



Original Article

DEVELOPMENT AND VALIDATION OF EDUCATIONAL MANUAL FOR THE PROMOTION OF BREASTFEEDING

CONSTRUÇÃO E VALIDAÇÃO DE MANUAL EDUCATIVO PARA A PROMOÇÃO DO ALEITAMENTO MATERNO

CONSTRUCCIÓN Y VALIDACIÓN DE MANUAL EDUCATIVO PARA LA PROMOCIÓN DE LA LACTANCIA MATERNA

Priscila Bomfim Costa¹, Ana Carolina Maria Araújo Chagas², Emanuella Silva Joventino³, Regina Cláudia Melo Dodt⁴, Mônica Oliveira Batista Oriá⁵, Lorena Barbosa Ximenes⁶

The aim of this study was at developing and validating an educational manual promoting breastfeeding. It was a methodological study in which 17 illustrations and their respective captions were developed based on existing literature. A validation of appearance and content was conducted by five health professionals and validation of appearance by 17 women in their postpartum period who were being attended to in a maternity ward in Fortaleza-CE, Brazil, from March to May 2009. Regarding the degree of relevance of the figures and captions, the Content Validity Index was calculated, with an excellent rate of 0.97 after modifications and exclusions as suggested during the evaluation. The final version of the manual consisted of 13 figures and captions. The use of this manual both during the pre-natal and postpartum phases is believed to facilitate nursing in that it represents an illustrated medium that can provide answers for the mothers' questions, promoting breastfeeding.

Descriptors: Breastfeeding; Validation Studies; Knowledge; Health Promotion; Nursing.

Os objetivos deste estudo foram construir e validar manual educativo para promoção do aleitamento materno. Estudo metodológico. Foram elaboradas 17 ilustrações e seus respectivos textos explicativos embasados na literatura. Realizou-se validação de aparência e conteúdo por cinco profissionais de saúde e validação de aparência por 17 puérperas de uma maternidade de referência em Fortaleza-CE, entre março e maio de 2009. No que diz respeito ao grau de relevância dos textos e figuras, calculou-se o Índice de Validade de Conteúdo, que atingiu excelente valor geral (0,97) após as modificações e exclusões sugeridas na validação. O manual educativo final resultou em um total de 13 figuras/textos explicativos. Aponta-se que o uso deste manual tanto durante o período pré-natal quanto puerperal facilitará a prática da enfermagem, tendo em vista que se constitui em uma tecnologia ilustrada capaz de responder às principais dúvidas que permeiam o cotidiano das mães, promovendo-se o aleitamento materno.

Descritores: Aleitamento Materno; Estudos de Validação; Conhecimento; Promoção da Saúde; Enfermagem.

El objetivo fue construir y validar manual educativo para promoción de la lactancia materna. Estudio metodológico. Fueron desarrolladas 17 ilustraciones y sus leyendas, basadas en la literatura. La validación de apariencia y contenido fue realizada por cinco profesionales de salud y la apariencia por 17 puérperas de maternidad de referencia en Fortaleza-CE, Brasil, entre marzo y mayo de 2009. Cuanto al grado de relevancia de textos y figuras, se calculó el Índice de Validez de Contenido, logrando excelente valor general (0,97) índice de validez de contenido después de las modificaciones y supresiones sugeridas en la validación. El manual educativo final resultó en 13 figuras/textos explicativos. El uso de este manual, tanto durante el periodo prenatal como puerperal debe facilitar la práctica de enfermería, ya que se constituye tecnología ilustrada capaz de responder a las principales dudas que existen en la rutina de madres, promoviendo, así, la lactancia materna.

Descriptor: Lactancia Materna; Estudios de Validación; Conocimiento; Promoción de la Salud; Enfermería.

¹RN, Universidade Federal do Ceará. Fortaleza, CE, Brazil. E-mail: priscilinhapbc@yahoo.com.br

²RN, Master's Degree Student, Post-Graduation in Nursing Program, Universidade Federal do Ceará. Scholarship by CNPq. Fortaleza, CE, Brazil. E-mail: aninhaaraujoc@hotmail.com

³RN, Doctor's Degree Student, Post-Graduation in Nursing Program, Universidade Federal do Ceará. Scholarship by CNPq. Fortaleza, CE, Brazil. E-mail: manujoventino@yahoo.com.br

⁴RN, Doctor's Degree Student, Professora, Faculdade Metropolitana da Grande Fortaleza. Fortaleza, CE, Brazil. E-mail: reginadodt@yahoo.com.br

⁵RN, Doctor's Degree Student, Adjunct Professor III, Department of Nursing, Universidade Federal do Ceará. Fortaleza, CE, Brazil. E-mail: monica.oria@ufc.br

⁶RN, Doctor in Nursing, Associate Professor I, Department of Nursing, Universidade Federal do Ceará, Researcher of CNPq. Fortaleza, CE, Brazil. E-mail: lbximenes2005@uol.com.br

Corresponding author: Mônica Oliveira Batista Oriá

Rua Alexandre Baraúna, 1115, Rodolfo Teófilo. CEP: 60430-160. Fortaleza, CE, Brazil. E-mail: monica.oria@ufc.br

INTRODUCTION

Breastfeeding provides nutritional, immunological, cognitive, economical and social benefits for the baby and for the relation between mother and child. Due to the superiority of the maternal milk on its pretense substitutes and proved by wide theoretical referential, the maternal milk is considered the only ideal food for children until 6 months of life, for making health growth and development possible. Despite that, the rates of maternal breastfeeding in Brazil are still are beneath the rate preconized by the World Health Organization, and the lack of knowledge of the mother on this theme is one of the main causes⁽¹⁾.

Considering the above statement, the nurse can develop interventions and innovative technology which reach the promotion of maternal breastfeeding among the pregnant women, puerperas and their family members⁽²⁾. Such technologies must lead the subjects themselves to reflect on their acts and their reality, so that, with the help of the professional nurse, they can have their doubts clarified and feel more confident for the adoption of healthy habits, as in the case of maternal breastfeeding⁽³⁾.

For such, the nurse can make the use of participative pedagogic practices and teaching materials, such as educational manuals, so that there are changes to promote health in the everyday life of the families and communities. The manual is considered an effective means of communication to promote health, once it does not favor the simple launching of information, but also, during the educational practice, it motivates the exchange of knowledge. The technology contributes to substitute models anchored in practices of unidirectional and dogmatic practices, focused only on the transmission of information⁽⁴⁾.

Besides that, the use of manuals can direct, standardize and dynamize the actions and orientation of education in health, for using illustrations, clear and comprehensible language to all social layers, having

significant orientation of the theme, being attractive, objective and not very long⁽⁵⁾.

The educational manuals are a promising means for the diffusion of information, especially when they are developed in a artisanal way and with low cost to make its publicizing easy⁽⁶⁾. So, bearing in mind the need to improve the knowledge of the mother on breastfeeding, and due to previous experiences, the authors considered the development of a manual that attended the needs identified in the local community relevant. Therefore, the present study has as targets to develop and validate and educational manual for the promotion of maternal breastfeeding as a tool that can and should be used by the nurses of basic attention to the women in their pregnancy-puerperal cycle.

METHOD

It is a methodological research, for focusing the validation or assessment of the instruments and strategies which can improve the research or the practice⁽⁷⁾. For the development of the manual, the theoretical references of the Health Department were used⁽⁸⁻¹⁰⁾, as well as of studies previously developed by the authors^(2,3,11).

Afterwards, 17 illustrations based on the mentioned scientific literature were made, with the help of a specialist in the area of drawing. Besides that, explicative, clear and succinct captions were developed for each illustration using accessible language, in order to include the lower social classes of the clientele.

After the development of the educational material, the process of validation was made from the appreciation of the health professionals, specialists and puerperas⁽⁵⁾. For the selection of the health professionals, the following criteria was adopted: to have a specialist degree and, at least, one year of experience in the area of maternal breastfeeding or education in health; five judges were chosen⁽¹²⁾ and the sample was selected by convenience.

The puerperas participants in this study were also selected by convenience and the ones that were hospitalized in the delivery room of a public maternity ward of reference were invited, in Fortaleza, CE, Brazil, from March to May 2009 and they should be older than 18 years. The criteria of exclusion adopted were puerperas with pathologies that impeded the maternal breastfeeding. So, a sample of 17 puerperas was obtained.

Two types of validation were made: apparent and contents. The validity of appearance or face is a subjective way to validate an instrument or a strategy, consisting in the judgment as to the clarity and comprehension. However, because it is considered a superficial evaluation, it must not be used as an isolated criterion⁽¹³⁾. So, the validity of the contents was also made, which verifies whether the concepts are represented adequately and whether the items/captions of the instrument are representative within the universe of the whole product⁽⁷⁾. So, the apparent and content validity were made with the specialized judges and only the validity of appearance was made with the puerperas.

For the validation of contents and appearance by specialized judges, they were given a kit containing the following documents: invitation-letter, clarifying the origin of the develop material and the object of the study; inform consent form in two copies; questionnaire for the characterization of the judges and an instrument which assesses the following criteria: clarity and comprehension of the captions and figures (yes/no); relevance of the presence of figures in the manual (yes/no); degree of relevance (1. Irrelevant, 2. A little relevant, 3. Really relevant, 4. Very relevant), and there was room for suggestion.

The same kit was also given to the puerperas in order to validate the material with the target-public, but the instrument of validation for those did not have the questions referring to the relevance and degree of relevance of the figures, once only the validation of appearance was made with these women.

For the analysis of relevance and the degree of relevance of the figures and explicative captions, the calculation of the Content Validity Index (CVI), which quantified the extension of agreement among the specialized judges, adopting a CVI higher than 0.80 as desirable⁽¹⁴⁾.

The study was submitted to the Committee of Ethics in Research of the maternity where it was made, being approved under Legal Opinion no. 42/08. The ethical aspects of researches involving human beings were respected according to what is preconized by Resolution 196/96 do National Council of Health⁽¹⁵⁾.

RESULTS

The educational manual was divided into five domains of interest, each one composed of figures and their respective explicative captions. The first one, domain A, refers to the correct hold; domain B, to the benefits of maternal breastfeeding for the baby; domain C approaches the benefits of maternal breastfeeding for the mother; domain D comments the breast problems and domain E, comments the care with the breast (Chart 1).

Chart 1 - Description of the domains and related subjects in each figure of the Education Manual for the Promotion of the Maternal Breastfeeding. Fortaleza, CE, Brazil, 2013

	Domain	Figure	Subject approached in the figure
A	Correct hold	A1	Breast hygiene
		A2	Extract milk to make hold easy
		A3	Beginning of the correct hold
		A4	Conclusion of the correct hold
		A5	Incorrect hold
		A6	Warning regarding incorrect hold
		A7	Types of milk and time of breastfeeding
B	Benefits of maternal breastfeeding for the baby	B1	Exclusive breastfeeding until six months of life of the baby
		B2	Healthy child
		B3	Protecting factor of the maternal milk
		B4	Affective link between the mother and the baby
C	Benefits of maternal breastfeeding for the mother	C1	Loss of weight with breastfeeding
		C2	Practicality of breastfeeding
		C3	Diversity of position for breastfeeding
		C4	Daily activities and the practice of breastfeeding
D	Breast problems	D1	Nipple rash, breast engorgement and mastitis
E	Care with the breast	E1	General care with the breast

Among the five judges, experts in the area of maternal breastfeeding and/or education in health, who participated in the research, three were 25 and 36 years old and two, between 37 to 53 years old, representing an average of 40 years. Besides that, two judges had specialization; one, a master's degree; and two, doctor's degree. Two judges had more than 10 years of experience with breastfeeding and/or education in health, while the others (three) had experience from 11 to 20 years, with an average of 11 years of experience.

Regarding the 17 puerperas participating in the study, it could be observed that 10 were between 18 and 25 years, while seven were from 26 to 45 years. Besides, 12 puerperas had above seven years of study; 13 stated to have a family income from zero to two minimum wages; and four, from three to five minimum wages. It is worth highlighting that the value of the minimum wage at the time of the study was R\$ 465.00.

Regarding the obstetric background of these puerperas, it was observed that 10 were multiparas; 12 had had from six to ten prenatal medical appointments; and 10 received orientation on maternal breastfeeding during the prenatal.

Regarding the apparent validity, the figures and captions were considered clear and comprehensible if they had the agreement of at least 50% of the specialized judges (3) and of the puerperas (9).

The apparent evaluation made by the judges considered that the figures of the items A1, A4, A5, A6, A7, B3, C4, D1, were incomprehensible. Regarding the explicative tasks only the items A6 and A7 were considered incomprehensible (Figure 1).

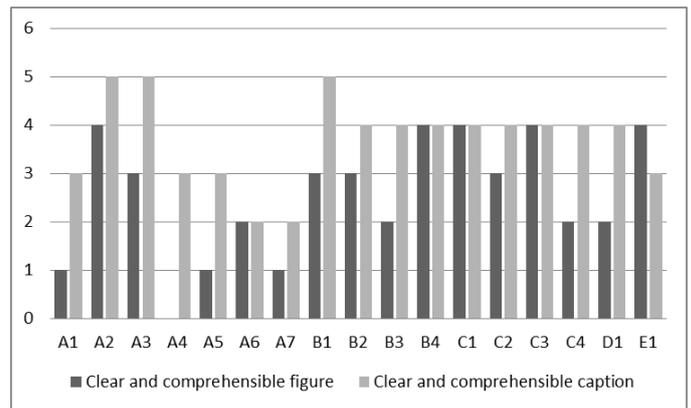


Figure 1 - Distribution of the figures and explicative captions considered clear and comprehensible for the evaluation judges (no.=5). Fortaleza, CE, Brazil, 2013

As to the apparent validity made by the puerperas, only the figures B2, C2 and D1 were considered as incomprehensible. Regarding the explicative captions, all the items were considered comprehensible and among them 12 items reached unanimity regarding clarity and comprehension (Figure 2).

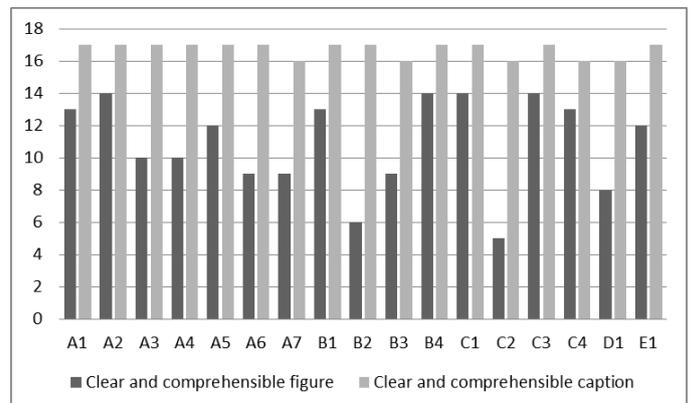


Figure 2 - Distribution of the figures and explicative captions considered clear and comprehensible for the puerperas (no.=17). Fortaleza, CE, Brazil, 2013

The calculation of the CVI according to the judges is evident in Table 1.

Table 1 - Distribution of the Content Validity Index, according to the analysis of the specialized judges. Fortaleza, CE, Brazil, 2013

Figures and explicative captions	Specialized judges (no.=5)
A1	0.80
A2	1.00
A3	1.00
A4	0.80
A5	1.00
A6	0.60
A7	1.00
B1	0.80
B2	1.00
B3	1.00
B4	0.80
C1	1.00
C2	0.40
C3	0.80
C4	0.40
D1	0.80
E1	0.80
CVI (initial global)	0.82

Regarding the degree of relevance of the figures and explicative captions, the initial global CVI, that is, the one calculate before the modifications and exclusion of figures suggested by the judges, and the value obtained 0.82, indicating a good level of agreement among the specialists.

According of the suggestion of the judges and puerperas regarding the manual under study, two figures were grouped regarding the same theme (A1 and E1); three figures were excluded due to the apparent validity and to the CVI below 80% (A6, C2 and C4) according to the orientation of the literature⁽¹⁴⁾, four needed alterations in the figures (A7, B2, B3, D1) and one needed revision in the writing of the explicative caption (A7).

In figure 3, there are illustrations of the manual which had more alterations.

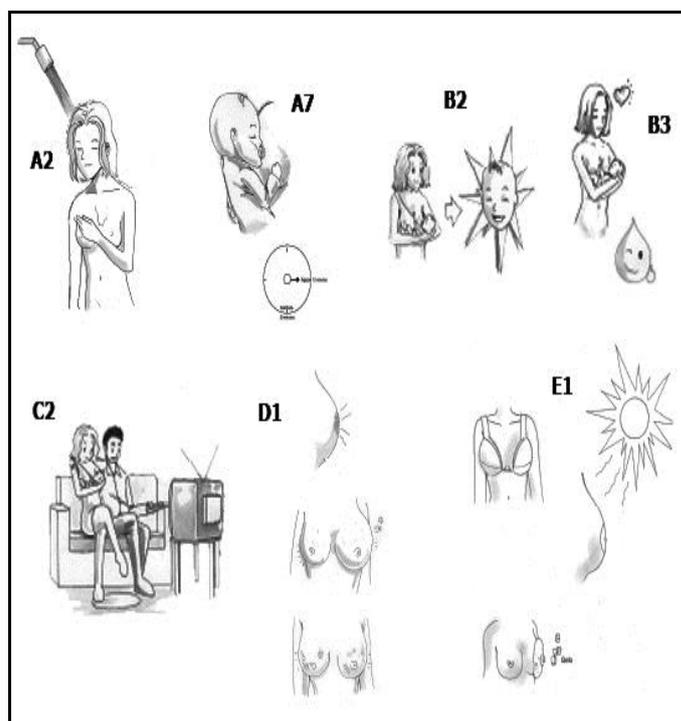


Figure 3 - Illustrations that suffered alteration of the Educational Manual for the Promotion of Maternal Breastfeeding Fortaleza, CE, Brazil, 2013

Therefore, the Educational Manual for the Promotion of Maternal Breastfeeding has a total of 13 figures and their explicative captions. The final global CVI, which was calculated after the modifications and exclusions, became 0.97.

DISCUSSION

The evaluation of the specialized judges and puerperas highlighted that the manual is an instrument with pertinent content and valid regarding the result whose evaluation was the object (maternal breastfeeding) with excellent global CVI.

Commonly, the interruption of the practice of maternal breastfeeding is made each time earlier, and it is many times associated to the lack of maternal knowledge on breastfeeding⁽¹⁶⁾. So, the elaboration and implementation of technologies which seek to promote maternal breastfeeding can contributed to the improvement of the indexes of this practice and, consequently, to the reduction of child morbimortality.

For the judges who evaluated the manual, figure A1, which deals with the hygiene of the breast before the breastfeeding, was being confused with the self exam and breast massage, and what it really represented was not evident: to avoid the use of soap or other product on the nipple. So, there was a change of the same and the option was to condense it to figure E1, which approached the care that should be taken regarding the breasts, such as the need of wearing comfortable bras which promote a good sustaining of the breast.

Some mothers do not respect the free demand, that is, the permanence of the baby on the breast as long as he wants, making him ingest only the previous milk, a fact that interferes in the gain of weight and in the elaboration of the myth that maternal milk is weak⁽¹⁷⁾. So, confirming the recommendations of the judges, the option was to make alterations in the figure and caption A7 in order to make them clearer, emphasizing that the child must stay in the same breast until he is satisfied, keeping the free demand.

Figure B2, which was not considered clear by the puerperas, relates the maternal breastfeeding to the consequent growth and proper development of the baby, a fact confirmed by literature, once the children exclusively breastfed in the first six months of life had more chances to present adequate weight and height gain, when compared to the existent standard⁽¹⁸⁾.

For the participant puerperas, in figure B2, the way the baby was represented as happy, strong and healthy was not adequate once there was a star drawn behind the happy face of the child, as a way to emphasize such happiness. However, the women reported that the referred star was similar to a sun, so, they made reference to the figure as sunbathing which is necessary for the baby. So, this figure, in the changing of the manual, was substituted by a happy child playing.

Illustration B3 deals with the protection that the maternal milk gives to the baby, and that is why, it is

many times recognized as a natural vaccine⁽¹⁹⁾. The figure highlighted the face of 'Zé Gotinha' a character created by the Health Department so that the child vaccination campaigns would become more attractive. But the judges suggested that the whole dummy showed be drawn, and this suggestion was accepted by the researcher.

Figure C2, which pictures the mother breastfeeding the baby beside the father, in front of the television, aimed at representing the practicality of breastfeeding, once it does not prevent the mother from performing other activities. But, due to a CVI lower than 0.80, such figure was removed from the manual. However, the paternal role was used, and the father holding his wife breastfeeding the baby was added in figure B4, emphasizing the strengthening of the family link.

The relevance of the participation of the family in incentivizing exclusive breastfeeding is recognized, especially regarding the father, who needs directed strategies in order not to be excluded from the process of maternal breastfeeding and to have more knowledge on the subject, becoming an incentivator of the practice with his wife⁽²⁰⁾.

At last, figure D1, considered not clear for the judges, aimed at highlighting the main mammary complications which may occur due to incorrect hold, such as: rashes, mammary engorgement and mastitis. These complications can happen due to bad technique of breastfeeding, not frequent feeding and in established times, use of baby dummies and food complements, inadequate emptying of the breasts, among others⁽³⁾. So, figure D1 was kept in the readapted manual, but with some modifications suggested by the judges, once, according to them, it was not possible to identify the rash, or the mastitis in the drawing.

CONCLUSION

The development and validation of the Educational Manual for the Promotion of Maternal

Breastfeeding passed by a strict process through evaluation by part of specialized judges and by representatives of the target public (puerperas), satisfying the amplitude of the content regarding breastfeed, in an accessible and attractive language to the women in their pregnancy-puerperal cycle.

Bearing in mind the observations and contributions resulting from the process of validation, some figures and captions were modified in order to make them more effective, even when the CVI had reported that the Educational Manual for the Promotion of Maternal Breastfeeding is valid and, therefore, apt to be applied to the women who are in their pregnancy-puerperal cycle. So, the final version of Educational Manual for the Promotion of Maternal Breastfeeding was composed of thirteen figures and their respective and explicative captions.

It is believed that the use of this manual, both during the prenatal period, as well as during the puerperal period, will make the practice of nursing easier, bearing in mind that it is an illustrated technology able to answer the main doubts which permeates the daily activities of the mothers, promoting maternal breastfeeding. However, it is highlighted that this manual is a strategy that will go through continuous updating facing the scientific progress, therefore, the evaluation of the knowledge of the pregnant women/mothers on maternal breastfeeding before and after the use of this technology is suggested.

ACKNOWLEDGMENTS

To the National Council of Scientific and Technological Development for the financial support and to Laboratory of Communication and Health (LabCom_Saúde), process no. 620117/2008-7.

COLLABORATIONS

Costa PB, Chagas ACMA, Joventino ES, Dodt RCM, Oriá MOB and Ximenes LB contributed equally for the conception of the study, collection of the field data,

analysis, interpretation of the data, writing of the article and final approval of the version to be published.

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