







## Development and validation of an educational booklet for postpartum health and well-being\*

Desenvolvimento e validação de cartilha educativa para saúde e bem-estar no pós-parto

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### Special Call 1 - Maternal and Obstetric Health

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### ABSTRACT

**Objective:** to develop and validate the content and appearance of an educational booklet for the self-care of puerperal women. **Methods:** methodological research, consisting of five phases. In Phase 1, an integrative review and focus group were carried out to select the content. In Phase 2, the illustrations were created. Phase 3 was the development of the first version of the material. In Phase 4, the content was validated by 26 specialists. In Phase 5, fifteen puerperal women validated the appearance of the second version of the booklet. **Results:** content and appearance validities obtained validity indexes of 0.80 and 0.96, respectively; and agreement percentage of 94.75% and 100.0%, respectively. **Conclusion:** adequate indexes of validation of the educational booklet for health and well-being in the postpartum period were obtained.

**Descriptors:** Validation Study; Teaching Materials; Health Education; Self Care; Postpartum Period.

### RESUMO

**Objetivo:** desenvolver e validar o conteúdo e a aparência de cartilha educativa para o autocuidado de puérperas. **Métodos:** pesquisa metodológica, composta por cinco fases. Na Fase 1, realizou-se revisão integrativa e grupo focal para selecionar o conteúdo. Na Fase 2, criaram-se as ilustrações. A Fase 3 constituiu o desenvolvimento da primeira versão do material. Na Fase 4, ocorreu a validação de conteúdo por 26 especialistas. Na Fase 5, quinze puérperas validaram a aparência da segunda versão da cartilha. **Resultados:** as validades de conteúdo e aparência obtiveram índices de validade de 0,80 e 0,96, respectivamente; e porcentagem de concordância de 94,75% e 100,0%, respectivamente. **Conclusão:** obtiveram-se índices adequados de validação da cartilha educativa para saúde e bem-estar no pós-parto.

**Descritores:** Estudo de Validação; Materiais de Ensino; Educação em Saúde; Autocuidado; Período Pós-Parto.

## Introduction

The puerperium comprises up to six weeks after delivery, a time of intense adaptations for women and family, in which many puerperal women may experience fatigue, loss of appetite, nausea, anxiety and depression<sup>(1-2)</sup>, which results in impaired care for themselves and with the baby.

The woman in the postpartum period must have access to qualified assistance from the health team, through clinical, emotional and social support<sup>(2)</sup>, which allows the sharing of anxieties and clarification of doubts, maturity and responses to the demands and needs of health. To expand this care, some knowledge must be discussed with the puerperal woman to conduct and motivate self-care and child care. Self-care consists of actions developed by the puerperal women for the particular promotion of health and well-being. Thus, in order to carry out these self-care activities, a dialogical construction is necessary, which allows the exchange of experiences, in order to offer comprehensive assistance<sup>(3)</sup>.

The educational practice provides these care opportunities, as it prevents complications, promotes health and minimizes insecurities and anxieties, during the postpartum period<sup>(4)</sup>. Facing the demands of care, education can be a significant device, since it enables the socialization of knowledge.

In this context, educational technology can represent an ally, and it is essential that nurses participate in the creation and evaluation of this, in order to provide the empowerment and autonomy of women in self-care activities<sup>(4-6)</sup>. Considering the benefits that technologies can add to the care<sup>(5)</sup>, it should be noted that, globally, the educational actions existing during the postpartum period are limited and, generally, focus on breastfeeding or baby care<sup>(7)</sup>, leaving some self-care needs of puerperal women unnoticed.

From the perspective of contemplating these demands for women's self-care and providing greater autonomy for self-care in the context of motherhood, this study aimed to develop and validate the content and appearance of an educational booklet for the self-care of puerperal women.

## Methods

Methodological study was composed of five phases<sup>(8)</sup>. For Phase 1, an integrative review was carried out, in which 24 scientific articles were contemplated, which allowed us to verify that technologies promote communication, but can hinder the access of low-income women, when they depend on computers and the internet<sup>(4)</sup>.

The Self-Care Theory<sup>(9)</sup> was chosen to guide the theoretical construction of the booklet. From the integrative review<sup>(4)</sup>, including manuals and textbooks on the theme, considering the authors' experience in caring for postpartum women, the initial selection of the booklet's content was carried out.

Subsequently, the selected content was found (since the themes were repeated) in groups of puerperal women and companions, conducted by the researcher doctoral student, in the period of February and March 2015, in the sectors of joint accommodation of a tertiary hospital in Fortaleza, Ceará, Brazil, a reference in maternal and child health. The participants' eligibility criteria were: puerperal women admitted to the referred unit and their companions, during the months of data collection.

No woman refused to participate in the research and all signed the Free and Informed Consent Form. To conduct the focus group, 36 women participated, selected for convenience, until the theoretical saturation of the data was reached, 30 postpartum women and six companions. Small groups (three to five women) were formed, totaling nine meetings, which lasted between 45 and 60 minutes each.

A priori, women were asked about the needs for self-care during the postpartum period, also exposing doubts in this context. Subsequently, the questions were clarified and the mothers evaluated the main contents that should compose the booklet. Each meeting was recorded and transcribed in full. The analysis of the statements was grouped by content similarity<sup>(10)</sup>.

In Phase 2, a graphic designer contributed to the elaboration of the illustrations, through the Pho-

toshop program. This professional received detailed guidelines for making the drawings, prioritizing them to be simple, understandable and correspond well to each content's message. Each illustration produced was sent to the authors for review, reformulation and approval, until the initial version of the technology was obtained.

In Phase 3, between the months of March and June 2015, the educational booklet for postpartum health and well-being (1st version) was developed, diagrammed by the same graphic designer, from the InDesign program. The version had 40 pages, printed on matte coated paper, size A5.

The following contents were organized based on the Self-Care Theory<sup>(9)</sup>: adaptation to motherhood; postpartum hygiene; adequate food and recommended vitamins; breast care and breastfeeding; sexual intercourse after childbirth and reproductive planning; physical activity and postpartum weight loss; rest; support network; postpartum mental health; indicated vaccines; and rights of the puerperal/lactating mother.

In Phase 4, when considering 95% confidence, a minimum of 22 evaluators was estimated, in addition to what was expected as a minimum 80% acceptance rate among the evaluators<sup>(11)</sup>. Among the 89 specialists who were invited, 26 responded to the assessment, all of whom were health professionals from different Brazilian regions, with at least five years of teaching, assistance and/or research experience in maternal and child health. The sampling was of the snowball type.

The content validation took place from June to September 2015. After signing the Free and Informed Consent Form, the participants received the booklet and the adapted assessment instrument<sup>(12)</sup>, with guidelines for proceeding with the validation process.

The Likert scale was used, with a score of 1 to 4 for the evaluation of the instrument items, with the corresponding correspondences: 1 - Inadequate; 2 - Partially adequate; 3 - Adequate; 4 - Totally adequate. Items with scores 1 and 2 were reviewed. Items with scores 3 or 4 were considered valid. The minimum ac-

ceptable Content Validity Index (CVI) was 0.80<sup>(6,13)</sup>.

In relation to the items evaluated in the booklet, the objectives refer to what is expected to be achieved with its use; the structure and presentation include formatting and organization; relevance refers to the significance of applicability<sup>(12)</sup>.

Content validation can guide the development of more effective strategies to prepare and support the target audience, in addition to enabling professionals to establish successful relationships with families, improving the care provided<sup>(14)</sup>.

After content validation, the appearance of the booklet (2nd version) was validated. For Phase 5, the minimum acceptable Semantic Concordance Index (SCI) was 0.80<sup>(6,13)</sup>. This stage was carried out in November 2015, with the participation of 15 literate women, aged over 18 years, who were in the immediate postpartum and hospitalized in the referred unit of Phase 1. Women hospitalized due to abortion or with physical or mental restrictions that would make data collection unfeasible were excluded.

The selection of participants was done by convenience until theoretical data saturation was reached. After signing the Free and Informed Consent Form, demographic, socioeconomic and obstetric data were collected. Then, each woman received the booklet and the assessment instrument. They were asked to indicate whether there was any strange or difficult term that could be replaced by another that was easy to understand.

The research was conducted in accordance with the required ethical precepts, obtaining approval by the Research Ethics Committee of Universidade Estadual do Ceará, according to opinion No. 939,661/2015 and Presentation Certificate for Ethical Appreciation No. 38826214.9.0000.5534, and by the Committee of Ethics in Research at Maternidade Escola Assis Chateaubriand, under opinion No. 957,020/2015 and Certificate of Presentation for Ethical Appreciation No. 38826214.9.3001.5050.

After content and appearance validation, the latest version of the educational booklet for health and well-being in the postpartum period (3rd version)

was duly registered by the National Library Foundation, under Registration Certificate No. 742,320/2017.

## Results

The groups of puerperal women and companions made it possible to know the women's self-care demands related to body hygiene, adequate nutrition, breast care, sexual intercourse and reproductive planning, physical exercise and postpartum weight loss, rest, mental health and puerperal consultations, reaffirming those reviewed in the literature; and new needs emerged, such as care for the surgical incision in the cesarean section or the suture/episiorrhaphy in normal delivery, use of a postpartum brace, advantages of breastfeeding for the mother, division of domestic tasks, support network for women, who were added to the booklet.

Altogether, 30 puerperal women between 13

and 40 years old and six companions (women with the experience of motherhood and family members of the puerperal women) participated. Among the 30 puerperal women, seven were primiparous, 18 were in the normal postpartum period and 12, in the postoperative period, by cesarean section; 26 were with the newborn in rooming-in, while two babies were in neonatal intensive care and one in a medium-risk nursery; one died a few hours after delivery.

The group of 26 specialists who validated the contents of the booklet in a single evaluation was mostly composed of nurses (96.1%), doctors (88.5%) and teachers (88.5%). Their scientific productions mainly involved the following themes: women's health (33.3%), health education (27.5%), validation studies (17.4%), postpartum period (14.5%) and self-care (7.2%). In total, the group of experts evaluated 33 items in the booklet, which after calculating the global CVI = 0.80 was considered valid (Table 1).

**Table 1** – Evaluation of specialists. Fortaleza, CE, Brazil, 2020

Items	Instrument domains	*CI 95%	†CVI	p of the Binomial test
	<b>Clarity, understanding and association with self-care</b>		0.70	
1	Postpartum: what is it?	(2.88 – 3.46)	0.77	0.423
2	Hygiene is key	(2.54 – 3.12)	0.62	0.023
3	Adequate food	(2.73 – 3.50)	0.73	0.253
4	Breast care and breastfeeding	(2.31 – 2.92)	0.58	0.008
5	When can the couple have sex again?	(2.31 – 3.08)	0.50	0.001
6	Rest	(3.15 – 3.69)	0.85	0.383
7	Physical exercise and weight loss	(2.50 – 3.27)	0.42	0.000
8	Take care of the mind	(3.19 – 3.69)	0.88	0.207
9	Vitamins and vaccines	(2.88 – 3.50)	0.81	0.000
10	Women rights	(2.65 – 3.38)	0.58	0.008
11	Family help	(3.23 – 3.81)	0.88	0.207
	<b>Goals</b>		0.85	
12	Relevant information for postpartum self-care	(3.19 – 3.69)	0.88	0.207
13	Consistent with the needs of the puerperal woman	(3.08 – 3.62)	0.88	0.207
14	Can circulate in the postpartum care services	(2.92 – 3.58)	0.77	0.423
15	Can be used during the nursing consultation to the puerperal woman	(3.15 – 3.65)	0.88	0.207
16	Can be taken home and consulted by the puerperal woman	(3.19 – 3.73)	0.88	0.207
	<b>Structure and presentation</b>		0.78	
17	Serves as a resource for guidance to the puerperal woman during the consultation	(3.31 – 3.81)	0.92	0.084
18	Messages presented in a clear and comprehensive manner	(2.69 – 3.31)	0.69	0.131
19	Scientifically correct information	(2.73 – 3.42)	0.62	0.023
20	Logical sequence of content	(2.73 – 3.38)	0.77	0.423
21	Well-structured information, in agreement and spelling	(2.85 – 3.46)	0.77	0.423
22	Coherent cover, back cover and presentation information	(3.04 – 3.69)	0.85	0.383
23	Proper title and topic size	(3.04 – 3.65)	0.85	0.383
24	Appropriate number of pages	(3.00 – 3.50)	0.88	0.207
25	Expressive and sufficient figures	(2.85 – 3.54)	0.77	0.423
26	Illustrations show appropriate traits for puerperal women	(2.81 – 3.50)	0.77	0.423
27	Illustrations needed to understand the content	(2.81 – 3.46)	0.69	0.131
28	Illustrations and texts motivate women to understand the theme	(2.85 – 3.46)	0.77	0.423
	<b>Relevance</b>		0.89	
29	Themes portray key aspects that must be reinforced	(3.35 – 3.85)	0.92	0.084
30	May increase knowledge and practice of self-care by puerperal women	(3.27 – 3.81)	0.88	0.207
31	Addresses contents necessary for consultation with the puerperal woman	(3.42 – 3.85)	0.96	0.023
32	Suitable for women in the postpartum period	(3.04 – 3.65)	0.77	0.423
33	Recommended in the clinical practice of nurses	(3.23 – 3.73)	0.92	0.084
	<b>Global total</b>		0.80	

Adapted assessment instrument<sup>(12)</sup>; \*95% CI: 95% confidence interval; †CVI: Content Validity Index

The four domains of the instrument obtained a global CVI equal to or greater than 0.70, and the domains clarity, understanding and association with self-care and structure and presentation showed items with CVI lower than 0.70 (items 2, 4, 5, 6, 7, 10, 18, 19 and 27), which were revised, according to the evaluators' suggestions or most recent scientific evidence on the subject. The degree of agreement between the experts was 94.75%. Items below 0.80 in all domains were also revised and changed in order to make the instrument clearer and robust.

It is noteworthy that in the domain structure and presentation, the evaluators were almost unanimous in affirming that the booklet is a resource for guidance to women in the puerperium (CVI = 0.92), being also adequate in relation to the page number (CVI = 0.88), title and topic size (CVI = 0.85) and consistent in the information on the cover, back cover and presentation (CVI = 0.85).

The evaluators endorsed the relevance (CVI = 0.89) of the booklet and agreed that the contents are necessary for discussion in the puerperal consultation (CVI = 0.96), and should be reinforced (CVI = 0.92). In addition, it was recommended in the clinical practice of nurses (CVI = 0.92), which could enhance the knowledge and practice of self-care by women (CVI = 0.88).

Regarding the participants who validated the appearance of the booklet, a young profile was revealed, with ages varying from 18 to 39 years old, with women aged 18 to 24 years old (60.0%), which, in a way, was expected, since they are within the female reproductive period. Although women had eight to 12 years of study (80.0%), the majority (66.6%) did not engage in paid work and 93.3% received support from family and friends and 80.0% had help to perform household chores. When asked if they received an incentive to exercise self-care, 73.3% said yes.

The degree of agreement between the target audience was 100% and the global SCI = 0.96. This appearance evaluation phase proved that the booklet has adequate vocabulary and illustrations that are easy to understand for the target audience.

## Discussion

Among the limitations of this study, the need to evaluate the effects of the booklet as teaching material on self-care in the postpartum period is highlighted, understanding the importance of clinical validation of the technology, in addition to reduced dissemination and accessibility, due to the lack of sufficient financial resources for large-scale reproduction of the technology. It is also recommended to adapt and translate the booklet, in order to include women with visual impairments, and to create new devices for women with no education.

Another limitation, due to the non-acceptance of the invitation, was that it was not evaluated by people in the communication area or specialists in graphic design, as recommended in validation studies<sup>(15-16)</sup>.

It is believed that the material produced and validated favors the self-care of postpartum women and strengthens health education in the clinical practice of nurses. In this way, the use of the booklet, during the interaction between the nurse and the puerperal woman, corroborates the actions guided by the Theory of Self-care for nurses, highlighting the aid to the puerperal woman, in the performance of self-care activities; support and motivation for self-care; guidelines for well-being in the period; and instructions during adaptations to roles, in this case, the maternal role<sup>(9)</sup>. The overall value of the CVI obtained a good evaluation of the material, when compared to the global CVI of other educational booklets<sup>(15-20)</sup>.

Although they reach a satisfactory global CVI, it is important that suggestions for relevant changes to improve the booklets are added, until the final version of qualified educational materials<sup>(18-20)</sup> is obtained, a conduct also followed in this study.

About the structure and presentation of the educational booklet, it was elaborated in 11 topics, this division allows presenting the contents dynamically; and the illustrations attract reading and help to understand the text, complementing the guidance provided verbally. The images depict the experiences

closest to women to understand reality<sup>(16,19)</sup>.

Regarding relevance, the printed resource can promote health, as it encourages self-care, through written guidelines, mainly due to the availability to be consulted, whenever necessary<sup>(17)</sup>.

In addition, it was possible to carry out the validation both with the group of specialists and with the group belonging to the target audience. Content validation makes it possible to gather expert recommendations. In addition, it is necessary to validate the appearance with the target audience for additions and complete understanding of the material<sup>(15-19)</sup>. Not validating with the target audience is considered a limitation in validation studies<sup>(20)</sup>.

In this context, the booklet is an instrument that favors education, improves the quality of life and arouses interest for self-care<sup>(15,17-18,20)</sup>. Thus, it is suggested the educational booklet for health and well-being in the postpartum period as teaching material, during the nursing consultation to the puerperal woman, to provide the dialogue between the professional and the woman, promote self-care and health education, in the context of motherhood.

## Conclusion

The objective proposed by the study was achieved through the development and validation of the educational booklet for health and well-being in the postpartum period, with the contribution of specialists and the target audience. The results of the evaluation phase showed that the booklet achieved adequate validation indexes for the educational purpose.

## Collaborations

Barbosa EMG contributed to the conception and writing of the manuscript, analysis and interpretation of data, relevant critical review of the intellectual content and final approval of the version to be

published. Dantas SLC, Rodrigues DP, Moreira TMM, Queiroz MVO and Oriá MOB contributed to the conception and writing of the manuscript, relevant critical review of the intellectual content and final approval of the version to be published.

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