

Development of an educational booklet on anxiety and depression in the puerperium



Desenvolvimento de cartilha educativa sobre ansiedade e depressão no puerpério

Desarrollo de un folleto educativo sobre ansiedad y depresión en el posparto

Kelvin Leandro Marques Monçalves^a

Cláudia Zamberlan^a

Silvana Cruz da Silva^a

Angélica Maria Ospina Romero^b

Michelle Pimentel Magalhães^a

Luísa Mendonça de Souza Pinheiro^a

Keity Laís Siepmann Soccol^a

How to cite this article:

Monçalves KLM, Zamberlan C, Silva SC, Ospina-Romero AM, Magalhães MP, Pinheiro LMS, et al. Development of an educational booklet on anxiety and depression in the puerperium. Rev Gaúcha Enferm. 2025;45:e20240390. <https://doi.org/10.1590/1983-1447.2025.20240390.en>

ABSTRACT

Objective: To describe the development of an educational booklet on anxiety and depression in the puerperium.

Method: This is a technological development study that resulted in a booklet. The booklet was developed in three stages: preparation of an integrative review study, preparation of the booklet, and evaluation with the target audience. Pregnant women in the third trimester of pregnancy undergoing prenatal care in Primary Health Care in a city in Rio Grande do Sul were included in the evaluation.

Results: The booklet was prepared in printed and digital formats and its content addresses topics such as anxiety and depression in the postpartum period, using clear language and attractive illustrations. The booklet was evaluated by 43 women and considered adequate in terms of its objective, content, language, illustrations and ease of comprehension, with a Content Validity Index of 1.0 for all items.

Conclusion: The booklet evaluated with the target audience demonstrated acceptability and potential for use. And, as it is a practical and accessible educational technology, it contributes to maternal and child health care practices.

Descriptors: Maternal and Child Health; Educational technology; Postpartum Period; Anxiety; Postpartum Depression.

RESUMO

Objetivo: Descrever o desenvolvimento de uma cartilha educativa sobre ansiedade e depressão no puerpério.

Método: Trata-se de um estudo do tipo desenvolvimento tecnológico que teve como produto uma cartilha. A cartilha foi desenvolvida a partir de três etapas: elaboração de um estudo de revisão integrativa, elaboração da cartilha e avaliação com público-alvo. Foram incluídas para a avaliação gestantes no terceiro trimestre gestacional em acompanhamento de pré-natal na Atenção Primária à Saúde em um município do Rio Grande do Sul.

Resultados: A cartilha foi elaborada em formato impresso e digital e seu conteúdo aborda tópicos como ansiedade e depressão no puerpério, utilizando linguagem clara e ilustrações atrativas. A cartilha foi avaliada qualitativamente por 43 mulheres, e considerada adequada quanto ao objetivo, conteúdo, linguagem, ilustrações e compreensão, com um Índice de Validade de Conteúdo de 1,0 para todos os itens.

Conclusão: A cartilha avaliada junto ao público-alvo demonstrou aceitabilidade e potencial de uso. E, por ser uma tecnologia educacional prática e acessível contribui para as práticas de cuidados em saúde materno-infantil.

Descritores: Saúde Materno-Infantil; Tecnologia educacional; Período pós-parto; Ansiedade; Depressão pós-parto.

RESUMEN

Objetivo: Describir el desarrollo de un folleto educativo sobre ansiedad y depresión en el posparto.

Método: Se trata de un estudio de tipo desarrollo tecnológico que produjo un folleto. Se lo elaboró en tres etapas: preparación de un estudio de revisión integradora, preparación del folleto, y evaluación con el público objetivo. Se incluyeron en la evaluación gestantes en el tercer trimestre de gestación en atención prenatal en la Atención Primaria de Salud de un municipio de Rio Grande do Sul.

^a Universidade Franciscana. Programa de Pós-Graduação em Saúde Materno Infantil. Santa Maria, Rio Grande do Sul, Brasil

^b Universidad de La Sabana. Facultad de Enfermería y Rehabilitación. Chía, Cundinamarca, Colombia

Resultados: El folleto fue producido en formato impreso y digital y su contenido aborda temas como la ansiedad y la depresión en el posparto, utilizando un lenguaje claro e ilustraciones atractivas. El folleto fue evaluado por 43 mujeres y considerado adecuado con respecto a su objetivo, contenido, lenguaje, ilustraciones y comprensión, con un Índice de Validez de Contenido de 1,0 para todos los ítems.

Conclusión: El folleto evaluado con el público objetivo demostró aceptabilidad y potencial de uso. Como es una tecnología educativa práctica y accesible, contribuye a las prácticas de atención de la salud materno-infantil.

Descriptores: Salud materno-infantil; Tecnología educacional; Período pós-parto; Ansiedad; Depresión posparto.

■ INTRODUCTION

During the pre- and postpartum periods of a woman's life, the risk of developing certain types of mental disorders grows. Pregnancy and motherhood lead to significant changes in several aspects of a woman's life, such as their social activities, leisure, and work. These changes, coupled with the need to adapt to the new roles that maternity demands, can lead to psychological instability⁽¹⁾.

In the puerperium, several physical, hormonal, and psychological changes take place, which may be considered physiological or even pathological, depending on their intensity and on the way these changes interfere in a woman's life and health. The woman also takes on the task of "mothering", which involves activities essential for the healthy development of the child. This task can be a predictive factor for the emergence of anxiety, baby blues, or postpartum depression (PPD)⁽²⁾.

Stressful events in the perinatal and postnatal periods can trigger the manifestation of PPD symptoms. This psychiatric disorder has a series of negative impact on women and newborns, and interferes in interpersonal relationships with short-, medium-, and long-term consequences. Depression has a negative effect on breastfeeding, on the ability of a mother to respond to the demands of care, and on their ability to engage with the baby affectively⁽³⁾.

In Brazil, prenatal care has a crucial role not only in physical health, but also in the mental health of pregnant women. The perinatal is a sensitive, transformative stage, marked by anxiety, which is why these questions must be better explored in this period. The prevalence of the risk of depression in pregnancy is high, showing the need for planning, prioritizing, and integrating mental health into the prenatal in health services⁽⁴⁾.

The way in which care is provided to women may have profound impacts on their emotional wellbeing during pregnancy and the postpartum period. Pregnant women who are appropriately monitored during the prenatal tend to show better health indicators and outcomes during delivery and in the postpartum period. Thus, continuous quality care is a promising indicator for mother-child health⁽⁵⁾.

If the care provided in pre and postnatal periods is to have quality, health workers must have a collaborative approach, using participative methodologies that prepare and encourage pregnant and postpartum women to be the protagonists of this process⁽⁶⁾. Developing and using booklets helps them occupy this role as main actors, and health education can change the context of life of people. This is why they are important allies in the creation and dissemination of clear, objective, and safe orientation⁽⁷⁾.

Research has shown the need to develop further research that dive deeper in to mental health in the puerperium, in addition to the creation of strategies that can support mental health in this period⁽⁸⁻¹⁰⁾. Developing educational technologies focused on this postpartum period is an important strategy that can contribute to mother-child health. As a result, the goal of this study was to describe the development of an educational booklet about anxiety and depression in the puerperium.

■ METHOD

Technological development study, elaborated in three stages developed from July to October 2024: an integrative revision study; elaboration of the booklet; and evaluation of the booklet with its target audience. The study was developed in Primary Health Care services in a city in the state of Rio Grande do Sul. The booklet

was created with the participation of a nurse (master's degree student), two professors from the course of nursing, and a graphic designer.

The booklet was developed in the three stages shown in Figure 1. The stages are described in detail, according to the sequence in which they were carried out.

Stage 1: Integrative review

An integrative review was carried out as the theoretical foundation of the booklet. The review was carried out in the following databases and libraries: Latin American and Caribbean Health Sciences Literature (LILACS), Online Medical Literature Search and Analysis System (MEDLINE), the Nursing Database (BDENF), and *SciVerge Scopus*. The searches and studies selected went through critical reading and were analyzed by two independent reviewers, so useful information could be extracted from them to be inserted into the chart. Then, the main topics were determined.

We selected all articles that fit the following inclusion criteria: original articles; article subjects compatible with the topic mental health during the puerperium; in Portuguese, English, or Spanish; fully available at no cost; and published from 2018 to 2023. The following descriptors/MeSH terms were used: *saúde da mulher* (*women's health*), *depressão* (*depression*), *ansiedade* (*anxiety*), e *período pós-parto* (*postpartum period*).

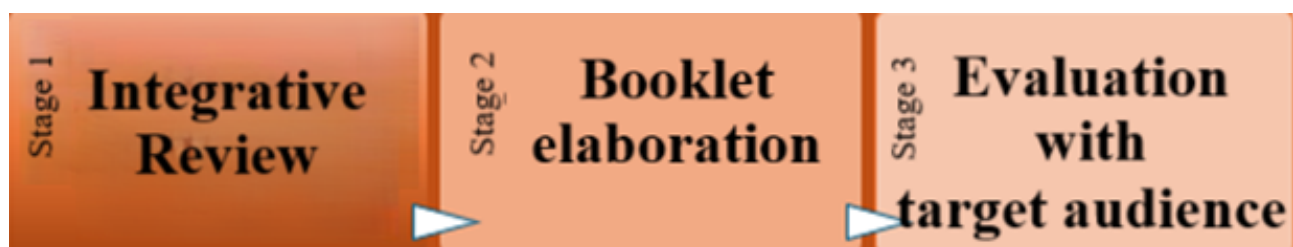
Descriptors were grouped using the Boolean operator AND. We found 33 articles, 29 in MEDLINE, 3 in LILACS, and one in BDENF. A search carried out in SciVerge, using "Female; Human" as the main topics, found 11 articles. Thus, 44 articles were analyzed, and 13 were used as the theoretical foundation for the booklet.

The 13 articles that formed the research *corpus* are in Chart 1, including their bibliographic reference information, year and country of publication, and their objective.

Eight of the thirteen articles included had been published in international journals, while five were from Brazilian ones. Their year of publication varied from 2018 to 2023. The year with the greatest number of publications was 2021 ($n=4$), followed by 2018 and 2022, respectively ($n=3$). 2019, 2020, and 2023 presented one study each ($n=1$). Regarding the country of publication, four studies were Brazilian, two were from the United States and two from Canada, while England, India, Denmark, China, and the United Kingdom presented one study each.

Regarding the analysis of the content of the articles selected, studies mainly addressed symptoms of anxiety and depression, as well as their risk factors, during the perinatal period^(11–12,19,20,22), the prevalence and diagnosis of mental disorder^(11–13,17,19–20,22–23), and the impact of the COVID-19 pandemic on perinatal mental health^(14–16,18,21).

Figure 1. Stages of the development of the booklet. Santa Maria/RS, 2024.



Source: the authors, 2024.

Chart 1. Articles included in the analysis *corpus*. Santa Maria/RS, 2024.

ID/Reference	Year/Country of publication	Objective
A1 ⁽¹¹⁾	2018/the United States	To present information about the prevalence, adverse effects, differential diagnoses, and risk factors of perinatal anxiety disturbances.
A2 ⁽¹²⁾	2018/Canada	To investigate the predictive unit of several measures in regard to depressive postpartum symptoms in recent immigrants, not-so-recent immigrants, and women born in Canada.
A3 ⁽¹³⁾	2022/England	To explore the proportion and characteristics of women with mental disorders that hire mental health services during pregnancy and the postnatal period in a maternity in London.
A4 ⁽¹⁴⁾	2020/India	To understand the nature of the concerns about COVID-19 that pregnant and postpartum women expressed to their obstetricians.
A5 ⁽¹⁵⁾	2021/the United States	To analyze the effects of the COVID-19 pandemic on the stress level of perinatal women in the United States and to explore ways to improve their access to mental health services.
A6 ⁽¹⁶⁾	2022/Denmark	To investigate the symptoms of anxiety and depression in a population of pregnant women and new mothers in several stages of dealing with the pressures of the infection and the blockages during the first 15 months of COVID-19 in Denmark.
A7 ⁽¹⁷⁾	2019/China	To examine the effects of Cognitive Behavioral Training (CBT) using a phone application over postpartum depression, anxiety, pressure, and the sense of parental competence in postpartum women in China.
A8 ⁽¹⁸⁾	2021/Brazil	To evaluate depressive and anxiety symptoms in postpartum women during the COVID-19 pandemic in Brazil.
A9 ⁽¹⁹⁾	2018/Canada	To identify subgroups of women who presented with different patterns in their trajectory of depressive and anxiety disorders, from pregnancy to the early postpartum period.

Chart 1. Cont.

ID/Reference	Year/Country of publication	Objective
A10 ⁽²⁰⁾	2022/Brazil	To examine the differences in clinically significant depression, anxiety, and comorbidity symptoms in pregnant and postpartum women from various countries, and to compare the prevalence of depression and perinatal anxiety before and after the pandemic in each country.
A11 ⁽²¹⁾	2022/United Kingdom	To analyze the role of government responses to the coronavirus outbreak, as measured by the Containment and Health Index (CHI) on the symptoms of anxiety and depression during pregnancy and in the postpartum period, considering the Inequality-adjusted Human Development Index (IHDI) from these countries and factors such as age and pregnancies before exposure to COVID-19.
A12 ⁽²²⁾	2023/Brazil	To verify the prevalence of anxiety and depression disorders and their associated factors in the puerperium of postpartum women in the city of Ponta Grossa, Paraná.
A13 ⁽²³⁾	2021/Brazil	To evaluate the risk of suicide in women who go through depressive or mixed mood change episodes in the postpartum period, and to ascertain which disorder is more related to the risk of suicide in this period.

Source: The authors, 2024.

Stage 2: Booklet elaboration

The booklet was elaborated with the support of a graphic design student hired by the researcher in order to produce the illustrations and format the texts of the booklet. A PDF file with all the contents of the didactic materials was sent to him, and he formatted and structured the document according to our requests.

The contents of the booklet were structured according to the practical experiences in the group of pregnant women, scientific literature, and the demands observed during prenatal consultations on mental health, anxiety, and postpartum depression. Each woman experiences this period in a different way;

as a result, the educational materials were structured in a didactic way, being divided in the following items:

Discovering puerperium: in which there is information on what the puerperium is and its stages; emotional support, so the mothers understand that this is a temporary period, including changes in their role and all other changes that this can provoke.

Changes and alterations during the puerperium: information related to physical and psychic changes that can take place from the perinatal to the postnatal periods. From physical to psychosocial issues.

Puerperium and sexuality: explains why libido is low in this period and the relevance of having a dialog with one's partner.

Anxiety and breastfeeding: explains why so many pregnant and postpartum women get so anxious with breastfeeding and provides information on how to relieve any difficulties in case the mother cannot breastfeed.

The woman gets more vulnerable: a moment of readaptation, be it metabolic, physical, mental, or social, and what these changes can cause.

Anxiety and baby blues: explanation of what the baby blues is, its signs and symptoms, and what the mother can do if they feel these symptoms.

Postpartum depression: explanation of postpartum depression, its signs and symptoms, what the mother can do if they feel these symptoms, and the importance of having a support network.

Coping strategies: recommendation of simple activities the women can carry out to reconnect with herself.

Know where to search for help: in case they feel any symptom of anxiety, baby blues, or postpartum depression, so they can request professional support.

Figure 2 shows some pages of the booklet about the changes that take place starting with the birth of the baby, as well as some of the health care actions necessary.

The colors, in shades of beige, were chosen so the booklet would create a calming and embracing visual environment, helping reduce visual strain and fatigue during reading and giving an organic aesthetic that makes the material feel more personal and less commercial. The illustration technique used, called Line Art, was adopted in the material as a whole, in an attempt to create a continuous visual narrative that symbolizes the journey of motherhood as an interconnected flow. Each illustration portrays significant moments and common feelings during this period. The illustrations were thought out to show lines “disappearing” in a page and reappearing in the next, symbolizing the continuity of the experience of the mother and the connection between the different women that go through the same period, showing a connection with mothers.

Stage 3: Target audience evaluation

For the evaluation of the target audience, we used an instrument composed of a Likert scale with 10

questions, organized as follows: four questions about the content, three about the language, two about the illustrations, and one about how easy it was to understand. The responses for each question were categorized as positive (adequate/totally adequate) or negative (partially adequate/inadequate). The possible answers for the questions in the four-point Likert scale were: (1), inadequate; (2), partially adequate; (3), adequate; and (4) totally adequate. At first, we invited pregnant women who were waiting for prenatal consultations or pregnant women groups. After they accepted, we gave them the booklet and the evaluation instrument, which contained the Likert scale and sociodemographic questions. The questionnaire was self-applicable, and they responded to it in a room of the health service where they were.

We chose to evaluate the booklet only with the target audience, focusing on their acceptance and understanding of the materials, since the product will only be used by this audience. Therefore, this is not a classical validation of the material, conducted with expert judges.

Data organization and analysis

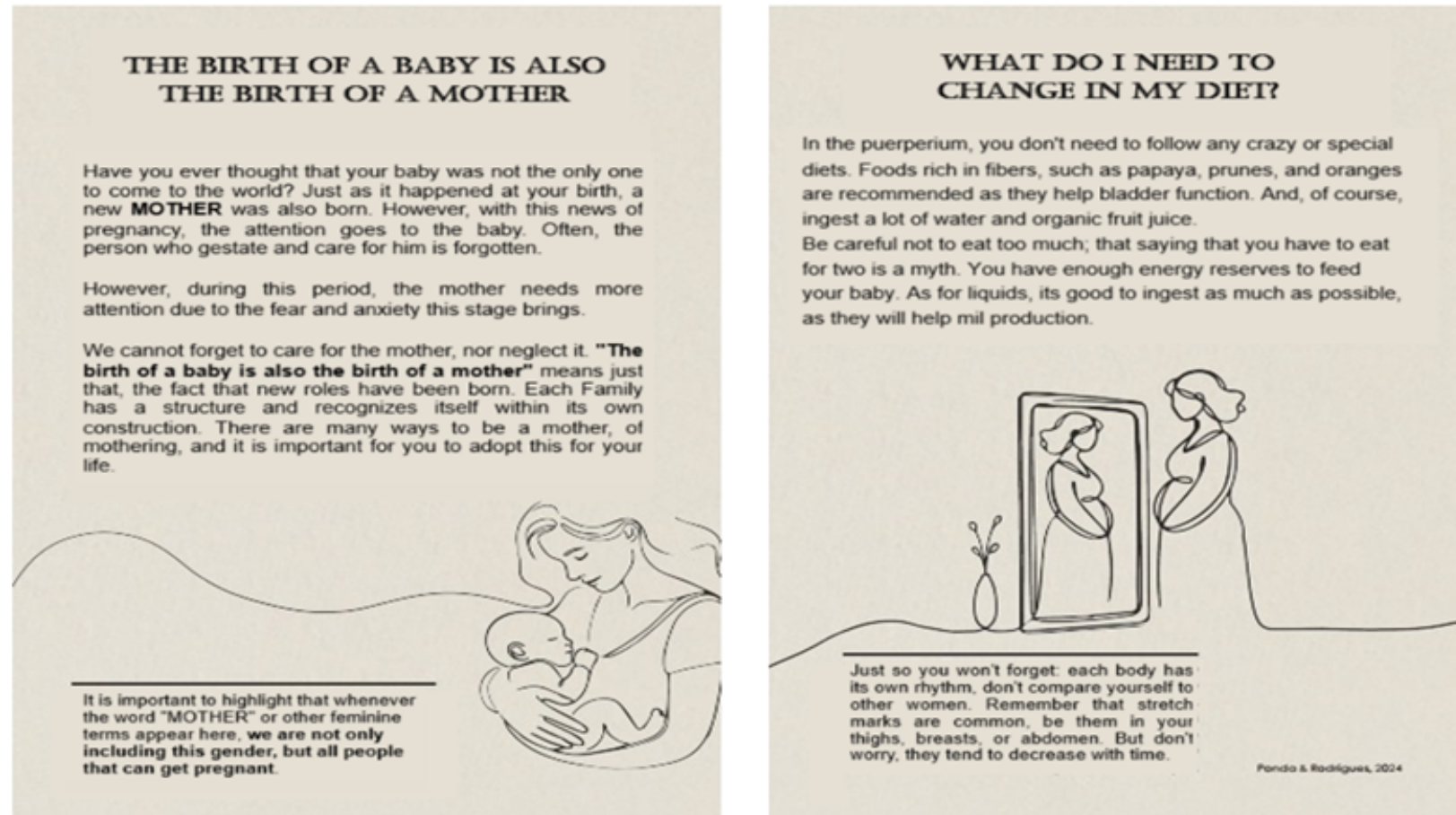
To analyze the responses to the Likert scale, we used a descriptive and quantitative analysis, adding up all the items marked as 3 or 4 by the audience and considering the result as the number of adequate and totally adequate items. The items who received a response of 1 or 2 were reorganized and submitted to a new descriptive evaluation by the target audience.

Data was input into a Microsoft Excel® spreadsheet and later analyzed using simple descriptive statistics.

Ethical aspects

This research was approved by the Research Ethics Committee of the institution, on May 28, 2024, receiving the Certificate of Submission to Ethical Appraisal 79228924.1.0000.5306, and opinion No. 6.854.806. This research complied with all requirements from Resolution 466/2012, from the National Council of Health of the Ministry of Health. It is worth highlighting that all participants signed an informed consent form.

Figure 2 – Pages of the booklet. Santa Maria/RS, 2024.



*The font had to be changed in the translation process.
Source: the authors, 2024.

■ RESULTS

The booklet was evaluated by 43 pregnant women. 21 of them were brown, 15 white, and 7 black, and their mean age was 28. 17 (39.53%) were primiparous, while 26 (60.47%) were multiparous. As for their educational level, 13 (30.23%) had finished elementary school, 6 (13.95%) had incomplete elementary school, 9 (20.93%) had complete high school, 8 (18.60%) had incomplete high school, 4 (9.30%) had complete higher education, and 3 (6.98%) had incomplete higher education. As for their relationships, 28 (65.12%) had only one partner, 9 (20.93%) were in stable relationships, and 6 (13.95%) were single.

During the evaluation of the objectives and contents of the booklet, the item “objective of the didactic material” was considered totally adequate in 43 responses (100%), reaching a CVI of 1.0. Data is presented in Table 1.

Participants also evaluated the language, clarity, and size of the text. 39 (90.7%) responded that the language is totally adequate for the target audience, while 4 (9.3%) responded that it is adequate for the

target audience. As for vocabulary, 35 (81.4%) responded it was totally adequate, and 8 (18.6%) stated it was adequate. As for text size, 38 (88.4%) responded it was totally adequate, and 5 (11.6%) that it was adequate. No item was considered irrelevant or partially relevant. The results of the evaluation of the language of the booklet are in Table 2.

Regarding the illustrations of the booklet, 41 (95%) believed the cover was totally adequate for the context, while 2 (5%) responded that it was adequate. As for the internal illustrations, 38 (89%) responded “totally adequate” in regard to the question about whether illustrations are attractive, and 5 (11%) responded “adequate” in this regard, as Table 3 shows.

As for the ease of understanding of the booklet, 41 (95%) responded it was totally adequate, while 2 (5%) responded it was adequate, resulting in a CVI of 1.0, as Table 4 shows.

The educational product developed is open to public access, and is available at: <http://www.ufn.edu.br/Arquivos/vue/Portfolio/a42d5374-983f-4131-b7f0-6d209cbcac6f.pdf>

Table 1. Target audience evaluation of objectives and content.

Objectives/content	Adequate	Totally adequate
Are the goals of the content evident?	0	43
Is the content easy to understand for the age group?	7	36
Does the booklet provide important information about anxiety and depression on the puerperium?	0	43
In general, are the contents of the booklet appropriate?	4	39

Source: The authors, 2024.

Table 2. Evaluation of the language by the target audience. Santa Maria, Rio Grande do Sul, Brazil, 2024.

Illustration	Adequate	Totally adequate
<i>Is the cover in accordance with the context?</i>	2	41
<i>Are the illustrations attractive?</i>	5	38

Source: The authors, 2024.

Table 3. Evaluation of the illustrations by the target audience.

Language	Adequate	Totally adequate
Is the language appropriate for the target audience?	4	39
Is the vocabulary used adequate?	8	35
Is the text size adequate?	5	38

Source: The authors, 2024.

Table 4. Evaluation of the target audience regarding ease of understanding.

Ease of understanding	Adequate	Totally adequate
Is the subject of the booklet adequate to trigger the interest of the target audience?	2	41

Source: the authors, 2024.

■ DISCUSSION

The booklet was based on specialized literature and evaluated with the target audience, receiving a good evaluation of its content and being well accepted. This shows that the information provided about anxiety and depression in the puerperium, using this educational technology, is relevant and contributes to education in health. It also favors a calmer pregnancy and a healthier puerperium⁽²⁴⁾.

Educational technologies are more than simple educational tools as, by promoting autonomy and care, they help the integral development of people. They encourage an active search for knowledge, bringing people into care processes in a more significant way⁽²⁵⁾. To ensure that educational actions are effective, we must ensure that they respond to the specific needs of each woman, seeing as an individual. This personalized approach increases one's capacity for self-analysis and trust, giving increasing their autonomy and calm in the pregnancy-puerperium period⁽²⁶⁾.

The body of a woman goes through significant changes to receive a new being, which triggers many hormonal and psychological changes. This unique journey is a roller coaster of feelings, which vary from the happiness of pregnancy to the anxiety for the unknown and the insecurity caused by so many changes⁽²⁷⁾.

Research suggested that the third trimester of a pregnancy is particularly intense, with emotions that are often ambivalent. Fear, anxiety, and insecurity are common feelings that can have a significant impact on the wellbeing of the pregnant woman. Thus, multi- or interdisciplinary follow up is essential, as it includes physical, emotional, and social aspects in this stage. A well-prepared team can provide clear information, clarify doubts, and help the pregnant woman deal with this period in a safer and calmer way⁽²⁸⁾.

Not only is anxiety the disorder that affects pregnant and postpartum women the most, PPD is also a relevant concern. PPD is one of the most common psychic events in the puerperium, causing intense emotional instability, lack of trust, feelings of incapacity, anhedonia, and, in worse cases, suicidal ideation⁽²⁹⁾.

There are many reasons for the emergence of some degree of anxiety or PPD. Although emotional aspects are fundamental, literature also emphasizes the relevance of social determinants. Women in negative social contexts, with low educational levels and income, no emotional support from partners, and those who are going through unplanned pregnancy, domestic violence, fetal demise, or grief, are more susceptible to challenges such as anxiety, which may affect their expectations regarding motherhood⁽³⁰⁾. In this setting, providing appropriate and accessible information is essential to reduce the impact of these risk factors.

The booklet addresses coping strategies for women to be able to experience a calm puerperium, recognizing signs and symptoms of anxiety, baby blues, and PPD, and facilitating their access to information. Nonetheless, limited access to health services, social stigma, the lack of resources, and underdiagnosis are still significant barriers. To overcome these, it is essential to implement low-cost and easily available interventions, such as booklets, informational materials, and support groups, in addition to a gradual return to daily activities and mental health education programs, all of which are essential to manage and prevent PPD and promote woman wellbeing⁽³¹⁾.

It is important to submit educational technologies to validation by judges or specialists, or to the evaluation of their target audience, which assesses each item, verifying whether it appropriately represents their domain of interest. The evaluation process seeks to ensure the quality of the booklet for the target audience, focusing on how clear and precise its information is. Thus, the women who participated in the study agreed that this educational technology has an application in the promotion of a healthy puerperium. In this study, the participants evaluated the booklet in four main aspects: content, language, illustrations, and ease of understanding. All items were considered relevant, and there were no suggestions for changes.

The evaluation of an educational technology with its target audience is recommended, as it allows researchers to identify gaps, understanding difficulties, and discrepancies between what was written and what was understood. This is especially important considering the different levels of health literacy in the audience. Moreover, the organized and attractive presentation of content helps with efficient readability, as long as there is coherence between the information provided and that perceived as relevant and interesting by the participants⁽³²⁾.

A well-elaborated educational booklet is a valuable information resource in health education strategies, especially in PHC, as it helps understanding, it is easy to access, and reiterates the information provided verbally by the health team. The benefits of in-print materials include the fact that the woman can take them with her, allowing her to clarify doubts that may emerge and functioning as support to the guidance received during prenatal and puerperium consultations. For this resource to be effective, professionals must pay close attention to issues related to health literacy, ensuring that guidance is coherent with reality and the needs of each pregnant or postpartum woman.

The main limitation of this study was the fact that the booklet was not validated by judges, which compromises the formal validity of the content for its application in broader clinical contexts. The evaluation was focused only on its acceptance by the target audience, although it did have a good evaluation and was well-accepted by the target audience, confirming its relevance.

■ FINAL CONSIDERATIONS

This study aimed to describe the development of an educational booklet about anxiety and depression in the puerperium, to provide a practical and accessible educational technology for pregnant and postpartum women. The results found show that it was well evaluated by participants in regard to its content, language, and organization.

The technological product generated here addressed the importance of identifying signs and symptoms earlier, accessing treatment, and strengthening family bonds. Thus, further research is essential to evaluate the impact of the booklet in the long term, and to adapt the material to different cultural contexts. The need for specialist validation in future studies also stands out.

We believe that disseminating and replicating the booklet, training professionals to recognize signs and symptoms, considering the importance of mental health in the period, and implementing public policies that prioritize women mental health in the perinatal and postnatal periods are essential to ensure mother and child wellbeing.

Contributions of this study include the fact that the booklet can contribute to education in health, given that it provides important information about mental health and the changes that take place in the period, improving the bond with users and promoting mother-child health. By using this tool, nurses can perform an essential role in the early identification, prevention, and treatment of psychiatric disorders during the puerperium, promoting the health and wellbeing of the mother-baby dyad and their families.

■ REFERENCES

1. Poles MM, Carvalhaes MABL, Parada CM. Maternal depressive symptoms during immediate postpartum: associated factors. *Acta Paul Enferm.* 2018;31(4):351-8. <https://doi.org/10.1590/1982-0194201800050>
2. Paiva SM, Carcavalli L, Prado IM, Braga MC, Abreu LG, Serra-Negra JM. Factors associated with the anxiety score of deaf and hearing mothers. *CoDAS.* 2024;36(5):e20230239. <https://doi.org/10.1590/2317-1782/20242023239pt>
3. Muller EV, Martin CM, Borges PKO. Prevalence of anxiety and depression disorder and associated factors during postpartum in puerperal women. *Rev Bras Saúde Mater. Infant.* 2021;21(4):995-1004. <https://doi.org/10.1590/1806-93042021000400003>
4. Silva MMJ, Serrano TBM, Porcel GS, Monteiro BB, Clapis MJ. Riesgo de depresión durante el embarazo en la atención prenatal de riesgo habitual. *Rev Latino-Am Enferm.* 2023;31:e3962. <https://doi.org/10.1590/1518-8345.6463.3963>
5. Kuhnt J, Vollmer S. Antenatal care services and its implications for vital and health outcomes of children: evidence from 193 surveys in 69 low-income and middle-income countries. *BMJ Open.* 2017;7(11):e017122. <https://doi.org/10.1136/bmjopen-2017-017122>
6. Araújo KC, Souza AC, Silva AD, Weis AH. Educational technologies for health approaches to adolescents: an integrative review. *Acta Paul. Enferm.* 2022;35:eAPE003682. <https://doi.org/10.37689/acta-ape/2022AR03683>
7. Backes DS, Rossato GL, Simas LTL, Moraes TB, Pereira AD, Silva SC. Elaboração de cartilha educativa: orientações para gestação, parto e puerpério. *Rev Pesqui Qual.* 2024;12(29):51-77. <https://doi.org/10.33361/RPQ.2024.v.12.n.29.655>
8. Ferrara R, Iovino L, Latina R, Avallone A, Greco E, Montanari Vergallo G, et al. Adolescent mothers and postpartum depression: a possible connection? a scoping review. *Clin Ter.* 2025;176(1):81-90. <https://doi.org/10.7417/CT.2025.5169>
9. Hellyer E, Nash K, Jones E, Sitch A, Jankovic J, Berrisford G, et al. Postnatal depression beyond 12 months: a systematic review and meta-analysis. *Int J Ment Health Nurs.* 2025;34(2):e70018. <https://doi.org/10.1111/inm.70018>
10. Cárdenas EF, Yu E, Jackson M, Humphreys KL, Kujawa A. Associations between maternal birth complications and postpartum depressive symptoms: a systematic narrative review and meta-analysis. *Womens Health.* 2025;21:17455057251320801. <https://doi.org/10.1177/17455057251320801>
11. Williams K, Koleva H. Identification and treatment of peripartum anxiety disorders. *Obstet Gynecol Clin North Am.* 2018;45:469-81. <https://doi.org/10.1016/j.ogc.2018.04.001>
12. King L, Feeley N, Gold I, Hayton B, Zolkowitz P. The healthy migrant effect and predictors of perinatal depression. *Women Birth.* 2019;32(3):e341-e350. <https://doi.org/10.1016/j.wombi.2018.07.017>
13. Lee-Carbon L, Nath S, Trevillion K, Byford S, Howard LM, Challacombe FL, et al. Mental health service use among pregnant and early postpartum women. *Soc Psychiatry Psychiatr Epidemiol.* 2022;57:2229-40. <https://doi.org/10.1007/s00127-022-02331-w>
14. Nanjundaswamy MH, Shiva L, Desai G, Ganjekar S, Kishore T, Ram U, et al. COVID-19-related anxiety and concerns expressed by pregnant and postpartum women—a survey among obstetricians. *Arch Womens Ment Health.* 2020;23(6):787-790. <https://doi.org/10.1007/s00737-020-01060-w>
15. Osborne LM, Kimmel MC, Surkan PJ. The crisis of perinatal mental health in the age of Covid-19. 2021;25:349-352. <https://doi.org/10.1007/s10995-020-03114-y>
16. Overbeck G, Rasmussen IS, Siersma V, Kragstrup J, Ertmann R, Wilson P. Mental well-being during stages of COVID-19 lockdown among pregnant women and new mothers. *BMC Pregnancy Childbirth.* 2022;22(1):92. <https://doi.org/10.1186/s12884-021-04374-4>

17. Sun M, Tang S, Chen J, Li Y, Bai W, Plummer V, et al. A study of protocol of mobile phone app-based cognitive behaviour training for the prevention of postpartum depression among high-risk mothers. *BMC Public Health*. 2019;19:710. <https://doi.org/10.1186/s12889-019-6941-8>
18. Segamarchi PC, Mateus VL, Osório AAC. Mental health of postpartum women during the COVID-19 pandemic in Brazil. *Psicol Teor Prát*. 2023;25(2):ePTPCP14807. <https://doi.org/10.5935/1980-6906/ePTPCP14807.en>
19. Ahmed A, Feng C, Bowen A, Muhajarine N. Latent trajectory groups of perinatal depressive and anxiety symptoms from pregnancy to early postpartum period and their antenatal risk factors. *Arch Womens Ment Health*. 2018;21(6):689-698. <https://doi.org/10.1007/s00737-018-0845-y>
20. Mateus V, Cruz S, Costa R, Mesquita A, Christoforou A, Wilson CA, et al. Rates of depressive and anxiety symptoms in the perinatal period during the COVID-19 pandemic: comparisons between countries and with pre-pandemic data. *J Affect Disord*. 2022;316:245-53. <https://doi.org/10.1016/j.jad.2022.08.017>
21. Mesquita A, Costa R, Bina R, Cadarso-Suárez C. A cross-country study on the impact of governmental responses to the COVID-19 pandemic on perinatal mental health. *Sci Rep*. 2023;13(1):2805. <https://doi.org/10.1038/s41598-023-29300-w>
22. Muller EV, Martins CM, Borges PKO. Prevalence of anxiety and depression disorder and associating factors during postpartum in puerperal women. *Rev Bras Saude Mater Infant*. 2021;21(4):995-1004. <https://doi.org/10.1590/1806-93042021000400003>
23. Quevedo LA, Scholl CC, Matos MB, Silva RA, Coelho FMC, Pinheiro KAT, et al. Suicide risk and mood disorders in women in the postpartum period: a longitudinal study. *Psychiatr Q*. 2021;92(2):513-22. <https://doi.org/10.1007/s11126-020-09823-5>
24. Freitas BF, Nascimento CS, Machado WS, Silva MS, Costa VH, Lopes WAM, et al. Tecnologia educacional para gestantes vinculadas a estratégia saúde da família: construção e validação. *Rev Foco*. 2024;17(1):e4146. <https://doi.org/10.54751/revistafoco.v17n1-078>
25. Lima ACS, Cabral BG, Capobianco JD, Soares MH, Pieri FM, Kerbaux G. "Educational Material on HIV": validity of health educational technology for people living with HIV. *Rev Bras Enferm*. 2023;76(3):e20220549. <http://doi.org/10.1590/0034-7167-2022-0549>
26. Lutterbach FGC, Serra GMA, Souza TSN. Breastfeeding as a human right: construction of educational material by the voice of women. *Interface*. 2023;27:e220093. <https://doi.org/10.1590/interface.220093>
27. Duarte WBA, Silva EP, Ludermir AB. The effect of common mental disorders on suicidal attempts by women, during pregnancy and six to nine years after birth. *Ciênc Saúde Colet*. 2024;29:e03742023. <https://doi.org/10.1590/1413-81232024292.03742023>
28. Rachita A, Strete GE, Suci LM, Ghiga DV, Salcudean A, Marginean C. Psychological stress perceived by pregnant women in the last trimester of pregnancy. *Int J Environ Res Public Health*. 2022;19(14):8315. <https://doi.org/10.3390/ijerph19148315>
29. Oliveira MG, Teixeira RS, Costa VNM, Alencar PHL, Rodrigues EO, Lima ACMACC, et al. Sentimentos de mulheres com depressão pós-parto frente ao aleitamento materno. *Enferm Foco*. 2019;10(3):88-92. <https://doi.org/10.21675/2357-707X.2019.v10.n3.1702>
30. Rodrigues TC, Leal MEF, Gomes RG, Gomes LP. Aleitamento materno: desafios relatados por mães primíparas nas primeiras 48 horas de amamentação em uma maternidade de Palmas-TO. *Rev Foco*. 2024;17(6):1-17. <https://doi.org/10.54751/revistafoco.v17n6-006>
31. Costa TP, Santos LO, Holanda MLC, Santos MGP, Tação LC, Silva MC, et al. Estratégias de intervenção na depressão pós-parto: uma revisão bibliográfica. *RECIMA21*. 2024;5(6):e565303. <https://doi.org/10.47820/recima21.v5i6.5303>
32. Barcellos SR, Joras AR, Constanzi AP, Souza EN. Construção e validação de cartilha educativa para pacientes no pós-operatório de cirurgia cardíaca: estudo metodológico. *Rev Bras Enferm*. 2023;76(6):e20220621. <https://doi.org/10.1590/0034-7167-2022-0621pt>

■ Data and Materials Availability

The data can be accessed via request to the corresponding author.

■ Author contributions

Conceptualization: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol

Data curation: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol

Formal analysis: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol

Investigation: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol

Methodology: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol, Angélica

Maria Ospina Romero, Silvana Cruz da Silva

Project administration: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol

Supervision: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol, Silvana Cruz da Silva, Angélica Maria Ospina Romero, Michelle Pimentel Magalhães, Luísa Mendonça de Souza Pinheiro

Writing – original draft: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol, Silvana Cruz da Silva, Angélica Maria Ospina Romero, Michelle Pimentel Magalhães, Luísa Mendonça de Souza Pinheiro

Writing – review & editing: Kelvin Leandro Marques Monçalves, Cláudia Zamberlan, Keity Laís Siepmann Soccol, Silvana Cruz da Silva, Angélica Maria Ospina Romero, Michelle Pimentel Magalhães, Luísa Mendonça de Souza Pinheiro

The authors declare there is no conflict of interest.

■ Corresponding author:

Keity Laís Siepmann Soccol
E-mail: keitylais@hotmail.com

Received: 01.13.2025

Approved: 07.01.2025

Associate editor:

Heloísa Garcia Claro Fernandes

Editor-in-chief:

João Lucas Campos de Oliveira

