Revista Brasileira de Enfermagem
REBEn

Nursing diagnoses of newborns in rooming-in care using ICNP®

Diagnósticos de enfermagem de recém-nascidos em alojamento conjunto utilizando a CIPE®

Diagnósticos de enfermería de recién nacidos en alojamiento conjunto utilizando la CIPE®

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How to cite this article:
Almeida VS, Andrade M, Querido DL, Esteves APVS, Nóbrega MML, Christoffel MM, et al. Nursing diagnoses of newborns in rooming-in care using ICNP®. Rev Bras Enferm. 2021; 2022;75(4):e20200672. https://doi.org/10.1590/0034-7167-2020-0672

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Submission: 08-20-2020 **Approval:** 11-03-2021

ABSTRACT

Objectives: to create nursing diagnosis definitions for newborns in rooming-in care, using the International Classification for Nursing Practice (ICNP). **Methods:** methodological study following the steps for the identification and validation of relevant terms to care for clients; cross-mapping of the terms identified with the terms of the ICNP® 2019; elaboration and validation of the nursing diagnostic definitions of ICNP® and later classification according with the Basic Human Needs described by Wanda Horta. **Results:** from the terms extracted, 168 were validated through specialist consensus, subsidizing the elaboration of 27 diagnosis definitions. **Conclusions**: the most common diagnoses for the clients studied were: "Effective Feeding Behaviour", "Effective Urination", "Normal Respiration Rhythm", "Effective Swallowing", "Effective Peripheral Intravenous Access", and "Effective Parent Child Attachment". It was confirmed that the records of psychobiological needs are mainly made by nurses, which were responsible for 23 of the diagnoses in this study.
Descriptors: Nursing Diagnosis; Nursing Process; Standardized Nursing Terminology; Infant, Newborn; Rooming-in Care.

RESUMO

Objetivos: construir enunciados diagnósticos de enfermagem para recém-nascidos internados no alojamento conjunto, utilizando Classificação Internacional para a Prática de Enfermagem (CIPE®). **Métodos:** estudo metodológico seguindo as etapas de identificação e validação de termos relevantes para o cuidado com a clientela; mapeamento cruzado dos termos identificados com os termos da CIPE® 2019; construção e validação dos enunciados de diagnósticos de enfermagem da CIPE® e subsequente classificação segundo as Necessidades Humanas Básicas descritas por Wanda Horta. **Resultados:** dos termos extraídos, 168 foram validados com base no consenso (100%) entre especialistas, subsidiando a elaboração de 27 enunciados diagnósticos. **Conclusões**: os diagnósticos mais frequentes para a clientela estudada foram: "Padrão de Ingestão de Alimentos, Eficaz""Urina, Normal", "Ritmo Respiratório, Normal", "Deglutição, Eficaz, "Acesso Intravenoso Periférico, Eficaz" e "Ligação Afetiva Pais-criança, Eficaz", confirmando o predomínio do registro das necessidades psicobiológicas pelos enfermeiros, representadas por 23 diagnósticos do estudo.
Descritores: Diagnóstico de Enfermagem; Processo de Enfermagem; Terminologia Padronizada em Enfermagem; Recém-Nascido; Alojamento Conjunto.

RESUMEN

Objetivos: construir enunciados diagnósticos de enfermería para recién nacidos internados en alojamiento conjunto, utilizando Clasificación Internacional para la Práctica de Enfermería (CIPE®). **Métodos:** estudio metodológico siguiendo las etapas de identificación y validación de términos relevantes para el cuidado con la clientela; mapeo cruzado de los términos identificados con los términos de la CIPE® 2019; construcción y validación de los enunciados de diagnósticos de enfermería de la CIPE® y subsecuente clasificación segundo las Necesidades Humanas Básicas descritas por Wanda Horta. **Resultados:** de los términos extraídos, 168 fueron validados basados en el consenso (100%) entre especialistas, subsidiando la elaboración de 27 enunciados diagnósticos. **Conclusiones**: los diagnósticos más frecuentes para la clientela estudiada fueron: "Patrón de Ingestión de Alimentos, Eficaz""Orina, Normal", "Ritmo Respiratorio, Normal", "Deglución, Eficaz, "Acceso Intravenoso Periférico, Eficaz" y "Relación Afectiva Padres-niño, Eficaz", confirmando el predominio del registro de las necesidades psicobiológicas por enfermeros, representadas por 23 diagnósticos del estudio.
Descriptores: Diagnóstico de Enfermería; Proceso de Enfermería; Terminología Normalizada de Enfermería; Recién Nacido; Alojamiento Conjunto.

ONLINE VERSION ISSN: 1984-0446

INTRODUCTION

Currently, the main component of child mortality is the early neonatal period — that is, the deaths which take place from 0 to 6 days of life. The main causes for this type of death are premature births, infections, malformations, and suffocation/hypoxia, which indicate problems, especially, in newborn care[1].

Assistance to the newborn in this period mostly takes place in the hospital environment. In this regard, since 1993, in Brazil, a model of assistance was adopted in respect to the binomial mother-child. It is known as the Rooming-in Care System (RC), which is a hospital system in which the woman and the health newborn, after birth, stay together full-time, until discharge, making it possible for the health care service to provide both with comprehensive health care[2].

The moment when the newborn is admitted into the RC is the most important to get to know both the mother in the puerperium and the child in regard to their history and development. Surveying this information, the team can organize to provide a qualified and individualized assistance, listing the needs, potential complications and interventions[3].

Considering this, as well as the potential reduction of mortality, one of the main objectives of the of the Sustainable Development Goals[4], it is essential, within the early neonate period, for the care to the newborn hospitalized in RC to be improved. Nursing assistance has a key role in this context, since the nursing team is beside these clients 24 hours a day. As a result, it is extremely relevant to provide standardized care, with predetermined classified terminologies, based on the nursing process.

For that, a standardized language must be used as a tool to support the practice of clinical reasoning, organizing the conditions to carry out nursing care[5]. Among these, the International Classification for Nursing Practice (ICNP)® stands out as a standardized terminology to be used during the execution of the nursing process, making clinical reasoning easier and standardizing the documentation of care[6].

This application of the ICNP® extends to the field of child health, since some studies have already been made using this technology[7-9].

A research aimed at creating nursing diagnoses based on the ICNP® reported that the nurse can construct the definitions according with the clinical framework of the people they are caring for, since the terms occur in their practice and demand clinical reasoning in regard to nursing problems[10].

Another study related to nursing diagnosis is associated with breastfeeding in RC units, reporting that the use of standardized terminologies is the base for the appropriate elaboration of interventions to reach positive results in the nursing assistance to the mother and her newborn. These terminologies contribute to direct individualized health care actions, specific to the mother-child pair and to their family, developing technical abilities and, especially, guiding the nursing team in regard to the actions developed, to widen the knowledge, the scientific arguments, and the humanization of the attention provided[11].

In this regard, this research collaborates with a system of classification and standardization of the language used in the clinical practice of the nurse, based on the construction of the diagnosis definitions for newborns in RC, a stage which is prescribed by the laws regarding the implementation of the nursing process in institutions[12].

Furthermore, for a holistic view of the newborn, the Basic Human Needs model, by Wanda Horta, was adopted, because the care to this population is not related to a single disease, but to a group of risk factors and real and potential needs of newborns, both individual and specific. As a result, this public demands from nurses a type of care that considers human needs in their various dimensions, from the perspective of keeping health and preventing diseases and complications[10].

It stands out that knowledge can be easier to apply on assistance, teaching and research when diagnoses are organized withing a harmonic and significant theoretical model, in a systemic nursing theory that contributes in the following aspects: preventing a reductionist application of the nursing process; facilitating the systematized documentation using the ICNP®; collaborating for the learning of nursing classifications, and encouraging their adequate use in teaching and health institutions[7].

The construction of a catalog, to any group of clients, can bring significant contributions for the practice of assistance. A recent revision study indicated that researches related to the ICNP® tended to focus on the care for cancer patients, elders, or children, and not on the newborn[12]. In addition, children should be a priority when it comes to study populations, since they stand out as a type of health client that should be considered a priority for investigation[8].

Starting from the premise that studies that associate the formulation of diagnoses in the ICNP® are essential for the clinical practice of the nurse[13], this work contributes to identify nursing diagnoses in the RC that can help creating specific nursing interventions aimed at improving the quality of assistance, filling in the gaps in the nursing process related to the newborns hospitalized in this field.

OBJECTIVES

To create nursing diagnosis definitions for newborns hospitalized in rooming-in care, using the International Classification for Nursing Practice (ICNP®).

METHODS

Ethical aspects

The study was approved by the Research Ethics Committee of the maternity ward of the *Universidade Federal do Rio de Janeiro*.

Design, period, and place of study

This is a methodological, descriptive, observational study, that used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) tool to guide the items described. It was carried out through the analysis of the records of newborns hospitalized in rooming-in care in a federal maternity ward from January to June 2017. The steps were followed: identifying the clients; choosing the theoretical model; identifying and validating the terms that are relevant for care with the clients; cross-mapping of the terms identified with those at ICNP®; construction and cross-mapping with the

diagnoses in ICNP®; validation of the nursing diagnosis definitions in ICNP®[14]. Finally, the classification was made according with the Basic Human Needs described by Wanda Horta.

Inclusion criteria for the selection of records

The study included all records of newborns hospitalized in the unit during data collection. Those referring to newborns who had been hospitalized for less than 24 hours were excluded, due to the small number of nursing notes about them.

The number of records was calculated according with the total number of hospitalizations (550) in the unit in 2016. The sample calculation used was *n=N.Z2.p.(1-p) / Z2.p.(1-p) + e2.N-1*, where: *n* – calculated sample; *N* – population; *Z* – normal variable; *p* – actual probability of the event; *e* – sample error. The confidence level was 95%; the sample error was 5%. As a result, there was a total of 227 records to be investigated.

Study protocol and Result analysis

Identification and validation of terms relevant to the care with the clients

For this stage, an electronic spreadsheet was created by the researchers in the software Excel for Windows®, using the simple terms extracted from the records that are relevant for the practice of nursing in the care for newborns in rooming-in care. The extraction was manual, by four auxiliary research auxiliaries. Simultaneously with the identification of the terms in the records, the terms from the 2019 ICNP® terminology were placed on a second spreadsheet.

After this stage, the terms were organized alphabetically to form a corpus of analysis and went through the process of normalization and uniformization, with analyses and exclusion of synonyms, adaptation of verbal tenses, grammatical genders (masculine and feminine), numbers (singular and plural), and acronyms that identified some of them[10]. The pair of auxiliaries would meet at the end of each stage and compare the data, both for extraction and normalization. The disagreements were solved via consensus.

The term database was inserted in a form and sent to the specialists for validation via consensus[15]. To select the specialists, research was carried out in the Lattes Platform. Knowledge on the topic was taken into account, as well as the following requisites: direct assistance nurses who had worked caring for newborns for at least five years, who had the title of specialist or higher; or nurses with MS or a higher title, who had produced research related to the ICNP ® (including publication of scientific articles or advising/co-advising publications). The specialists were sent an invitation to participate together with an explanatory manual and a Free and Informed Consent Form. The group of specialists was formed by five nurses from the institution, who participated in the research after signing the Term. The fact that the specialists were from the institution itself had relevant results for the service; however, the connection between them and the research could make the study biased. To minimize this bias, they were selected as long as they had expertise in an academic or assistance setting other than the one being studied (profile described in Figure 1).

Cross-mapping of the terms identified with the terms of the ICNP®

In the second stage, the terms validated were submitted to cross-mapping with the Model of Seven Axes of ICNP® 2019. Therefore, the spreadsheets were crossed using the software Access for Windows®, to identify which terms were and which were not in the version of the classification being used in the study. The terms that were in the ICNP® were used according with their reference. The terms that were not there were analyzed according to their similitude (different spellings of words with the same meaning), their broadness (when the meaning is that of a standardized parent term), or their restricted meaning (when their meaning is that of a standardized child term)[14]. The use of cross-mapping in this study was limited to the criteria mentioned and did not consider the cardinality and equivalence of ISO 12300/2016. At the end of this step, it was possible to determine the database of nursing terms related to the care for the newborn in RC.

Construction the nursing diagnosis definitions of ICNP®® and cross-mapping it with the diagnoses in ICNP®

In the third stage, based on the database of terms found, diagnosis definitions were elaborated according with the Seven Axes Model of ICNP® 2019, based on the ISO 18.104 norms and on the recommendations of the International Council of Nurses (ICN).

To construct the definitions of the nursing diagnoses, one term from the Focus axis was mandatory. Furthermore, some diagnoses included additional terms, as necessary, from the axes Focus, Judgment, Client, Location, and time[6]; other terms were expressed by a clinical finding.

The definitions created were input in a spreadsheet in Excel for Windows® and compared via cross-mapping with the pre-associated ICNP® concepts. Thus, the database of diagnoses was elaborated and submitted to the appreciation of the specialists.

Operational definitions were adopted to the nursing diagnosis that were constructed. That was done in the following stages: developing a preliminary definition; revision of literature; mapping the meaning of the concept; assertion of the operational definition[16]. All definitions took into account concepts from literature.

Validation and classification of nursing diagnoses according with the Basic Human Needs described by Wanda Horta

To validate the diagnoses, the researchers elaborated clinical cases that presented all stages from the nursing process (history, nursing diagnosis, planning, intervention, and evaluation). This was done according with the Basic Human Needs theoretical framework, by Wanda Horta, which the institution already uses[17].

The validation of diagnoses and of operational definitions was by the consensus of a committee of specialists, the same that validated the terms - a consensus of 100% was deemed "valid".

The nursing diagnoses were organized in tables and categorized according with the Basic Human Needs proposed by Wanda Horta, through the approximation of definitions and specific definitions according with the theoretical framework adopted and with literature on the topic.

Therefore, the nursing diagnoses based on the ICNP® for these clients subsidized the identification of Basic Human Needs, being based on empirical data from the records and on their potential clinical evidence[10].

There were four in-person meetings of about three hours each, where specialists validated the diagnoses through clinical judgment based on the identification and interpretation of data found in the nursing history. They classified them according with the Basic Human Needs proposed by Wanda Horta. No other rounds of evaluation were needed.

RESULTS

Based on the validation of the terms, 98 diagnosis definitions were constructed. 27 were clinically validated by the experts. To validate the diagnoses, eight case studies were carried out with the newborns hospitalized in rooming-in care. Their age varied from 3 to 28 days, four were males and four females.

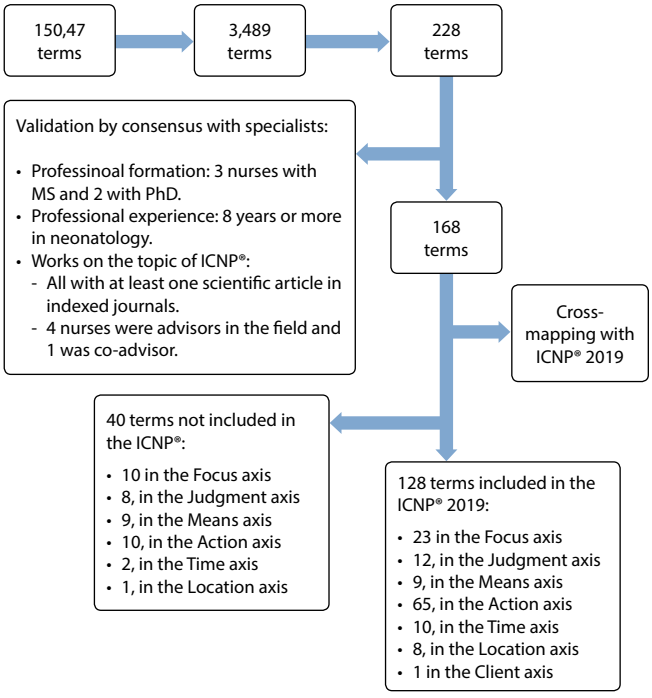

Figure 1 – Extraction and validation of nursing terms in newborns hospitalized in rooming-in care, Rio de Janeiro, Rio de Janeiro, Brazil, 2017

DISCUSSION

The psychobiological needs were the most affected in newborns hospitalized in RC (78.6%). Another study[9] found the same results, which may be related to the tendency of nurses, in their records, to identify this group of needs more often.

Among the psychobiological needs, the nutrition need was one of the most affected ones in this research. It involves the processes of ingesting, digesting, absorbing, and intake of nutrients that need to be used in body metabolism[18].

Another research, which considered the context of RC hospitalization, nursing reports emphasize aspects such as weight (83.3%) and breastfeeding in regard to holding, position, and suction (66.7%)[3]. These terms were normal in this study, making newborn feeding an important focus recorded by the nurses in this research.

Term and low-risk newborns, in general, are ready for suction in the first hours of their life, due to the adequate development of oral reflexes, and have a good frequency of suction of the mother's breast[19]. Similarly, another study states that the diagnosis related to breastfeeding are very important during this period, for the mother-child pair. The definitions created are similar to the diagnoses presented in this study, such as "Exclusive Breastfeeding", "Preserved Breastfeeding", "Interrupted/Impaired Breastfeeding", and "Effective Sucking"[7].

Preserved breastfeeding can be characterized by some signals, such as adequate weight, swallowing when breastfeeding, and a continuous or regular sucking of the breast[11]. The weight is an important information to evaluate the nutritional state of the newborn and is associated to nutritional needs connected to breastfeeding, influencing growth and development[20]. Interrupted/impaired breastfeeding was mostly related to the prematurity of the newborn[11].

The hypoglycemia diagnosis, in turn, stands out, with 28.6%, among the reasons for hospitalization in a neonate intensive care unit (NICU)[21]. However, there was no "Risk for Hypoglycemia" in this study, despite it being an important reason for NICU hospitalizations. This shows a difficulty among the nurses in the records of risk diagnoses.

Concerning elimination, which is related to the need to remove undesirable or excessive substances from the body to maintain its homeostasis[18], literature shows that it is common to record bladder and bowel eliminations (83.3%)[3]. The diagnoses "Effective Elimination" was found in 89.2% of the newborns from another study[22].

Table 1 - Distribution of nursing diagnoses of newborns in the rooming-in care of a federal public maternity ward, Rio de Janeiro, Rio de Janeiro, Brazil, 2017

Nursing diagnoses/Code	Basic Human Needs/Operational Definitions	n	%
Psychobiological Needs			
Nutrition			
Exclusive Breastfeeding (10039503),	Feeding when wanted exclusively with breast milk, excluding all other foods, in the first six months of the child's life.	5	62.5
Preserved Breastfeeding	Feeding when wanted with breast milk, with artificial milk complementation, in the first six months of the child's life.	1	12.5
Effective Sucking	Extraction of milk from the mothers breast using lip muscles and tongue effectively.	6	75
Effective Feeding Behaviour	Feeding (human milk or formula) influencing the sufficient ingestion of nutrients to satisfy metabolic needs.	8	100

To be continued

Table 1 (concluded)

Nursing diagnoses/Code	Basic Human Needs/Operational Definitions	n	%
Effective Swallowing	The effective passage of liquids from the mouth to the esophagus and then for the stomach.	7	87.5
Effective Weight	Newborn weights about 2,500 at birth.	6	75
Interrupted Breastfeeding (10000774)	Breastfeed stops being provided due to pathologies or clinical state of the mother, the newborn, or to other personal factors related to the mother.	2	25
Impaired Feeding Behavior	Difficulty feeding (human milk or formula) influencing insufficient ingestion of nutrients to satisfy metabolic needs.	2	25
Impaired Weight (10013016)	Newborn weighting below 2,500 grams at birth.	2	25
Hypoglycaemia (10027566)	Serum levels below 40 mg/dl in newborn with less than 72 hours of life.	1	12.5
Elimination			
Faeces Within Normal Limits	Bowel eliminations with adequate characteristics, frequency, smell, and color.	6	75
Normal Urine	Bladder eliminations with adequate characteristics, frequency, volume, smell, and color.	8	100
Mild Constipation	Diminution in the frequency of bowel eliminations (less than 4 times a day), accompanied with difficulties passing the feces or incomplete passage, with feces that may be excessively dry and hard.	1	12.5
Mild Colic	Abdominal discomfort manifested through strong crying, redness, and signs of irritability.	3	37.5
Therapy			
Effective Peripheral Intravenous Access	Newborn intravenous access (from a peripheral vein) capable of infusing the prescribed volume with no tissue lesions in the blood vessels or underlying tissues.	7	87.5
Effective Response to Pain Control	After pain control measures are implemented, the newborn has a negative score for pain according to specific scales.-	1	12.5
Sleep and rest			
Impaired Sleep (10027226)	Interruption in the amount and quality of sleep in the newborn due to internal or external factors.	2	25
Neurological Regulation and Nutrition			
Normal Sucking Reflex	Capacity of performing movements with the lips and tongue, forming a vacuum in the oral cavity, after 27/28 weeks of gestational age, after stimulated.	6	75
Neurological Regulation			
Impaired Motor Reflex	Reflexes related to altered psychomotor development (rooting, stepping, Moro, grasp, and Babinski).	1	12.5
Skin and Oral Mucous Membrane Integrity			
Impaired Skin Integrity (10001290)	Tears in the skin of the newborn due to lesions or invasion of its structure.	2	25
Body Care			
Impaired Anal Hygiene Behaviour	Perianal area with rests of feces or other secretions and/or fetid smell.	2	25
Oxygenation			
Normal Respiration Rhythm	Respiration rate from 40 to 60 per minute.	8	100
Physical Safety			
Risk for Fall (10015122)	Potential for unintentional movement of the body of the newborn to a level below their initial position due to several factors related to the hospitalization.	2	25
Psychosocial Needs			
Participation, Education for Health/ Learning			
Lack Of Knowledge of Breast Feeding (10029958)	Lack of information on breastfeeding characterized by lack of adherence, difficulties learning, or lack of access to information.	2	25
Lack Of Knowledge of Infant Care (10045623)	Lack of information on infant care characterized by lack of adherence, difficulties learning, or lack of access to information.	2	25
Lack Of Knowledge of Fall Prevention (10040230)	Lack of information on the possibility of infant falls characterized by lack of adherence, difficulties learning, or lack of access to information.	2	25
Love, acceptance			
Effective Parent Child Attachment	Establishing a close relationship between parents and the newborn.	7	87.5

However, although newborns have a good elimination behavior and no visible changes in their need for elimination, they can have bowel constipation and colic even when breastfeeding[23], which also took place in this study.

Sensory perception is the need to perceive and interpret stimuli from the senses to interact with others and with the environment[18]. Although health professionals from another study stated that they have knowledge about pain, terms related to the diagnosis of effective response to pain control were seldom described. This may have happened due to gaps in the evaluation and treatment of pain, or to the little importance given to records and documentation. To ensure that the knowledge about the theme is translated into changes in practice and is transmitted to the mothers, it is necessary to develop education strategies, training, and the collective construction of protocols[24].

It stands out that the diagnosis of mild colic is less common in the babies in exclusive breastfeeding. Mother's milk at night has more melatonin[25] and tends to lead to a longer and less fragmented sleep; the variation of melatonin may also be associated to stress[26]. However, this study found that mild colic was a frequent diagnosis even for most newborns in exclusive breastfeeding, result also found by other studies[20,22].

Therapy and prevention refer to the need to deal with events from the vital cycle and situations from the health-disease process. This includes seeking professional care to promote, maintain, and recover health, preventing diseases and health issues, and habilitating or rehabilitating functions[18].

The diagnosis of effective intravenous access was very frequent in this work, but was not found in other studies[9,20,22,27]. Caring for the venous access of the newborn was connected to preventing other diagnosis, such as "Risk for Infection" and "Dehydration"[9].

Sleep and rest are the need for a natural periodical suspension of awareness, putting the body and mind in a state of partial or complete immobility and partially diminishing body function to restore the energy needed for daily activities[18]. Therefore, the diagnosis "Impaired Sleep" has also been present in other studies[9,20]. Nursing care and procedures carried out with the child at the time of sleep are other factors that impair the quality of sleep and make falling asleep more difficult[9].

Neurological regulation is the need to preserve or reestablish the functioning of the nervous system, to control and coordinate the functions and activities of the body and some aspects of behavior[18].

Stepping, Moro, and grasp reflexes of the newborns were described in the records. According with a study that mapped terms from nursing practice in the follow up of the growth and development of the child, these terms are more specific than the ones found at ICNP®[28]. Therefore, in this study, they were included withing the diagnosis of motor reflex, connected to the need for neurological regulation, due to the peculiar characteristics of this age group.

It should be remarked that this type of diagnosis is important due to the fact that the period of birth shows an extraordinary mental development, from perceptions to movements. It starts with the exercise of reflexes, leading to sensory-motor intelligence through reflexes that allow for suction and movement[29]. These are important to evaluate the development of the newborn; however, although the terms related are often recorded in this study, the same was not true for other researches[9,20,22,27].

Physical integrity is the need to maintain the organic characteristics of elasticity, sensibility, vascularization, humidity, and color of the epithelial, subcutaneous, and mucous tissues, to protect the body[18]. Body care is the need to carry out activities to preserve body hygiene and personal presentation[18].

The diagnosis of "Impaired Skin Integrity" has been intimately connected to that of prejudiced anal hygiene and diaper dermatitis, as other studies in this age group have also found[9,22].

Regarding the need for oxygenation, based on the movement of the air into and out of the lungs through ventilation, diffusion, oxygen transportation into the peripheral tissues, and removal of the carbon dioxide from the airways[18], the respiration rhythm was considered to be normal in most cases, but in most records there were no register of the respiration rate, and in no case there was a register using terms that could indicate a diagnosis of abnormal respiration rate. However, literature indicates that pathologies associated with respiration discomfort and tachypnea in newborns presented significant incidence in the group under study. The team must be attentive to aspects of the respiratory system, especially that of babies whose lungs have still not reached maturity[3]. Furthermore, some studies did not find frequent diagnoses associated with respiration[22,27]; in another investigation, the diagnosis of Impaired Breathing, as opposed to the one found in this study[9].

In addition, the cardiovascular function and cardiac rates did not lead to any diagnostic definition, also due to the lack of records. This result is similar to that of other researches, which can also impair the evaluation of the need of oxygenation of the newborn[3,9,20,22].

Physical and environment safety consist on the need of the individual, family, and collective to protect themselves and maintain an environment that is free from aggressor agents, aiming to preserve physical and socioenvironmental safety[18].

Regarding the event "fall of a newborn", it is rare, corresponding to their physical safety. However, the risk of fall must be considered, especially when the mother and newborn are sharing the same bed[30]. This was the only diagnosis involving risk that was registered by the nurses. This can be justified by the presence of a form to manage risks relative to the safety of the patient which has a checklist that includes the risk of falls as one of its items.

The fall of the newborn can bring several consequences to the neonate, from no harm to moderate lesions, such as edemas, hyperemia in temple and knees, parietal bone fracture and bruises[30]. In spite of these consequences, this was not observed in other studies[3,9,22,27].

Regarding diagnoses related to psychosocial needs, these include the need of education for health/learning, which is defined as the need of the individual to acquire knowledge, develop cognitive and psychomotor abilities[18]. The lack of knowledge of subjects associated with newborn care was identified in another study, showing the importance of sharing information on newborn assistance[31].

Indeed, the mother and her family must receive all guidance and leave the institution assuming the main role in the care for their baby. The research showed that most nursing diagnoses

involve lack of knowledge, highlighting the need to improve information exchange and communication between the team and the patients.

The need for love and acceptance is the need to have feelings and emotions regarding people in general[18]. The nurse has the main role in the mother-child interaction, with the role to recommend interventions and promote and facilitate an affective bond. Measures to enhance this interaction include stimulating the first contact to happen as the mother holds the newborn in the operating room, and to stimulate a pleasant breastfeeding experience for both mother and baby[32].

It has been observed that, although many psychobiological needs are presented, which is a reflex of the biomedical model of assistance that is still present in many units, the nurse highlighted need such as love and acceptance, highlighting the weight of these phenomena on neonate care.

Study limitations

The limitations are related to the construction of nursing diagnoses based on the care for a group of clients with specific characteristics, in the institution of data collection. However, the study may be a starting point for application in other settings, that provide care to newborns hospitalized in RC.

Contributions to the fields of Nursing, Health or Public Policy

This study contributes for the discussion of another field of knowledge and the application of the ICNP®, with the elaboration of diagnoses using a standardized language, formed by previously validated terms. This tool is an important stage of the process of nursing and the planning of care, making it possible for the nurse to use logical reasoning in nursing care and to promote interventions specific to the newborn adapting to RC.

The RC was created to facilitate this adaptation, but the environment may also present other risks for the newborn. Therefore, the nurse must be equipped to provide quality care, which is intimately tied to the records and to communication using a specific standardized terminology, to collaborate with the documentation of the practice of nursing in the assistance to the newborn in RC.

CONCLUSIONS

From the 150,847 terms extracted from records, 168 terms and 27 diagnosis definitions were validated. The needs of nutrition (37%) and elimination (11%) were the ones with the highest number of diagnoses.

The most common diagnoses for the clients studied were: "Effective Feeding Behaviour" (100%), "Effective Urination" (100%), "Normal Respiration Rhythm" (100%), "Effective Swallowing" (87.5%), "Effective Peripheral Intravenous Access" (87.5%), and "Effective Parent Child Attachment" (87.5%). It was confirmed that the records of psychobiological needs are mainly made by nurses, who were responsible for 23 of the diagnoses in this study.

The case studies for the validation of the nursing diagnoses, based on Wanda Horta's model, were in accordance with the philosophy of the institution, the type of clients being studied, and the use of the ICNP® as a possible reference terminology for the field of the study.

REFERENCES

1. Lansky S, Friche AAL, Silva AAM, Campos D, Bittencourt SDA, Carvalho ML, et al. Birth in Brazil survey: neonatal mortality, pregnancy and childbirth quality of care. Cad Saude Publica. 2014;30(suppl 1):S192-S207. https://doi.org/10.1590/0102-311X00133213
2. Ministério da Saúde (BR). Portaria n° 2.068 de 21 de outubro de 2016. Institui diretrizes para a organização da atenção integral e humanizada à mulher e ao recém-nascido no Alojamento Conjunto. Diário Oficial da Uniao [Internet]. 2016 Oct 24[cited 2019 Jan 16];(204);120-1. Sec 1. Available from: http://www.cofen.gov.br/wp-content/uploads/2017/05/Portaria-2068_2016.pdf
3. Dulfe PAM, Aguiar RCB, Alves VH, Rodrigues DP. Nursing care on admission and stay of the newborn in the accommodation set on intra-hospital transfer. Rev Pesqui: Cuid Fundam. 2015;7(2):2287-97. https://doi.org/10.9789/2175-5361.2015.v7i2.2287-2297
4. Leal MC. Childbirth and birth in Brazil: an evolving scenario. Cad Saude Publica. 2018;34(5):e00063818. https://doi.org/10.1590/0102-311x00063818
5. Costa RHS, Nelson ARC, Prado NCC, Rodrigues EHF, Silva RAR. Nursing diagnoses and their components in acquired immune deficiency syndrome patients. Acta Paul Enferm. 2016;29(2):146-53. https://doi.org/10.1590/1982-0194201600021
6. Garcia TR, Nóbrega MML, Cubas MR. CIPE®: uma linguagem padronizada para a prática profissional. In: Garcia TR. Classificação internacional para a prática de enfermagem: CIPE®: aplicação à realidade brasileira. Porto Alegre: Artmed; 2020. p. 21-34.
7. Primo CC, Resende FZ, Garcia TR, Duran ECM, Brandão MAG. ICNP® terminology subset for care of women and children experiencing breastfeeding. Rev Gaucha Enferm. 2018;39:e2017-0010. https://doi.org/10.1590/1983-1447.2018.2017-0010
8. Querido DL, Christoffel MM, Nóbrega MML, Almeida VS, Andrade M, Esteves APVS. Terminological subsets of the international classification for nursing practice: an integrative literature review. Rev Esc Enferm USP. 2019;53:e03522. https://doi.org/10.1590/s1980-220x2018030103522
9. Dantas AMN, Silva KL, Nóbrega MML. Validation of nursing diagnoses, interventions and outcomes in a pediatric clinic. Rev Bras Enferm. 2018;71(1):80-8. https://doi.org/10.1590/0034-7167-2016-0647
10. Félix NDC, Ramos NM, Nascimento MNR, Moreira TMM, Oliveira CJ. Nursing diagnoses from ICNP® for people with metabolic syndrome. Rev Bras Enferm. 2018;71(suppl 1):467-74. https://doi.org/10.1590/0034-7167-2017-0125

11. Silva EP, Alves AR, Macedo ARM, Bezerra RMSB, Almeida PC, Chaves EMC. Diagnósticos de enfermagem relacionados à amamentação em unidade de alojamento conjunto. Rev Bras Enferm. 2013;66(2):190-5. https://doi.org/10.1590/S0034-71672013000200006

12. Conselho Federal de Enfermagem (BR). Resolução COFEN n° 358/2009. Dispõe sobre a Sistematização da Assistência de Enfermagem e a Implementação do Processo de Enfermagem em ambientes, públicos e privados, em que ocorre o cuidado profissional de Enfermagem, e dá outras providências [Internet]. Brasília, DF: COFEN; 2016[cited 2020 Feb 1]. Available from: https://www.portalcoren-rs.gov.br/docs/Legislacoes/legislacao_7a3914c30c09bb242f08c9f36a776fdd.pdf

13. Souza Neto VL, Silva RAR, Rocha CCT, Costa RTS, Nóbrega MML. ICNP® nursing diagnoses for people with acquired immunodeficiency syndrome. Acta Paul Enferm. 2017;30(6):573-81. https://doi.org/10.1590/1982-0194201700081

14. Nóbrega MML, Cubas MR, Egry EY, Nogueira LGF, Carvalho CMG, Albuquerque LM. Desenvolvimento de subconjuntos terminológicos da CIPE® no Brasil. In: Cubas MR, Nóbrega MML. Atenção primária em saúde: diagnósticos, resultados e intervenções de enfermagem. Rio de Janeiro: Elsevier; 2015. p. 3-24.

15. Carlson J. Consensus validation process: a standardized research method to identify and link the relevant NANDA, NIC, and NOC terms for local populations. Int J Nurs Knowl. 2006;17(1):23-4.

16. Waltz CF, Strickland OL, Lenz ER. Measurement in nursing and health research. New York (NY): Springer; 2010.

17. Horta WA. Processo de Enfermagem. Rio de Janeiro: Guanabara Koogan; 2011.

18. Garcia TR, Cubas MC. Diagnósticos, intervenções e resultados de enfermagem: subsídios para a sistematização da prática profissional. Rio de Janeiro: Elsevier; 2012.

19. Calegari FL, Barbieratto BJ, Fujinaga CI, Fonseca LMM, Oliveira CR, Leite AM. Full-term newborns' readiness during the first breastfeeding in rooming-in. Rev Rene. 2016;17(4):444-50. https://doi.org/10.15253/2175-6783.2016000400002

20. Dantas AMN, Gomes GLL, Silva KL, Nóbrega MML. Nursing diagnoses for the stages of growth and development of children using ICNP®. Rev Eletron Enferm. 2016;18:e1165. https://doi.org/10.5216/ree.v18.35524

21. Costa LD, Andersen VF, Perondi AR, França VF, Cavalheiri JC, Bortoloti DS. Predicting factors for admission of newborns in neonatal intensive care units. Rev Baiana Enferm. 2017;31(4):e20458. https://doi.org/10.18471/rbe.v31i4.20458

22. Costa P, Duarte AP, Belela-Anacleto ASC, Andrade PR, Balieiro MMFG, Ramallo Veríssimo MÓ. Nursing diagnoses in primary health care consultations to newborns. Rev Bras Enferm. 2018;71(6):2961-8. https://doi.org/10.1590/0034-7167-2017-0954

23. Christoffel MM, Silva LR , Silva LR, Ferreira ACGV, Macedo EC. Infant colic: descriptive study of maternal care practices for pain relief. J Nurs UFPE. 2013;7(10):5876-82. https://doi.org/10.5205/1981-8963-v7i10a12212p5876-5882-2013

24. Christoffel MM, Castral TC, Daré MF, Montanholi LL, Scochi CGS. Knowledge of health care professionals on the evaluation and treatment of neonatal pain. Rev Bras Enferm. 2016;69(3):516-22. https://doi.org/10.1590/0034-7167.2016690319i

25. Engler AC, Hadash A, Shehadeh N, Pillar G. Breastfeeding may improve nocturnal sleep and reduce infantile colic: potential role of breast milk melatonin. Eur J Pediatr. 2012;171(4):729-32. https://doi.org/10.1007/s00431-011-1659-3

26. Halpern R, Coelho R. Excessive crying in infants. J Pediatr (Rio J.). 2016;92(3 suppl 1): 1-5. https://doi.org/10.1016/j.jped.2016.01.004

27. Moraes Filho IM, Souza GB, Nascimento FNN, Santos JLA, Carvalho MR. Checklist do recém-nascido: principais diagnósticos de enfermagem mediante intercorrências e susceptibilidade das mesmas no neonatal. Rev Divulg Cient Sena Aires [Internet]. 2017[cited 2018 Dec 31];6(1):38-48. Available from: http://revistafacesa.senaaires.com.br/index.php/revisa/article/view/276/178

28. Dantas AMN, Souza GLL, Nóbrega MML. Mapeamento de termos da prática de enfermagem no acompanhamento do crescimento e desenvolvimento da criança. Enferm Foco. 2013;4(2):92-6. https://doi.org/10.21675/2357-707X.2013.v4.n2.533

29. Estill DA. Mordidas na primeira infância. Pediatr Mod. 2013;49(5):192-6.

30. Torino V, Tsunechiro MA, Santos AU, Aragaki IMM, Shimoda GT. Newborn falls in rooming-in care. Cogitare Enferm. 2016;21(4):1-8. https://doi.org/10.5380/ce.v21i4.45852

31. Santos LF, Oliveira LMAC, Montefusco SRA, Barbosa MA. Nursing diagnoses and interventions in families of hospitalized children. Rev Enferm UERJ. 2016;24(4):e8253. https://doi.org/10.12957/reuerj.2016.8253

32. Valle NSB, Alves HRM, Matos MS. Benefícios do alojamento conjunto. REMAS [Internet]. 2017[cited 2019 Jan 16];7(2):75-85. Available from: http://faculdadedofuturo.edu.br/revista1/index.php/remas/article/view/142/223