ORIGINAL ARTICLE

NURSING CARE PROTOCOL FOR CHILDREN DISCHARGED FROM THE NEONATAL INTENSIVE CARE UNIT

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Highlights: (1) Flowchart for continuity of nursing care for children discharged from the ICU. (2) Classification of children discharged from the neonatal ICU by complexity. (3) Nursing interventions for each level of complexity.

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ABSTRACT

Objective: to develop and validate a protocol for continuity of care for children discharged from the Neonatal Intensive Care Unit. **Methods:** Action research, conducted at a health insurance company. Ten nurses participated in the development of the protocol and 12 nurse judges participated in the content validation. **Results:** the protocol directs the continuity of nursing care for children discharged from the Neonatal Intensive Care Unit according to their health complexity, low, medium or high, measured by means of a Classification Table, developed in this study. For each level of complexity, this table indicates the systematization of care between professional, child and family. The protocol was validated with a Content Validation Index of 0.95 and a Kappa coefficient of 0.26. **Conclusion:** the protocol developed collectively and according to local needs, has innovative potential, since it systematizes nursing care according to the complexity of the child's health at hospital discharge, provides for continuity of care, and promotes evidence-based practice.

Keywords: Nursing; Child Health; Neonatal Intensive Care Unit; Primary Health Care; Comprehensive Health Care.

INTRODUCTION

The Neonatal Intensive Care Unit (NICU) is a hospital area with a high level of technological equipment dedicated to receiving newborns (NBs) up to 28 days old who are premature, born with low birth weight or with conditions that may compromise their growth and development. This environment employs highly qualified professionals, both technically and scientifically, capable of providing care to seriously ill NBs who require continuous care for long periods, which is essential for maintaining their lives and recovering their health[1].

A long stay in the ICU is associated with risks of delayed development in children, as their conditions make physical and motor stimulation difficult. Considering this possibility, a study by Lawlor et al[2] compared clinical variables and motor development of 26 premature infants hospitalized for a mean of 35 days in the NICU. The analysis, organized into three groups according to corrected age, concluded that children aged zero to five months presented

a risk of motor delays of 36.89%, children aged six to 12 months presented a risk of 39.6%, and children aged 13 and 18 months had a risk of 23.5%.

Based on these considerations, it is worth noting that the discharge of children from the ICU is a complex process that requires planning so that it is safe, responsible and aims at the family's leading role in home care[3]. Since this is a child who requires complex and continuous care, the challenges become even greater and are focused on both the multidisciplinary health team and the family members/caregivers who need to make adjustments to their routine to perform care, reorganize the family structure, learn to manipulate technological devices and readjust roles so that care is safe and life-sustaining[4]. Nurses play a fundamental role in dehospitalization and continuity of care, with emphasis on care management and health education activities. Continuity of care for children discharged from a NICU, referred to a monitoring outpatient clinic or to Primary Health Care (PHC), needs to be anchored in an individualized care plan, according to the child's health needs and the family context, which can impact adherence to monitoring. To develop the care plan, nurses need certain skills, such as care experience, technical-scientific knowledge about the Health Care Network (HCN), acting as an articulator within the network, mastering institutional protocols, having communication skills with members of the hospital and PHC multidisciplinary team, and having leadership and decision-making skills[5,6].

The role of nurses in the hospital discharge process of children with chronic diseases was analyzed in a study conducted in a public hospital in northeastern Brazil, which identified the need to develop protocols to assist in planning hospital discharge, with the aim of facilitating and standardizing conduct, from the child's admission to the hospital environment, assisting in identifying demands for home care, and implementing actions to effectively prepare families for discharge7.

Protocols are among the most widely used care technologies in nursing, as they allow care to be provided according to the patient's needs, while also providing theoretical support for decision-making. They are also considered support in the continuing education of professionals and in management activities[8].

However, in some areas of nursing practice, the production of care technologies is still elementary, such as in the monitoring of children discharged from the NICU. There is a lack of

studies on technologies that support the care of children with special health needs, as well as on the classification of the complexity presented by them after discharge, or even on the use of equipment that, until recently, was restricted to the hospital environment and is now available for maintaining life at home.

In view of this scenario, there is a clear need to develop care technologies that support and assist nurses in the monitoring care of this population, since these are children at high risk of complications and readmissions. Therefore, the present study aimed to build and validate a protocol for continuity of care for children discharged from the Neonatal Intensive Care Unit.

MATERIALS AND METHODS

Qualitative action research, carried out in a health insurance company located in western Santa Catarina, from September 2021 to July 2022. The action research aims to clarify problems that are relevant to a group of people, researchers and members of the problem situation, through discussion groups, in which proposals for resolution to the identified issues are raised[9]. The study followed five adapted stages[9]: Stage 1 - Exploratory phase and situation diagnosis; Stage 2 - Integrative seminars; Stage 3 - Validation; Stage 4 - Protocol implementation; Stage 5 - Publication. This manuscript will detail the first four stages.

Stage 1 - Exploratory phase and situation diagnosis: composed of an integrative review aiming to identify interventions that have been carried out by the nurses and health team regarding the continuity of care for the children discharged from the Pediatric ICU. Seven descriptors in Portuguese and English were used to select and extract the studies, with ten cross-referencing strategies, using the Boolean operator “AND” to search the Virtual Health Library (VHL) and Scopus database.

The search took place in August 2021, using the Zotero@ reference management software to save and organize the studies found. The sample consisted of 23 studies, which also supported the selection of the content that made up the protocol. Also at this stage, a survey was conducted in the operator's health information system to outline a profile of children who required hospitalization in the NICU in the period before and during the Covid-19 pandemic, namely the second semester of 2019, the first and second semester of 2020, and the first semester of 2021.

Stage 2 - Integrative seminars: the following inclusion criteria were defined for participation in the seminars: being a nurse in sectors that provide direct care to children during early childhood (children up to five years old), namely: NICU, Maternity Ward, Nursery, Pediatric Emergency Care, PHC, Home Care; having worked for more than six months in at least one of the aforementioned sectors. The exclusion criteria were: being away due to vacation, medical certificate or leave during the period of the seminars.

The explanation about the research and invitation to the 20 eligible nurses for the study took place in person, with a physical and nominal invitation delivered by the researcher. Of the 20 nurses, ten expressed interest and participated in the seminars.

Four seminars were held, each lasting a mean of two hours. These were recorded using audio recorders and transcribed manually by the research team (master's student and two scientific initiation scholarship holders) immediately after each one ended. During the seminars, a field diary was also used to record information related to the researchers' impressions during the seminars that were relevant to the study.

The first three seminars were intended for the construction of the protocol, and took place between September and October 2021. The fourth seminar took place in May 2022, after the protocol's content had been validated by judges. The following methodological strategies were used to conduct the seminars: World Café (seminar 1), Talking Map (seminars 2 and 3), and Conversation Circle (seminar 4).

Stage 3 - Validation of the protocol's content: this stage took place between November 2021 and April 2022, after the protocol had been constructed in the integrative seminars. The survey was conducted with nurses who met the following inclusion criteria: being a nurse, working in a Health Care Plan Operator of the medical cooperative system in the state of Santa Catarina, in sectors that serve children in early childhood, and having worked for at least six months in at least one of the sectors. Those who were away due to vacation, medical certificate or leave during the validation period were excluded.

Twenty-eight nurses were invited to participate in this stage, of which 12 expressed interest, in accordance with the adopted literature that recommends a number of six to 20 judges[10].

The 12 interested nurses were sent a link to an adapted form[11], created in Google Forms, containing 14 questions, via email. The first part of the questionnaire was intended to characterize the judges (age, sex, area of training, time and area of activity, highest qualification); the second part contained the validation questions divided into three blocks, the first consisting of three questions directed at the objectives, purposes, goals or aims; the second, structured with nine questions related to structure and presentation, considering organization, structure, strategy, coherence and sufficiency; and the third, evaluation of relevance, significance, motivation and interest. Each statement was answered using a Likert-type scale with values from 1 to 4 (1 fully adequate, 2 adequate, 3 partially adequate, 4 inadequate). For each question, a field was made available for comments and/or suggestions regarding the item evaluated.

For this validation, the Content Validity Index (CVI) was adopted whose value for each item evaluated should be equal to or greater than 0.812. The responses were grouped as agreement (scores 1 and 2) and disagreement (scores 3, 4). The CVI was obtained by adding the scores 1 and 2 divided by the total number of responses. Only one round was conducted, and the judges' suggestions were considered for the final version of the protocol.

The data were organized and tabulated using the Excel® software. The analysis was performed using descriptive statistics with frequency and percentage distribution. The discussion was based on the literature related to the topic. The agreement between judges was also assessed using the Kappa coefficient, which showed a value of 0.26, indicating reasonable agreement between them[13].

Stage 4 - Implementation of the protocol: in this stage, the protocol was implemented with standardization in the institution and the nurses who worked in the maternal and child care line of the health insurance company were equipped with the tools, through a video lesson on a corporate university platform, made available by the insurance company.

Stage 5 - Publication: The protocol is available in the information system of the health insurance company, where it was developed, and is being used for the continuity of care for the target audience.

The research followed resolutions 466/2012 and 510/2016 of the National Health Council, which regulate research involving human beings, in addition to the principles of

bioethics, autonomy, non-maleficence, beneficence, justice and equity. It was approved by the local Ethics Committee, via Plataforma Brasil, under opinion number 4,934,287.

RESULTS

The profile of newborn hospitalizations in the NICU, carried out in Stage 1 - Exploratory phase and diagnosis of the situation, revealed that the mean number of hospitalizations was 12.30/month and the hospital discharge rate was 12.25, indicating a low mortality rate. The main reasons for hospitalization, considering the International Classification of Diseases (ICD), were prematurity and newborn respiratory distress syndrome. Regarding children with indication for continued multidisciplinary care, only 0.88 were referred for home care, all with complex chronic conditions. Regarding deaths, the ICDs identified were: septicemia, cardiogenic shock and respiratory failure. The death rate was also low. On the other hand, hospital discharges resulted in a low percentage of referrals for continued care[14]. The services available at the health insurance company with nurses were investigated, and the following services were available to children discharged from the NICU, and the following were identified in the hospital setting: Pediatric Emergency Care, Pre-hospital Urgent and Emergency Services. In the PHC, there is the Personalized Health Care Center, which provides tele-nursing nursing care, outpatient consultations and home visits, and the Preventive Medicine sector, which provides tele-nursing, collective health programs and projects, a breastfeeding clinic and a Home Care Service (HCS), which has a nurse to care for children with complex chronic conditions.

Based on the knowledge of the care structure available for children and the profile found of newborns discharged from the NICU, during the integrative seminars, a complexity classification was developed for these children, using the structure already adopted by the health insurance company.

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Box 1 - Classification of children discharged from neonatal ICU by complexity

Classification of children discharged from neonatal ICU by complexity			
Number	**Evaluation item**	**Criteria**	**Score**
1	Gestational Age at Birth	≥ 36 weeks	0
		33 to 36 weeks	3
		≤ 32 weeks	6
2	Support network	Good support network	0
		Poor support network*	3
3	Diagnosis	No commitment	0
		Chronic or transient diseases (heart disease, Down syndrome, congenital malformation, syphilis, HIV, etc.)	3
		Neurological impairment, rare genetic syndromes, without a definitive diagnosis	6
		Difficult-to-control seizures	10
4	Nutritional status at birth	≤ 2 kg	0
		2 to 2.5kg	3
		≥ 2.5 kg	6
5	Diet upon hospital discharge	Exclusive breastfeeding	0
		Breastfeeding with the need for supplementation/oral formula	1
		Only use of oral formula	2
		Use of oral and alternative routes	3
		Only alternative routes (NET, NGT, GTT, jejunostomy)	6
		Total Parenteral Nutrition	10
6	Hospital admission history	Admission to neonatal ICU for up to 72 hours	0
		Complications during hospitalization**	3
		Readmissions to neonatal ICU within 28 days of life	6

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Classification of children discharged from neonatal ICU by complexity			
7	Eliminations	Spontaneous eliminations	0
		Use of probes	3
		Ostomies: colostomy, ileostomy, cystostomy and others	6
		Use of probe and ostomy	10
8	Wounds	Absent	0
		Simple dressing	1
		Special dressing	2
9	Invasive devices at hospital discharge	Absent	0
		Use of 1 device	3
		Use of 2 or more devices	6
		Venous access requiring medication infusion	10
10	Medications	None / routine medications / supplementation	0
		Continuity of Palivizumab infusion	3
		Use of barbiturates, hypnotics, narcotics, sedatives	6
11	Pulmonary secretion	No need for aspiration	0
		No need for aspiration and with tracheostomy	3
		With need for aspiration and without tracheostomy	6
		With need for aspiration and with tracheostomy	10
12	Oxygen therapy at hospital discharge	Independent	0
		Intermittent Dependent	3
		Continuously Dependent	6
13	Ventilatory support	Absent	0
		Intermittent Bipap (non-invasive) dependent	6
		Continuous Bipap (non-invasive) dependent	10

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Classification of children discharged from neonatal ICU by complexity		
	Invasive mechanical ventilation (ventilators and Bipap)	86
Classification		
Complexity:	Eligibility for:	Score
Low complexity	Telenursing and outpatient multidisciplinary care when necessary	Up 10
Medium complexity	Telenursing and/or outpatient nursing care and outpatient multidisciplinary care when necessary	11 to 30
High complexity	Home nursing and multidisciplinary care	30 to 86
Home Hospitalization		87 or more
Classification of children discharged from neonatal ICU by complexity		
Specific interventions for non-eligible individuals		Yes/No
Injectable medication for exclusive hospital use		
Oxygen therapy		
Complex dressings		

*Family conflicts, only one family member visits the newborn.
**Complications that prolong the length of hospital stay (mechanical ventilation, sepsis, bronchoaspiration, apneas...)

Source: Adapted from the National Confederation of Medical Cooperatives, 2022

This classification will be applied during the child's hospitalization to determine the care they will receive upon discharge from hospital. In the case of low and medium complexity, the PHC nursing team will identify the children, via the Information System, with the date of hospital discharge. However, in the case of high complexity, the attending physician will refer them to the operator's HCS to organize the team and authorize care by the health plan.

The following are the main elements of the protocol for continuity of care for the children and their family, including the flowchart and interventions planned for each level of complexity. This was prepared based on a model made available by the Health Quality Center adopted by the health plan.

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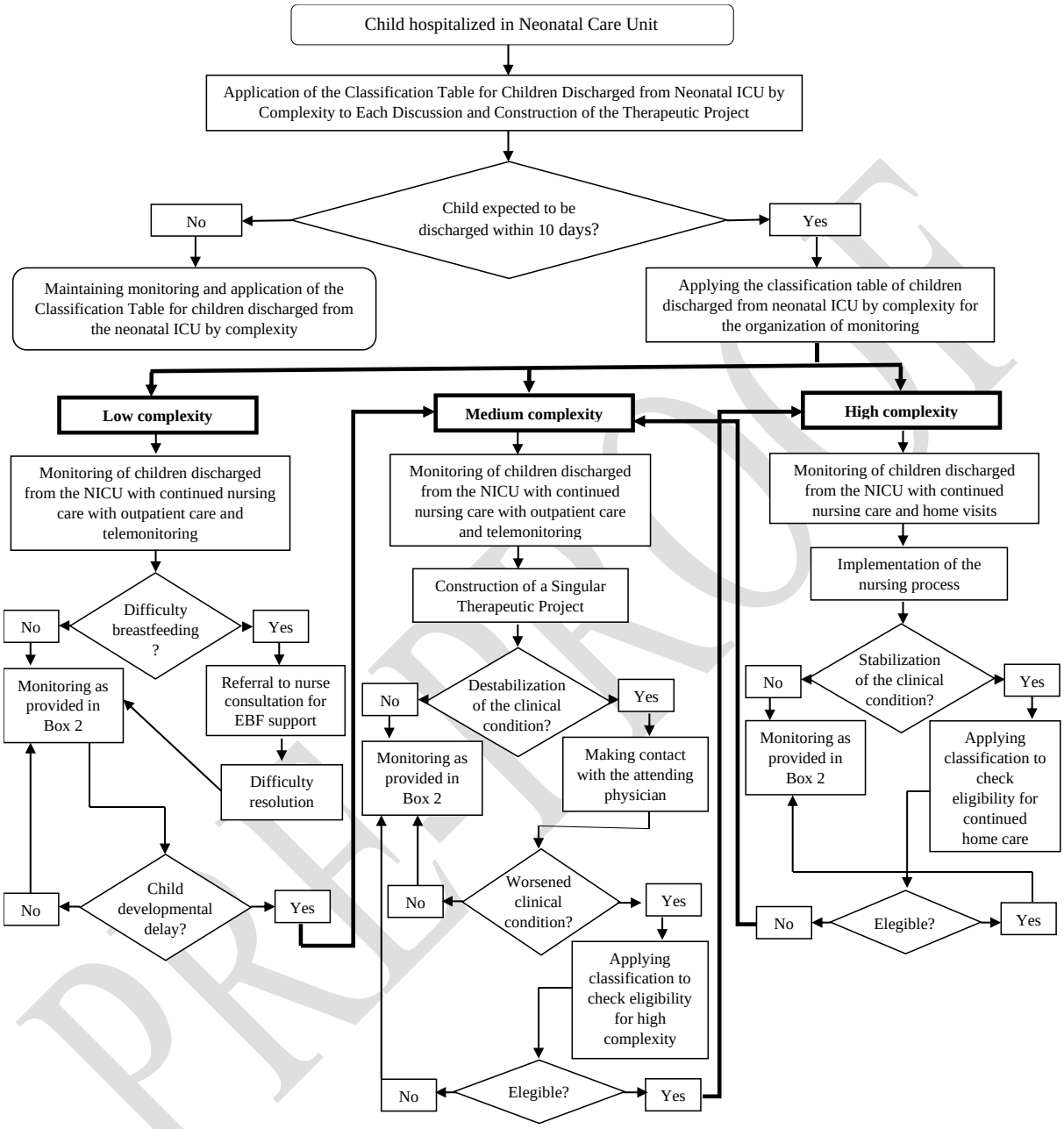
Figure 1 – Flowchart for continuity of nursing care and monitoring of children discharged from the neonatal intensive care unit



Source: Prepared by the authors, 2022

The protocol foresees for nursing interventions for all levels of complexity; the nursing interventions for each level are presented in Box 2.

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Box 2 - Nursing interventions for each level of complexity

Nursing care recommended for children discharged from the NICU classified as low complexity				
Periodicity	**Action**	**Executor**	**Development**	**Goal**
1st Contact until the 3rd day of hospital discharge	Apply questionnaire 01 (figure 2)	Nurse	Contact the child's guardian via WhatsApp (Blip) and forward a questionnaire	Identifying weaknesses and potentialities and provide guidance. Performing "combined" of next contacts and availability of services. Adherence of the child to the program before hospital discharge when admitted to the hospital itself, also online (confirmation before starting the questionnaire).
2nd Contact until the 15th day after the 1st contact	Reviewing answers to questionnaire 01 and confirm information	Nurse	Contacting the person responsible for the child via WhatsApp (Blip) in a direct conversation to confirm pending issues	Ensuring 1st contact pending issues, answer questions and provide sleep and sleeping position guidance, disengagement, childcare importance, free demand EBF, weight loss and other pertinent health promotion information
Quarterly up to 1 year	Applying development issue and request latest anthropometric measurements	Nurse	Contacting the child's guardian via WhatsApp (Blip) in direct conversation	Determining risk factors, monitor child growth and development and carry out actions to promote, prevent and protect children's health
Food introduction	Trying to identify signs of readiness from the 6th month of life	Nurse	Contacting the child's guardian via WhatsApp (Blip) in direct conversation	Offering and guide the importance of taking a Food Introduction Course
According to demand (for decompensated beneficiaries and/or history of going to the Emergency Room or readmission)	Face-to-face monitoring	Multidisciplinary health team		Clinical stabilization

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Nursing care recommended for children discharged from the NICU classified as medium complexity				
Periodicity	Action	Executor	Development	Goal
1st Contact up to 3rd day after hospital discharge	Nursing consultation.	Nurse	Face-to-face nursing consultation for the construction of a Singular Therapeutic Plan	Face-to-face consultation for physical examination and orientations directed to the doubts of those responsible and definition of face-to-face care and telenursing
2nd Contact 15 days after 1st contact	Apply Questionnaire 02	Nurse	Contacting the child's guardian via WhatsApp (Blip) and forward a questionnaire	Following STP outlined in the face-to-face consultation, answer questions and update the child's clinical condition.
3rd Contact	Contact with attending physician	Nurse	Contacting attending physician via Blip or phone	Understanding of goals/care plan and, child needs
4th to 7th contact made fortnightly from the last contact made until the child completes 3 months of hospital discharge	Reviewing questionnaire answers 02 and confirm information	Nurse	Contacting the child's guardian via WhatsApp (Blip) in direct conversation	Following STP traced, ensure the completion of pending issues from previous contacts, resolve doubts, and update the clinical picture. Conducting sleep guidance and positioning for sleep, disengagement, childcare importance, free demand EBF, weight loss and other pertinent health promotion information
After the child has completed 3 months of hospital discharge, bimonthly contact up to 1 year and quarterly contact up to 3 years	Applying development issue and request latest anthropometric measurements	Nurse	Contacting the child's guardian via WhatsApp (Blip) in direct conversation	Determining risk factors, monitor child growth and development and carry out actions to promote, prevent and protect child health
Food introduction	Trying to identify signs of readiness from the 6th month of life	Nurse	Contacting the child's guardian via WhatsApp (Blip) in direct conversation	Offering and guide the importance of taking a Food Introduction Course
According to demand (for decompensated beneficiaries and/or history of going to the Emergency Room or readmission)	Face-to-face monitoring	Multidisciplinary health team		Clinical stabilization

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Nursing care recommended for children discharged from the NICU classified as highly complexity				
Periodicity	**Action**	**Executor**	**Development**	**Goal**
1st Contact until 3rd day of hospital discharge	Home visit	Nurse	Home visit to collect the Nursing Process	Eligibility nursing visit (RDC 11 requirements) Stages: Nursing history, Physical examination, Diagnoses, planning
Monthly as a child eligible for home care	Home visit	Nurse	Home visit to collect the Nursing Process and Care Management	Nursing process. Stages: Implementation and evaluation Care management
Monthly application of score for continuity of home care	Home visit	Nurse	Score application to verify eligibility for continuity of home care	Keeping eligible children in home care and ineligible children at an adequate level of care
According to demand (for decompensated beneficiaries and/or history of going to the Emergency Room or readmission)	Face-to-face monitoring	Multidisciplinary health team		Clinical stabilization

Source: Prepared by the authors, 2022

The validation of the protocol was performed by 12 nurses, the majority of whom were female (91.66%), with a mean age of 31.25 years. The majority were specialists (75%), working in maternal and child care sectors (58.33%), including maternity, nursery and NICU, and pediatrics, in PHC (25%) and Emergency Care (16.66%). Regarding the time working in the sectors, the mean was 38.18 months (± 3.18 years).

Table 1 shows the validated items and the agreement between the judges.

Table 1 – Items validated by the group of nurse judges

	Variable	Agreement		Disagreement		CVI*	CVI**
		n	%	n	%		
Block 1 - OBJECTIVES: Purposes, goals or aims							
1	The protocol covers the proposed theme	11	91.66	1	8.33	0.91	0.97
2	The protocol is suitable for the continuity of nursing care for children discharged from the NICU	12	100	0	0	1	
3	The protocol provides guidance for the nurse's decision-making	12	100	0	0	1	
Block 2 - STRUCTURING/PRESENTATION: organization, structure, strategy, coherence and sufficiency							
4	The protocol has language appropriate for the target audience (nurse)	11	91.66	1	8.33	0.91	0.95
5	The protocol has correct information	12	100	0	0	1	
6	The protocol presents objective information	11	91.66	1	8.33	0.91	
7	The protocol provides clarifying information (does it make clear what, how and why to do?)	11	91.66	1	8.33	0.91	
8	The protocol has necessary information	12	100	0	0	1	
9	The protocol is in a logical sequence of ideas	11	91.66	1	8.33	0.91	
10	The protocol is appropriate for monitoring the child and monitoring care through telenursing	11	91.66	1	8.33	0.91	
11	The protocol is appropriate for monitoring the child and monitoring care through outpatient care	12	100	0	0	1	
12	The protocol is appropriate for monitoring the child and monitoring care through home care	12	100	0	0	1	
Block 3 - RELEVANCE: significance, impact, motivation and interest							
13	The protocol encourages safe/assertive care	11	91.66	0	8.33	0.91	0.95
14	The protocol contributes to healthy child growth and development	12	100	0	0	1	
General CVI					**0.95**		

**Individual CVI for each evaluated question*
*** CVI per block*

The agreement between the judges was also assessed using the Kappa coefficient, indicating reasonable agreement between them, with the Kappa value equal to 0.2684. This is a statistically significant value (p-value = 0.00000), ruling out random or subjective evaluations.

DISCUSSION

In the healthcare provider where the study was developed, the classification of newborns is routinely performed in a hospital environment by the attending physician, according to the clinical needs presented, leading to their allocation to shared accommodation/ward, nursery or NICU, but there is no defined score; the classification is performed according to the clinical conditions presented. In the nursing area, there is the Fantinelli Scale[15], which assesses the

complexity of care for postpartum women and their newborns during the postpartum period, in the care provided in shared accommodation, considering 13 parameters: mental state, therapy, feeding, elimination, vital signs, walking, body care, and skin integrity, general observations of the mother, baby's position, latch and sucking. The score leads to a categorization into minimum, intermediate, semi-intensive or intensive care, which is used in a hospital environment to assist the nurses in managing care and identifying the degree of complexity required by the binomial.

In order to assist in discharge planning and identify the needs presented by these newborns, considered high risk, in this study, a classification of children discharged from the NICU by level of complexity was developed, capable of electing needs considering clinical and cognitive conditions and use of assistive devices, in addition to measuring the level of nursing assistance required after discharge. This classification will be applied by the NICU's nursing assistant during the discussion and construction of the Therapeutic Project carried out by the multidisciplinary team, during hospitalization and when signaling the possibility of discharge, ten days or less before discharge, it will be applied to direct and organize extra-hospital care.

For newborns eligible for low-complexity care, the telenursing strategy was established. This type of care was widely recognized during the novel coronavirus (Sars-Cov-2) pandemic, leading the Federal Nursing Council (COFEN) to temporarily regulate nursing practices in the digital environment for a specific period of time, through Resolution number 634/202016. Currently, the use of Information and Communication Technology (ICT) for nursing care is regulated for an indefinite period of time through COFEN Resolution 696/2022[17].

Remote nursing consultation is a potential strategy, an innovative practice that assists in health management, enables health education and empowers families to face adversities in the home environment, in addition to expanding access to health services through ease of communication and agility in care. When well implemented, it maintains quality, safety and effectiveness[18,19].

Low-complexity care indicates monitoring up to one year of age, if the child reaches the expected growth and development milestones for their age. Associated with this complexity, the flowchart presents a different indication when mother and baby are facing problems related to breastfeeding, understood by nurses as a key point for successful hospital discharge.

A study conducted by Balaminut et al.[20] investigated the prevalence of exclusive breastfeeding and the associated factors in hospital discharge up to six months of age of premature children, who were admitted to the NICU and/or Neonatal Intermediate Care Unit (NICU) and/or Kangaroo Unit (KU) in the first 48 hours, in two hospitals in the southeast region. The researchers identified the lack of breast milk, difficulty in sucking the premature baby, insufficient amount of milk and early initiation of bottle use as reasons for early weaning at home. Other factors that were also associated were marital status, maternal occupation, number of prenatal consultations, type of pregnancy and delivery, gestational age, birth weight, use of ventilatory support, length of hospitalization in neonatal units and family income.

Still in low complexity, the flowchart indicates that, when the child presents a delay in psychomotor development, he or she should be referred to medium complexity care. Nursing care for children with medium complexity involves monitoring the child until the third year of life and recommends that the first contact be made in person to prepare the Singular Therapeutic Plan (STP) together with the family members and, according to the needs evidenced, such as the use of devices. A study carried out with the objective of understanding the experience of caregivers of children with gastrostomy identified the need for continuous monitoring of families in order to clarify doubts and provide guidance for care[21].

A child classified as having moderate complexity requires contact with a physician in the event of clinical instability or, if the case worsens, it is recommended that the child be reclassified to verify eligibility for high complexity with home care, in addition to reviewing the STP, defined as a set of therapeutic actions defined through collective discussion between the multidisciplinary team, user and family, and covering the stages of diagnosis, definition of goals, division of responsibilities and reassessment.

High complexity care includes home care provided by nurses for children with complex chronic conditions. These children and families require more intensive care, HCN articulated with all levels of care and PHC as the care coordinator[22]. The work of the nurses in the home setting is regulated by COFEN Resolution number 464/201423, which provides for the operationalization of the Nursing Process (NP) in its five stages: Nursing Assessment, Nursing Diagnosis, Nursing Planning, Nursing Implementation and Nursing Evolution.

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Nursing care at home is also provided for in the Classification of children discharged from the NICU by complexity for the home hospitalization modality, in the table developed in this study. Home hospitalization, according to Collegiate Board Resolution(CBR) number 11/2006[24], is understood as "a set of activities provided at home, characterized by full-time care for patients with more complex clinical conditions and in need of specialized technology" and, for this modality, there is no provision for nursing care in the protocol, as it will depend on the clinical needs of the newborn.

An essential part of health research and technology development is content validation, which aims to measure the probability of the content of an instrument being appropriate for what the construct proposes and, generally, is evaluated by experts in the area (judges) through a scale that measures the relevance of the construct and allows comments from experts for improvement[12].

The results showed a satisfactory CVI for the 14 items, with an overall CVI of 0.95. It should be noted that for six questions (1, 6, 7, 9, 10, 13) there was an evaluation as unsatisfactory, but only two comments justifying such evaluation.

In the analysis by blocks of the protocol, it was possible to show that block 1 (OBJECTIVES: Purposes, goals or aims) had the highest CVI, 100% of the judges considered the nursing care proposed for children discharged from the NICU to be adequate, with nursing care provided for low complexity through telenursing, initial in-person assessment for medium complexity and, based on the STP, the definition of telenursing or in-person consultations with the nurse and, for high complexity, home visits and implementation of the NP.

The analysis of block 2 (STRUCTURE/PRESENTATION: organization, structure, strategy, coherence and sufficiency) reinforced the adequacy of the continuity of nursing care. However, in the question that specifically assessed low complexity, linked to telenursing care, one judge considered it partially adequate, despite not having left comments with suggestions. It is believed that the judge's disagreement may be related to the validation period (November to April 2022), since at that time telenursing was authorized by COFEN, through resolution 634/2020[16], only for a limited time due to the Covid-19 pandemic.

The work of professionals with ICT resources is one of the assistance possibilities widely used in the health area, but, in Brazil, it is still recent for the nursing area, since digital

assistance was only standardized on May 17, 2022, with the publication of COFEN Resolution number 696/2022[17]. According to the resolution, the practice of telenursing may include nursing consultation, consultancy, interconsultation with a multidisciplinary team, health education, reception of spontaneous demand and health monitoring.

Block 3 (RELEVANCE: significance, impact, motivation and interest) assessed the protocol in general, in two essential items, the safety of care and the central pillar of the protocol, which is healthy child growth and development. The item on safety of care had a response judged as partially adequate, but there were no comments, making it impossible to identify the understanding of fragility seen by the judge. Regarding the pillar of contribution to the healthy growth and development of the child, 100% of the judges assessed the protocol as adequate.

Monitoring of child growth and development begins in the maternity ward and continues in the PHC in a systematic way, in order to cover the entirety that involves early childhood, with services that promote and protect health, early detection of changes and rehabilitation of changes that may have an impact on the child's quality of life[1]. Furthermore, continuity of care, guided by a protocol that guides the nurse's actions considering the complexity of the child, can help families maintain hope, since according to a study[25] carried out with caregivers of children with chronic diseases, the guidance of professionals, when based on clear objectives regarding the children's situation, improves the family's hope regarding the improvement of the disease or the maintenance of their life.

CONCLUSION

The development of the protocol is important to direct and standardize essential basic care. It is important to emphasize that the protocol presented here, built based on the lived reality, experience of the participants and, based on scientific literature, should not be a rigid tool, but rather an instrument to stimulate the clinical and individualized evaluation of each child and family, in order to provide qualified and assertive care, and can be adapted to different realities.

A strength of this study is the action research, as it favored the involvement of nursing assistants from all levels of care and services available at the operator, making the protocol an

instrument of comprehensive care and adapted to needs. In addition to the type of research, it is worth highlighting the construction of the classification of children discharged from the NICU, by level of complexity, an instrument with innovative potential in the area, as it directs the necessary care to the newborn after hospital discharge and, thus, a facilitator for planning the transition of care.

As a limitation and weakness of the study, it is worth highlighting the impossibility of having provided an assessment of the impact of the protocol after its implementation in the health service. Therefore, it is suggested that the study be continued so that this stage of the research can be carried out and consequently, if necessary, the protocol readapted.

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