

*EDUCATIONAL TECHNOLOGIES FOR SELF-EFFICACY FOR BREASTFEEDING
AND PRACTICE OF EXCLUSIVE BREASTFEEDING*

**TECNOLOGIAS EDUCATIVAS PARA AUTOEFICÁCIA DA AMAMENTAÇÃO E
PRÁTICA DO ALEITAMENTO MATERNO EXCLUSIVO: SCOPING REVIEW**

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ABSTRACT

Objective: To identify, in the scientific literature, educational technologies for self-efficacy for breastfeeding and the practice of exclusive breastfeeding for adult women. **Method:** It is a scope review carried out in the LILACS, BDENF, MEDLINE and IBICS databases via the Biblioteca Virtual da Saúde (BVS) and PubMed. The analysis of the results took place in a descriptive way. **Results:** 16 studies were included, published in national and international journals, with a predominance of methodological validation studies of health education technologies. The types of technology are: folder, booklets, flip chart, cordel literature, videos and serial album. All technologies proved to be viable, however, attention should be paid to the context in which they are being applied. **Conclusion:** The vast majority of studies were of construction and validation of the technology that proved the effectiveness of its use and highlighted alternatives that enhance the management of the technology for maternal self-efficacy in breastfeeding. **Keywords:** Breastfeeding; Educational Technology; Nursing Care.

RESUMO

Objetivo: identificar na literatura científica as tecnologias educativas para autoeficácia para amamentar e prática do aleitamento materno exclusivo de mulheres adultas. **Método:** é uma revisão de escopo realizada em quatro bases de dados indexadas na Biblioteca Virtual em Saúde e na National Library of Medicine/ Pubmed. A análise dos resultados ocorreu na forma descritiva. **Resultados:** Foram incluídos 16 estudos, publicados em periódicos nacionais e internacionais, com predomínio de estudos metodológicos de validação das tecnologias de educação em saúde. Os tipos de tecnologia são: folder, cartilhas, flip chart, literatura de cordel, vídeos e álbum seriado. Todas as tecnologias se mostraram viáveis, no entanto, deve-se atentar ao contexto em que estão sendo aplicadas **Conclusão:** A grande maioria dos estudos foram de construção e validação da tecnologia que comprovou a eficácia do uso e ressaltou alternativas que potencializem o manejo da tecnologia para autoeficácia materna para amamentar. **Palavras chave:** Aleitamento Materno; Tecnologia Educacional; Cuidados de Enfermagem.

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INTRODUCTION

Breastfeeding is a bonding, affection, protection and nutrition strategy for children, and an effective intervention for reducing infant morbidity and mortality indicators.⁽¹⁾ For this purpose, exclusive breastfeeding is defined as breast milk and, when necessary, medication, and is indicated up to six months of age.⁽²⁾

Breastfeeding brings short- and long-term benefits to the child, the mother, and the family. The baby's skin-to-skin contact with the mother helps to form a bond, reduces the risk of infections, reduces the maternal risk of postpartum hemorrhage, and is an important protective factor against breast cancer.⁽²⁾ For the family and society, the child who exclusively breastfeeds is less likely to have health problems, which, in turn, will require less medical care, hospitalizations, and expenditure on medications due to health problems.⁽³⁾

Even with so many benefits, the rate of exclusive breastfeeding in children up to six months worldwide is around 39%. In Brazil, the prevalence is 36%.⁽⁴⁾ Statistics give visibility to the problem; breastfeeding is not easy for many women. In addition to the biological issue, the act of breastfeeding is linked to several factors, with different effects on the psychological and social dimensions of the parties involved.⁽⁵⁾

Breastfeeding faces some barriers, such as the woman's return to work, psychosocial factors such as insecurity and fear, in addition to postpartum depression and clinical-hospital separation between mother and baby.⁽⁶⁻⁹⁾ In this aspect, a network of care and attention directed to women since the prenatal period is a tool that can contribute positively to the self-efficacy of breastfeeding.

Therefore, health professionals must always seek innovations that are close to the identified problems, in order to create tools that can contribute to overcoming the impasses, performing health promotion actions from the prenatal to the puerperal visit, using consultations to generate opportunities to encourage the practice of breastfeeding, clarifying doubts and benefits of such practice.⁽¹⁰⁾

The nurse becomes a facilitator for the woman's adaptation to this process, intervening when necessary, in order to ensure that the mother is in good health, physical and emotional conditions, using as a tool the educational technologies in her favor, in order to have a positive impact on this very important practice, which is breastfeeding.⁽¹¹⁾

Health educational technologies are the result of scientific knowledge for the production of material goods, or not, used during intervention in practical cases, seeking the resolution of human and structural problems related to health.⁽¹²⁾

In this context, the aim of the study is to identify in the scientific literature the educational technologies for breastfeeding self-efficacy and exclusive breastfeeding practice of adult women.

METHODS

This is a scoping review. This study is a scoping review, which sought to quickly map the key concepts, the main sources and the types of available evidence, especially for studies where the material is difficult to locate, thus finding gaps in the studies.⁽¹³⁾ Five steps were followed: identification of the research question; search for relevant studies; selection of studies; data extraction; and grouping, summarizing, and presenting the results.⁽¹³⁾ *The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extensions for Scoping Reviews* (PRISMA-ScR) was used to guide and report the essential items in this review.⁽¹⁴⁾

The construction of the research question was based on the PCC strategy (P - population; C - Concept; C - context), in which Population (P): Adult women in exclusive breastfeeding; Concept (C): Educational technologies; Context (C): Nursing care for maternal self-efficacy.⁽¹⁵⁾ In the development of this strategy, the following question was considered: What are the educational technologies used by nurses

for breastfeeding self-efficacy and practice of exclusive breastfeeding?

Searches were conducted in the LILACS, BDNF, MEDLINE, and IBICS databases via the Virtual Health Library (VHL) and PubMed in January 2021. In addition to the secondary search in Google Scholar and analysis of the reference list of the primary studies included, in order to identify other relevant studies that could be retrieved. The literature search process is illustrated using the PRISMA flowchart.⁽¹⁶⁾

The controlled descriptors used were: P (Breastfeeding, Breastfeeding); C (Educational Technology, Teaching Materials, Validation Study); C (Self Efficacy, Nursing, Self Efficacy, Nursing). The uncontrolled descriptors were: P (Exclusive Breastfeeding; Breastfeeding); C (Educational Technology, Teaching Materials, Validation Study).

The strategy to search for studies met the specificities of each database and was composed by the combination of controlled descriptors (indexed in the respective databases) and non-controlled descriptors. The controlled descriptors were selected through the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH Terms). In order to broaden the search strategy, the controlled and non-controlled descriptors were combined using the Boolean operators AND OR. The resulting search expressions are presented in Chart 1.

Chart 1- Search expressions obtained in the databases. Teresina, PI, Brazil, 2021

Databases	Search Expressions
LILACS, BDENF, MEDLINE e IBECS via BVS	((("Breastfeeding") OR ("exclusive breastfeeding") OR ("Breast Feeding")) AND ((("Educational Technology")) AND ((self-efficacy) OR (nursing) OR ("Self Efficacy nursing"))))
	((("Breastfeeding") OR ("exclusive breastfeeding") OR ("Breast Feeding")) AND ((teaching materials) OR (teaching materials))) AND ((self-efficacy) OR (nursing) OR ("Self Efficacy nursing"))
	((("Breastfeeding") OR ("exclusive breastfeeding") OR ("Breast Feeding")) AND ((("Validation Study") OR ("Validation Study"))) AND ((self-efficacy) OR (nursing) OR ("Self Efficacy nursing"))
	((("Breastfeeding") OR ("exclusive breastfeeding") OR ("Breast Feeding")) AND ((("Educational Technology") OR ("Teaching Materials") OR ("Validation Study"))) AND ((self-efficacy) OR (nursing) OR ("Self Efficacy nursing"))
PUBMED	((("Breast Feeding"[MeSH Terms]) AND (((("Educational Technology"[MeSH Terms]) OR ("Teaching Materials"[MeSH Terms])) OR ("Validation Study"[MeSH Terms]))) AND ((("Self Efficacy"[MeSH Terms]) OR (Nursing[MeSH Terms])))

Source: Authorship of the researchers. Teresina-PI, 2021

The inclusion criteria were studies in Portuguese, Spanish, and English, addressing the theme of interest and published in the last ten years. This time frame was chosen to retrieve the most recent scientific productions. Literature review articles, editorials, theses, dissertations, congress abstracts, and primary studies with adolescents as participants were excluded. We chose to gather primary studies focusing on interventions, technologies, and good health practices in order to obtain a synthesis of validated and tested evidence that can be replicated. No other review studies were identified during sample selection. Because of the complexity surrounding teenage pregnancy, and its social,

emotional implications, studies with adolescents were not included.

Initially, the titles and abstracts were read, where duplicate studies and those that did not meet the inclusion criteria were excluded. Next, the articles were read in their entirety.

After reading in full, the data were extracted using an instrument developed by the authors, which included information about the main author, journal, year of publication, country, database, methodological design, sample, data collection instruments used, outcomes, and intervention. For data extraction, a table was prepared using

Microsoft Word® to synthesize the data from the included studies.

The studies were selected and identified by two reviewers (T and M.A), who carried out the search independently. Disagreements between reviewers were evaluated by discussion with a third reviewer (P.N.M).

Data were analyzed descriptively by two reviewers and validated by all authors. Analytical tables and themes were developed to present the main findings of this review.

RESULT

We identified 377 publications, of which, after applying the inclusion and exclusion criteria, 16 articles were selected for the sample of this review, being 3 in MEDLINE, 5 in LILACS, 5 in BDENF, and 3 in PUBMED. No other studies were included after the manual search process, according to Figure 1.

Figure 1 - Flowchart of the selection of primary studies, based on the PRISMA. Teresina, PI. Brazil, 2021



Source: The authors

Analyzing the sample of articles incorporated in this review, the studies were mostly developed in Brazil (n=11, 68,75%),

followed by European Countries (n=2, 12,5%), Africa (n=1, 6,25%), Singapore (n=1, 6,25%) and India (n=1, 6,25%). Regarding

language, the studies were published in Portuguese (n=11, 68.75%) and English (n=5, 31.25%).

Due to the topicality of the topic addressed, all publications are dated from the years 2020(n=2, 12.75%), 2019(n=2, 12.75%), 2018(n=2, 12.75%), 2017(n=1, 6.25%), 2015(n=2, 12.76%), 2013(n=4, 25%), 2012(n=1, 6.25%), 2011(n=2, 12.75%).

There was presence of journals with different medical specialties, highlighting the nursing journals: Acta Paul Enferm (n=2, 12.5%), as well as publications in the journals Enferm Ufpe On Line (n=2, 12.5%), Rev Esc Enferm USP (n=2, 12.5%), Rev. Latino-Am. Enfermagem online (n=1, 6.25%), Texto Contexto Enferm (n=2, 12.5 and Rev Min Enferm (n=1, 6.25%) Revista RENE (n=1, 6.25%). As public health journals: Revista Conecte-se BMC Health Serv. Res (n=1, 6.25%), Community Pract Journal (n=1, 6.25%). And the maternal and child thematic journals: J Matern Fetal Neonatal Med (n=1,

6.25%), Meternal and Child nutrition (n=1, 6.25%), Pract Midwife (n=1, 6.25%), thus, not being limited only to gynecology and obstetrics, which demonstrates the importance of approaching the theme by several areas. The characteristics of the included studies are detailed in Chart 2.

Regarding the methodological design employed in the records included in this study, the designs concentrated on: methodological study (n:6; 37.5%), intervention study (n:3; 18.75%), evaluation study (n:2; 12.5%), experience report (n:2; 12.5%), validation study (n:1; 6.25%), experimental study (n:1, 6.25%), descriptive study (n:1; 6.25%). Of the 16 studies analyzed, only one (2.0%) based the construction of the educational technology on a theoretical reference, which was "the psychometric model" The study population was mostly puerperal women (n:7; 43.75%) and only (n: 6.25%) pregnant women in the third trimester of pregnancy.

Table 2 - Records included by the scope review, according to title, journal and country of origin. Teresina, PI, Brazil, 2021.

Title of article	Short title of journal	Country	Year
Meeting The Challenge Of Delivering High-Quality Breastfeeding Training For All.	Pract Midwife	Europe	2011
Discussion Of The Health Benefits Of Breastfeeding Within Small Groups.	Community Pract	Europe	2011
Validation of a Serial Album for Breastfeeding	Acta Paul Enferm.	Brazil	2012
Serial Album About Breastfeeding: Educational Intervention With Nursing Mothers In The Immediate	Rev Enferm Ufpe On Line	Brazil	2013
Validation of a serialized album for promotion of breastfeeding self-efficacy	Acta paul. enferm	Brazil	2013
Construction and validation of an educational	Rev. RENE	Brazil	2013

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manual for breastfeeding promotion.			
Evaluation of an Educational Technology in the modality Cordel Literature on Breastfeeding	Rev Esc Enferm USP	Brazil	2013
An experimental study of an educational intervention to promote maternal self-efficacy in breastfeeding.	Latin American Journal of Nursing (Online)	Brazil	2015
Efficacy of e-technologies in improving breastfeeding outcomes among perinatal women: a meta-analysis	Maternal and child nutrition	Singapore	2015
Postnatal counseling on exclusive breastfeeding using video - experience from a tertiary care teaching hospital, South India	J Matern Fetal Neonatal Med	India	2017
Effects of an Educational Technology on Breastfeeding Self-Efficacy and Exclusive Breastfeeding Practice	Rev Esc Enferm USP	Brazil	2018
Assistive technology on breastfeeding for visually impaired people: a comparison Brazil and Portugal	Texto & contexto enferm	Brazil	2018
Educational technology for maternal empowerment in breastfeeding self-efficacy.	Rev. enferm. UFPE on line	Brazil	2019
The Philani MOVIE study: a clusterrandomized controlled trial of a mobile video entertainment-education intervention to promote exclusive breastfeeding in South Africa	Health Services Research	South Africa	2019
Construction and Validation of an Educational Primer for a Breastfeeding Support Room	Rev Min Enferm	Brazil	2020
Construction and Validation of na Educational Primer for Mobile Devices on Breastfeeding	Texto & contexto enferm	Brazil	2020

Source: The authors

Chart 3 presents the types of breastfeeding, as well as the objectives and educational technologies developed to outcome of each study. promote self-efficacy for exclusive

Chart 3 - Synthesis of the review articles, according to study objective, educational technology, and outcome. Teresina, PI, Brazil, 2021

Category (Educational Technology)	Author, Year	Country	Goal	Outcome
Serialized album	JAVORSKI <i>et al.</i> , 2018 (16)	Brazil	To evaluate the effects of using a serialized album on maternal breastfeeding self-efficacy and its repercussions on exclusive breastfeeding (EBF) in the first 2	The serialized album worked positively on the self-efficacy index of exclusive breastfeeding.

			months of a child's life.	
Educational primer for mobile devices.	MELLO <i>et al.</i> , 2020 ⁽¹⁷⁾	Brazil	To validate an educational booklet for use in mobile devices on breastfeeding for family members and caregivers of newborns and infants.	The educational booklet was validated, and had satisfactory scores, being considered a support technology for health professionals in order to reinforce teachings about breastfeeding.
Educational primer for the breastfeeding support room	LIMA <i>et al.</i> , 2020 ⁽¹⁸⁾	Brazil	To build and validate an educational booklet for the breastfeeding support room.	The booklet was validated and had satisfactory indexes, and can be used by health professionals and by family members and caregivers of newborns and infants aiming at promoting breastfeeding and, consequently, reducing early weaning rates.
Cordel Literature	DE OLIVEIRA <i>et al.</i> , 2013 ⁽¹⁹⁾	Brazil	To describe the evaluation of an educational technology, regarding the aspects of content and cordel literature on breastfeeding.	Positive results were observed, since this technology was built and evaluated in the theoretical pole regarding its content and the cordel literature format, according to the Psychometrics Model
Serialized album	DODT <i>et al.</i> , 2012 ⁽²⁰⁾	Brazil	To validate a serialized album about breastfeeding self-efficacy in terms of content and appearance	The album can be used in several nursing fields, including in the rooming-in setting.
Serialized album	DODT <i>et al.</i> , 2013 ⁽²¹⁾	Brazil	To report the experience of using a serialized album about breastfeeding in an educational intervention with nursing mothers.	It facilitated the communication between health professionals and nursing mothers, favoring the learning process based on the nursing mothers' needs.
Tool called Breastfeeding Treasure Box	CLARCKSON, DU PLESSIS <i>et al.</i> , 2011 ⁽²²⁾	Europe	To examine the usefulness of an interactive group session designed to explore the health benefits of breastfeeding.	There is potential for further development of the tool to reflect the specific health benefits identified by the Baby Friendly Initiative, although messages about the benefits of breastfeeding still need to be reinforced at every opportunity using other resources.
Workbook and DVD	WALLACE <i>et al.</i> , 2011 ⁽²³⁾	Europe	Offer high-quality breastfeeding training for all	Participants welcomed the program as a way to ensure that staff consistently used evidence-based practice
Flip-chart	DODT <i>et al.</i> , 2015 ⁽²⁴⁾	Brazil	To construct, validate, and evaluate an educational intervention using the flip chart entitled "I can breastfeed my child"	The intervention was beneficial because mothers in the intervention group had higher self-efficacy scores, more mothers continued breastfeeding, and mothers had longer duration of exclusive breastfeeding at both hospital discharge and the second month postpartum, with statistically significant associations
Cordel	DE	Brazil	To describe the results	There were excellent evaluations with



Literature	OLIVEIRA <i>et al.</i> , 2018 ⁽²⁵⁾		of the apparent and content validation of the assistive technology "Breastfeeding in action", with visually impaired people from two realities, Portugal and Brazil.	some topics analyzed differently in the two countries. The participants liked the Assistive Technology, but to validate it using the synthesizer, time was needed, and even then it was often complex.
Educational manual	COSTA <i>et al.</i> , 2013 ⁽²⁶⁾	Brazil	To construct and validate an educational manual for breastfeeding promotion.	The use of this manual during both the prenatal and puerperal periods will facilitate nursing practice.
Flip-chart	RODRIGUE S <i>et al.</i> , 2013 ⁽²⁷⁾	Brazil	To validate the content and appearance of a flipchart entitled "I can breastfeed my child" among puerperal women admitted to an obstetrics ward.	All illustrations were found to be clear and comprehensive. However, picture 6 had a relevance of 85.7% compared to 90% to 100% for the other pictures.
Explanatory folder	FRANCO <i>et al.</i> , 2019 ⁽²⁸⁾	Brazil	To describe the experience of developing and applying an educational technology as a way to promote maternal self-efficacy in breastfeeding in the postpartum period.	By means of the educational technology, a favorable environment for the empowerment of postpartum women was provided. The folder "Every woman is able to breastfeed!" was used, which promoted interactivity, knowledge, and debate about maternal self-efficacy to breastfeed, creating a favorable environment for dialogue about factors that can negatively interfere in the establishment and maintenance of breastfeeding in the postpartum period.
Educational video	ADHISIVA M <i>et al.</i> , 2017 ⁽²⁹⁾	India	To evaluate the impact of a postnatal video-based health education program on promoting exclusive breastfeeding among primiparous mothers.	Improved knowledge about exclusive breastfeeding among primiparous mothers postnatally, better than with routine lactation counseling alone.
Educational video	ADAM <i>et al.</i> , 2019 ⁽³⁰⁾	South Africa	To measure the causal effect of a video-based intervention, developed using human-centered design principles, on infant feeding behaviors in under-resourced South African communities.	Intended to support capacity building for a "next generation" of digital, maternal and child health education, a generation of innovative educational tools rooted in the needs and contexts of the audiences they are intended to serve.
Educational video	LAU <i>et al.</i> , 2016 ⁽³¹⁾	Singapore	Synthesize the best available evidence by performing a meta-analysis to assess whether electronic	Improved knowledge about exclusive breastfeeding among primiparous mothers



			technologies had any effect on improving breastfeeding outcomes among perinatal women.	
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Source: The authors

DISCUSSION

This literature review revealed that the technologies developed for health education for breastfeeding self-efficacy were mainly videos ⁽²⁹⁻³¹⁾, serial albums ^(16, 20-21), educational primers ⁽¹⁷⁻¹⁸⁾, and folders ⁽²⁸⁾. But other types of technology were also identified. Thus, it is possible to realize that the act of breastfeeding is not so simple, which stimulates some researchers in the search for research and methods to assist in breastfeeding in a safe and relaxed manner.

The development of educational technologies structured based on a theoretical framework enables the use of principles and theories that support and reach the expected educational goal. Among the studies analyzed, it was noticed that only one of the works describes the theoretical framework used: the psychometric model. Psychometrics represents an important form of objective assessment of psychological phenomena that have been structured in the development of clinical research since the 19th century. ⁽³²⁾ Thus, the need for studies to clearly describe the theoretical framework that guides the development of the method is emphasized.

All studies included in this review used at least one type of educational technology as a tool for the educational care method with mothers who were or will be going through the breastfeeding process, aiming to foster learning in health in a meaningful way.

In the category educational booklets, two articles described the use of this technology. ⁽¹⁷⁻¹⁸⁾ One of the studies reported on the importance of the booklet for the breastfeeding support room. Work is one of the reasons that most lead to early weaning, thus the breastfeeding support room at the workplace is important, as well as the booklet as a way to clarify possible doubts and enhance the encouragement of this very important practice in the life of the child and the mother. ⁽¹⁸⁾ The other study addressed the importance of the educational booklet for mobile devices. The study was validated both by judges and the target audience and approved as a relevant theme, since technology, especially mobile devices, is one of the means in which there is most demand for information. ⁽¹⁷⁾

Compared to other studies that also had the educational booklet as a tool, it was noticed that this model is self-explanatory, due to the presence of images, which favors



the teaching-learning process, and can be used by various health professionals, not only nurses. Thus, it is a simple and low cost material, which has shown results. ⁽³³⁾

There is the breastfeeding education manual. It was considered relevant and highly relevant, and because it had many illustrations, it attracted even more attention from the public. The manual presented the most common doubts among women, thus collaborating with the nurses' role in the need to provide breastfeeding self-efficacy to nursing mothers. ⁽²⁶⁾ The tool becomes playful, because it is visibly illustrative and exposes in a detailed manner all the aspects and difficulties that breastfeeding mothers experience. It is of paramount importance to create methods that facilitate breastfeeding self-efficacy, thus improving the rates of exclusive breastfeeding up to six months of age.

Another category is the serial album. The construction of the "I can breastfeed my child" album was described in three of the papers that make up the sample of the present study, being an experience report, a methodological research, and the validation study. ^(20,21,27) Both articles approached the album as a technology of easy access and understanding. It is seen as something with attractive content, because it is composed of illustrations and important points on the subject, clarifying many doubts and

facilitating educational dialogue among nursing mothers.

We also highlight the use of the explanatory folder aimed at promoting maternal self-efficacy in breastfeeding in the postpartum period; the folder was used individually by women who had recently started breastfeeding and were in rooming-in. The outcome of the use was positive, as it created a favorable environment for the empowerment of postpartum women, besides opening a space for debate on maternal breastfeeding self-efficacy. ⁽²⁸⁾ The use of various types of technology can benefit the nursing woman in order to have a variety of options and much easier access to information, so the use of the folder, for example, together with the use of educational videos can bring this confidence more broadly.

The flip-chart technology model was described in two studies. The technology was effective, as it was identified that participating mothers obtained higher self-efficacy scores, continued to breastfeed, and exhibited lasting exclusive breastfeeding, both at the time of hospital discharge and in the second month postpartum. ^(24,27)

In the Cordel Literature category, one of the studies sought to describe the evaluation of the use of cordel literature on breastfeeding among breastfeeding women, finding positive results, such as its playful resource, role as a didactic tool, besides being a means of health

communication and a facilitator of the teaching-learning process.⁽³⁴⁾ It was seen that the cordel can be a technology that can provide the bond of these mothers, so that they can read together and thus obtain the necessary information, however, the technology should be evaluated on the issue of size, and should not be so long.⁽¹⁹⁾

Another study also chose the cordel literature model, in the context of visually impaired participants, men and women, of different age groups and education, with the purpose of assessing the knowledge of these people about breastfeeding. It was carried out with the use of computers as a voice synthesizer and a computer screen reading system for the blind, and it was a validation study, whose objective was to describe the result of the apparent and content validation of the assistive technology. Positive results were obtained, because the participants of the study showed they liked the method of the study, resulting in excellent evaluations. However, it is reported that more time is needed to effectively validate the study.⁽¹⁹⁾

In South Africa, exclusive breastfeeding rates remain low and breastfeeding promotion is a national health priority, so video has proven to be an effective alternative in this context. It could be inferred that the group that had both breastfeeding support methodologies had satisfactory results in self-efficacy for exclusive breastfeeding up to six months of age. The video was designed as an

entertainment intervention and developed based on the principles of human-centered designer and community. As the study unfolded, the development of the capacity for the formation of "a new generation" of digital education in maternal and child health was perceived, generating innovative educational tools tied to the needs of the public context.⁽³⁰⁾

Tools also used, considered traditional teaching resources, were the book and the DVD. The women answered a questionnaire with 50 questions about the theme, then participated in a brief discussion on the subject and watched a video to fix the content. The study was approved by the ethics committee and aimed to provide services that support breastfeeding and work on self-efficacy at this important time.⁽²³⁾

Video is a widely used technology. However, it is observed that the identified results show little significant improvement when compared to mothers who had only an educational dialogue with the health professional.⁽²⁹⁾ In view of this, the combination of dialogue and technology is considered essential, in order to enhance knowledge and increase the number of people who perform exclusive breastfeeding until the child is six months old.

Another study on construction and validation of an educational video for teaching cardiopulmonary resuscitation for deaf people revealed that the technology was

evaluated by the participating audience as a tool that encourages learning and may result in lives saved at a given time. ⁽³⁵⁾

The use of group tools, such as the treasure box, is also described. The technology was used in an interactive group session designed to explore the health benefits of breastfeeding. However, there was a perceived need for further development of the tool to reflect specific health benefits, such as reinforcing messages about the benefits of breastfeeding at every opportunity using other resources. ⁽²²⁾ Thus, the need for association of one or more intervention alternatives is evidenced.

CONCLUSION

The study met the proposed objective of identifying educational technologies to promote breastfeeding self-efficacy. These are various materials, printed and digital, used, individually or in association, for individual consultation or group care. The great majority of the studies were about the construction and validation of the technology that proved the effectiveness of its use and highlighted alternatives that enhance the management of the technology for maternal self-efficacy for breastfeeding.

The scarcity of studies that describe the theoretical framework used for construction and validation are pointed out as gaps, since this gives consistency and

reliability to the research. The valorization of the theme is suggested as a way to increase the knowledge of nursing mothers about breastfeeding, providing them with self-efficacy and thus obtaining exclusive breastfeeding until the age of six months, with technologies being an ally to encourage this very important practice. Therefore, the investment in studies that provide the creation of new tools in order to encourage and assist the practice of breastfeeding is a relevant and necessary point in order to reach satisfactory levels in the breastfeeding process.

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