Criteria for evaluation of breastfeeding mobile applications: A scoping review

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ABSTRACT

Breastfeeding, in addition to involving a deep bond between mother and baby, is a process with several benefits for the child, such as: nutritional status, building immunity to prevent infections, physiology, and cognitive and emotional development. The use of applications, when properly guided by professionals in the area, contributes to the monitoring of clinical conditions, optimization of health, monitoring of possible risks, in addition to strengthening actions that promote health or identify factors that lead to the disease. Although the increase in the number of users of mobile technologies as a source of health promotion for pregnant women and babies is real, it is necessary to use evaluative methods to determine the real effectiveness in improving the lives of this population and how we could improve them. OBJECTIVE: To identify criteria for the evaluation of mobile applications on breastfeeding. METHOD: This is a scoping review. The identification of the studies was performed in the Virtual Health Library and National Library of Medicine databases. The Google Scholar tool and the reference lists of the studies were checked. The inclusion criteria were articles published in English and Portuguese from the last five years that responded to the proposed objective. Theses, dissertations, letters, and editorials were excluded. RESULTS: Of the 98 articles found in the databases, 15 studies were included in the review. The findings were divided into four relevant thematic axes: Scientific content; professional support; design and technology; and the user's need for investment. They addressed guidance on barriers, contraindications, postpartum feelings, reliable content, professional advice, attractiveness, monitoring, practicality, and paid tools within the app. FINAL CONSIDERATIONS: Applications are current resources to assist in health education, however, they have gaps in terms of information quality, usability and affectivity. A checklist is needed for a better evaluation of these applications.

Keywords: Breastfeeding, Breastfeeding, Mobile applications.

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INTRODUCTION

Breastfeeding, in addition to involving a deep bond between mother and baby, is a process with several benefits for the child, such as: nutritional status, the construction of their immunity to prevent infections, their physiology, and their cognitive and emotional development (BRASIL, 2015). According to the Ministry of Health, breastfeeding should be introduced in the first hour of life, for two years or more. In the first six months, the recommendation is that the child receive exclusive breastfeeding (EBF), and it is not necessary to insert anything other than breast milk for complete nutrition (BRASIL, 2021).

Scientific evidence highlights the benefits of breastfeeding and the establishment of initiatives to promote breastfeeding, however, its rates, especially exclusive breastfeeding, are still low worldwide. The main reasons reported by mothers are: insecurity, inexperience, professional occupation, beliefs, influence of third parties, lack of support from family members, friends, and health professionals, and lack of information (DINIZ et al., 2019).

Contributing to this practice, the innovative technology of mobile devices is on the rise worldwide, enabling health professionals to reach a large part of the population and, thus, making it possible to design personalized interventions to improve health education (COSTA; SAINTS; ANDRADE, 2022). The use of these applications, when properly guided by professionals in the area, contributes to the monitoring of clinical conditions, health optimization, monitoring of possible risks, in addition to strengthening actions that promote health or identify factors that lead to the disease (CHEW et al., 2021).

In the context of breastfeeding, the use of these technologies has been an important tool in the promotion of breastfeeding. The mobile applications used to assist in this practice have proven to be an effective alternative for disseminating information and capturing knowledge, reaching mainly women in the puerperium, a time when women are vulnerable, facing doubts and insecurities related mainly to the nutrition of their children (DINIZ et al., 2019).

The author's interest in Women's Health classes at the School of Nursing, Federal University of Rio Grande do Sul, motivated this study. As a nursing student who developed an affinity for the area, it caught her attention

When she became aware of the numerous obstacles that women face in breastfeeding their children, as well as this part of the mothering process is never mentioned. From these observations, the author's interest arose in investigating the evaluation of mobile applications aimed at supporting and facilitating the maintenance of breastfeeding, aiming to provide a truly effective and more accessible health education to the population.

Faced with a diversity of mobile applications on breastfeeding, it was necessary to know how to evaluate an application and what are the necessary requirements, in order to favor the

improvement of the creation of future mobile applications directed to the practice of breastfeeding. The suggestion of essential themes can improve the health education of mothers who use it, improving this exchange of information widely used in the digital environment.

Although the increase in the number of users of mobile technologies, more specifically to promote the health of pregnant women and newborns, is significant, it is necessary to use evaluative methods to determine the real effectiveness in improving the lives of this population and how we could improve them (CAWLEY et al., 2020). Thus, the present study had the following guiding question: What are the necessary criteria for the evaluation of mobile applications on breastfeeding?

METHODOLOGY

This is a scoping review, which makes it possible to carry out mapping and analysis of evidence in a broader way, allowing the identification of gaps regarding knowledge about the theme to which the study refers. This research will follow the recommendations outlined in JBI Manual for Evidence Synthesis: Chapter 11: Scoping Reviews (PETERS et al., 2020).

The development of the research will follow the six steps recommended for this type of study: (1) identification of the research question; (2) identification of relevant studies; (3) selection of studies; (4) data mapping; (5) summarization and reporting of findings; and (6) dissemination of results.

In the first stage, identification of the research question, to structure the research question, the PCC strategy was used, including the participants, the concept and the context, as follows: P: Breastfeeding mothers; C: Evaluation criteria for mobile health education applications; and C: Breastfeeding. Coming to the question: What are the necessary criteria for the evaluation of mobile applications on breastfeeding?

The identification of the studies was carried out in the Virtual Health Library (VHL), which included the following databases: Latin American and Caribbean Health Literature (LILACS), International Health Sciences Literature (MEDLINE), Spanish Bibliographic Index of Health Sciences (IBECS), Nursing Database (BDENF) and Medical Literature Library Online (SciELO). The National Library of Medicine (PubMed) was also used. The Google Scholar tool and the reference lists of the studies were checked.

Articles published in English and Portuguese in the last five years that responded to the proposed objective were included. Theses, dissertations, letters, and editorials were excluded.

To select the studies, the descriptors of the DECS platform in Portuguese "breastfeeding", "breastfeeding", "mobile applications" and their English counterparts: "breastfeeding" and "mobile applications" were used, and for their cross-referencing, the Boolean operators AND and OR were used (Chart 1).

Chart 1: Database consulted and memory of the search strategy for the literature review. Porto Alegre 2023 - Dates

Base	Search strategy	Total number of studies	Total after reading the title	Total after reading the abstract	Included
VHL	("Breastfeeding" OR breastfeeding OR "Breast Feeding") AND ("Mobile Apps" OR "Mobile Applications")	53	40	14	11
PubMed	("Breastfeeding" OR breastfeeding OR "Breast Feeding") AND ("Mobile Apps" OR "Mobile Applications")	45	35	8	4

Source: Authors, 2023.

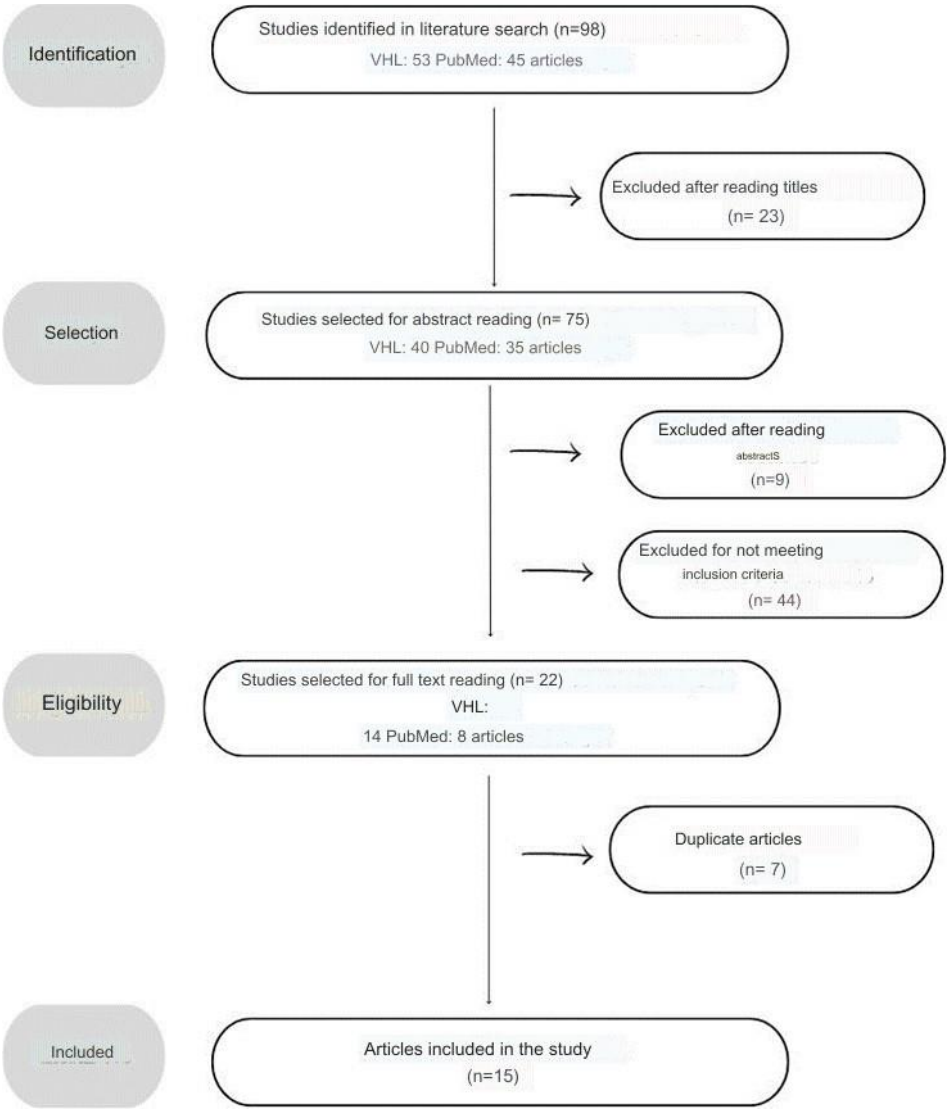
In the fourth stage, data mapping, an Excel table containing author, year, place of publication, place of study, type of study and answer to the research question were described. After that, the findings were summarized and reported in the form of a report for later dissemination of the results.

The ethical aspects were respected, maintaining the main idea of the authors without distortions, as well as the terms set forth in Law No. 9,610 on copyright, and all authors included in the review were cited (BRASIL, 1998). The data used were duly referenced and the intellectual property of the scientific texts was respected with ethical rigor, with regard to the use of the content and citation of the works. The present study was submitted to the registry 43905 of the Research Committee (COMPESQ) of the School of Nursing of the Federal University of Rio Grande do Sul.

RESULTS AND DISCUSSION

The present research initially selected 98 articles found in the databases and, after reading, 15 articles were included in the review. The process of searching and selecting these publications is represented in the flowchart (Figure 1) according to the recommendations of the JBI Manual for Evidence Synthesis: Chapter 11: Scoping Reviews.

Figure 1: Summary of the process of identification, selection, eligibility, and inclusion of studies in the scoping review, Porto Alegre 2023.



The studies included in this study were categorized as author, year, journal, location, study, and main results (Chart 2). Thus, showing that the year with the highest number of publications was 2023 (A4, A7, A8, A11) and 2022 (A1, A2, A5, A6) with four publications in each, followed by three in 2018 (A3, A14, A15), two in 2020 (A9, A13), one in 2021 (A12) and one in 2019 (A10).

The articles added were related to 12 different journals, two publications in Acta Paulista de Enfermagem (A1, A2), two in Research, Society and Development (A6, A7), two in JMIR mHealth and uHealth (A12, A15), followed by one article in each journal, Revista Eletrônica de Enfermagem (A3), Maternal & Child Nutricion (A4), BMC Pregnancy Childbirth (A5), International Breastfeeding Journal (A8), Health Informatics Journal (A9), Telemedicine and e-Health (A10), Maternal & Child Health Journal (A11), Text and Context Nursing (A13) and Journal of Human Lactation (A14).

Regarding the types of studies, nine different models were found. Seven articles use the Quantitative Study methodology (A3, A5, A7, A8, A10, A12, A14), three on Qualitative Studies

(A4, A9, A15), followed by two publications of Integrative Literature Review (A1, A6), and one article on each type of study below, such as: Applied research and user-centered design (A2), Quantitative and qualitative study (A11), Retrospective Quantitative Study (A12), Methodological Research (A13)

With regard to geographic location, most of the publications are from Brazil (A1, A2, A3, A6, A7, A13) and Australia (A4, A8, A9, A11, A12, A14) with six each, followed by two from the United States (A5, A10) and one from Thailand (A15). Regarding the language in which the materials were published, nine articles were in English (A4, A5, A8, A9, A10, A11, A12, A14, A15) and six in Portuguese (A1, A2, A3, A6, A7, A13).

Table 2: Publications included in the discussion. Porto Alegre, 2023.

Article	Author	Year	Newspaper	Local	Study	Main Results
A1	Diniz, et al	2022	Acta Paulista nursing	Brazil	Integrative Literature Review	- Guidelines on the promotion of breastfeeding, infant feeding,
						Alcohol use and barriers in the breastfeeding. - Apps with a social support network had little adherence.
A2	Muri, et al	2022	Acta Paulista nursing	Brazil	Applied Research, Design User-Centric	- Management of human milk collection through interaction between the team and the donors; - Reliability of evidence-based donation guidelines.

A3	Guimarães , et al	2018	Electronic Journal of Nursing	Brazil	Study Quantitative, Cross-Sectional and Descriptive	- Applications limited to the use of monitoring tools; - Little support for recurrent breastfeeding problems; - Design should be purpose-focused (images, videos, etc.)
A4	Laws, et al	2023	Maternal & Child Nutricion	Australia and	Qualitative Study	- Authoritative content on breastfeeding guidelines.
A5	Bunik, et al	2022	BMC Pregnancy	United States	Study Quantitative	-Resources Technologicalse
			Childbirth		Randomized Controlled	In-app guidance was found to be useful and reliable.
A6	Costa, et al	2022	Research, Society and Development	Brazil	Integrative Literature Review	- Guidance on breastfeeding and topics related to the act of breastfeeding, such as breastfeeding in public and the mothers' feelings, were recurrent.

A7	Carvalho, et al	2023	Research, Society and Development	Brazil	Study Quantitative	- The app helps you not to give up breastfeeding and to solve doubts easily. - Orientations as positioning correct latch, nipple fissure, and information about breast milk were recurrent.
A8	Doan, et al	2023	International Breastfeeding Journal	Australia and	Study Quantitative Randomized Controlled	- The public considers it important to have resources to demonstrate child development; - Toolshow-to
						designate nearby hospitals and daycare centers and guidance on breastfeeding.
A9	Dienelt, et al	2020	Health Informatics Journal	Australia and	Qualitative Study	-Features such as monitoring feeding, pumping, sleep time, and generated alerts were considered relevant.

A10	Demirci, et al	2019	Telemedicine and e-Health	United States	Study Quantitative Randomized Controlled	- Chats and written newsletters were advised, as well as guidance on how to handle.
A11	White, et al	2023	Maternal & Child Health Journal	Australia and	Study Quantitative and Qualitative	- The study reports that the app helped with the necessary guidance for the practice of breastfeeding.
A12	Musgrave, et al	2021	JMIR mHealth and uHealth	Australia and	Study Retrospective Quantitative	- Video tools were valued for having greater power to explain and demonstrate at the same time. - Experts for support, reports from parents were considered
						Important.
A13	Mello, et al	2020	Text and Context Nursing	Brazil	Methodological Research	- Breastfeeding guidance focused on the support network as well. As well as promoting information that covers all realities.
A14	Wheaton, et al	2018	Journal of Human Lactation	Australia and	Quantitative Longitudinal Cohort Study	- Importance of design with images and videos for a better understanding of the target audience.

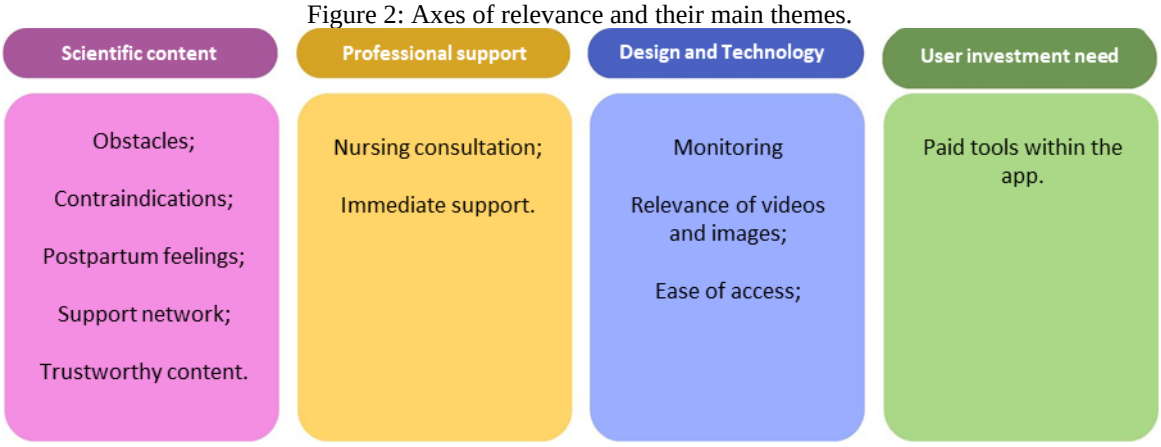
A15	Wang, et al	2018	JMIR mHealth and uHealth	Thailand	Qualitative Study	- Relevant monitoring tools and reminders.

Source: Authors, 2023.

Breastfeeding apps play a supportive role for mothers during the breastfeeding period, as these tools help significantly by providing information, support and monitoring during the postpartum period. In this way, the criteria for the evaluation of mobile applications on breastfeeding were identified, in order to understand the facilitating elements and obstacles for the population and to verify gaps in knowledge on this subject.

After reading the articles, four axes of relevance were arrived at (Figure 2), namely: scientific content (A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A13, A14); design and technology (A1, A3, A8, A9, A10, A12, A14, A15); professional support (A1, A2, A5, A7, A8, A12, A13) and user's investment need (A9).

Figure 2: Axes of relevance and their main themes.



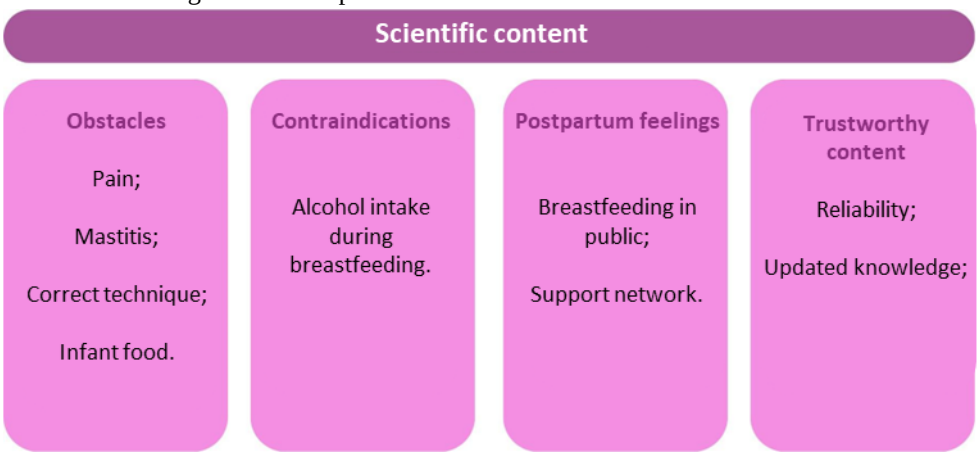
Source: Authors, 2023.

Considering the relevance of an updated checklist for health professionals regarding breastfeeding, we proceeded to create a checklist that integrates the four main axes identified as most significant in this research, which will be described and substantiated by axis of analysis.

SCIENTIFIC CONTENT

Within this theme, it was possible to show that most studies have data on the search for guidance regarding breastfeeding, such as obstacles (A1, A3, A7, A8 and A11), contraindications (A1, A6, A11), feelings of the puerperium (A11, A13) and reliable content (A2, A3, A4, A5, A14), describing which components of each theme were most searched by the public (Figure 3).

Figure 3: Description of the thematic axis Scientific content.



Source: Authors, 2023.

Regarding the obstacles during breastfeeding, themes such as pain, mastitis and correct technique for effective breastfeeding were evidenced. These were topics much sought after by mothers in mobile applications, since breastfeeding is a complex practice and requires the necessary instruction for its effectiveness, as explored in articles A1, A3, A7, A8 and A11.

On the other hand, article A7 reports that, among the difficulties faced at the beginning of breastfeeding, 43.3% of breastfeeding women express doubts related to the correct latch, concern about insufficient milk or the feeling of not having milk.

In a Brazilian study, it was evidenced that 46.4% of the participating women revealed that they received guidance on breastfeeding only in the hospital environment, after the birth of the newborn, and that 78.3% reported not knowing what EBF was (MUCHA et al., 2020).

Despite this, only one article, A1, highlighted the demand of mothers about infant feeding, such as the use of formulas and complementary feeding. In another study, it was found that clefts and discomfort would be the reasons for stopping breastfeeding. A postpartum woman stated that breast engorgement was the main factor that hindered breastfeeding (URBANETTO et al., 2018).

Four articles included in this research (A1, A6, A11, A13) addressed topics related to the conditioning factors of the breastfeeding process, highlighting breastfeeding in public, alcohol intake by breastfeeding women and feelings related to breastfeeding and the puerperium for the mother and her support network. The sharing of experiences and interaction when addressing issues related to planning for breastfeeding served as a support for the parents, showing that the support of the father, family and friends, in general, is one of the essential and facilitating aspects for the promotion of breastfeeding, as evidenced in articles A11, A13.

A study shows that alcohol intake is one of the main factors for early weaning, with the prevalence of exclusive breastfeeding among mothers who consumed alcohol lower than 43% (ALVES et al., 2018). Other research shows that some breastfeeding women expressed that they

would feel uncomfortable breastfeeding in front of others, including in their homes and around their family members (PATCHEN et al., 2020).

Therefore, it is important to highlight that the breastfeeding process is multifactorial, and its effectiveness depends on an interactive process with the family and daily social life. Breastfeeding is influenced by factors such as changes in roles in family dynamics, cultural habits, emotional state in the postpartum period, family economic conditions, return to work, and the existence of a postpartum support network (LIMA et al., 2019; SOUSA SIQUEIRA et al., 2020).

As for scientific rigor, five studies (A2, A3, A4, A5, A14) cited the benefits of apps that contain secure information, revealing the lack of reliability in online research and the tendency of books to become outdated. Thus, it is necessary that the information contained in the applications contain references to ensure the reliability of the knowledge consumed. Providing greater security and more self-confident breastfeeding mothers, helping in the search for up-to-date knowledge.

One survey highlights that participants reported an unmet need for reliable breastfeeding information within mobile apps (PATCHEN et al., 2020). In addition, other studies have shown low quality and interventions without scientific evidence, representing a significant challenge for health promotion and adequate patient care (NOBREGA et al., 2023; RODRIGUES et al., 2021).

In recent years, there has been an increase in research addressing the process of building, validating and implementing applications, in order to support professional practice. However, there is a lack of studies aimed at critically evaluating the information contained in applications that are already available in virtual stores (DOMINGOS et al., 2022).

Thus, in view of the importance of scientific content for nursing mothers and their support network, it is essential to address aspects such as barriers, contraindications and feelings of the puerperium based on evidence for mobile applications on breastfeeding. Since these are relevant subjects, especially during the puerperium, providing safe information, search practicality and support to these users who need updated instructions on this practice on the internet.

PROFESSIONAL SUPPORT

Within this axis, it was possible to observe that the nursing consultation within mobile applications is extremely important for mothers (A1, A7), as well as immediate support (A2, A12). Among these items, counseling by messages/calls, multidisciplinary communication, practicality and safety stand out, describing the main interests of users in this topic (Figure 4).

Figure 4: Description of the thematic axis Professional support.

Source: Authors, 2023.

Professional support has become a fundamental tool for health education through mobile applications, facilitating access to specialists, necessary knowledge in emergency situations, and popularizing continuing education. In studies (A1 and A7), mothers report that nursing consultations and counseling mediated by app, message or call, during the breastfeeding process, contribute to the continuity of the breastfeeding process, contributing to the increase in the EBF rate. Research shows that apps that enable interaction between parents and health professionals are associated with a feeling of tranquility in the postpartum period, resulting in greater user satisfaction (BANERJEE et al., 2020; SHOREY et al., 2018; VANOSDOLL et al., 2019).

The availability of immediate and personalized professional support is mentioned in two articles analyzed (A2, A12), causing a great difference for mothers who face challenges during the breastfeeding process, aiming to solve doubts and assist in communication between different teams with effective information.

One study revealed that many mothers noticed that information about breastfeeding was difficult to access, and that they also felt safe with the knowledge received by health professionals during prenatal care (PATCHEN et al., 2020).

The current global pandemic scenario has further intensified the relevance of the adoption of information and communication technologies, demanding from society a more judicious approach when using these resources. In the context of Nursing in Brazil, the Federal Council of Nursing authorized the implementation of teleconsultations as a measure to cope with the pandemic caused by COVID-19, which underlines the importance of creating applications that offer support to professionals in this type of activity (COFEN, 2020).

Research shows that women look to the media to clarify their questions, rather than resorting to the conventional scenario of health services. In view of this, there is a call for health professionals

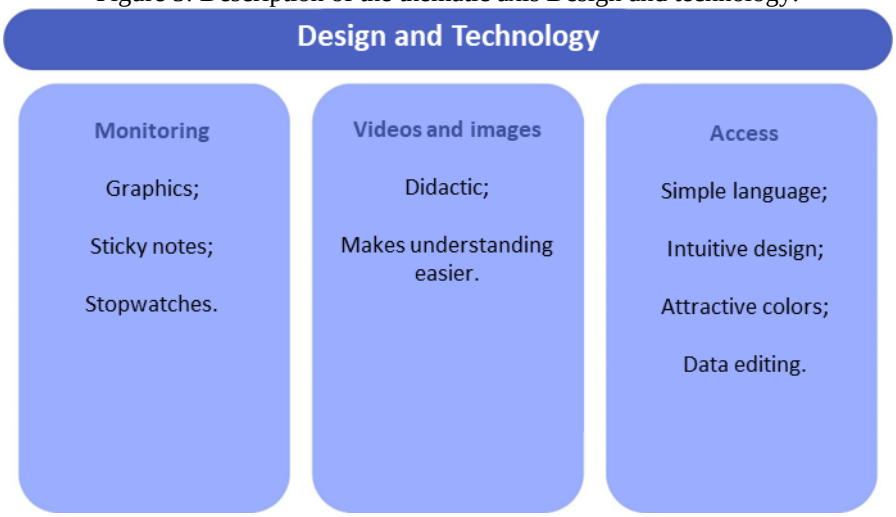
to also be present in these environments, in order to reach mothers and be able to offer evidence-based guidance (AGUIAR et al., 2017).

Based on the information collected, the increase in the involvement of health professionals in the creation and monitoring of mobile applications focused on health education is notorious. Thus, transforming this professional assistance into an essential criterion to improve the effectiveness of mobile applications and enable the practicality of access to safe information for mothers. In the impossibility of direct contact with professionals, the applications could also provide the user and her family with an indication of how to seek the professional, referring to their location, proximity, or even indicate a list of places to seek professional support.

DESIGN & TECHNOLOGY

Within this axis, the recurrence of three elements in the analyzed articles became evident: monitoring (A3, A8, A9, A15), relevance of videos and images (A3, A5, A7, A10, A12) and ease of access (A4, A15). The most relevant topics within each category were demonstrated (Figure 5), showing the value of technological tools to monitor and instruct the population in a simple and direct way. Attractiveness and technology

Figure 5: Description of the thematic axis Design and technology.



Source: Authors, 2023

In the analysis of the studies incorporated into this research, it was observed that, in addition to the acquisition of knowledge, one of the primary goals of breastfeeding women and their families when using the applications was to document the newborn's behaviors and habits. In the studies referring to articles A8 and A9, the relevance of graphs that delineate infant growth based on maternal notes is highlighted, as well as the use of time reminders for the next breastfeeding. This, in turn, assists nursing mothers in creating an organized routine and gaining a deeper understanding of their child's behavioral patterns during these early moments.

In relation to other studies included in this research, specifically A3 and A15, it is noteworthy that a considerable portion of the mobile applications related to breastfeeding

It has functionalities aimed at monitoring feedings, often restricted to the use of stopwatches.

The good acceptance of an app by the public is not a guarantee that there will be an effective change, improvement in self-care in the face of their health condition. However, the inclusion of items such as monitoring, goal setting, rewards, and linking treatment to routines can benefit the results (FERREIRA et al., 2021).

Studies reveal that most breastfeeding apps have as their main function the monitoring of the newborn, being able to insert data about feedings, reminders and notes about child behavior and care for the newborn. (PADRÓ-AROCAS et al., 2021; PATCHEN et al., 2020).

Illustrations and explanatory videos prove to be highly effective in learning, being a form of practical and didactic access to necessary information for mothers during the breastfeeding period. However, a careful selection of these resources is necessary, since they can, in some situations, negatively affect the understanding of nursing mothers, as discussed in articles A3 and A12. Studies A5, A7 and A10 also explore the relevance of demonstrating technique, breast anatomy and body language, facilitating the visualization and understanding of the target audience, which, associated with the text message feature via chat, makes these resources essential and attractive.

The audio-visual elements present in the apps play a crucial role. However, among those analyzed, only 4% incorporated such resources (ARAUJO et al., 2023). The study shows that most nursing mothers have an affinity with the text messaging tool, as it draws more attention to what is being said and is interactive (PATCHEN et al., 2020)

Articles A4 and A15 discuss the relevance of easy access to mobile applications, highlighting the need for simple language, without technical terms, to benefit users' understanding. In addition, the articles address the relevance of the design of the applications to be intuitive, with attractive colors and with the possibility of establishing a flexible configuration, such as data editing.

A study demonstrates advantages of smartphone applications aimed at health education when compared to traditional teaching methods, such as manuals and websites, since the availability of these resources can reach a wider range of individuals anywhere in the world (FOLEY et al., 2016).

A Brazilian study showed that it is recommended to provide pertinent information, present relevant subjects, with simple language and that are visually attractive and easy to handle (FERREIRA et al., 2021).

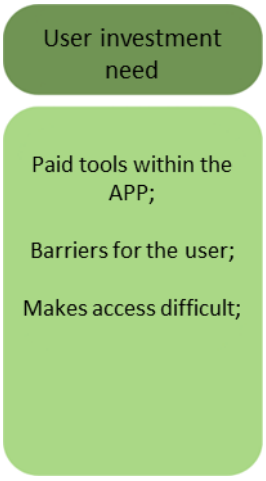
A Brazilian study found that only a few app developers have created software in multiple languages. Given this scenario, it is essential that applications incorporate the predominant languages worldwide, in order to expand their reach (DOMINGOS et al., 2022).

The use of mobile applications is increasingly revolutionizing the ways of teaching and learning alternatives. For this to be effective, design is essential, acting for greater ease and attractiveness of the target audience for this tool. Thus, nursing benefits from new means of instruction with enriching resources to disseminate and increase the interest and understanding of the population, without the need to leave home.

NEED FOR USER INVESTMENT

Investing within mobile apps is common in the digital environment, offering developers a way to monetize their software. This category can be explored in a variety of ways, such as feature unlocking (A9), additional content, or subscriptions. In this thematic axis, it is possible to highlight the negative consequences of paid tools within the applications, as shown in Figure 6.

Figure 6: Description of the thematic axis Need for user investment.



Source: Authors, 2023

The A9 survey shows that most apps are free, however with the opportunity for in-app purchases or premium versions with several more features being offered, it can become a barrier for users.

Although the absence of free access to these tools is considered an obstacle to access to these tools, a recent study released by App Annie reveals that investments in mobile applications reached the mark of 170 billion dollars in 2021, considering both the App Store and Google Play (TOOLS, 2022). Considering the number of downloads made, the target audience's adherence to this technology is increasing (ARAUJO et al., 2023).

In this way, the interest and need of the population in the adhesion of digital resources as a practical and fast learning mode is notorious today. The adoption of these tools contributes to strengthening knowledge, enhancing the means in which nursing can exercise health education. In addition, the free use of these technologies becomes essential for greater visibility and accessibility.

FINAL THOUGHTS

This research aimed to identify criteria for the evaluation of mobile applications on breastfeeding. Thus, it was evidenced that the criteria for evaluation of mobile applications indicated in this study, such as scientific content, professional support, design and technology, and the need for user investment, proved to be pertinent to understand the need of users who seek educational technologies to aid breastfeeding.

In nursing practice, the application of care based on technological approaches is gaining recognition for being an innovative resource and for playing the role of a facilitating tool. Thus, expanding the role of nurses, being able to minimize problems arising from the lack of professionals and geographical barriers, provide quality health education, easy access, based on scientific evidence and attractive to the public.

Breastfeeding is a very complex topic for most mothers. Therefore, mobile applications aimed at this practice, based on reliable criteria to support them, are important tools to assist and bring qualified information to breastfeeding women and their support network. In this way, ensuring access, support and solving doubts in a quick and practical way, contributing to the maintenance of exclusive breastfeeding.

The constraints of this study included the lack of a checklist to categorize mobile applications aimed at health education, especially in the context of breastfeeding. In addition, many of the government manuals are outdated, most of them having been published more than five years ago, demonstrating the need for revision to improve the recent continuous and evidence-based education of practitioners and their readers.

Thus, there is a need to validate this checklist so that it is possible to carefully evaluate mobile applications on breastfeeding. Contributing to the development of these devices, considering the requirements of the users, as well as the reliability and practicality, thus being able to prevent early weaning.

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