

**Terminological subset of the International Classification for Nursing practice (ICNP®) for breastfeeding support: content validation study**  
 Subconjunto terminológico da classificação internacional para a prática de enfermagem (CIPE®) para assistência à amamentação: estudo de validação de conteúdo  
 Subconjunto terminológico de clasificación internacional para la práctica de enfermería (CIPE®) para asistencia al amamantamiento: estudio de validación de contenido

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**Keywords**

Nursing process; Classification; Standardized nursing terminology; Validation studies; Breast feeding

**Descritores**

Processo de enfermagem; Classificação; Terminologia padronizada em enfermagem; Estudos de validação; Aleitamento materno

**Descriptores**

Proceso de enfermería; Clasificación; Terminología normalizada de enfermería; Estudios de validación; Lactancia materna

**Submitted**

July 11, 2018

**Accepted**

January 22, 2019

**Abstract**

**Objective:** to carry out the content validation of nursing diagnoses, results and interventions contained in the terminology subset of the International Classification for Nursing Practice (ICNP®) to assist women, children and families in the process of breastfeeding.

**Methods:** content validation study with 74 judges evaluating 98 diagnoses/results from 396 interventions related to validated diagnoses/results. **Results:** 13 diagnoses/results obtained a CVI $\geq$ 0.8 (13.3%); 34 with a CVI ranging from 0.6 to 0.79 (34.7%) and; 51 with CVI $<$ 0.6 (52%). After validation, for the diagnoses "Lack of privacy", "Decision making for breastfeeding: effective", "Performing the mother role: effective" and "Performing the mother role: improved" three statements of nursing outcomes statements were established. In the second stage, 350 nursing interventions obtained a CVI $\geq$ 0.80.

**Conclusion:** 50 diagnoses/results and 350 nursing interventions were validated.

**Resumo**

**Objetivo:** Realizar a validação de conteúdo dos enunciados de diagnósticos, resultados e intervenções de enfermagem contidos no subconjunto terminológico da Classificação Internacional para a Prática de Enfermagem (CIPE®) para assistência à mulher, à criança e à família em processo de amamentação.

**Métodos:** Estudo de validação de conteúdo com 74 juízes que avaliaram 98 diagnósticos/resultados de enfermagem de 396 intervenções relacionadas aos diagnósticos/resultados validados.

**Resultados:** Treze diagnósticos/resultados obtiveram IVC  $\geq$  0,8 (13,3%); 34 de 0,6 a 0,79 (34,7%) e; 51 menores que 0,6 (52%). Após a validação, para os diagnósticos "Falta de privacidade", "Tomada de decisão pela amamentação, eficaz", "Desempenho de papel de mãe, eficaz" e "Desempenho de papel de mãe, melhorado" foi necessário o estabelecimento de três enunciados de resultados de enfermagem. Na segunda etapa, 350 intervenções de enfermagem, obtiveram IVC  $\geq$  0,80.

**Conclusão:** Foram validados 50 diagnósticos/resultados e 350 intervenções de enfermagem.

**Resumen**

**Objetivo:** realizar una validación de contenido de las declaraciones de diagnósticos, resultados e intervenciones de enfermería contenidos en el subconjunto terminológico de la Clasificación Internacional para la Práctica de Enfermería (CIPE®) para la asistencia a la mujer, al niño y a la familia en proceso de amamantamiento.

**Métodos:** Estudio de validación de contenido con 74 jueces que han evaluado 98 diagnósticos / resultados de enfermería de 396 intervenciones relacionadas con diagnósticos / resultados validados.

**Resultados:** Trece diagnósticos / resultados obtuvieron IVC  $\geq$  0,8 (13,3%); 34 de 0,6 a 0,79 (34,7%) y; 51 menores que 0,6 (52%). Después de la validación, para los diagnósticos de "Falta de privacidad", "Toma de decisión por el amamantamiento, eficaz", "Desempenho de papel de madre, eficaz" y "Desempenho de papel de madre, mejorado" fue necesario el establecimiento de tres declaraciones de resultados de enfermería. En la segunda etapa, 350 intervenciones de enfermería obtuvieron IVC  $\geq$  0,80.

**Conclusión:** Fueron validados 50 diagnósticos / resultados y 350 intervenciones de enfermería.

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**DOI**

<http://dx.doi.org/10.1590/1982-0194201900006>

**How to cite:**

Resende FZ, Almeida MV, Leite FM, Brandão MA, Cubas MR, Araújo JL, et al. Terminological subset of the International Classification for Nursing practice (ICNP®) for breastfeeding support: content validation study. Acta Paul Enferm. 2019;32(1):35-45.

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Conflict of interest: nothing to declare.

## Introduction

The International Council of Nurses (ICN) developed the International Classification for Nursing Practice (ICNP®) due to the need for formalizing a unified system that represents the elements of nursing practice worldwide. To make the use of ICNP® easier for nurses, the ICN suggested the construction of terminological subsets or catalogues, which represent a set of pre-established diagnostic statements (ND), results (NR) and nursing interventions (NI) aimed at health (specific health conditions, care settings or specialties), client groups (individual, family and community) or nursing phenomena. The subsets appear as a tool to support the systematic documentation, the clinical practice and the decision-making process of nurses.<sup>(1,2)</sup>

A growing development of terminological subsets has been verified on the scenario of the world. The ICN provides, on its website, eight complete subsets/catalogues and two tables of equivalence and reports the development of other five subsets.<sup>(3)</sup>

The Research and Development Center of ICNP® in Brazil, isolated or in conjunction with its collaborators, elaborated subsets of nursing care related to different clienteles and, to standardize their construction, proposed a method for such development research. The method by Nóbrega and his collaborators establishes three steps, considered as prerequisites or indispensable conditions for beginning the elaboration of the terminological subset: identifying the clientele and/or health priority; justifying the importance for Nursing, the client group and/or health priority; and choosing the theoretical model. Next, it establishes other steps: collecting or identifying the terms that will be necessary for developing the statements; cross-mapping terms collected and the terms of the most recent version of ICNP®; elaborating new statements, considering the terms base, the ICNP® 7-Axis Model, ISO 18.104 and the theoretical model; cross-mapping constructed statements and the pre-combined concepts of ICNP®; validating nursing statements already elaborated; and, finally, structuring the subset.<sup>(1)</sup>

It is worth mentioning that this method was used to organize the subset, which is the empiri-

cal basis of the present study. The method addresses a health priority not contemplated by the current subsets of the ICN, which deals with the breastfeeding process.

Globally, one of the relevant strategies applied to reduce infant morbidity and mortality is linked to actions to protect, promote and support breastfeeding. According to the World Health Organization (WHO), the increase in exclusive breastfeeding rates has prevented the death of around six million children each year and is considered the only isolated practice capable of reducing the mortality rates of children under five.<sup>(4)</sup>

This was accomplished thanks to the innumerable benefits of breastfeeding for the health of children, from the quality of nutritional components in human milk, initial immunization and protection against respiratory and gastric infections, to aspects related to a closer bonding between mother and child.<sup>(5,6)</sup>

Considering this reality, the first prerequisite is met for justifying the elaboration of a terminological subset aimed at breastfeeding. Breastfeeding represents a phenomenon in which nursing care has a privileged place, considering the influence of Nursing practice in different cultures and countries. Nurses are agents that can promote and support breastfeeding, playing a fundamental role in the prevention of early weaning by contributing to prenatal, immediate postpartum and puerperium guidelines and identifying and intervening in the difficulties or problems present in the breastfeeding process. These professionals can directly disseminate, protect and support this practice. Therefore, the nursing consultation aimed at women, children and families in the process of breastfeeding should be the care methodology used by nurses to identify the needs and potentialities.<sup>(7)</sup>

It seems relevant to recognize that nursing theory and research related to knowledge development practices can enable nurses to translate the knowledge of their science. This reinforces the need for developing theory-building strategies.<sup>(8)</sup>

The elaboration of a terminological subset of ICNP®, based on a nursing theory, is convergent for this perspective of approaching theory to practice.

Nursing researchers supported the third prerequisite of the method of Nóbrega *et al.* They developed a terminological subset for care to women, children and families in the process of breastfeeding guided by the Interactive Theory of Breastfeeding.<sup>(9,10)</sup>

The mentioned subset lacks validation, indicating a research development potential that connects the theory. The validation process is a methodology for perfecting and refining the subsets, which will provide a technology that truly represents the studied nursing phenomenon, thus conferring a certification of applicability in clinical practice.<sup>(2,11-13)</sup>

The method by Nóbrega *et al.* incorporates validation as an integral phase of the construction stage of statements. The content validation by judges of the area would align the statements to the daily practice of nurses who care for the mother-baby binomial and their families during the breastfeeding process, in all its complexity.<sup>(1,14)</sup>

Seen that, the objective of research was to carry out the content validation of nursing diagnoses, results and interventions contained in the terminology subset of the International Classification for Nursing Practice (ICNP<sup>®</sup>) to assist women, children and families in the process of breastfeeding.

## Methods

Content validation research, approved by the Research Ethics Committee of the *Universidade Federal do Espírito Santo*, under CAAE No. 57083816.7.0000.5060. The empirical basis used was the ICNP<sup>®</sup> terminology set to assist women, children and families in the process of breastfeeding.

<sup>(10)</sup> This subset was revised and updated, consisting of 98 Nursing Diagnoses (ND)/Nursing Results (NR) and 519 Nursing Interventions (NI), distributed in 11 concepts of the Interactive Theory of Breastfeeding. Due to the number of statements, validation was performed in two stages: in the first, the validation of the ND/NR; and in the second, the validation of the 396 NI related to the DE RE validated in the first stage.

In the literature, there is no established standard for the criteria to define judges and not even con-

sensus regarding the amount of judges required for the validation stage. The importance of choosing nurses who have clinical experience and theoretical knowledge in the subject studied is highlighted.<sup>(1,15)</sup>

Thus, the criteria for the inclusion of judges participating in the study were: being a nurse, having clinical experience of at least three years in the maternity or Human Milk Bank or Neonatal Intensive Care Unit (NICU), and having a specialization in one of the following areas: mother-and-child health, obstetric or neonatal Nursing; or having a master's or doctor's degree in the maternal-infant area.

For the selection of judges-nurses, three strategies were used: 1) searching researchers in the Lattes Platform, using the keywords: nursing diagnoses; breastfeeding; 2) nominating judges of the relational universe of researchers; and 3) the "snowball" technique. Contact with the selected nurses occurred via e-mail, by sending an invitation letter, the Informed Consent Form (ICF) and the instruments in the online format of the Google Docs forms. The following information were sent: Characterization of nurses and the Instrument for validation of ND/NR statements, in the first stage, or Instrument for validation of NI, in the second stage. Nurses whose results met the inclusion criteria were duly eligible, completed the collection instruments and sent the ICF signed.

A total of 651 nurses were selected. To validate the ND/NR, which occurred from July to August 2017, 77 nurses accepted to participate and 64 adequately filled out the instrument. To validate the NI, which occurred from October to November 2017, 42 nurses accepted to participate and 37 adequately filled out the instrument. Of the total selected, 27 nurses participated in the two validation stages. There were representatives from 18 Brazilian states, from all regions of the country.

In the ND/NR validation instrument, the judge issued the frequency in which he/she uses or could use the statements during the care to women, children and families in the process of breastfeeding, according to a scale: 1. Always; 2. Often; 3. Rarely; 4. Never. In the NI validation instrument, the specialist pointed out its pertinence in a scale: 1. Nothing relevant; 2. Little relevant; 3. Very relevant; 4. Most

relevant. In cases of disagreement, they could also suggest something. After the instruments were returned, data were organized in the Microsoft Excel® 2010 program.

Those ND/NR with  $CVI \geq 0.80$  were considered fully applicable to clinical practice. Those with  $CVI$  ranging from  $\geq 0.60$  to  $< 0.80$  were considered “potentially applicable”, assuming that these “may or may not” be identified, and therefore not eliminated. Those with  $CVI < 0.60$  were disregarded. For NI, those with  $CVI \geq 0.80$  were considered validated.

## Results

### Characterization of judges

The judges of the first and second stages had were, on average, 41 years old; the majority were female (92.2–86.5%), lived in the Southeast region of Brazil (57.8–51.3%) and graduated from a public institution (67.2% - 73%); had an average of 13 years of studies (3 to 41 years) and an average of 12 years of experience in breastfeeding (3 to 31 years). There was a predominance of nurses with master’s degrees (31.2–37.9%). Regarding the study of nursing classifications during undergraduation, it was observed that NANDA-I was the most studied (75–78.4%) and that 33.3% and 21.6% of the first and second stage judges, respectively, did not study classification. About 25% of the judges did not use any classification in care, and about 10.0% used ICNP® in their clinical practice.

### Validation of statements

Of the 98 ND/NR, 13 had  $CVI \geq 0.8$  (13.3%); 34 had  $CVI$  from 0.6 to 0.79 (34.7%); and 51,  $CVI < 0.6$  (52%). The total  $CVI$  of ND/NR set was 0.62. For the diagnoses “Lack of privacy for breastfeeding” and “Decision making for breastfeeding: effective” there was no validated result. However, the subsets “Privacy for effective breastfeeding” ( $CVI=0.47$ ) and “Decision making for breastfeeding: harmed” ( $CVI=0.53$ ) were added, so that matching the diagnoses and the corresponding result could occur. The same happened with the statements “Performance of the mother role: effective” and “Performance of

the mother role: improved”; in this case, the ND/NR “Performance of the mother role: harmed” ( $CVI=0.59$ ). There were 50 validated statements. For the ND/NR validated, 396 NI were validated; of this total, 350 statements had  $CVI \geq 0.8$ . The total  $CVI$  was  $\geq 0.8$ . The  $CVI$  of the NI set was 0.9 (Tables 1 and 2).

**Table 1.** Distribution of validated nursing diagnoses/results and interventions according to the concepts of the Interactive Breastfeeding Theory

Concepts of the Theory	Nursing Diagnoses/ Results	Nursing Interventions
Mother-child dynamic interaction in breastfeeding	08	65
(Women’s perceptions on breastfeeding	06	38
Children’s perceptions on breastfeeding	0	-
Biological conditions of women	15	106
Biological conditions of children	11	77
Body image of women	0	-
Places to breastfeed	02	14
The mother’s role	03	19
Organizational systems for the protection, promotion and support for breastfeeding	03	17
Family and social authority	0	-
Women’s decision making	02	14

-\* No nursing interventions were sent, because nursing diagnoses referring to these concepts were not validated

**Table 2.** List of diagnoses/results (in bold) and nursing interventions organized according to the concepts of the Interactive Breastfeeding Theory and its Content Validity Index (CVI)

Concepts of the theory, diagnoses and interventions	CVI
<b>Concept: Mother-child dynamic interaction</b>	
<b>Nursing Diagnoses</b>	
Breastfeeding: improved	0.73
Breastfeeding: harmed	0.70
Exclusive breastfeeding: improved	0.70
Risks of breastfeeding: harmed	0.63
Risks of exclusive breastfeeding: harmed	0.63
Exclusive breastfeeding: harmed	0.61
<b>Nursing Interventions</b>	
Assess the child’s ability to grasp the areola mammae area	1.00
Assess the interaction between mother and child during breastfeeding	1.00
Assess the searching and sucking reflex of the newborn	1.00
Encourage the mother to verbalize feelings and concerns	1.00
Incentive breastfeeding on demand	1.00
Guide on the benefits of breastfeeding	1.00
Assess the positioning of the mother and the newborn during breastfeeding	0.97
Facilitate skin-to-skin contact	0.97
Guide on the care for breasts and nipples	0.97
Hear the mother’s complaints	0.97
Reinforce to mothers the importance of correct handling and positioning the newborn on the breast	0.97
Encourage exclusive breastfeeding until the baby is six months	0.95

Continue..

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Avoid using pacifiers and artificial nipples	0.95
Examine the mother's breasts	0.95
Guide on how to hatch on and remove the newborn from the breast	0.95
Reinforce the benefits of breastfeeding	0.95
Reinforce the different mother/baby positions for breastfeeding	0.95
Reinforce the correct technique for breastfeeding	0.95
Assess factors that influence in maternal difficulty or dissatisfaction with breastfeeding	0.92
Teach the mother the different positions mother/baby for breastfeeding	0.92
Compliment the mother during breastfeeding	0.92
Monitor the child's weight (daily/weekly/monthly)	0.92
Reinforce the need for complete emptying the breasts	0.92
Reinforce the care for breasts and nipples	0.92
Initiate breastfeeding within the first half hour after birth	0.89
Guide the mother on the importance of complete emptying the breasts	0.89
Guide the mother on how to hold her big breasts during breastfeeding	0.89
Evaluate the emptying of the breasts after feeding	0.86
Encourage frequent rest periods for the mother	0.86
Encourage breastfeeding at various times, including at night	0.86
Encourage the mother to massage her breasts before breastfeeding	0.86
Guide on the method to store breast milk	0.86
Guide on the importance of the frequent use of "double-straps" bras to support and maintain the breasts firm	0.86
Encourage the mother to offer one breast at each breastfeeding	0.84
Encourage the mother to complete emptying her breasts	0.84
Guide on the technique for thawing breast milk	0.84
Guide on the technique of cup feeding	0.84
Reinforce the importance of massaging and milking the breasts	0.84
Assess the technique of massaging and milking the breasts manually	0.81
Teach the technique of massaging and milking the breasts	0.81
Maintain adequate opening of the baby's mouth during feeding	0.81
Massage and milk the breasts whenever needed	0.81
Guide the mother to open the baby's mouth to breastfeed	0.81
Guide to start the next feeding from the last breast used	0.81
Guidance on the technique of transactation	0.81
Reinforce the importance of offering one breast at each breastfeeding	0.81
<b>Nursing Diagnoses</b>	
Exclusive breastfeeding, effective	0.98
Breastfeeding, effective	0.89
<b>Nursing Interventions</b>	
Reinforce the benefits of breastfeeding	1
Assess the positioning of the mother and the newborn during breastfeeding	1
Assess the child's ability to grasp the areola mammae area	0.97
Assess the interaction between mother and child during breastfeeding	0.97
Assess the positioning of the mother and the newborn during breastfeeding	0.97
Encourage exclusive breastfeeding until the baby is six months	0.97
Incentive breastfeeding on demand	0.97
Guide the possible positions of the mother and the newborn during breastfeeding	0.97
Reinforce the care for breasts and nipples	0.97
Supervise the right technique for breastfeeding	0.97
Supervise the sucking reflex of the newborn	0.94
Evaluate the emptying of the breasts after feeding	0.91
Assess the searching and sucking reflex of the newborn	0.91
Encourage frequent rest periods for the mother	0.91
Reinforce the importance of offering one breast at each breastfeeding	0.91
Assess the technique of massaging and milking the breasts manually	0.89
Assess factors that influence in maternal difficulty or dissatisfaction when breastfeeding	0.89

Continue...

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Guide the mother on how to hold her big breasts during breastfeeding	0.89
Supervise the mother's ability to massage and milk her breasts	0.86
<b>Concept: Biological conditions of women</b>	
<b>Nursing Diagnoses</b>	
Pain when breastfeeding;	0.88
Breast pain	0.78
Nipple fissures	0.78
Risk of nipple fissures	0.75
<b>Nursing Interventions</b>	
Put on human milk on the nipples after each breastfeeding and wait until it dries	1
Assess the child's ability to grasp the areola mammae area	1
Assess the positioning of the mother and the newborn during breastfeeding	1
Examine the mother's breasts and nipples daily	1
Avoid using soaps, alcohol, creams/ointments or any abrasive substances on the breasts	1
Offer milk in an urethral catheter, attached to the finger, to the newborn (finger-feeding)	1
Guide the mother to open the baby's mouth to breastfeed	1
Teach the mother the different mother/baby positions for breastfeeding	0.97
Avoid using pacifiers and artificial nipples	0.97
Examine characteristics of the nipple fissures	0.97
Guide the mother on the importance of not interrupting breastfeeding	0.97
Guide the mother on massaging and milking manually her breasts	0.97
Examine the newborn's tongue as for its positioning and tonus	0.94
Maintain adequate opening of the baby's mouth during feeding	0.94
Offer milk using the technique of transactation	0.94
Guide on the importance of correct handling by the newborn during breastfeeding	0.94
Encourage exclusive breastfeeding until the baby is six months	0.91
Guide the mother on the importance of alternating the breasts	0.91
Guide on the possible causes of breast pain	0.91
Massage and milk the breasts whenever needed	0.89
Assess the technique of massaging and milking the breasts manually	0.86
Encourage breastfeeding in the harmed breast	0.86
Stimulate the cheek and/or lips of the newborn	0.86
Encourage the mother to expose her nipples to the sun	0.86
Teach the technique of massaging and milking the breasts	0.83
Evaluate pain after administering medications	0.81
Teach the technique of cup feeding	0.81
Change the position of the newborn in the breast at each breastfeeding	0.81
<b>Nursing Diagnoses</b>	
Breastfeeding pain: improved	0.75
Breast pain: improved	0.73
Nipple fissures: improved	0.73
<b>Nursing Interventions</b>	
Reinforce to mothers the importance of correct handling by the newborn on the breast	1
Reinforce the care for breasts and nipples	1
Reinforce the correct technique for breastfeeding	1
Supervise the handling by the newborn during feeding	1
Assess the child's ability to grasp the areola mammae area	0.97
Assess breastfeeding	0.97
Examine the mother's breasts and nipples daily	0.97
Examine characteristics of the nipple fissures	0.97
Assess the positioning of the mother and the newborn during breastfeeding	0.97
Supervise the sucking reflex of the newborn	0.97
Put on human milk on the nipples after each breastfeeding and wait until it dries	0.94

Continue...

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Reinforce how to remove the newborn from the breast	0.94
Reinforce changing the position of the newborn in the breast at each breastfeeding	0.89
Supervise the mother's ability to massage and milk her breasts	0.89
Reinforce the importance of massaging and milking the breasts	0.86
Encourage the mother to expose her nipples to the sun	0.83
<b>Nursing Diagnoses</b>	
Breast engorgement	0.89
Breast engorgement: improved	0.81
Risk of breast engorgement	0.75
Lactation: increased	0.73
<b>Nursing Interventions</b>	
Assess the child's ability to grasp the areola mammae area	1
Examine the mother's breasts and nipples daily	1
Encourage exclusive breastfeeding until the baby is six months	1
Guide on the importance of correct handling by the newborn during breastfeeding	1
Guide the mother on the importance of breast milk donation	1
Evaluate the emptying of the breasts after feeding	0.97
Assess the sucking reflex of the newborn	0.97
Teach the technique of massaging and milking the breasts	0.97
Guide the mother on the importance of alternating the breasts	0.97
Guide on the method to store breast milk	0.97
Guide on the factors that favor or harm milk production	0.97
Reinforce to mothers the importance of correct handling by the newborn on the breast	0.97
Advise the mother to register as a milk donor	0.94
Asses the type and place of breast engorgement	0.94
Encourage the mother to complete emptying her breasts	0.94
Massage and milk the breasts before breastfeeding	0.94
Guide the mother on the importance of not interrupting breastfeeding	0.94
Reinforce the need for complete emptying the breasts	0.94
Evaluate lactation	0.91
Teach the mother different positions (sitting, lying down and inverted) of the newborn for breastfeeding	0.91
Offer one breast at each breastfeeding	0.91
Guide the mother to open the baby's mouth to breastfeed	0.91
Guide the mother as for the maintenance of lactation	0.91
Reinforce the importance of massaging and milking the breasts	0.89
Reinforce changing the position of the newborn in the breast at each breastfeeding	0.89
Change the position of the newborn in the breast at each breastfeeding	0.89
Advise the mother to avoid drinking alcohol during lactation	0.86
Advise the mother to avoid smoking during lactation	0.81
Apply a cold compress, under professional supervision	0.81
Guide the mother to avoid using breast pads	0.81
Perform tests of areolar conditions or protractibility before breastfeeding	0.81
<b>Nursing Diagnoses</b>	
Lactation: lowered	0.67
<b>Nursing Interventions</b>	
Guide the mother on the importance of not interrupting breastfeeding	1
Guide the mother as for the maintenance of lactation	1
Guide on the factors that favor or harm milk production	1
Assess the child's ability to grasp the areola mammae area	0.97
Encourage exclusive breastfeeding until the baby is six months	0.97
Incentive breastfeeding on demand	0.97
Guide the mother on Liquid Intake	0.97
Evaluate lactation	0.94
Guide the mother on a proper food intake pattern	0.94
Teach the technique of translactation	0.91

Continue...

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Encourage breastfeeding at various times, including at night	0.91
Advise the mother to avoid smoking during lactation	0.83
Teach the technique of massaging and milking the breasts	0.83
Encourage the mother to perform the technique of massaging and milking her breasts	0.83
Advise the mother to avoid drinking alcohol during lactation	0.81
<b>Nursing Diagnoses</b>	
Lactation: effective	0.83
Lactation: improved	0.77
Breast engorgement: not existing	0.63
<b>Nursing Interventions</b>	
Reinforce the correct technique for breastfeeding	1
Encourage exclusive breastfeeding until the baby is six months	0.97
Reinforce guidelines on factors that favor or harm lactation	0.97
Reinforce the importance of fluid intake	0.97
Reinforce to mothers the importance of correct handling by the newborn on the breast	0.94
Reinforce the care for breasts and nipples	0.94
Reinforce the importance of the maintenance of lactation	0.94
Assess the sucking reflex of the newborn	0.89
Reinforce the need for complete emptying the breasts	0.89
Supervise the mother's ability to massage and milk her breasts	0.89
Evaluate lactation	0.86
Evaluate the emptying of the breasts after feeding	0.86
Reinforce the importance of massaging and milking the breasts	0.86
Supervise the sucking reflex of the newborn	0.83
Examine the mother's breasts and nipples daily	0.81
Reinforce changing the position of the newborn in the breast at each feeding	0.81

**Concept: Biological conditions of children**

<b>Nursing Diagnoses</b>	
Sucking: improved	0.89
Sucking reflex: improved	0.83
Sucking reflex: harmed	0.73
Sucking: harmed	0.72
<b>Nursing Interventions</b>	
Assess the child's ability to grasp the areola mammae area	0.97
Assess the positioning of the mother and the newborn during breastfeeding	0.97
Evaluate the emptying of the breasts after feeding	0.97
Assess whether the baby's mouth is in the proper position	0.97
Avoid using pacifiers and artificial nipples	0.97
Identify signs of agitation/irritability of the newborn	0.97
To guide the possible positions of the mother and the newborn during breastfeeding	0.97
Guidance on the importance of avoiding the use of pacifiers, bottles and artificial nipples	0.97
Assess breastfeeding	0.94
Assess the swallowing pattern of the baby	0.94
Assess the sucking reflex of the newborn	0.94
Monitor the child's weight (daily/weekly/monthly)	0.94
Assess the psychomotor development of the newborn	0.91
Wash the child's nostrils before breastfeeding whenever needed	0.91
Maintain adequate opening of the baby's mouth during feeding	0.91
Guide the mother to monitor the sucking of the newborn	0.91
Examine the newborn's tongue as for its positioning and tonus	0.89
Stimulate the cheek and/or lips of the newborn	0.89
Stimulate the sucking reflex of the newborn before breastfeeding	0.89
Guide the mother to open the baby's mouth to breastfeed	0.89
Teach how to was the baby's nostrils	0.86
Stimulate the tip of the tongue and palate of the newborn	0.86

Continue...

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Stimulate milk ejection reflex before starting breastfeeding	0.86
Guide on the importance of washing the baby's nostrils	0.83
<b>Nursing Diagnoses</b>	
Sucking: effective	0.95
Sucking reflex: effective	0.94
<b>Nursing Interventions</b>	
Avoid using pacifiers and artificial nipples	1
Reinforce to mothers the importance of correct handling by the newborn on the breast	1
Assess the positioning of the mother and the newborn during breastfeeding	1
Supervise the sucking reflex of the newborn	1
Assess breastfeeding	0.97
Assess the child's ability to grasp the areola mammae area	0.97
Assess the positioning of the mother and the newborn during breastfeeding	0.97
Evaluate the emptying of the breasts after breastfeeding	0.91
Stimulate the sucking reflex of the newborn before breastfeeding	0.83
Stimulate milk ejection reflex before starting breastfeeding	0.81
<b>Nursing Diagnoses</b>	
Weight: harmed	0.63
Weight: improved	0.75
<b>Nursing Interventions</b>	
Assess breastfeeding	0.97
Assess the child's ability to grasp the areola mammae area	0.97
Offer milk in an urethral catheter, attached to the finger, to the newborn (finger-feeding)	0.97
Guide the mother to monitor the sucking of the newborn	0.97
Guide the mother on the signs of the newborn's hunger and satiety	0.97
Correctly position the newborn	0.97
Assess the positioning of the mother and the newborn during breastfeeding	0.94
Evaluate the emptying of the breasts after breastfeeding	0.94
Assess the swallowing pattern of the baby	0.94
Assess the suckling reflex of the newborn	0.94
Guidance on the importance of avoiding the use of pacifiers, bottles and artificial nipples	0.94
Assess the psychomotor development of the newborn	0.91
Position upper and lower lips to the outside	0.90
Teach the technique of trans lactation	0.89
Milk the previous milk and offer it using trans lactation and/or cup feeding (after breastfeeding)	0.89
To guide the possible positions of the mother and the newborn during breastfeeding	0.89
Teach the technique of cup feeding	0.86
Offer the milk in a cup	0.86
Monitor the child's weight (daily/weekly/monthly)	0.86
Encourage the mother to complete emptying her breasts	0.83
Guide to start the next feeding from the last breast used	0.83
Encourage the mother to massage her breasts before breastfeeding	0.81
<b>Nursing Diagnoses</b>	
Weight on the Regular Limits	0.81
<b>Nursing Interventions</b>	
Reinforce to mothers the importance of correct handling by the newborn on the breast	0.97
Monitor the child's weight (daily/weekly/monthly)	0.94
Assess the suckling reflex of the newborn	0.91
Reinforce the need for complete emptying the breasts	0.91
Assess the positioning of the mother and the newborn during breastfeeding	0.91
Supervise the sucking reflex of the newborn	0.91
Assess breastfeeding	0.89
Assess the positioning of the mother and the newborn during breastfeeding	0.89

Continue...

Continuation.

Concepts of the theory, diagnoses and interventions	CVI
Evaluate the emptying of the breasts after breastfeeding	0.86
Assess the child's ability to grasp the areola mammae area	0.83
<b>Nursing Diagnoses</b>	
Drowsiness in the newborn	0.72
<b>Nursing Interventions</b>	
Assess the psychomotor activity and reactivity of the newborn	0.97
Perform tactile stimulation on the newborn's chest, face and feet	0.94
Encourage the family to talk to the child	0.89
Manage Blood Sugar Levels if needed	0.86
Place the baby in the cradle position to breastfeed	0.86
Talk to the newborn	0.83
Place the baby in the side-lying position to breastfeed	0.83
Undress the newborn in case of drowsiness	0.83
<b>Nursing Diagnoses</b>	
Drowsiness in the newborn: improved	0.63
<b>Nursing Interventions</b>	
Assess the psychomotor activity and reactivity of the newborn	0.97
Encourage the family to talk to the child	0.89
Undress the newborn in case of drowsiness	0.86
<b>Concept: Women's perceptions on breastfeeding</b>	
<b>Nursing Diagnoses</b>	
Ability to breastfeed: improved	0.75
Ability to breastfeed: harmed	0.63
<b>Nursing Interventions</b>	
Encourage breastfeeding at various times, including at night	0.97
Assess the interaction between mother and child during breastfeeding	0.94
Assess the mother's ability to position the newborn during breastfeeding	0.94
Assess the mother's ability to breastfeed	0.94
Teach the mother's and the newborn's positioning during breastfeeding	0.94
Compliment the mother during breastfeeding	0.94
Refer parents to breastfeeding support groups	0.94
Encourage the mother to verbalize feelings and concerns	0.94
Identify problems in the ability to breastfeed	0.94
Identify the factors that increase the sense of safety/unsafety	0.94
Assess the mother's ability to position herself for breastfeeding	0.91
Assess the mother's comfort during breastfeeding	0.91
Refer the mother to a breastfeeding consultation	0.91
Refer the patient to other professionals when suitable	0.89
Assess the mother's ability to massage and milk her breasts	0.86
<b>Nursing Diagnoses</b>	
Ability to breastfeed: effective	0.78
<b>Nursing Interventions</b>	
Reinforce exclusive breastfeeding until the baby is six months	1
Supervise the mother's ability to breastfeed	0.97
Supervise the mother's ability to position the newborn during breastfeeding	0.97
Assess the mother's ability to position herself for breastfeeding	0.97
Assess the mother's comfort during breastfeeding	0.94
Reinforce frequent rest periods for the mother	0.91
Reinforce breastfeeding until the baby is 2 or older	0.89
Supervise the mother's ability to massage and milk her breasts	0.89
<b>Nursing Diagnoses</b>	
Breastfeeding knowledge: decreased	0.78
Lack of breastfeeding knowledge	0.73
<b>Nursing Interventions</b>	
Develop educational activities on breastfeeding	1
Refer parents to breastfeeding support groups	1

Continue...

Continuation.	
Concepts of the theory, diagnoses and interventions	CVI
Assess knowledge on the breastfeeding process	0.97
Refer the patient to other professionals when suitable	0.97
Identify breastfeeding content deficits	0.97
Offer written material on breastfeeding	0.97
Evaluate understanding of the given orientation	0.94
Explain the poor content on breastfeeding	0.94
Listen carefully to the nurse/family	0.94
Refer the mother to a breastfeeding consultation	0.89
Assess knowledge on the breastfeeding process	0.89
Encourage participation in breastfeeding education activities	0.89
Explain the poor content on breastfeeding	0.89
Encourage participation in breastfeeding education activities	0.86
Evaluate understanding of the given orientation	0.83
Concept: Places to breastfeed	
Nursing Diagnoses	
Lack of privacy to breastfeed	0.63
Privacy to breastfeed: effective	0.47
Nursing Interventions	
Evaluate the woman's perception about breastfeeding places	0.97
Identify the mother's feelings about breastfeeding in public spaces	0.97
Promote a quiet, safe and comfortable environment for breastfeeding	0.97
Encourage the family to provide a calm, comfortable and safe environment for breastfeeding	0.94
Promote a quiet, safe and comfortable environment for breastfeeding	0.94
Guide the family about the need to have privacy during breastfeeding	0.94
Provide a private place for breastfeeding	0.94
Adjust physical space for the needs of the mother-child	0.91
Dim direct light	0.91
Reduce noises	0.91
To reinforce, together with the health team, the need for privacy during breastfeeding	0.91
Evaluate physical space as for lighting, noises, comfort and privacy	0.89
To reinforce, together with the family, the need for privacy during breastfeeding	0.89
Adjust physical space for the needs of the mother-child	0.89
Concept: The mother's role	
Nursing Diagnoses	
Performance of the mother's role: harmed	0.59
Performance of the mother's role: improved	0.70
Nursing Interventions	
Assess the interaction between mother and child during breastfeeding	0.97
Encourage the mother's self-confidence	0.97
Encourage the mother to talk to and touch on the newborn during breastfeeding	0.97
Offer opportunities for the mother to express her doubts about abilities as a mother	0.97
Listen to the mother's perceptions and beliefs about the ability to perform her role in the family	0.97
Compliment the mother during breastfeeding	0.94
Encourage the mother to verbalize feelings and concerns	0.94
Encourage the mother to perform the care to her baby	0.94
Teach how to perform the care the baby needs	0.91
Compliment the mother during her performance of the mother's role	0.91
Assess her ability to perform the mother's role	0.89
Encourage the patient to perform the mother's role	0.83
Prepare the woman do perform the mother's role	0.83
Nursing Diagnoses	
Performance of the mother's role: effective	0.80
Nursing Interventions	

Continue...

Continuation.	
Concepts of the theory, diagnoses and interventions	CVI
Listen to the mother's perceptions and beliefs about the ability to perform her role in the family	1
Supervise the interaction between mother and child	0.97
Compliment the mother during her performance of the mother's role	0.94
Supervise the care given to the baby	0.94
Offer opportunities for the mother to express her doubts about abilities as a mother	0.91
Supervise her ability to perform the mother's role	0.81
Concept: Organizational systems for the protection, promotion and support for breastfeeding	
Nursing Diagnoses	
Family support for breastfeeding: harmed	0.75
Family support for breastfeeding: improved	0.75
Nursing Interventions	
Advise the family to support the mother during breastfeeding	0.94
Advise the family to understand the mother's behaviors during breastfeeding	0.94
Adjust conflicting issues, respecting ethical aspects	0.94
Support the mother and family members to understand the value of discussing the mother's feelings about breastfeeding	0.94
Assess the family's understanding/behavior about breastfeeding	0.94
Assess the history of breastfeeding in the family	0.94
Assess the causes of conflicting attitudes towards breastfeeding	0.94
Encourage the family to support the mother during breastfeeding	0.94
Explain the importance of breastfeeding	0.94
Identify attitudes that may negatively affect breastfeeding	0.94
Identify the feeding practices in childhood performed by the family	0.94
Inform the family about their importance during breastfeeding	0.94
Nursing Diagnoses	
Family support for breastfeeding: positive	0.84
Nursing Interventions	
Praise the support of the family offered to the mother during breastfeeding	0.97
Encourage the family to support the mother during breastfeeding	0.97
Encourage the family to understand the mother's behaviors during breastfeeding	0.97
Supervise the family's understanding/behavior about breastfeeding	0.89
Supervise the family's attitudes towards breastfeeding	0.89
Concept: Women's decision making	
Nursing Diagnoses	
Decision-making for breastfeeding: effective	0.73
Decision-making for breastfeeding: harmed	0.53
Nursing Interventions	
Support the decision-making process of the mother towards breastfeeding	0.97
Encourage the mother to verbalize feelings and concerns	0.97
Encourage the mother to make decisions regarding care to herself and her newborn	0.97
Identify previous experiences with breastfeeding	0.97
Identify factors that interfere in the breastfeeding decision-making	0.97
Guide on the benefits of breastfeeding	0.97
Listen to the patient attentively and support her	0.97
Advise the family to understand the mother's behaviors during breastfeeding	0.94
Support the mother's decision-making process regarding care needed by her newborn	0.94
Encourage the mother's self-confidence	0.94
Identify cultural issues that interfere with the breastfeeding decision-making	0.94
Identify factors that interfere in the breastfeeding decision-making	0.94
Establish confidence with the mother	0.91
Avoid using pacifiers and artificial nipples	0.91



## Discussion

Breastfeeding is influenced by a multiplicity of related factors, which go beyond biological factors, influenced by psychological, social and cultural factors. It depends on the living conditions, work and experiences lived by the woman, as well as the society's understanding about the act of breastfeeding.<sup>(5,6,10)</sup> Therefore, the validation of a subset that represents the phenomenon benefits when judges from different socioeconomic and cultural contexts are included. Thus, the possibilities of generalization of the subset presented in this article are increased by the representativeness and distribution of the judges in the Brazilian territory, considering the representativeness of the ND/NR and the relevance of the NI.

The validation stage is known as the most fragile one, given it depends on the adequate search for judges and their availability to participate in the validation process, which is time-consuming and requires qualitative time from the judge. Moreover, studies on validation with judges point out as a difficulty the insufficient number of nurses who can be considered experts in the subject and that nurses do not have the time to participate in these types of studies. This also happens in many situations when they do not participate in an engaged way, which may hamper the research result.<sup>(11,12,15,16)</sup>

Despite these aspects, validation was obtained for most terminology subsets. Most of the diagnoses (52%) are related to the concepts of the biological conditions of the woman and the child, a fact that corroborates the pertinence of the choice of the Interactive Theory of Breastfeeding. This points out that these two concepts are essential for the process of breastfeeding to occur.<sup>(10)</sup>

These biological conditions are related to the anatomical and physiological integrity of breasts, enabling the lactation process and the ejection of milk, which are essential for the woman to provide human milk to the baby. Likewise, the conditions of the stomatognathic apparatus of the child are essential for the accomplishment of the handling and sucking during breastfeeding. Nevertheless, there was a high prevalence of di-

agnoses related to women's perception, and they refer to their capacity, knowledge and skills obtained throughout their lives and are, therefore, variables among women.<sup>(10,17,18)</sup>

On the other hand, the concepts "Body Image of the Woman", "Children's Perceptions on breastfeeding" and "Family and social authority" did not obtain validated statements. Studies show that social and cultural factors are often overlooked by professionals, considering breastfeeding care is predominantly based on biological factors and the applicability of pre-defined techniques, without incorporating the individual need of each woman/child/family.<sup>(18-20)</sup>

A woman's perception of the image of her body, whether during pregnancy or during breastfeeding, can have an impact on the intention and ability to initiate and maintain breastfeeding. Lack of body confidence, embarrassment, and breast tenderness are issues that affect a woman's decision about the choices for feeding her child.<sup>(19-21)</sup>

As for the children's perception on breastfeeding, studies indicate that newborns, in the first days of their lives, can detect and recognize the smell of their mother's nipples to obtain breast milk without any previous feeding experience, and babies cry less when they are breastfed during a painful procedure.<sup>(22,23)</sup>

Family and social authority involves the influences felt by nursing mothers from referrals during breastfeeding.<sup>(10)</sup> The family is the primary referral for the breastfeeding woman, and the opinions of grandparents and partners guide the choices for feeding a child, influencing their success or failure.<sup>(6,17,19,24)</sup> Thus, it is important that health professionals recognize the influence of these people on the woman for adherence and maintenance of breastfeeding, considering previous experiences, beliefs and potentialities presented by each member, to promote actions that may minimize early weaning.<sup>(6,17,24)</sup>

The theory applied to elaborate a terminological subset or to develop the nursing process must portray the reality in which nurses are and contribute for these technologies to acquire a scientific character capable of ensuring a safe and resolute care. Considering

that, the Interactive Theory of Breastfeeding<sup>(10)</sup> was adequate in the identification of nursing diagnoses through the factors, difficulties and possible complications that can lead to early weaning, and also in the planning of care and formulation of adequate interventions so that mother-baby and family experience this moment in a more calm and safe way, contributing to carry out the nursing process.

The lack of familiarity of judges with ICNP® were the limitations of this study. The validated subset needs to undergo clinical validation to improve its sensitivity and specificity.

## Conclusion

The subset consisted of 50 diagnoses/results and 350 validated nursing interventions, structured and organized using the Interactive Theory of Breastfeeding. Nursing diagnoses, results and interventions obtained content validity indexes considered capable of being applied to clinical practice during nursing care for the woman, the child and the family in the process of breastfeeding. However, the diagnoses related to cultural and social aspects are still little perceived by validating judges. The validation process of the subset involved nurses from all regions of Brazil, which shows the representativeness of ICNP® statements in clinical practice in maternity, NICU, Human Milk Bank and primary care. This subset presents itself as a technology for Nursing, which can provide subsidies for the development of the nursing process. This will help nurses to identify factors that influence positively or negatively this phenomenon, in critical thinking and in decision making and, in turn, in the selection of nursing diagnoses/results and interventions.

## Collaborations

Resende FZ, Almeida MVS, Leite FMC, Brandão MAG, Cubas MR, Araújo JL and Caniçali Primo C contributed to the study design, data analysis and interpretation, article writing, critical review of the

intellectual content and approval of the final version to be published.

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