

Validation of a flipchart for promotion of self-efficacy in breastfeeding

Validação de um álbum seriado para promoção da autoeficácia em amamentar

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Descritores

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Abstract

Objective: To validate the content and appearance of a flipchart titled “I can breastfeed my child” among puerperal women admitted to a rooming-in obstetrics ward.

Methods: Validation study of the appearance (clarity/comprehension) and content (relevance) of the flipchart pictures among 21 puerperal women. The pictures were used as part of an instrument that includes a discursive questionnaire that was used to evaluate the content and appearance of the flipchart and the motivation and sociodemographic characteristics of the women.

Results: All illustrations were considered clear and comprehensive. However, picture 6 had an 85.7% relevance compared with 90% to 100% for the other pictures. The index of global content validity for the pictures in the flipchart was 0.92.

Conclusion: The flipchart appears to be usable in other studies and in daily practice in the community or a hospital environment, such as a rooming-in ward.

Resumo

Objetivo: Validar o conteúdo e a aparência do álbum seriado “Eu posso amamentar meu filho”, junto às puérperas internadas no alojamento conjunto.

Métodos: Estudo de validação das figuras do álbum seriado quanto à aparência (clareza/compreensão) e conteúdo (relevância), realizado com 21 puérperas. Foi utilizado um instrumento que incluiu um questionário dissertativo, avaliação de conteúdo, aparência e motivação e das características sociodemográficas das mulheres.

Resultados: Todas as ilustrações foram consideradas claras e compreensíveis, no entanto, a Figura 6 apresentou 85,7% de relevância e as demais se mantiveram entre 90% e 100%. O índice de validade de conteúdo global para o álbum seriado foi de 0,92 para todas as figuras.

Conclusão: O álbum encontra-se apto para ser utilizado em outras pesquisas e na prática diária com mulheres, seja na comunidade ou no âmbito hospitalar, como é o caso do alojamento conjunto.

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Introduction

Health promotion is considered one of the main conceptual-theoretical models to subsidize health policies throughout the world, reinforcing the importance of acting on health determinants and causes, of social participation, and of the need to elaborate alternative educational practices.⁽¹⁾ In view of this, nurses have used educational strategies from brochures, postcards, booklets, audiovisual resources, guidelines, software, and scales, among others, to promote breastfeeding.⁽²⁾

However, the construction of such interventions is insufficient; these strategies must be assessed, particularly those that address self-efficacy in the context of breastfeeding.⁽³⁾

Self-efficacy is a fundamental concept and principle for health promotion and is relevant for addressing the contemporary challenges in this area. According to the World Health Organization,⁽⁴⁾ self-efficacy beliefs can be used to determine how people feel, think, are motivated, and behave in a given situation; they also show the effort and time individuals spend in overcoming overcome an obstacle or a negative experience.

Given the importance of educational materials focusing on self-efficacy of women to breastfeed, a flipchart titled “I can breastfeed my child.” This flipchart was validated regarding its appearance and content, and a committee composed of nursing evaluators highlighted the relevance and validity of the material and characterized it as an instrument appropriate for use in clinical practice.⁽⁵⁾

It is known that to improve the credibility and improve the quality of educational materials intended to be implemented in various nursing fields, the materials should be evaluated.⁽⁶⁾ Therefore, authors emphasize that all educational material should be validated not only by professionals but also by panels of lay people,⁽⁷⁾ this approach has been used in several validation studies of educational materials and tools.⁽⁸⁾

Validation collects and evaluates evidence concerning the instrument with the goal of confirming or refuting its validity.⁽⁹⁾ Educational flipcharts similar to the one studied here feature illustrations that

reflect realism and responsiveness and enhance or explain past information.⁽¹⁰⁾ The flipchart titled “I can breastfeed my child” allows visualization of the figures, offering women the opportunity to verbalize doubts and uncertainties that may be discussed during the course of the intervention.⁽¹¹⁾ In the current study, this flipchart was chosen for validation among laypeople.

This process will enable the study of the flipchart album and its relevance to content and appearance.⁽¹²⁾ Thus, the study aimed to validate the content and appearance of the flipchart “I can feed my child” among women in a rooming-in setting.

Methods

Validation of the flipchart “I can breastfeed my child”; based on breastfeeding self-efficacy was studied as an educational technological resource to be used with puerperal women admitted to an RI setting.

The validation is composed of content and appearance validity. *Content validity* refers to the relevance of the figures and the guidance provided by the guide sheet, with particular emphasis on the adequacy of coverage of the content area measure. For *appearance validity*, the educational resource is judged on the clarity of the figures and how well the presentation of the instrument evidences the perception that people have of what is being measured.^(5,12)

The study was conducted among 21 women admitted to a rooming-in setting at maternity ward of a teaching hospital, a number that meets the sample size of 6 to 20 participants recommended by other authors.⁽¹³⁾ An odd number of women was selected because previous research indicates that odd numbers of participants reduce questioning dubious.⁽¹⁴⁾

This convenience sample met the following inclusion criteria: women in the immediate postpartum period (1 to 10 days after birth), minimum age of 12 years (females of this age were included on the basis of the Statute of Children and Adolescents, due to increased teenage pregnancy;⁽¹⁵⁾ admitted to the rooming-in setting and accompanied a newborn with good

vitality and sucking capacity and effective thermal control; and at least 6 hours postpartum. Women were excluded if they had clinical or obstetric complications in the postpartum period, had conditions that contraindicate or preclude breastfeeding, or were admitted in rooming-in setting with children in the intensive care unit for high and medium risk.

Data were collected in June 2013, by the primary source (interviews with puerperal women), in her own bed. At that point the women were invited to participate in the study and learned about the purpose of the study by reading the consent and informed consent form. Women who chose to participate signed this form in two ways. The first step in data collection occurred when a single researcher displayed the flipchart to the participant, spending an average of 20 to 30 minutes. At the second stage of the survey, two other researchers applied the instrument in an interview that lasted 15 to 20 minutes. These researchers were properly trained nurses from the nursing research group in the department of Promotion of Health Education for the Family and Child.

Instruments such as the one studied here should be validated through evaluation by a group of laypeople to assess clarity, comprehension, and redundancy of the pictures and the provided information.⁽¹²⁾ This validation was performed by using an instrument developed and validated by two experts in the field of self-efficacy on breastfeeding. It includes a discursive questionnaire⁽⁷⁾ regarding the following aspect of the educational materials: understanding, attractiveness, self-efficacy, cultural acceptability, and persuasiveness. In this report, the domain of self-efficacy will be discussed in greater depth. The instrument also evaluated the content, appearance, and motivation, and sociodemographic characteristics of women.⁽⁵⁾

The flipchart was constructed from a reflection of the scale items of the Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF), from the assumptions of the self-efficacy theory of Bandura (1977) and of references to breastfeeding. It contained seven pictures and seven guide sheets. The 10 evaluators who validated the flipchart assigned it excellent Content Va-

lidity Index (CVI) scores of 0.92 for the pictures and 0.97 for the guide sheets. The flipchart also presented 77,1% of clarity and comprehension concerning to pictures and guide sheets.⁽⁵⁾

The data were organized and processed by Predictive Analytics Software, version 18, and are presented in tables and graphs. The questionnaire responses were organized by a synthesis of the answers, and were assessed in a descriptive analysis.

Content analysis of the figures in the flipchart album was performed by using the CVI, which was calculated on the basis of three mathematical equations: the S-CVI/AVE (Average of the I-CVI for all items on the scale), S-CVI/UA (proportion of items on the scale reaching relevance rating of 3 or 4 by all the experts), and I-CVI (content validity of individual items [i.e., the proportion of experts giving the content items a relevance rating of 3 or 4]). The CVI score ranges from -1 to 1; an item is considered valid when agreement among evaluators is 0.80 or greater.⁽¹⁶⁾

Regarding appearance validity, the criterion of relevance was at least 75% agreement among women. Figures did not reach this percentile, therefore we considered comments and suggestions for non-compliance, possible adjustment or removal.⁽¹⁷⁾

This study complied with all national and international ethical standards and procedures for research in humans.

Results

The flipchart was applied to 21 postpartum women with a mean age of 24 years; 66.7% were engaged in a consensual union, and 47.6% were housewives. In addition, 38.1% had completed high school, 61.9% lived with three other people in the residence, and 38.1% had an income of R\$ 678.00 per month.

With regard to obstetric history, 42.9% had no other children. Of those who had other children (n=12), 71.4% breastfed previously; 50.0% of these did so exclusively for six months. When asked whether they thought they would breastfeed the

current child, all said they would; 71.4% intended to do so exclusively for six months.

Regarding current birth and postpartum, 57.1% of the mothers had a cesarean delivery, and 71.4% of them breastfed within the first 30 minutes after birth, even in the delivery room (42.9%). In addition, 42.9% of babies in an incubator or newborns required hospitalization in the neonatal intensive care unit; 95.2% of them did not use a pacifier and bottle, and 61.9% did not use formula. Regarding the provision of guidance on breastfeeding in the maternity ward, 61.9% of women reported not having received any guidance and 38.1% did; among the latter, nurses provided the guidance on breastfeeding for 62.5%.

The mothers were asked their opinion about the complexity of the figures of the flipchart; 83.7% considered the figures to be simple to understand and 94.6% considered that the figures to be associated with maternal confidence in breastfeeding. The figures in the flipchart album were considered clear and understandable, with an average of 89.5% for all figures (Figure 1).

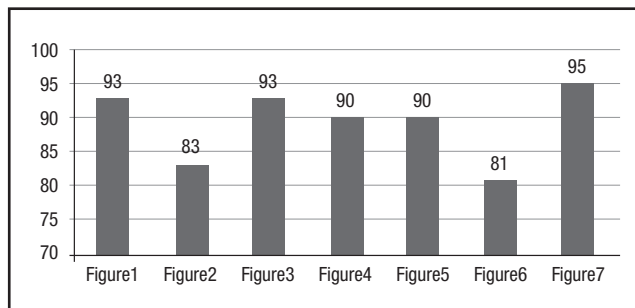


Figure 1. Clarity and comprehension of the flipchart “I can breastfeed my child”

Regarding the relevance of the figures in the flipchart, figure 6 showed 85.7% relevance; the others ranged from 90% to 100% (Figure 2).

Table 1 shows the CVI for each figure. The overall CVI was 0.92 for the figures, indicating an excellent level of agreement among the mothers.

When the women were asked whether anyone participating in the flipchart activity would understand what it is, 95.2% answered “yes.” The same

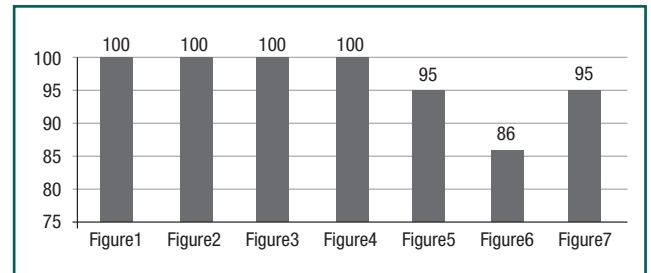


Figure 2. Relevance of the figures in the flipchart “I can breastfeed my child”

Table 1. Distribution of Content Value Index (CVI) of each picture, according to analysis of puerperal women

Figures	CVI
Fi 1	1.00
Fi 2	0.86
Fi 3	1.00
Fi 4	1.00
Fi 5	0.86
Fi 6	0.81
Fi 7	0.90

percentage of women felt motivated to participate in the activity until the end, indicating that they believed the activity was relevant to their health and the health of their child.

According to the descriptive analysis of the discursive questionnaire domains,⁽⁷⁾ all participants showed understanding of the material and found it attractive; the material demonstrated cultural acceptance, and the album was considered persuasive for encouraging women to breastfeed.

Regarding the domain of self-efficacy, women were asked if they could follow what the figures in the flipchart album suggested; 90.5% responded “yes,” and 80.9% said that the album has the information necessary to feel confident about breastfeeding their children. According to the women, the most important issue addressed in the flipchart album was handling and correct positioning during breastfeeding (47.6%); 66.7% of these did not think any additional information beyond that provided by the flipchart album was necessary (Table 2).

Table 2. Descriptive analysis of self-efficacy domain referred to discursive questionnaire

Self-efficacy domain	n(%)
Can they follow what the pictures suggest?	
They believe they can follow what the pictures suggest.	19(90.5)
They believe they can follow only some of the pictures.	02(9.5)
Do they need to know anything more to follow the information? What's missing?	
There is no information missing in the flipchart, so they feel confident in breastfeeding.	17(80.9)
Information on maternal diet was missing.	02(9.5)
Approach on guidance about cracks was missing.	01(4.8)
Discussion of how breast milk prevents diseases and that it is good for the child's health was missing.	01(4.8)
Which subjects seem more important?	
Handling and correct position.	10(47.6)
Identification of breast milk characteristics and its phases.	03(14.2)
Identification of the reason for a child's crying.	02(9.5)
Exclusive breastfeeding until 6 months.	02(9.5)
Breastfeeding close to the family.	01(4.8)
The need for organizing the woman's activities with breastfeeding.	01(4.8)
Emptying of the breast and alternating sides for breastfeeding.	01(4.8)
Taking the baby to the health center for follow-up.	01(4.8)
Would you like the flipchart to include any other information that has is currently not included?	
There is no information that has not been exposed in the flipchart.	14(66.7)
Information on maternal diet.	03(14.2)
Complications in the breast.	02(9.5)
Information about colostrum.	01(4.8)
Foods that may be offered to children after 6 months.	01(4.8)

Discussion

The study participants had socio-demographic and obstetric characteristics mirroring overall societal trends, such as the low average age and income, which are associated with early weaning.⁽¹⁵⁾ Accordingly, it is appropriate to use educational materials that are accessible and enable greater self-efficacy in maternal breastfeeding, such as the flipchart "I can breastfeed my child."

Most participants considered the figures in the album to be clear, understandable, and relevant. Most felt motivated to participate in the activity until the end, showing good indices with respect to the domains of the discursive questionnaire. These

factors indicate that the flipchart is a valid educational instrument that can be applied to any socio-economic strata^(7,12) since it allows the professional to promote breastfeeding and maternal self-efficacy.

According to the validation performed by the postpartum women in this study, the flipchart was regarded as an educational tool that presents relevant content and appearance. The excellent individual and global CVI values show that the flipchart is valid with respect to self-efficacy in breastfeeding. The total CVI score was 0.92, indicating that the educational program that uses the flipchart album is reliable for women who follow the suggestions in the figures. Having the correct grip and stance were the most important issues to the mothers.

Self-efficacy is determined individually by four factors, which influence the fields of BSES-SF (intrapersonal and technical): personal experiences, vicarious experiences, verbal persuasion, and psychological and affective factors.⁽¹⁸⁾ Considering that the flipchart was built from the BSES-SF, it is noteworthy that not only was the flipchart able to enhance self-efficacy in breastfeeding, but the content was also deemed relevant. This was especially true for the technical aspects of breastfeeding (handling and correct position), which cause insecurity among women.⁽⁵⁾

To ensure effective sucking, the mother must use proper handling. This can be verified by observing the following signs: baby's mouth wide open, not allowing a view of almost any part of the areola; and baby's lower lip turned out; baby's chin leaning or right next to the breast, with rounded cheeks. Breastfeeding with appropriate positioning and suction does not cause pain.⁽¹⁹⁾ An associated sign is the emptying of the first breast, which should prompt the woman to switch to the other breast. Doing so avoids some painful processes, such as engorgement and mastitis, and providing the RN receipt of all milk constituents.⁽²⁰⁾

With regard to the intrapersonal domain, this tends to rise over time,⁽⁵⁾ which can be evidenced by the CVI for figure 6, which was the lowest CVI compared with the others. However, this has a tendency to increase because the mother's support from family members, particularly the husband or partner and grandparents, has a positive influence on self-efficacy for breastfeeding. For this support to be realized, the family should help promote breastfeeding while the mother is still in the hospital so that they can support her and help her feel able to breastfeed.⁽²¹⁾

By identifying the characteristics of milk as source of energy and nutrition and as immunity-boosting when consumed in sufficient quantities by the RN, the woman will be more confident about breastfeeding and maintaining this practice for a longer period. Breastfeeding strengthens immunity; maintains normal growth and development; improves the digestive process in the gastrointestinal system; promotes the mother-child bond; and facilitates infants' emotional, cognitive, and nervous systems.⁽²²⁾

Some participants mentioned the importance of including reasons for a baby's crying in flipchart. Crying is a form of communication for newborns and is difficult to interpret; this, in turn, can cause mothers to feel anxious and insecure and to doubt their ability to care for the child. Children cry for many reasons besides hunger; thus, it is necessary to know how to identify the real reasons for crying. The most common of these are cramping, discomfort (cold, heat, dirt, feces, or urine), substances in the breast milk that are causing distress (caffeine, nicotine, and cow's milk), lack of contact for long period between mother and newborn, pain or illness and, finally, hunger.⁽²³⁾

Even having found the figures in the flipchart album to be clear, comprehensive, and relevant, these mothers suggested some additions to the information provided: maternal nutrition, breast complications, and importance of colostrum. Such information is relevant, but it is known that educational materials, in general, must have a focus;⁽²⁴⁾ the flipchart album in question focuses not on breastfeeding in general but on self-efficacy specifically. Those other issues are not related to self-efficacy, especially with regard to maternal diet. Moreover, the suitability of the album with regard to the content was evidenced because they all felt confident to breastfeed the child on the basis of the information provided in the flipchart album.

Maternal nutrition during breastfeeding should be considered by health professionals; most women change their diet during pregnancy and breastfeeding, and they are advised to eat a nutritionally appropriate diet during that period, without restriction of specific foods. Maternal dietary restrictions reduce the diversity of flavors that the infant will be exposed and may subsequently decrease the baby's acceptance of new foods and flavors.⁽²⁵⁾

Women also requested information on physical disorders during breastfeeding, such as fissures, so that they could feel more confident when performing this practice. These are very common painful processes in the breast in the first days of breastfeeding, and pain is a major complaint that can lead to early weaning of the child.^(26,27)

The women also felt that the flipchart should show the importance of breastfeeding for the

health of the child. However, it is noteworthy that the “breastfeeding” is also important for maternal health, and this should be reinforced by health professionals. Worrying about the health of the child contributes to the decision-making process to initiate and maintain breastfeeding; thus, appropriating such knowledge facilitates the achievement of autonomy for the maintenance of breastfeeding.⁽²⁸⁾ In this context, exclusive breastfeeding until age 6 months should be promoted with all women; by offering only breast milk, the mother knows that this is sufficient for the child’s growth and child, and this increases her confidence in breastfeeding.⁽²⁹⁾

According to the validation process of the mothers in the study, one can see that the record is valid and applicable to reality; use of the flipchart album alone does not ensure that women receive the necessary monitoring during pregnancy and childbirth. Thus, professionals should use it as a supportive tool to monitor the woman in hospitals and healthcare facilities, with a view to extending breastfeeding.

Thus, a postpartum return to the clinic for follow-up care is needed for both maternal and child health. The return of both 7-10 days after delivery must be encouraged during prenatal and maternity care. Home visits by community health workers will address issues such as breastfeeding, complementary feeding, guidance on growth and development, and vaccination.⁽³⁰⁾

The flipchart album is suitable for use in other studies but is mainly meant to be used in daily practice, either in the community or in the hospital, as in the case of rooming-in. This feature enables support for postpartum breastfeeding, and it promotes self-efficacy for breastfeeding.

It is noteworthy that the educational materials are important tools in the daily work of nurses; they allow the consideration and cooperation of those involved in the process of knowledge construction. However, considering the nurses’ role as educators, they should use this type of tool to encourage autonomy among patients and seeks the transformation of reality.

Conclusion

The flipchart “I can breastfeed my child” was validated for both content and appearance, thereby conferring greater credibility of a new educational tool for promoting breastfeeding. This validation process indicates the importance of validating educational material with lay people in addition to professional evaluators.

Collaborations

Rodrigues AP; Nascimento and Ximenes LB declare to have contributed to the conception and design, analysis and interpretation of data, drafting the article, revising it critically for important intellectual content and final approval of the version to be published. Dodt RCM and Oriá MOB contributed in the writing and critical revision of intellectual content and to the final approval of the version to be published.

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