length of neonatology experience was chosen to verify the ratio between the nurses' level of expertise and feeding knowledge. Differences were identified between each level of expertise in the similarity analysis (Figure 2).



Exp\_1: novice; exp\_2: advanced beginner; exp\_3: competent; exp\_4: proficient; exp\_5: expert.

**Figure 2** – Analysis of co-occurrence considering the variable “nurses’ level of neonatology competence”.  
Lisbon, Portugal, 2020.

The terms *knowledge* and *explain* stand out in this analysis and are associated with the levels of novice and advanced beginner, in which knowledge is identified as a facilitator of the care partnership. The words *think* and *bit* are associated with the competent level, *work* and *bottle* with the proficient and expert levels, respectively, which reflect the choice of method.

## DISCUSSION

The importance of oral feeding in the NB development was associated with the maturational level necessary for the acquisition of oral-motor skills by most nurses, regardless of the expertise level. This may be related to the importance still attributed to the volume of milk ingestion necessary for food autonomy, rather than the impact of oral feeding on long-term development.

There were few references to the importance of an individualized assessment of the NB's maturational level in the textual analysis. Adequate stimulation meets the NB's maturational level and consequently, in the long term, has positive repercussions on the child's oral and global development, as mentioned mainly by the proficient and expert nurses who participated in the study. This observation is in line with the levels described by Benner, in which the proficient nurse has the competence to understand the NB as a multidimensional being, and the expert nurse has a deep understanding of the NB's complexity and vulnerability and the dynamic way the NB interacts with the surrounding environment<sup>8</sup>. As evidenced in class 5 of the DHC, the quality of feeding experiences of preterm NB's during hospitalization in the NU may not only affect feeding success, but also outcomes in psychomotor development and in parental interaction and/or social adaptation<sup>11</sup>.

Feeding is one of the first parental experiences that can impact the parent-infant dyad<sup>12</sup>. For the novice and advanced beginner, these experiences are associated with breastfeeding and the way it facilitates bonding, focusing on the importance of maintaining breastfeeding and the role played by mothers. This observation is relevant, since exclusive breastfeeding corresponds to one of the eight principles of individual and family-centered care for the NB in the NU<sup>13</sup> and demonstrates that nurses have knowledge at this level of expertise, albeit directed.

At the competent level, feeding was considered an activity that supports and encourages parenting skills. At the proficient level, nurses mentioned the growing participation of parents in feeding and increasingly seeking care to be centered on the family and not the professional, as observed in class 1 of the DHC. Neuroprotective principles such as individual assessment and parental education on preterm NB feeding must be evident in nursing care for oral feeding. The family is an integral part of care for development and is essential for the quality and safety of care, so it plays a very important role in the oral feeding success<sup>14-15</sup>.

In the reason for choosing the feeding method, most nurses mentioned there was a growing concern to respect the mother's desire to breastfeed and to assess oral skills and feeding readiness behaviors when introducing the feeding method. However, the DHC showed that criteria as safety, feeling comfortable during application, ease, and allowing the NB to be fed quickly stand out among nurses, in agreement with the findings of Al-Sahab *et al.* in 2010<sup>6</sup>, and that decision-making is often not based on scientific evidence<sup>7</sup>. This may lead to the use of different feeding methods in 24 hours<sup>16</sup>, demonstrating a lack of coherence and uniformity in nursing care, which may have a negative impact on their appreciation by the rest of the health team, in line with class 4 of the DHC.

The similarity analysis showed that regardless of the expertise level, further training and information sharing are essential to increase nurses' knowledge so decision-making is more strongly based on scientific evidence, contributing to the improvement of nursing care quality and appreciation by the health team. This analysis is in line with the findings of Girgin and Gözen<sup>17</sup>. However, the identification of this need was different in each of the expertise levels. At the novice and advanced beginner levels, the need for training is very much associated with daily care, with the need to respond to know-how difficulties, not yet clearly identifying the relevance of parents' participation and involvement in care and decision-making, focusing essentially on the breastfeeding pathway.

The competent nurse is the one who demonstrates efficiency and skills to establish a plan according to the assessment performed<sup>8</sup>. At this level of expertise, training is identified as a means for standardization and coherence of care, aiming to get the NB to quickly acquire feeding skills and be discharged from hospital. The experts express a global nursing care perspective and how it develops, they recognize gaps in their own knowledge and that of the nursing team. These gaps contribute to stressful feeding experiences with a negative impact on neurodevelopment<sup>4</sup>. Thus, training should contribute to increasing knowledge and sensitizing the nursing team to the importance of feeding, improving practices, and contributing to decision-making more supported by scientific evidence.

Regarding the introduction of the feeding methods bottle, cup, or finger-feeding, the choice was found to be often related to the mother's desire to breastfeed, meeting the recommendations described by the World Health Organization in 2006 in the technical review 'Optimal feeding of low-birth-weight infants'. Nurses chose finger-feeding in this situation, considering that it promotes the development of oral skills, such as the correct positioning of the tongue and the stimulation of oral structures, similarly to breastfeeding. This is in line with what has been described by some studies, which mention that finger-feeding promotes a more physiological diet<sup>18</sup> and favors breastfeeding<sup>19</sup>.

Nurses identified the advantages of finger-feeding but highlighted the importance of training for its correct application, as they recognize they have not always done it correctly, which may have contributed to greater reluctance in its use.

One of the disadvantages mentioned is the application time required, an aspect already mentioned in a study developed by Moreira *et al.* in 2017, in which nurses reported spending more time organizing the finger-feeding material compared to the cup<sup>18</sup>. In this study, nurses also mentioned the time needed to "be" with the NB during feeding, respecting their maturational level, because they only drink milk when they have the physiological, behavioral, and oral skills to suck on their gloved finger. This lack of availability was often explained because when a nurse is responsible for feeding NB with different levels of neurodevelopment and oral skills, they do not always have the time necessary for an individualized assessment and to adapt their interventions.

Regarding the bottle, nurses mention the choice of this method because they consider it more comfortable for themselves, easy to apply, allowing the NB to be fed quickly and to acquire feeding autonomy faster than with other methods. This perception of drive towards early food autonomy is not supported by scientific evidence. There are no differences in the NB length of stay when comparing the bottle with the cup<sup>20-21</sup>. However, in a study by Lucena *et. al*<sup>22</sup>. the volume of milk ingested by the NB with the bottle was observed to be superior to that of cups, and further studies are needed to confirm this evidence. No studies on finger-feeding and bottle feeding were found in the scientific literature.

The perception that the bottle allows the NB to be fed quickly may be related to the fact that it is not always used correctly<sup>23</sup>, and to the greater value given by nurses to the amount of milk ingested, rather than feeding quality. These findings lead us to question whether the maturational level and oral skills were assessed when the NB were bottle-fed.

One of the advantages mentioned by proficient and expert nurses in the introduction of the bottle is that it can be used by parents, differently from the cup and finger-feeding, causing it to be used more frequently. Despite that, the cup is described as a method that allows for parental involvement<sup>24</sup>.

However, these nurses point out they cannot always validate the parents' feeding skills, and the desire to take the child home makes them try to continue with the feeding, even when it is no longer available for interaction. Whenever possible, parents should feed their children in a scenario where

education and training are encouraged and supported by nurses, minimizing family stress during this process<sup>25-26</sup> and promoting safe and pleasurable feeding for both the NB and the parents.

The cup is the feeding method least used by nurses, as they consider that it does not adequately stimulate oral skills. There is no consensus in the scientific literature both in terms of its influence on the development of sucking<sup>27</sup>, and in terms of muscle activity with the cup compared to breastfeeding<sup>28-29</sup>. In terms of milk waste, there are no significant differences when compared to the bottle<sup>22</sup>, but there is greater milk waste and stress signs during the use of the cup when compared to finger-feeding<sup>18</sup>. This can be explained by the fact that nurses do not feel comfortable using it, which was confirmed throughout this investigation. This shows the importance of training in different feeding methods for their correct use<sup>20</sup> to facilitate the preterm NB's growth and development.

The main limitation of the study was organizing the nurses' time to participate in the interview. Initially, the professional connection between the researcher and the participants was considered a potential limitation, but that was not the case, as only one of the nurses selected refused to carry out the interview. Furthermore, this connection contributed to a better understanding of the training needs identified by nurses and facilitated the planning of the ongoing training to be developed.

## CONCLUSION

The study shows that nurses consider NB oral feeding training essential for providing quality care. However, there are differences in these training needs related to the professionals' level of expertise. While nurses at the novice and advanced beginner levels have training needs associated with daily care and mastery of know-how; competent nurses consider the importance of standardizing care; proficient nurses focus on family-centered and neuroprotective care; and expert nurses focus on the importance of knowledge and awareness of evidence-based practices and decisions.

Training emerges as an asset for the NB's oral feeding care and its impacts on development during hospitalization in the NU and throughout childhood. There is an interest in developing training programs to contribute to the improvement and quality of neonatology nursing care and continuous professional development.

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## NOTES

### ORIGIN OF THE ARTICLE

The article emerged as a continuation of the project – The Oral Feeding Techniques of Preterm Newborns: Nurses' Intervention, developed within the scope of the master's degree in Nursing in Specialization in Child Health and Pediatrics held at the Higher Escola Superior de Enfermagem de Lisboa in 2016-2018.

### CONTRIBUTION OF AUTHORITY

Study design: Brantes AL, Curado MAS.

Data collection: Brantes AL.

Data analysis and interpretation: Brantes AL, Curado MAS.

Discussion of results: Brantes AL, Curado MAS.

Writing and/or critical review of content: Brantes AL, Curado MAS.

Review and approval of the final version: Curado MAS.

### APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved by the Health Ethics Committee of Prof. Dr. Fernando Fonseca Hospital, EPE, opinion n. 35/2019.

### CONFLICTS OF INTERESTS

There are no conflicts of interest.

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