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CONTENT VALIDATION OF THE ELEMENTS OF THE NURSING DIAGNOSIS “INEFFECTIVE BREASTFEEDING”

*Validação de conteúdo dos elementos do diagnóstico de enfermagem “amamentação ineficaz”**Validación de contenido de los elementos del diagnóstico de enfermería “lactancia materna ineficaz”***Beatriz Pera de Almeida-Hamasaki¹** **Letícia Fiorini Carbol²** **Suellen Cristina Dias Emidio³** **Simoní Saraiva Bordignon⁴** **Elenice Valentim Carmona⁵** 

ABSTRACT

Objective: to review and validate the elements of the Nursing Diagnosis "Ineffective Breastfeeding" (00104) based on the literature and expert consensus, and to construct operational definitions for its defining characteristics. **Method:** this is a methodological study carried out in two phases: a scoping review, based on that proposed by the Joanna Briggs Institute, and content validation. Items with a Content Validity Index ≥ 0.80 in terms of relevance, clarity and precision were considered validated. **Results:** elements of the Nursing Diagnoses were kept as they are in the current edition of the NANDA International Classification of Nursing Diagnoses (NANDA-I), while others were modified. In addition, the inclusion of related factors, risk populations and associated conditions was proposed. **Conclusion:** this study enabled a review and validation of the content of the Nursing Diagnosis "Ineffective breastfeeding", present in the NANDA-I Classification of Nursing Diagnoses. **DESCRIPTORS:** Breastfeeding; Nursing process; Nursing diagnosis; Standardized nursing terminology;

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RESUMO

Objetivo: revisar e validar os elementos do Diagnóstico de Enfermagem "Amamentação ineficaz" (00104) a partir da literatura e consenso de especialistas e construir definições operacionais para suas características definidoras. **Método:** trata-se de uma pesquisa metodológica desenvolvida em duas fases: revisão de escopo, baseada no proposto pelo *Joanna Briggs Institute*, e validação de conteúdo. Foram considerados validados os itens com Índice de Validade de Conteúdo $\geq 0,80$ quanto a relevância, clareza e precisão. **Resultados:** elementos do Diagnósticos de Enfermagem foram mantidos como estão na atual edição da Classificação de Diagnósticos de Enfermagem da *NANDA International* (NANDA-I), enquanto outros sofreram modificações. Além disso, foi proposta a inclusão de fatores relacionados, populações de risco e condições associadas. **Conclusão:** este estudo possibilitou revisão e validação de conteúdo do Diagnóstico de Enfermagem "Amamentação ineficaz", presente na Classificação dos Diagnósticos de Enfermagem da NANDA-I.

DESCRITORES: Aleitamento materno; Processo de enfermagem; Diagnóstico de enfermagem; Terminologia padronizada em enfermagem;

RESUMEN

Objetivos: revisar y validar los elementos del Diagnóstico de Enfermería "Lactancia Ineficaz" (00104) a partir de la literatura y el consenso de expertos, y construir definiciones operativas para sus características definitorias. **Método:** se trata de un estudio metodológico realizado en dos fases: una revisión de alcance, basada en la propuesta por el *Joanna Briggs Institute*, y una validación de contenido. Se consideraron validados los ítems con un Índice de Validez de Contenido $\geq 0,80$ en términos de relevancia, claridad y precisión. **Resultados:** se mantuvieron elementos de los Diagnósticos de Enfermería tal y como están en la edición actual de la Clasificación Internacional de Diagnósticos de Enfermería NANDA (NANDA-I), mientras que otros fueron modificados. Además, se propuso la inclusión de factores relacionados, poblaciones de riesgo y condiciones asociadas. **Conclusión:** este estudio permitió la revisión y validación del contenido del Diagnóstico de Enfermería "Lactancia materna ineficaz", presente en la Clasificación de Diagnósticos de Enfermería NANDA-I.

DESCRIPTORES: Lactancia materna; Proceso de enfermería; Diagnóstico de enfermería; Terminología estandarizada de enfermería.

INTRODUCTION

The current recommendation is that breastfeeding (BF) should be carried out from the first hour of life until at least two years of age.¹ It should be emphasized that in the first six months of life it should be carried out exclusively, without the offer of complementary food, whether liquid or solid.¹ Breast milk is the most suitable food for the child during this period, since each mother's milk is unique and specially adapted to her child's needs.² However, the benefits of breastfeeding go beyond nutritional issues, as it provides a bond between the woman and the infant, protects the newborn against respiratory infections, otitis, diarrhea, various diseases in adulthood and provides a lower chance of developing type II diabetes, as well as being considered a protective factor for women in relation to breast, uterine and ovarian cancer.²

Although the benefits are immeasurable, the lack of adherence to BF, the absence of exclusivity in the first semester and early weaning are still significant issues in Brazil and around the world. Preliminary results from the National Infant Feeding and Nutrition Study (ENANI/2019) show a progressive improvement in breastfeeding adherence over the last three decades, possibly due to the increase in maternity leave and the regulation of breastmilk substitutes. Despite this, the figures are still not ideal, as only 60% of babies under 4 months of age and 45.7% of those under six months of age receive human breast milk³

and there are many factors that make breastfeeding challenging for women.⁴ It is therefore the role of the nursing professional, through their clinical practice, to support, encourage and preserve breastfeeding, with guidance and actions carried out before and after birth, as well as identifying factors that put BF at risk and intervening on them.¹

In this sense, with the guidance of the Nursing Process (NP), nurses have the possibility of systematizing care in the context of promoting breastfeeding, in order to provide safe and adequate care. The NP, as an intellectual instrument, is organized into interrelated and dynamic stages described as: investigation, diagnosis, planning, implementation and evaluation.⁵ Therefore, nurses diagnose and treat phenomena related to BF. To record decisions based on their clinical reasoning about human responses, in order to direct interventions and communicate their practice and science, nurses use standardized nursing language or Nursing Classifications. There are several nursing classifications, but this study deals with the NANDA International Classification of Nursing Diagnoses (NANDA-I).⁶

A nursing diagnosis is the clinical judgment about a human response to health conditions/life processes, or a vulnerability to this response, which encompasses the individual, family or community. This judgment directs nursing interventions that achieve the results for which the nurse is responsible.⁶ Among the human responses related to BF and present in the aforementioned Classification, this study covered the diagnosis

"Ineffective breastfeeding". This diagnosis is defined as "difficulty in offering milk from the breast, which may compromise the nutritional status of the infant or child". It consists of a title, definition, defining characteristics (observable indicators/references that are grouped together as manifestations of the problem), related factors (factors that contribute to the presence of the diagnosis), populations at risk and associated conditions.⁶ In this sense, this diagnosis was reviewed with the aim of promoting its refinement and drawing up Operational Definitions (OD) for the defining characteristics (DC). The OD are descriptions of the concepts that make up the diagnoses, so that their identification is more objective and targeted. The content was also validated by specialists, favoring its application in clinical practice.⁷

The diagnosis "Ineffective breastfeeding" is a relevant phenomenon for the health of the population, so it is essential that it is identified and treated. Its refinement is justified because standardized nursing language is considered an important tool to support nurses in the face of the growing complexity of health care, fostering the production of knowledge and providing support for clinical nursing reasoning. Nursing classifications should therefore be constantly reviewed and refined.

Therefore, this study aims to review and validate the elements of the Nursing Diagnosis "Ineffective breastfeeding" (00104) from the literature and expert consensus and to construct operational definitions for its defining characteristics.

METHOD

This was a two-stage methodological study. In the first, a scoping review was carried out, which was developed in accordance with the methodological approach recommended by the Joanna Briggs Institute - JBI.⁸ The recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews - PRISMA-ScR.⁹ The registration protocol for this study can be found on the Open Science Framework (OSF), under the code OSF.IO/vd6mn.

The questions were formulated using the acronym Population, Concept, Context (PCC),⁸ where P (Population) is represented here by the "mother-baby binomial", C (Concept) is "breastfeeding" and, finally, C (Context) is "the first six months of life". Based on these definitions, the questions that guided the review were: "What are the clinical indicators related to breastfeeding in mother-baby binomials in the first six months?" and "What are the factors that interfere with breastfeeding in mother-baby binomials in the first six months?".

Studies of different methodological designs, complete, published in Portuguese, English or Spanish, from 2016 to July 2021, which addressed the content of the guiding questions, were included. The electronic databases used were: PubMed (US National Library of Medicine); LILACS (Latin American and Caribbean Health Sciences Literature); CINAHL (Cumulative Index to Nursing and Allied Health Literature); SCOPUS;

Cochrane Library; Web of Science; BDENF (Brazilian Nursing Database) and EMBASE (Excerpta Medica Database).

The scoping review made it possible to review the elements of the diagnosis and to draw up ODs based on its defining characteristics,¹⁰⁻¹² which are related to the presence of the phenomenon. The construction of the OD aims to help nurses understand the components of the phenomenon "Ineffective breastfeeding" (00104) in mothers and babies. In this sense, OD is understood as a procedure that attributes a communicable meaning to a concept, i.e. a precise description of how to evaluate the phenomenon in question.¹⁰⁻¹¹

After reviewing the elements in the literature, each item was submitted for evaluation by a committee of breastfeeding experts, in order to obtain a consensus among them on the presence of certain criteria.¹² These are: relevance - determining whether the components are coherent with the diagnostic phenomenon described; clarity - determining whether the components are intelligible from their content, in a simple and clear way, without ambiguity; and precision - determining whether the components have a single definition and are distinguishable from one another.

The Content Validity Index (CVI) was used to verify the adequacy of the OD components to the criteria in question. This index measures the proportion or percentage of experts who agree on the criteria. To do this, scores of -1 (criterion not met), 0 (indecision as to the adequacy of the criterion) or +1 (criterion met) are given; then the +1 points given by the experts for each of the contents analyzed are added up and the result is divided by the maximum total points (here corresponding to the number of experts). A result greater than or equal to 0.8 was considered adequate.¹³

The items were then evaluated one by one by the experts using a form drawn up via Google Forms. Along with this form, the experts also received the Informed Consent Form and a letter with guidelines on the research in question. In the event of a CVI of less than 0.8 for any of the criteria evaluated, the content was revised according to the experts' suggestions, plus a review of the literature and/or the researchers' clinical experience.

In the second phase, the content that required revision was again submitted for evaluation by the same experts, this time using the focus group technique proposed by Backes et al.¹⁴ This is a data collection technique that values communication between research participants. All the questions and suggestions were discussed among the participants until a consensus was reached.

The study was approved by the UNICAMP Research Ethics Committee, under opinion number: 5.155.64, CAAE: 47578821.0.0000.5404 on December 9, 2021, in compliance with Resolution 466/12 of the National Health Council and is part of the PhD thesis "Validation of NANDA International Nursing Diagnoses related to breastfeeding". All participants agreed to take part electronically and received a copy of the Informed Consent Form.

RESULTS

The review of the elements of the DE "Ineffective Breastfeeding" (00104) was guided by 61 articles, which made up the final sample of the scoping review, in addition to occasional searches carried out to improve the content when necessary. Nineteen specialists took part in the study, all female, with an average of 13 years of professional training. Of these, four had a doctorate, 10 a master's degree, four a specialization and one a residency. Of the specialists, 16 (84%) said they

used or had used nursing classifications in their professional practice. All of them said they provided or had provided care to mothers and babies who were breastfeeding.

Table 1 shows the review of the elements of "Ineffective breastfeeding", including the original content proposed by the NANDA-I Classification of Nursing Diagnoses,⁶ version 2021 - 2023, the changes that were proposed as a result of the scoping review and the CVI assigned to each item after the first phase of evaluation by the experts.

Chart 1 - Review of the elements of the diagnosis "Ineffective Breastfeeding" (00104) of the NANDA-I Classification of Nursing Diagnoses, first phase. Campinas, São Paulo, Brazil, 2023

Components of DE, second edition 2021-2023	Proposed changes to the element: inclusion, exclusion or revision of the writing	CVI in the first round of expert evaluation		
		Relevance	Clarity	Precision
TITLE OF THE DIAGNOSIS				
Ineffective breastfeeding	Maintained	0,95	0,89	0,89
DEFINING THE DIAGNOSIS				
Difficulty in supplying milk from the breast, which can compromise the nutritional status of the infant or child	Difficulty in supplying milk from the breast, which can interfere with meeting the infant's nutritional needs	0,84	0,84	0,74
DEFINING CHARACTERISTICS				
<i>On the baby</i>				
Agitation within an hour of breastfeeding	Maintained ¹⁵⁻¹⁷	0,95	0,84	0,95
Arching when in the breast	Maintained	0,84	0,68	0,84
No response to other comfort measures	Infant maintains signs of hunger, with crying and restlessness, even after comfort measures ¹⁸⁻¹⁹	1,00	1,00	0,95
Crying within an hour of breastfeeding	Frequent crying episodes within 24 hours of breastfeeding ^{16,20}	0,89	0,89	0,95
Crying at the breast	Maintained ²¹	0,89	0,79	0,79
Inadequate stools	Constipation for the age group ²²⁻²³	0,89	0,84	0,79
Inadequate weight gain	Low weight gain for the age group ²⁴⁻²⁵	0,89	0,95	0,84
Inability to grasp the maternal areola-mamillary region correctly	Maintained ²⁶⁻²⁷	1,00	0,95	0,89
Sustained weight loss	Weight loss maintained over the days ²²	0,95	0,89	0,79

Resistance to grasping the areola-mamillary region	Maintained ^{15,28}	0,95	0,84	0,84
Unsustained sucking on the breast	Maintained ^{22,29}	0,95	0,89	0,95
<i>Mother</i>				
Insufficient emptying of each breast during breastfeeding	Perception of insufficient emptying of the breast after the end of feeding ²⁴	0,84	0,84	0,89
Perception of inadequate milk supply	Perception of breast milk production below the infant's needs ²⁶	0,89	0,89	0,95
Persistent sore nipples after the first week of breastfeeding	Lesion in the nipple-areola complex ^{26,30}	0,89	0,89	0,89
Insufficient signs of oxytocin release	No signs of oxytocin release ²⁷	0,89	0,68	0,74
RELATED FACTORS				
Supplementary feedings with an artificial nipple	Maintained ²²	0,95	0,89	0,89
Interrupted breastfeeding	Maintained ³¹	1,00	0,95	0,95
Maternal ambivalence	Maintained ³²⁻³³	0,89	0,79	0,84
Maternal breast anomaly	Maintained ²⁴	1,00	0,79	1,00
Maternal anxiety	Maintained ³⁴⁻³⁵	1,00	0,95	1,00
Inadequate family support	Maintained ¹⁵	1,00	0,95	0,95
Delayed stage II of lactogenesis	Maintained ²⁴	1,00	0,84	0,95
Parents' inadequate knowledge of the importance of breastfeeding	Maintained ^{34,36}	0,95	0,95	0,95
Parents' inadequate knowledge of breastfeeding techniques	Maintained ³⁷⁻³⁸	1,00	0,89	0,89
Maternal pain	Maternal death related to various factors ^{37,39}	0,95	0,89	0,89
Maternal fatigue	Maintained ^{15,39}	1,00	0,95	0,95
Maternal obesity	Maintained ^{22,31,40-41}	0,95	0,89	0,95
Insufficient opportunity to suckle the breast	Maintained ⁴²	0,89	0,84	0,84
Insufficient breast milk production	Maintained ^{24,34}	0,95	0,95	0,89

Content validation of the elements of the nursing diagnosis "ineffective breastfeeding"

Ineffective suck-swallow response in infants	Maintained ^{27,43}	1,00	0,95	0,95
Pacifier use	Maintained ¹⁸	0,95	0,95	0,89
Use of silicone intermediates	Included ⁴⁴	1,00	1,00	1,00
Breast engorgement	Included ²²	0,95	0,95	0,95
Insufficient professional support	Included ⁴⁵⁻⁴⁶	0,95	0,95	0,89
POPULATIONS AT RISK				
Individuals with a history of breast surgery	Maintained ²⁴	0,95	0,95	0,95
Individuals with a history of breastfeeding failure	Individuals with a history of previous breastfeeding failure ⁴⁷⁻⁴⁸	1,00	1,00	0,95
Preterm infants	Maintained ⁴⁷	0,95	0,95	0,95
Mothers of premature infants	Maintained ³⁴	0,95	0,95	0,89
Women with short maternity leave	Maintained ⁴⁹	0,89	0,84	0,84
Women smokers	Included ⁴⁰	0,95	0,89	0,95
Primiparous	Included ^{22,26,33}	0,95	0,95	0,89
Women with low socioeconomic status	Included ^{40,42,47,49}	0,95	0,89	1,00
ASSOCIATED CONDITIONS				
Oropharyngeal defect	Maintained ²⁷	1,00	0,84	1,00
Caesarean surgery	Included ^{26,40,42}	0,95	0,95	0,89
Mastitis	Included ^{28,33}	0,95	0,95	0,95

After the first phase, eight elements required revision because they had a CVI < 0.8 in one or more of the criteria evaluated. They were therefore revised again, taking into account the literature, the authors' expertise and suggestions from specialists. Subsequently, the elements were presented in a focus group and after a consensus discussion, the final version was agreed upon, as shown in Chart 2.

The operational definitions drawn up for each of the defining characteristics underwent the same process described above of evaluation with the experts. The results of the first validation phase are described in Table 3.

Of the ODs, only one required revision due to the CVI. After the focus group, the OD for the defining characteristic

"cries when placed on the breast for sucking" was defined as: "Infant cries when placed on the breast to be breastfed". In addition, through the experts' suggestions on the form, two other ODs were revised in the group, even though they had achieved satisfactory CVI. These were: the definition for "constipation" was validated as "Infant has difficult and/or infrequent bowel movements and in small quantities, associated with hard, dry stools and/or discomfort". The OD for "Weight loss maintained over the days, after recovery of birth weight" was defined as "Persistent weight loss over the days, after recovery of birth weight".

Chart 2 - Elements of the "Ineffective Breastfeeding" diagnosis (00104) that required revision in the second round of content validation. Campinas, São Paulo, Brazil, 2023

Elements that required revision after the first validation phase (CVI < 0.8)	Final content of revised elements, after focus group (CVI ≥0.8)
DEFINING THE DIAGNOSIS	
Difficulty in supplying milk from the breast, which can interfere with meeting the infant's nutritional needs	Maintained
DEFINING CHARACTERISTICS	
<i>On the baby</i>	
Arching when in the breast	Cervical hyperextension when in the breast
Crying at the breast	Cries when placed on the breast for sucking
Constipation for the age group	Constipation
Weight loss maintained over the days	Weight loss maintained over the days, after recovery of birth weight
<i>Mother</i>	
No signs of oxytocin release	Maintained
RELATED FACTORS	
Maternal ambivalence	Maintained
Maternal breast anomaly	Maintained

Chart 3 - Operational definitions of the defining characteristics of the diagnosis "Ineffective breastfeeding". Campinas, São Paulo, Brazil, 2023

Defining characteristics validated by specialists	Proposed Operational Definition	IVC first round of expert evaluation		
		Relevance	Clarity	Precision
Agitation within an hour of breastfeeding	Infant shows signs of agitation within an hour of breastfeeding, often over 24 hours ¹⁷	0,95	0,84	0,95
Cervical hyperextension when in the breast	When placed on the breast, it resists sucking on the areola-mamillary region, arching its back and moving away from the breast	1,00	0,95	1,00
Infant maintains signs of hunger, with crying and restlessness, even after comfort measures	Infant remains inconsolable or restless, with signs of hunger, even after comfort measures ¹⁸⁻¹⁹	0,95	0,84	0,95
Frequent crying episodes within a short period after breastfeeding, within 24 hours	Frequent crying episodes within a short period after breastfeeding, considering 24 hours ^{16,20}	0,84	0,89	0,95
Cries when placed on the breast for sucking	Infant cries when put to the breast or while being breastfed ²¹	0,95	0,84	0,79
Constipation	Hardened stools associated with at least one of the following: pain, difficulty in evacuating, stools in cibalos, cylindrical with the presence of cracks, cylindrical with thick thickness, and cycle of three days or more between the occurrences of evacuations, differing from the child's usual pattern. ⁵⁰	1,00	0,89	0,95
Low weight gain for the age group	Weight gain below that established for the age group ²⁴	0,89	0,89	0,84

Inability to grasp the maternal areola-mamillary region correctly	The infant is unable to grasp the nipple-areola region to form an intraoral vacuum through anteroposterior lowering and elevation of the mandible associated with movements of the lips, cheeks and fat pads ²⁶⁻²⁷	1,00	0,89	0,95
Weight loss maintained over the days, after recovery of birth weight Resistance to grasping the areola-mamillary region	Persistent weight loss over days ²²	1,00	0,95	0,84
Resistance to grasping the areola-mamillary region	When placed in the breast, it resists engulfing the areola region ^{15,28}	0,95	0,89	0,89
Unsustained sucking on the breast	Infant unable to sustain sucking in order to maintain intraoral vacuum by means of anteroposterior lowering and elevation of the mandible associated with movements of the lips, cheeks and fat pads ^{22,29}	1,00	0,84	0,89
Perception of insufficient emptying of the breast after the end of feeding	The nursing mother perceives insufficient emptying of the breast soon after the end of feeding ²⁴	0,89	0,89	0,89
Perception of breast milk production below the infant's needs	The mother reports a perception of breast milk production that is lower than the infant's needs ²⁸	0,89	0,95	0,89
Lesion in the nipple-areola complex	Mother reports pain and/or nipple damage ^{26,30}	1,00	1,00	0,95
No signs of oxytocin release	Absence of signs of oxytocin release, such as absence of milk ejection and/or absence of sensation related to myoepithelial cell contraction ^{27,51}	0,89	0,89	0,89

DISCUSSION

Breastfeeding plays an important role in the life of the infant by promoting adequate nutrition, immune protection, reducing the risk of future illnesses, reducing infant mortality and establishing a bond with the mother.¹ Thus, the DE, as a tool for nurses, has the capacity to improve clinical practice by naming the phenomena that can be intervened upon by the professional. From this perspective, as previously mentioned, constant refinement of the DE is necessary to ensure that professional care is increasingly qualified and relevant.

Thus, based on the scoping review, it was possible to find studies that support the elements proposed by the Classification of Nursing Diagnoses studied for the diagnosis "Ineffective Breastfeeding", except for the defining characteristic "Cervical hyperextension when at the breast". This characteristic is present in the current classification as "arching when at the breast", for which no support was found in the articles selected from the databases, nor in the complementary literature. On the other hand, the authors and experts did not suggest excluding this element, as it is an important sign in clinical practice.

Although the vast majority of the elements of the diagnosis studied were covered, a significant number of the articles suggested changes to the wording, as well as proposing the addition of new elements (Tables 1 and 2) which, based on the articles, proved to be relevant to the phenomenon in question. The development of OD also helped in the process of understanding the defining characteristics, guiding the proposal of adjustments to its writing (Chart 3).

Based on the consensus meeting, the authors suggested that the definition of the diagnosis should become "Difficulty in supplying milk from the breast, which may interfere with meeting the infant's nutritional needs", removing the word "infant", since the latter does not suffer the same nutritional risks as the former. This change was maintained by the experts after the focus group.

The defining characteristic "Lack of response to other comfort measures" was suggested to be changed to "Infant maintains signs of hunger, with crying and restlessness, even after comfort measures", while the defining characteristic "Crying within an hour of breastfeeding" was changed to "Frequent crying episodes within a short period after breastfeeding, within 24 hours". These proposals relate to the relevance of identifying and naming "signs of hunger, crying and restlessness", since the presence of these behaviors may indicate that the baby is not receiving the necessary milk supply. Also from this perspective, studies show that constant crying is one of the main causes of interrupted breastfeeding and the early introduction of complementary feeding, since it can often be misinterpreted as a sign of the inability of breast milk to meet the baby's nutritional demands.^{31,41,52} In addition, it is important to determine a period of time in which crying can be considered frequent, since the occurrence of just one

episode probably characterizes an isolated event, with no strong indication of a relationship with breastfeeding.

The defining characteristic "Inadequate stools", considered a broad and unspecific expression, was changed to "Constipation for the age group", since the change in bowel habits identified in the study references was constipation and regularity, especially in babies, changes widely under the influence of the age group, as well as the type of feeding; this is also linked to the age of the infant. Bearing this in mind, even with adequate CVI, the experts considered it interesting to change the OD of this defining characteristic to "Infant presents with difficult and/or infrequent bowel movements and in small quantities, associated with hard, dry stools and/or discomfort", instead of the initial suggestion made by the authors.

The defining characteristic "Inadequate weight gain" was changed to "Low weight gain for age group". The change was suggested since the term "inadequate" is also unspecific and the analysis of this sign is based on the age group, considering the infant's weight, as shown by the parameters established by the WHO.⁵³ The same logic applies to the proposed change in the defining characteristic "Sustained weight loss", which was changed to "Weight loss maintained over days, after recovery of birth weight".

With regard to the sign about breast emptying after breastfeeding, we considered the fact that the breast cannot be "emptied" or evaluated as empty in reality and that the woman's perception of her body should be considered in addition to the professional evaluation. It is therefore recommended to change the wording of the defining characteristic "Insufficient emptying of each breast during breastfeeding" to "Perception of insufficient emptying of the breast after the end of feeding", as it highlights the woman's understanding of this in the assessment process. In addition, the literature emphasizes the importance of the mother's perception.²⁴

It is understood that the defining characteristic "Perception of inadequate milk supply" is seeking to describe signs shown by the infant, which are interpreted by the mother as an indication of inadequacy in the supply and nutritional contribution that breast milk provides. The signs reported are: crying, restlessness and weight gain below that expected for the age group.^{16-17,24} Thus, as it is a perception on the part of the mother that her milk is not meeting her child's needs and that, for this reason, the child is expressing these manifestations, it is proposed that the defining characteristic be changed to "Perception of breast milk production below the infant's needs".

Breastfeeding injuries are generally related to the infant's incorrect latch-on to the breast, which causes damage to the nipple-areola complex, causing pain and negatively affecting breastfeeding.⁵⁴ It is therefore suggested that the defining characteristic "Persistent sore nipples after the first week of breastfeeding" be changed to "Injury to the nipple-areola complex", since pain is relevant at any time during the bre-

astfeeding process and not just after the first week of breastfeeding. In addition, lesions and pain may not only be restricted to the nipples, which is evidenced in the original English version of the NANDA-I Classification of Nursing Diagnoses.⁶

The defining characteristic "Insufficient signs of oxytocin release" refers to signs of oxytocin release, such as: absence of milk ejection and/or absence of sensation related to the contraction of myoepithelial cells.⁵¹ From this perspective, after reading and analyzing the studies, it is recommended to change this to "Absence of signs of oxytocin release", as it is considered challenging and imprecise to assess the insufficiency of these signs.

The factor related to "Maternal Pain" had the recommendation of changing the wording to "Maternal pain related to various factors", since the mother's pain interferes with breastfeeding and can be related to numerous factors, such as postpartum pain due to caesarean surgery, as well as pain from multiple sources, with the potential to compromise activities of daily living, well-being and breastfeeding.^{37,39} Pain in the areola-mammary complex is something very specific and already covered by the defining characteristic mentioned above. Therefore, changing the wording of this related factor aims to highlight that pain, even of a non-specific origin, is something that significantly interferes with this phenomenon.

It is understood that previous experience of frustration with breastfeeding is a factor that can compromise the initiation and continuation of breastfeeding in the next child.⁴⁷⁻⁴⁸ Therefore, it was proposed that the related factor "Individuals with a history of breastfeeding failure" be described as "Individuals with a history of previous breastfeeding failure".

The scoping review and theoretical and practical knowledge of the experts helped to identify elements that could be added to the DE in question: related factors, populations at risk and associated conditions. Although not scientifically supported by the scoping review, it is known that the use of silicone intermediaries is associated, especially in newborns, with early interruption of breastfeeding, a negative impact on orofacial development, difficulty latching on to the areola-mammary region and refusal to breastfeed.⁴⁴ Its use is not prohibited, but it is controversial and should be indicated and monitored by a trained health professional. In this sense, due to the possible interference of this factor in breastfeeding, it is recommended that it be included as a related factor.

Breast engorgement can be defined as the accumulation of milk in the mammary ducts, caused by the absence of its fluidity, evidenced by pain and hardening of the breast, which can impair breastfeeding.²² Thus, with the support of the scoping review, its inclusion as a related factor was also proposed. In addition, the inclusion of the related factor "Inadequate professional support" is recommended, which refers to inadequate professional guidance and support in the pre- and post-natal period, limiting the initiation or continuation of breastfeeding.⁴⁵⁻⁴⁶

In relation to populations at risk, the inclusion of "Women smokers" is proposed, since there is an association between cigarette consumption and low milk production and early interruption of breastfeeding.⁴⁰ "Primiparity" is also a factor that places primiparous women as a population at risk, and there is a link between this factor and unfavorable outcomes in breastfeeding,^{22,26,33} which justifies its inclusion.

The presence of a situation of vulnerability in terms of income, schooling and employment, throughout pregnancy and/or the breastfeeding period, is a factor associated with lack of knowledge and operational difficulties in initiating and continuing breastfeeding.^{40,42,47,49} Thus, the inclusion of "Women with low socioeconomic status" as at-risk populations was recommended.

Finally, in the associated conditions, the inclusion of "Caesarean section surgery" is recommended, due to the association of this delivery route with breastfeeding difficulties for the mother, the baby and, consequently, lower breastfeeding rates.^{26,40,42} "Mastitis" is also suggested for inclusion as an associated condition, since it has a direct impact on breastfeeding.^{28,33}

The review and validation of the content of the diagnosis "Ineffective breastfeeding" (00104) is part of a larger doctoral and post-doctoral study, so the content presented and the definitions developed will be the basis for the development of clinical validation studies with women and their children in the process of breastfeeding, in order to continuously improve the description of this phenomenon of interest to nursing. It is also hoped that the standardized nursing language for breastfeeding will be used in teaching, research and care in an increasingly consistent way.

CONCLUSION

This research made it possible to review and validate the content of the Nursing Diagnosis "Ineffective breastfeeding", present in the NANDA-I Classification of Nursing Diagnoses. The current content presents 15 defining characteristics, 16 related factors, 5 populations at risk and one associated condition. This work proposed altering the definition and some elements to better adapt it to clinical practice, but also to the Brazilian Portuguese language. It also proposed the inclusion of three related factors, three populations at risk and two associated conditions. In addition, the study developed operational definitions for all the defining characteristics. All this material will be sent to NANDA-International to assess the possibility of incorporating the proposal into the corresponding classification.

The literature review made it possible to confirm that breastfeeding suffers from multifactorial interferences, as well as demonstrating theoretical support for the elements that make up the DE "Ineffective Breastfeeding" (00104). As mentioned, it was also possible to identify and validate with experts new elements to be included, in order to make

the DE in question more appropriate and better target the interventions planned based on it. The ODs developed could be useful for assisting nurses' clinical practice, as well as teaching and research.

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