ORIGINAL ARTICLE

REQUIREMENTS FOR BUILDING AN APPLICATION FOR NEWBORN DISCHARGE AND CARE TRANSITION

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Highlights: (1) The creation of an effective application for the newborn's discharge and care transition must take into account several essential requirements to ensure that it is useful, safe and beneficial. (2) Participants are looking for technology to support their daily newborn care activities and better communication with the healthcare team. (3) The requirements for building an application for the newborn's discharge and care transition involve aspects of content related to the newborn's health history, parameters and vital data, the newborn's basic care and needs, and main questions and answers. (4) The functionality requirements for the application identified refer to easy access and offline operation, communication and guidance between professionals and parents and an interface for the professional.

PRE-PROOF

(as accepted)

This is a preliminary, unedited version of a manuscript that has been accepted for publication in *Revista Contexto & Saúde*. As a service to our readers, we are making this initial version of the manuscript available, as accepted. The article will still be reviewed, formatted and approved by the authors before being published in its final form.

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ABSTRACT

The study aimed to investigate the requirements for building an application for safe discharge and care transition for newborns. This is an exploratory study, carried out with 12 nursing professionals who work in newborn care in Brazil's northeast. Data was collected using a form between May and September 2023. Meleis' Care Transition theoretical framework was adopted. Three units of meaning emerged: Concept of safe hospital discharge and the transition of newborn care; Readiness for safe newborn discharge; and Expectations about the construction and use of care technology for the safe discharge of newborns. The requirements involved the need to unveil the main criteria and parameters involved in discharge, as well as the ability to connect health professionals to family members/caregivers of the newborn, with the ability to instruct and clarify doubts, highlighting the importance of the participation of the multidisciplinary team in the development, as well as in the dissemination of the application. Therefore, the requirements for care technology were identified and will subsidize the creation of an application to support the discharge of newborn patients, with the aim of improving the care transition and safety in this population's discharge.

Keywords: Patient discharge; Mobile Applications; Nursing; Newborn; Technology; Transition from hospital to home.

INTRODUCTION

Newborn (NB) discharge is a crucial event in the transition from hospital care to home care, marking the beginning of a new phase in the lives of the baby and their parents. However, this stage often requires in-depth studies on the safety of discharge, in order to prevent readmissions and ensure that the NB receives the attention necessary for healthy development[1,2] .

The scarcity of studies related to the safety of newborn discharge is a concern for professionals, since hospital readmissions can be traumatic for the baby and costly for the

health system[3]. It is important to understand the risk factors associated with readmissions, as well as to develop effective strategies to mitigate them[3,4].

Care transition (CT)[2] plays a key role in the NB's discharge, as it involves the handover of responsibilities from healthcare professionals to parents. An effective transition is essential to ensure that caregivers are well informed, trained and supported to care for the baby at home. In this sense, the literature highlights educational activities with parents as a strategy for addressing warning signs, feeding, sleep and the NB's development during CT[1,5-8].

In this context, the use of instruments and tools becomes essential to support the care transition process. These assistive technologies can include individualized discharge plans, checklists, health apps and other approaches that help with effective communication between parents and members of the multi-professional team, or even for diagnostic and therapeutic support[1,7-9]. They are considered to be care and assistance technologies[10] since they are intended to help in the decision-making process regarding the safe discharge of NBs.

In this context, mobile technology, known as m-health[11], is playing a growing role in NB health[12-15]. It is known that these m-health apps can provide valuable resources for parents, such as tracking developmental milestones, vaccine reminders, breastfeeding information and emotional support. These tools promote parent education and can contribute to the prevention of hospital readmissions[1,2, 9].

In addition, newborn discharge is a crucial moment that deserves greater attention in research and clinical practice, with a focus on the safety and effectiveness of the care transition[1,2]. The use of instruments and tools, including mobile technologies, can play an important role in promoting quality care and reducing readmissions, thus contributing to the health and well-being of newborns and their families[12-15].

This reinforces the importance of including all stakeholders in the health technology development process. Recent studies carried out in the United States[4,8,], England[1], France[3], Canada[5], Switzerland[6,], Uganda[7] and Italy[9] have discussed the importance of CT, the discharge of NBs and the use of technological tools[1, 3-9], but in the Brazilian reality the discussions, although incipient, focus on the real needs of these subjects[2, 15]. Given this gap, the question arises: What are the requirements for creating a care technology in the form of an app for the safe discharge of newborns, according to health professionals working in neonatal health?

OBJECTIVES

To verify the requirements for the construction of an application for the safe discharge of newborns among health professionals working in neonatal health.

METHODS

Theoretical framework

The theoretical framework adopted was the Care Transition Theory (CT)[2]. The CT Theory is made up of the nature of transitions: types, patterns and properties; the facilitating and inhibiting factors of personal characteristics, community and society; the response patterns through process indicators and outcome indicators; and the nursing therapy and interventions proposed[2].

In this context, CT is based on respecting and promoting the autonomy, development and recovery of individuals and safety for the establishment of hospital discharge, proposing an association between the concepts of safe discharge and CT.

Patient safety in neonatology was used to discuss the findings, as it is part of the International Patient Safety Policy[16]. This policy aims to strengthen the capacity and support of health professionals for safe maternal and neonatal care, and consequently aims to reduce readmission rates and infant morbidity and mortality.

Type of study

An exploratory study with a qualitative approach, guided by the *Consolidated Criteria for Reporting Qualitative Research* (COREQ)[17].

Study setting

The study was carried out from May to September 2023, using an online form, justifying the choice of methodology to unite the ability of participants from the most diverse locations in the country, as well as different health professionals and neonatal health scenarios.

Data sources

Sampling was by convenience. In order to attract participants working in neonatology, we used the snowball technique, which consists of a form of non-probabilistic sampling through reference chains of possible participants. It consists of the indication of professionals who fit the eligibility criteria by the indication of the individuals participating in the research who were initially invited by the researchers[18] and the criterion of representativeness for the end of data collection was data saturation.

The inclusion criteria were, as follows: to be a health professional; to have at least one year's experience in neonatal health; to work in hospitals and/or maternity wards, and to have a postgraduate degree at specialization, master's or doctorate level. The exclusion criteria included professionals who did not work in neonatal patient care. The seminal participant[18] was chosen by the first author and doctoral student for convenience, among the members of the Research Group linked to the university to which the project is linked, as well as other universities in the North and South of the country. She was then encouraged to recommend other colleagues to take part in the research.

The criterion of representativeness for the end of data collection was data saturation, perceived by the main author in the data analysis through the repetition of information without altering the categories found and when the answers supplied the data for the conclusion of this stage of the study[19]. Saturation was observed in the 10th participant, but two more participants responded for confirmation purposes, resulting in the participation of 12 health professionals. There were no exclusions, refusals or withdrawals.

The number of participants was defined according to reaching theoretical saturation, when the answers provided enough data to conclude this stage of the study[19].

Data collection and organization

The data collection instrument consisted of an online form and included two parts, the first for the sociodemographic characterization of the participants and the second with open-ended questions about the safe discharge of newborns according to a previously prepared script based on the literature review and the researchers' knowledge of the subject (Chart 1).

Chart 1- Questions from the data collection instrument about the requirements for a mobile application on safe Newborn discharge, Salvador, Bahia, Brazil, 2023.

Participants	Questions
Health professionals working with newborns	What does safe newborn discharge mean?
	Assuming that a safe discharge should take into account biophysiological, communication and network follow-up criteria. Name some important and indispensable criteria for establishing the safe discharge of a newborn from hospital.
	Biophysiological criteria (you can mention more than one item)
	Communication criteria (you can mention more than one item)
	Network monitoring criteria (you can mention more than one item)
	If you wish, name another criterion not mentioned above and describe it.
	List the facilities and difficulties you have encountered in preparing newborns and their families for safe discharge from hospital.
	Make suggestions and/or proposals to help improve the process of safe hospital discharge for newborns and their families.
	Can the development of an app contribute to the safe discharge of newborns from hospital? Justify your answer.
	What would be the ideal app to help you with the process of safely discharging your newborn?
	What attributes would you consider valuable when building an app for safe newborn discharge?

Source: The authors.

The data was exported from the Google Forms platform to local storage on the computer of the researcher responsible for data collection, in order to respect the ethical requirements of the confidentiality of the participants' data.

Data analysis

The answers obtained were exported for analysis of the textual *corpus* processed in the N-Vivo software version, using the Descending Hierarchical Classification (DHC) and Word

Cloud methods[20]. The data was interpreted according to thematic analysis[19], initially by defining criteria to close the textual *corpus* and later by drawing up categories in the pre-analysis phase in order to obtain the nuclei of meaning that make up a communication, which leads to an understanding of the analytical object[19].

The interpretation of the results led to the unveiling of thematic units using the N-Vivo software and the triangulation of data extracted from the literature review. Thus, by defining the criteria for composing the corpus and drawing up categories in the pre-analysis phase, it was possible to extract the main concepts listed by the participants about the application's content and expectations. They were then organized into three categories: Concept of safe hospital discharge and the transition of newborn care; Readiness for safe newborn discharge and Expectations about the construction and use of care technology for the safe discharge of newborns.

Ethical aspects

The study was guided by the principles of Resolution 466/2012 of the National Health Council and was carried out after approval by the Research Ethics Committee of the Federal University of Bahia (UFBA). In order to fill in the forms, the participants gave their consent by signing the Informed Consent Form (ICF) in digital format. The research project was approved under opinion number 5.987.329. Research Ethics Committee of the Federal University of Bahia.

RESULTS

The characterization of the research participants illustrated in Table 2 showed that 100% were nursing professionals from the country's northeastern region, with a mean age of 40 (± 10) years, 90% were women, 2 were nursing technicians with higher qualifications than those required for the job and 10 nurses, 75% had a specialization degree, 16% a master's degree and 8% a doctorate. In terms of training time, 75% had been trained for more than 10 years. In terms of professional experience, 66.7% had been working for more than 10 years, and 33.3% between four and 10 years. In terms of time working in neonatal health, 58.3% had more than 10 years' experience in neonatal health.

As for areas of specialization, of the 12 participants, 11 indicated the following areas: 3 in Obstetrics, 6 in Neonatal Intensive Care Nursing, 1 in Intensive Care and Neonatology and 1 in Health.

As for the use of technology, all the participants said they had a smartphone or tablet with internet access, either via Wi-Fi (50%) or 3G/4G mobile data (50%), and characterized the use of the device for calls, applications and other activities. Finally, 11 of the 12 participants agreed that the app's development could contribute to a safe hospital discharge for NBs.

Chart 2 - Sociodemographic characterization and use of digital technologies by nursing professionals working in neonatology in northeastern Brazil. Salvador, Bahia, Brazil, 2024.

Characteristics		**n**	**%**
Age	18-20 years old	0	0
	20-29 years old	0	0
	30-49 years old	9	75
	50+ years old	3	25
Gender	F	11	91.7
	M	1	8.3
Profession	Nursing Technicians	2	16.6
	Nurse	9	75
	Neonatal Intensive Care Nurse	1	8.3
Schooling	Specialization	9	75
	Master's degree	2	16.7
	PhD	1	8.3
	Post doctorate	0	0
Specialization Area *	Biosafety in health services	1	-
	Obstetrics	3	-
	Forensic Nursing	1	-
	Neonatal and pediatric intensive care nursing	3	-
	Neonatology	3	-
	Obstetrics	1	-
	Pediatrics	1	-
	Health	1	-
	Intensive Care	2	-
	Neonatal and Pediatric Urgencies and Emergencies	1	-

Length of experience (in years)	1 to 3 years of experience.	0	
	4 to 10 years of experience.	4	33.3
	More than 10 years of experience.	8	66.7
Length of experience in neonatal health (in years)	1 to 3 years of experience.	2	16.7
	4 to 10 years of experience.	3	25
	More than 10 years of experience.	7	58.3
Time of training (in years)	1 to 3 years.	0	0
	4 to 10 years.	3	25
	More than 10 years.	9	75
Use of digital technologies			
Do you have a smartphone or tablet?	Yes	12	100
	No	0	0
Internet access	Wi-fi	6	50
	3G/4G technology	6	50
How do you use your cell phone?	For calls only.	0	0
	Calls, apps and other activities.	12	100
Can the development of an app contribute to the safe discharge of newborns from hospital?	Yes	11	91.7
	No	1	8.3

* The number of areas of specialization mentioned was calculated on an absolute basis, as some participants reported having more than one specialization in different areas.

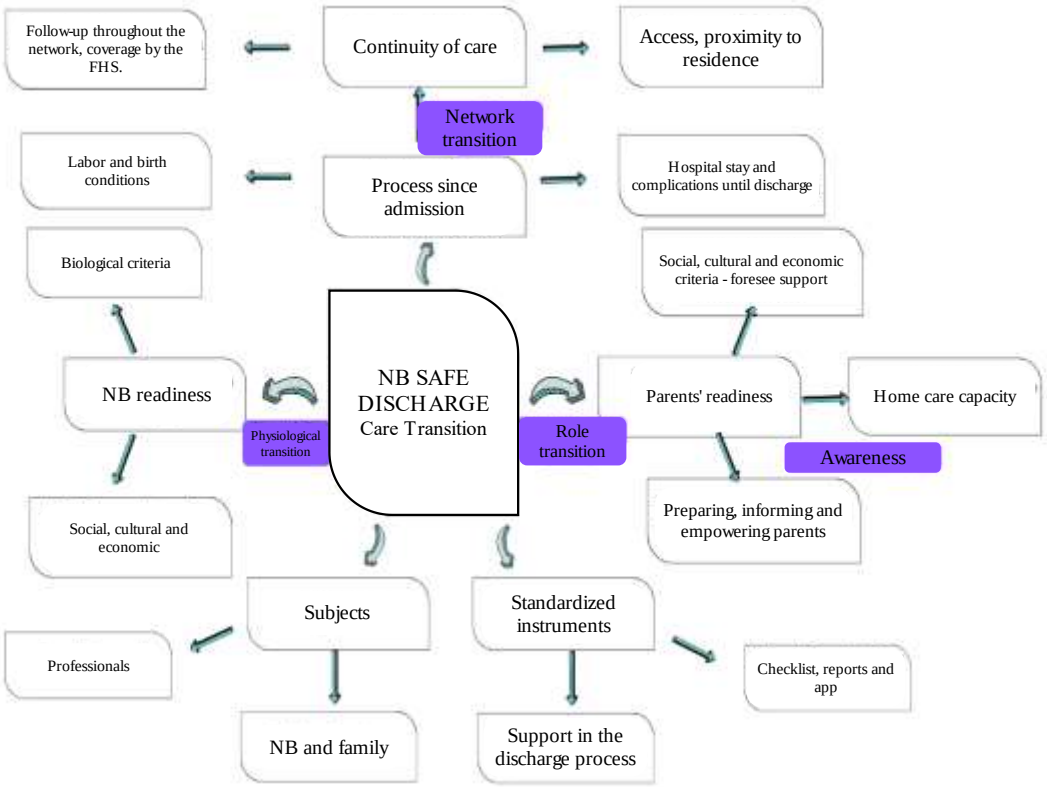
Source: Research Data.

The thematic units that emerged from the data analysis are presented below.

The concept of safe hospital discharge and the newborn's care transition

Figure 1 below reveals the 26 text references on the concept of discharge through a search of a dynamic set of words that showed everything from specific actions to the obstacles and crossings of this process.

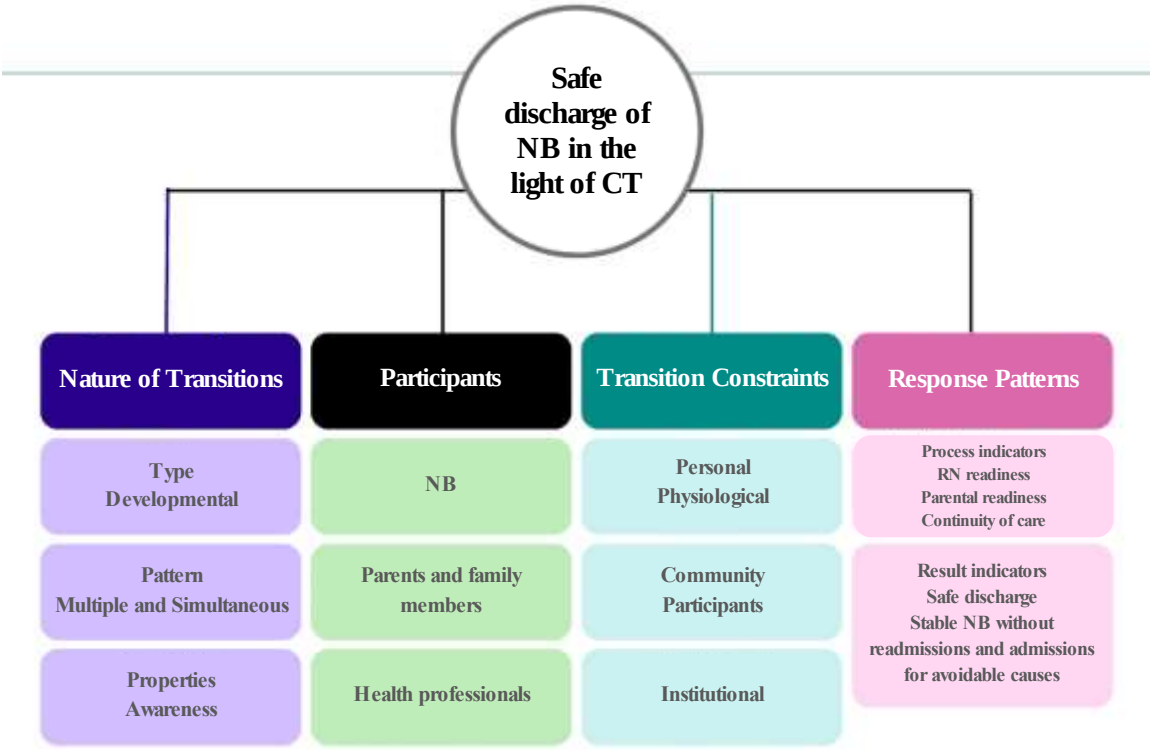
Figure 1 Conceptual model for the NB's Safe Discharge in the light of the CT framework. Salvador, Bahia, Brazil, 2023.



Source: Research data, adapted from N-vivo software.

Figure 2 identifies the main elements involved in the high security process in the light of CT.

Figure 2 - Representation of the requirements gathering for the NB safe discharge application in the light of Meleis' Transitions Theory. Salvador, Bahia, Brazil, 2023.



Source: Research Data.

It is well known that the discharge of newborns occurs procedurally and involves a complexity of processes starting from hospitalization, delivery and birth conditions, hospital stay and different subjects in order to ensure their decision. Thus, the ownership of the CT is characterized by multiple and simultaneous transitions by different subjects, with the physiological transition of the NB's adaptation to the extrauterine environment, the transition of roles between professional and home care through the parents' awareness and the transition of the network in the transfer and continuity of care throughout the care network.

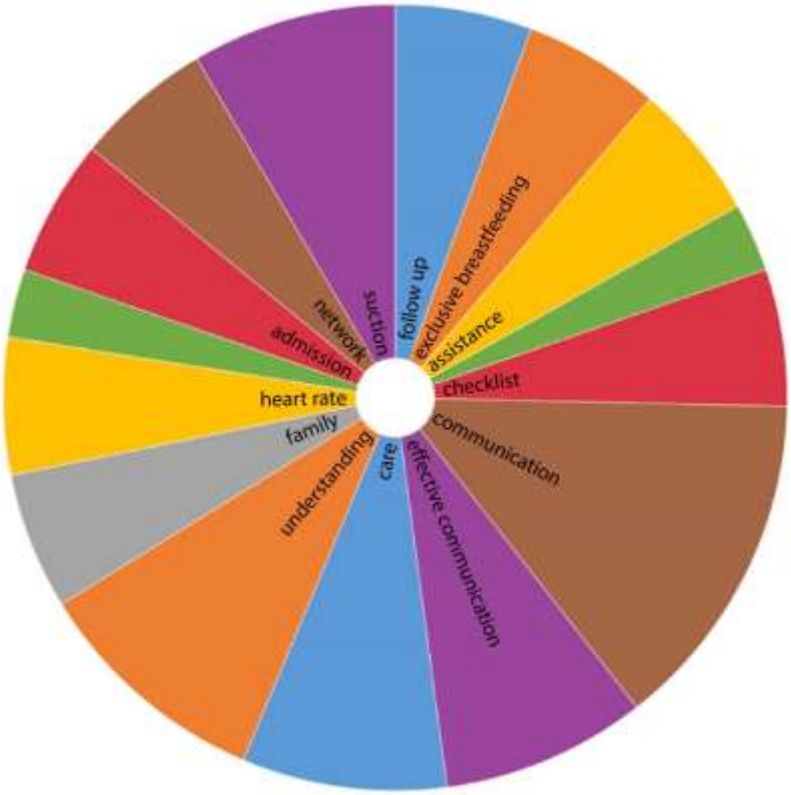
Participants highlighted aspects such as professional, family and social participation, responsibility and continuity of care, information related to the NB's readiness and its biological criteria, and professional monitoring throughout hospitalization mediated by standardized instruments such as checklists, reports or even the proposed support app.

Readiness for safe NB discharge

The participants revealed that discharge involves complex processes and requires knowledge of the NB's physiological requirements when it reaches the milestones needed to

acquire the vitality necessary for extrauterine life. Below is figure 3 referring to the frequency of words according to the comparison by the number of references coded for the physiological requirements node, where a larger area of the figure represents that more references were coded for the code.

Figure 3 – Frequency of words according to the number of references coded for the physiological aspects' node by the N-vivo software. Salvador, Bahia, 2023.



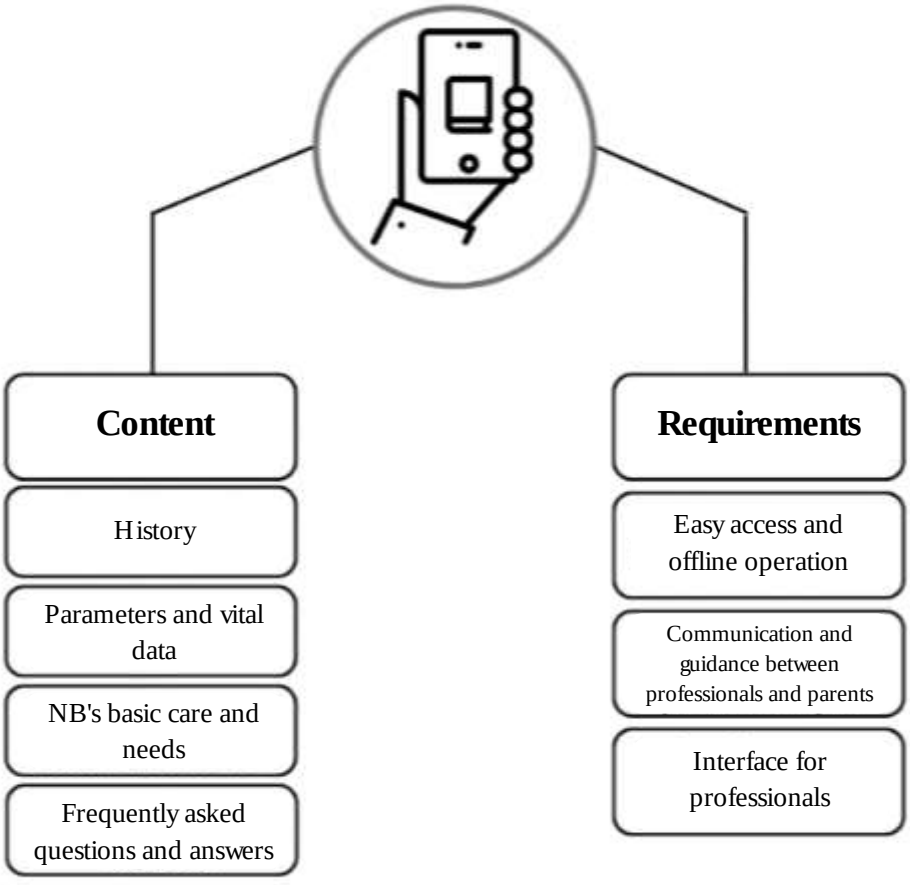
Source: Survey data, adapted in the N-vivo software.

Among the 14 coded area domains, the most coded aspects refer to communication and its effectiveness, care and understanding and follow-up, followed by aspects related to nutrition with NB sucking and breastfeeding, as well as heart rate, assistance, [health care - emphasis added] network, hospitalization information and checklist. Parental and family involvement was also another parameter highlighted.

Expectations about the formulation and use of the safe discharge app: communication, follow-up and family participation

The proposal to develop an app requires attention to the expectations set by the participants, who revealed the necessary requirements to achieve the objectives that will lead to increased safety in the discharge of newborns from hospital. Searching for the word application in the data collected revealed the dynamic set of words illustrated in figure 4 below.

Figure 4 – Overview of content and requirements for formulating the application. Salvador, Bahia, 2023.



Source: Research Data.

Thus, it is possible to highlight that the participants expressed some demands in which the app could contribute, especially in daily care; and demonstrated the importance of providing information to be shared between professionals and parents. With a view to contributing to the

discharge and care process for newborns, the participants were in favor of developing the care app and made relevant suggestions to encourage its creation and use.

DISCUSSION

The complexity of the safe discharge concept is shown in figure 1, which presents important elements for discharge. The newborn's (NB) safe discharge is a fundamental concept in child health care that aims to ensure that the NB is in adequate condition to be discharged from the hospital environment and that their transition to care at[2, 12] home takes place safely and effectively. This concept takes into account various aspects to ensure the NB's well-being, prevent complications and promote the child's healthy development.

Some of the points highlighted range from the establishment of physiological criteria known as NB readiness, to monitoring throughout the network, characterizing this practice as a process involving various subjects and multiple simultaneous pattern transitions[2]. These transitions range from the physiological transition of adaptation to extrauterine life, and for discharge, the NB must be clinically stable, with no signs of serious health problems that may require immediate medical intervention.

The second refers to the roles transition[2], which involves the transfer of care between health professionals and the parents and family. For this process to take place, awareness is considered a crucial property, since the level of awareness[2,21,22] influences the person's level of involvement in the change and translates into the parents becoming ready[6,7,9,22,23] for safe discharge.

Thus, the professionals highlighted communication, with a view to clarifying doubts and issues related to the education and understanding of parents, promoting this process of awareness. The NB's parents or caregivers play a fundamental role in the care transition[2,4,6,7-9,21]. Ensuring that parents have the necessary training and education to care for their NB at home is essential. This includes guidance on breastfeeding[14], hygiene, accident prevention, recognizing warning signs and how to seek medical help[7-9] if necessary.

Another point that stands out is that effective communication between the healthcare team[27], parents and other family members is crucial. This includes the clear delivery of information about the NB's state of health, post-discharge instructions and how to access medical assistance in the event of an emergency[1,3,4]. In this sense, the assessment of specific risk factors that the NB may present and that require additional attention, such as prematurity,

complications during delivery or congenital disorders[5-6,14]. Safe discharge takes these risk factors into account, ensuring that the NB receives appropriate monitoring and follow-up.

It is also worth noting that family support, demonstrated by the family's ability to care for the NB at home, is also fundamental[4-6]. Parental education, with a focus on awareness and role transition in NB care, and the availability of support at home play an important role in the decision to discharge[2,21,22]. In addition, an individualized discharge plan can be developed for each NB, taking into account their specific needs. This plan includes details on medication, monitoring, follow-up appointments and instructions for caregivers[23-25].

An expanded concept for safe discharge also implies ensuring that the necessary resources, such as special equipment or medication, are readily available for the NB at home, if needed. In addition, post-discharge follow-up is essential to ensure that the NB is developing appropriately. Follow-up medical appointments and ongoing support for parents play an important role in this process[25-28].

In short, safe newborn discharge is a multidimensional concept[2,3] hat seeks to ensure that the transition from hospital care to care at home takes place safely, protecting the well-being of the NB and offering adequate support to parents[25,26]. It is an essential part of child health care that aims to promote children's healthy growth and development from the first moments of life[26-28].

The decision to discharge a newborn baby (NB) is a crucial process, involving critical points[2] that involve the assessment of various physiological parameters to ensure the baby's safety and continued health[23,25,27]. These parameters play a key role in determining when an NB is ready to be released from the hospital environment and continue care at home[26].

The participants highlighted heart rate, sucking and exclusive breastfeeding, as well as eliminations as important at discharge. The newborn's heart rate should be within normal limits for gestational age[1,3]. Any significant arrhythmia or bradycardia should be assessed before discharge. The ability to suck and swallow, as well as adequate intake of breast milk or formula, are fundamental aspects[9,15]. NBs must be able to feed effectively, without showing signs of aspiration or significant difficulties. This will ensure adequate weight gain, which can interfere with other balancing processes in the NB's body, such as temperature and blood glucose stabilization[1,3,24,25,27].

Consistent weight gain was mentioned by the participants and is an important indicator that the NB is receiving adequate nutrition and is developing well[3,9,15,25,28]. Weight gain is

frequently monitored throughout the hospital stay[9,15]. When it comes to urination and elimination, the participants highlight it as essential for physiological aspects, and highlight the absence of malformations in the gastrointestinal and circulatory systems[1,3].

Other studies point out that in order to meet the requirements for NB readiness, the following criteria must also be assessed: stability of body temperature, breathing, term delivery, birth weight; Apgar score at 5 minutes, normal blood gas, no transfer to another ward after delivery, weight assessment[9,15], establishment of oral feeding[3,15,25,27], spontaneous emission of urine and feces[1,5]; transcutaneous bilirubin value[1,5]; need for clinical surveillance for infectious diseases; administration of vitamin K1[1,3,5,15,25,27]; neonatal blood screening; hearing test; a scheduled appointment with a midwife within 24 hours of discharge; and a scheduled appointment with a pediatrician or family doctor 10 days after delivery[3,25,27].

Screening and examinations are necessary as newborns often undergo screening tests, such as hearing and vision tests, to identify possible problems that require intervention[1,3,5,14,25,27]. These test results can also influence the decision to discharge. In addition, another aspect refers to signs of jaundice, which is very common in newborns and, at moderate levels, is generally not a contraindication for discharge[1,5]. However, the severity of the jaundice and the response to treatment, if necessary, are factors to be considered.

In addition, specific clinical situations: such as extreme prematurity[4,5], congenital heart defects or infections[1,3], may require special care and additional assessment before discharge. In summary, the decision to discharge the NB is a holistic assessment which, once guided by the assumptions of CT[1,2,29], involves consideration of various physiological parameters, as well as familiar social factors such as critical points and events. Therefore, assisting in these events to ensure that the NB is physiologically stable is essential for their safety and well-being after discharge.

In this sense, the use of mobile applications can help with the critical points of CT[2] related to supporting health decision-making, and could become an increasingly common and beneficial practice[11,13,15]. In relation to the NB's discharge from hospital, it can help parents and health professionals, although there is no evidence in the literature for this public, revealing the novelty of the study. Thus, these apps can play an important role in promoting safety, education and support for parents during the transition from the hospital environment to care at home[1,2,3,11,13,15].

Participants pointed out that the ideal app could have the requirements of offline access, integration with a health system and ease of use. Other requirements can be listed and are necessary when designing an app, such as privacy and data security[15]. Therefore, it is essential to implement robust security measures to protect confidential information about the NB and their family, as already reinforced in a previous study[13].

Another aspect concerns the information provided by the app, which must be accurate, up-to-date and evidence-based[15]. Partnerships with reliable sources, such as health institutions and health professionals, can guarantee the quality of the information in order to make it easier to use, since the usability of the app is fundamental. It must be intuitive and easy to use, both for parents and health professionals. The design must be friendly and intuitive, ensuring that users can access information and resources quickly[11,15].

Apps can also facilitate communication between parents and health professionals, intervening in the awareness process[1,2,3,22] by allowing parents to report problems, ask questions and get answers effectively. In this way, in addition to practical information, apps can provide emotional support resources for parents facing emotional challenges during the transition to home care[11,15].

Another expectation highlighted by the participants refers to the ability to monitor and record data. Apps can allow professionals, parents and caregivers to record and monitor newborn health data, which can be useful for medical follow-up and early identification of problems. Furthermore, the app may be able to act in the education of parents as well as professionals by providing continuous educational resources that help parents understand the NB's development as it grows, as well as contributing to reflection and discussion about the practice of professionals involved in NB care[1,2,3,7,15,27].

Despite the majority of participants agreeing with the app, one participant did not agree with the app's implementation for NB health, pointing out that it could distract individuals and keep their attention on the device to the detriment of the NB. Although the use of mobile apps in safe NB discharge offers many benefits, there are also some negative aspects that should be considered[7,15].

In general, health technologies with an emphasis on apps should initially be considered as a complementary tool, not a substitute for professional guidance and human contact[7,8-11,15]. Parents should be encouraged to seek professional advice when necessary. They therefore advocate complementarity, not replacing the professional's view[7,11].

Ultimately, an app for the safe discharge of NBs must be developed with a clear focus on the health and well-being of the baby and the empowerment of parents. Collaboration between app developers, healthcare professionals and parents is essential to create effective tools that meet the needs of everyone involved, promoting a safe and healthy transition to care at home[7,8-11,15].

Another aspect highlighted is the over-reliance on apps for newborn care, which can limit the interaction and bond between parents and the baby, or between health professionals in their relationship with the newborn and the family. Human contact and emotional support are essential in caring for newborns, and so the use of apps while caring for the NB should not distract subjects and lead them to neglect direct attention to the baby, especially during activities such as breastfeeding[15].

In order to mitigate these negative aspects, it is essential that the use of apps is done with discernment, considering them as a complementary tool and not as a substitute for medical advice and care[8-11]. In addition, health professionals can play an important role in guiding parents in the choice and appropriate use of apps, ensuring that the benefits outweigh the risks[7,8-11,15].

It is important to note that the choice of an app should be based on reliability, security and ease of use. Healthcare professionals can guide parents in the selection of appropriate apps and provide information on available resources. In summary, the formulation of a mobile app can play a valuable role in the newborn's discharge from hospital, helping to resolve critical points[2] by facilitating the transition to care at home and providing essential support and information to parents, contributing to the baby's health and well-being.

The study's limitations are related to low adherence and delays in participants' responses during the process of preparing and gathering content using the google docs tool, which may be related to losses due to internet instability and other reasons that interrupted completion. In addition, one of the consequences of this limitation is that only members of the nursing team took part, although the inclusion criteria included health professionals working in neonatal health. This indicates the need to expand the sampling methods to reach other members of the multi-professional team, encouraging them to take part in order to compare these results. Also, using other forms of data collection and other research methods would enable us to deepen and distinguish the results presented here.

CONCLUSION

Designing an application for NB safe discharge is a complex task that requires a careful and targeted approach to meet the needs of healthcare professionals. In summary, the creation of an app is based on the research of content and functionality requirements by healthcare professionals and must effectively take into account several essential requirements to ensure that it is useful, safe and beneficial.

The requirements for care technology were identified and will support the creation of an app to support the discharge of newborn patients, with the aim of improving the care transition and safety in the discharge of this population. The participants revealed that care requires greater family participation and engagement in the discharge process, such as information and guidance for managing situations involving CT at home. For this reason, they want technologies that enable support for daily care activities and greater communication with the health team.

At the same time, discussing expectations from the perspective of patient safety and CT has allowed for a greater understanding of the phenomenon from the perspective of crossing a relevant situation for NBs and their families/caregivers, as well as the conception of safe discharge by means of technology to be created (app) as a potentially determining tool in cases of perinatal morbidity and mortality.

Future research is needed to include the expectations of others involved in the care process, such as family members and caregivers, as well as the multidisciplinary health team, to make it possible to develop care and even educational technology with validation that corroborates its usability and applicability.

However, the study's potential is noteworthy, as it allowed experienced professionals to share information on the subject, as well as unveiling the subjectivity of the participants through their comments and suggestions, which were inserted into the google docs tool and were fundamental to the development of the app's content. It thus provides opportunities for communication and documentation of practice, promoting, protecting and maintaining the safety and health of newborns, as well as improving the quality of care provided in each context.

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