Validation of primer for promoting maternal self-efficacy in preventing childhood diarrhea

Validação de cartilha para promoção da autoeficácia materna na prevenção da diarreia infantil
Validice la cartilla para la promoción de la autoección materna en la prevención de la diarrea infantil

Leidiane Minervina Moraes de Sabino¹, Ádria Marcela Vieira Ferreira¹, Elizamar Regina da Rocha Mendes¹, Emanuella Silva Joventino², Fabiane do Amaral Gubert³, Jardeliny Corrêa da Penha³, Kamila Ferreira Lima³, Ludmila Alves do Nascimento³, Lorena Barbosa Ximenes³

¹ Universidade Federal do Ceará. Fortaleza, Ceará, Brasil.
² Universidade da Integração Internacional da Lusofonia Afro-Brasileira. Redenção, Ceará, Brasil.
³ Universidade Federal do Piauí. Floriano, Piauí, Brasil.

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ABSTRACT

Objective: to validate an educational primer, regarding content and design, for promoting maternal self-efficacy in preventing childhood diarrhea. Method: methodological study composed of 31 mothers of children under five years of age, in which the validation of the primer You can prevent diarrhea in your child! was carried out from the Content Validity Index (CVI), being evaluated as to the domains understanding, attractiveness, self-efficacy, cultural acceptance, and persuasion. Results: the primer was considered relevant and clear, with average concordance of 99.4% and 99.8%, respectively. The overall CVI was of 0.99, evidencing satisfactory level of agreement between the mothers. The assessment of domains generated satisfactory results. Conclusion: the primer was considered valid by the target audience; thus, it can be implemented for promoting maternal confidence to prevent childhood diarrhea.

Descriptors: Childhood Diarrhea; Validation Studies; Self-Efficacy; Health Education; Nursing.

RESUMO

Objetivo: validar uma cartilha educativa, quanto a conteúdo e aparência, elaborada para promover a autoeficácia materna na prevenção da diarreia infantil. Método: estudo metodológico com participação de 31 mães de crianças menores de cinco anos de idade, no qual se procedeu à validação da cartilha Você é capaz de prevenir a diarreia no seu filho? a partir do Índice de Validade de Conteúdo (IVC), sendo avaliada quanto aos domínios compreensão, atratividade, autoeficácia, aceitação cultural e persuasão. Resultados: a cartilha foi considerada clara e relevante, com média de concordância de 99.4% e 99.8%, respectivamente. O IVC global foi de 0,99, evidenciando nível satisfatório de concordância entre as mães. A avaliação dos domínios gerou resultados satisfatórios. Conclusão: a cartilha foi considerada válida pelo público-alvo, podendo ser implementada para promoção da confiança materna em prevenir a diarreia infantil.

Descritores: Diarreia Infantil; Estudos de Validação; Autoeficácia; Educação em Saúde; Enfermagem.

RESUMEN

Objetivo: validar una cartilla educativa, cuanto al contenido y la apariencia, elaborada para promocionar la autoeficacia materna en la prevención de la diarrea infantil. Método: estudio metodológico con participación de 31 madres de niños menores de cinco años de edad, en el cual se ha procedido a la validez de la cartilla ¡Usted es capaz de prevenir la diarrea en su hijo! (en portugués: Você é capaz de prevenir a diarreia no seu filho!) desde el Índice de Validez de Contenido (IVC), siendo evaluada cuanto a los dominios comprensión, atracción, autoeficacia, aceptación cultural y persuasión. Resultados: La cartilla ha sido considerada clara y relevante, con el promedio de concordancia del 99.4% y del 99.8%, respectivamente. El IVC global ha sido de 0,99, evidenciando nivel satisfactorio de concordancia entre las madres. La evaluación de los dominios ha generado
resultados satisfactorios. **Conclusión:** La cartilla ha sido considerada válida por el público-objetivo, pudiendo ser implementada para promoción de la confiabilidad materna en prevenir la diarrea infantil.

**Descriptores:** Diarrea Infantil; Estudios de Validez; Autoeficacia; Educación en Salud; Enfermería.

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**INTRODUCTION**

Diarrea is among the most common causes of morbimortality among children worldwide, especially in developing countries, such as Brazil. Although it has shown decreased incidence and severity, many cases of childhood diarrhea are still registered\(^6\). This scenario can be modified from the expansion of interventions aimed at preventing and improving the management of diarrheal diseases\(^2\).

Among the interventions aimed at preventing childhood diarrhea, we can highlight health education as a strategy that aims to build knowledge for changing behaviors and empowering the family to perform preventive care to the child\(^3\). From educational activities it is possible to develop the motivation, skills, and confidence necessary for the decision-making that result in improved quality of life and health\(^6\).

Given this, the theory of self-efficacy\(^5\) can be used to increase the personal trust in performing care and adopting a lifestyle that promotes health, thus it must be inserted in interventions related to healthcare for children.

The theory of self-efficacy is based on four motivational sources that play an important role in the origin and development of self-efficacy beliefs: experiences of success; modeling/vicarious experiences; verbal persuasion; and physiological states\(^5\). Although the sources influence the perception of effectiveness, it is their integration in the individual’s cognitive model that determines the self-efficacy\(^5\), contributing for changing the behavior and achieving the desired results\(^6\).

Therefore, health care professionals, especially nurses, can use educational technologies to promote maternal self-efficacy concerning childhood diarrhea, so that even when facing adverse conditions, mothers can take care of their children’s health the best way possible\(^7\).

In the context of educational technologies, the primer stands out as a tool for promoting health, facilitator of the process of empowerment. Thereby, it is characterized as a printed material that contributes to the shared construction of knowledge and allows the users of the health system and their families a posterior reading. Thus, the primer can reinforce the verbal guidelines, acting as a guide in cases of doubt and assisting in the decision-making\(^8,9\). Despite its practical purpose, we highlight that educational technologies must be constructed from theoretical approaches\(^10\).

Before that, it was elaborated the primer **You can prevent diarrhea in your child!** aimed at promoting maternal self-efficacy in preventing childhood diarrhea. The material was validated by specialized judges; however, in addition to this validation, the material must also be approved by the target population, since it was elaborated for its use, being necessary to know the public for which it was intended, as well as their needs\(^10-11\).

Therefore, the validation of the primer by the target population is important because it makes it possible to check what was not understood and what must be added or enhanced, allowing to perceive any discrepancy between the exposed in the material and what was understood by the population\(^12\). Recognizing the need for validation of the primer by the target population, we opted in this study by the design and content factors to assess the clarity of the material and the understanding by the public who will use it. The study was conducted from the following question: Has the primer entitled **You can prevent diarrhea in your child!** valid content and design in the perspective of the target population?

**OBJECTIVE**

To validate an educational primer, regarding content and design, elaborated to promote maternal self-efficacy in preventing childhood diarrhea, material elaborated for mothers of children under 5 years of age.

**METHOD**

**Ethical aspects**

The study was approved by the Research Ethics Committee of the Federal University of Ceará (UFC) following the ethical principles for research involving humans, in accordance with the Resolution no. 466 from December 12, 2012 of the National Health Council. Data collection was started by signing an informed consent form (ICF), which was issued in two copies, one for the participants of the study.

**Study design, location and period**

This is a methodological study of content and design validation of the educational primer entitled **You can prevent diarrhea in your son!** carried out in the Family Development Center (Cedefam), in Fortaleza (CE), Brazil, from October to November 2015.

**Population or sample: inclusion and exclusion criteria**

The sample consisted of 31 mothers of children under five years of age. We follow the recommendations of authors who recommend 25 to 50 subjects to validate technologies/tools\(^13\). We highlight that the odd number of subjects was used to avoid draws on the answers and dubious questions\(^12\).

The following inclusion criteria were adopted: mothers of at least one child under the age of five years and served in the institution abovementioned. We adopted as exclusion criteria: mothers with difficulties to evaluate the educational primer.

**Study protocol**

The primer **You can prevent diarrhea in your son!** is a printed educational material aimed at promoting maternal...
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self-efficacy to prevent such pathology in children. Regarding the content, the main topics addressed were: definition of childhood diarrhea; hygiene of the child and the mother; cleaning of the environment; washing of fruits and vegetables; food; vaccination; and conducts for managing diarrhea.

The definition of the content of the primer was based on other materials already validated: the Maternal Self-efficacy Scale for Preventing Early Childhood Diarrhea (EAPDI), with content validity index (CVI) of 0.96 and Cronbach’s alpha of 0.84(14); and the video “Childhood Diarrhea: you can prevent it,” with CVI of 0.97(15), which were developed from the assumptions of the theory of self-efficacy(6).

We highlight that the primer was already validated by judges of content (with experience in teaching and assistance in child health) and technical judges (with experience in design), presenting overall CVI, regarding theoretical relevance, of 0.92 for judges of content and 1.00 for technical judges, which shows a great level of agreement among the judges, since a CVI above 0.8 gives validity to the assessed item(16).

After suggestions from judges, the second version was concluded with 32 pages, 22 for the content, eight before and after the texts, and two pages dedicated to notes for mothers to write important aspects read in the primer.

Validation of content and design of the primer by the target population occurred in two stages. In the first, 31 mothers who were awaiting care in the Cedefam were invited to participate in the study and then oriented to sign the ICF, thus characterizing a non-probabilistic sampling by convenience. Those who agreed were invited to go to a room and read the primer. During that time, the researcher remained in the room so that she could solve any doubts that mothers could present, not being stipulated time for reading.

In the second stage, it was applied an instrument(10,17) validated by the target population, which was adapted for this research, covering the following areas: understanding of the information contained in the primer; attractiveness, regarding the way the information is exposed, seeking to arouse greater interest in reading the material; self-efficacy, for developing the mother’s confidence in performing the care presented in the primer; cultural acceptability, which involves the adaption of the material to the reality of the population to which it is intended; and persuasion, which assesses whether the information contained in the primer create opportunities to adopt healthier behaviors. This instrument also contains a checklist that allows to evaluate the clarity, relevance and degree of relevance in the pages of the educational primer. The degree of relevance was evaluated from a Likert-type scale, ranging from 1 (irrelevant) to 4 (very important), enabling the calculation of the CVI posteriorly. The instrument also contained a space for suggestions, besides demographic characterization of the participants(14).

Data were tabulated in the Statistical Package for the Social Sciences (SPSS, version 20, license no. 10101131007). We calculated the CVI of each page and then the full material for analyzing the validity of the educational primer. We highlight that each page presents specific content concerning the prevention of childhood diarrhea and promotion of self-efficacy. The CVI was calculated considering the degree of importance assigned to the pages, and may vary from -1 to +1, being considered valid the item that shows agreement between participants equal to or greater than 0.8(16). Thereby, score +1 was attributed to pages with relevancy ranking of 3 or 4, from the Likert scale used(16). Analysis of the overall CVI was carried out considering the average of the CVI attributed to each page of the primer and its respective confidence interval (CI), of 95%, calculated from the binomial test, and the p-value, where p > 0.8 confirms the appropriateness of the educational material elaborated and that the CVI calculated is valid.

The validity of design, evaluated from the response of the participants regarding the clarity and relevance of the material, it was considered relevant when obtained 75% agreement between mothers(19). Regarding the analysis of the domains understanding, attractiveness, self-efficacy, cultural acceptability and persuasion, the answers of the participants were synthetically organized and subsequently presented in descriptive form.

RESULTS

The target population consisted of 31 mothers, who validated the second version of the primer. The age of the mothers ranged between 18 and 40 years, with an average of 25.3 years. Most of them was from Fortaleza (N = 30; 96.8%), had complete secondary education (N = 12; 31.7%), was in stable unions (N = 18; 58.1%) and was a homemakers (N = 13; 41.9%). In addition, 12 (38.7%) lived along with four people at the residence. The family income of the participants ranged from R$500.00 and R$5,000.00, with an average of R$1,847.00.

Mothers evaluated the educational primer on clarity, relevance and degree of relevance. Regarding the first aspect, the participants judged positively the primer so that the correlation between mothers remained between 93.5% to 100%, with an average of 99.4%. Pages 16 and 17 were evaluated with 96.7% of concordance between mothers, and page 22, with 93.5%.

Concerning the relevance of the primer, the reviews varied between 95.6% to 100%, with an average of 99.8%; only the cover did not present high score, but reached 95.6% approval among mothers, indicating high agreement among the participants.

As for the assessment of the first 23 pages (cover and content), the individual CVI was calculated from the degree of importance assigned to each page of the primer, ranging from 0.93 to 1.00. The material presented overall CVI of 0.99, showing great level of agreement among mothers (Table 1).

Mothers suggested 14 modifications to the primer, of which three were observed after evaluation of the researcher: put the term “health center” on the cover and throughout the material; indicate at what age the child must take the Rotavirus vaccine; and address the conduct in case of diarrhea in children who only take breastmilk. The suggestions which were not accepted were related to erroneous practices regarding child care, such as additional explanation on the preparations of homemade solution and on information that were not the focus of the primer (supplementary feeding and exclusive breastfeeding).
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Table 1 – Distribution of the number of concordance between mothers for each page, Fortaleza, Ceará, Brazil, 2016

<table>
<thead>
<tr>
<th>Page/Subject</th>
<th>n°</th>
<th>%</th>
<th>CVI</th>
<th>(95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>29</td>
<td>93</td>
<td>0.93</td>
<td>0.72 – 0.97</td>
<td>0.991</td>
</tr>
<tr>
<td>Presentation</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 7/Definition of childhood diarrhea</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 8/Hand hygiene of the child</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 9/Personal hygiene of the child</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 10/Hygiene of children’s belongings</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 11/Hand hygiene of the mother</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 12/Cleaning of the house</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 13/Proper garbage disposal</td>
<td>30</td>
<td>97</td>
<td>0.97</td>
<td>0.77 – 0.99</td>
<td>0.999</td>
</tr>
<tr>
<td>Page 14/Hygiene of the environment of food preparation</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 15/Food care</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 16/Washing of fruits and vegetables</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 17/Washing of fruits and vegetables</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 18/Breastfeeding</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 19/Supplementary Feeding</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 20/Checking the expiration date of the food</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 21/Treating the drinking water</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 22/Treating the drinking water</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 23/Polio vaccine</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 24/Conducts for managing diarrhea</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 25/Preparation of oral rehydration solution (ORS)</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 26/Feeding of children with diarrhea</td>
<td>31</td>
<td>100</td>
<td>1.00</td>
<td>0.86 – 1.00</td>
<td>1</td>
</tr>
<tr>
<td>Page 27/Benefits for child health by following the care mentioned in the primer</td>
<td>30</td>
<td>97</td>
<td>0.97</td>
<td>0.77 – 0.99</td>
<td>0.999</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.99</td>
</tr>
</tbody>
</table>

Note: N = 31; * Content Validity Index; ** 95% confidence interval, based on the binomial test.

Table 2 – Descriptive analysis of mothers’ responses in the self-efficacy domain of the primer, Fortaleza, Ceará, Brazil, 2016

<table>
<thead>
<tr>
<th>Mothers’ evaluation of self-efficacy beliefs in the primer</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers who believe they can follow what is in the primer</td>
<td>31</td>
<td>100</td>
</tr>
<tr>
<td>The primer has all the information the mothers need to make them feel confident in preventing diarrhea in children</td>
<td>28</td>
<td>90.3</td>
</tr>
<tr>
<td>A health professional is required to present and/or explain the primer to make them feel confident in following information</td>
<td>3</td>
<td>9.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most relevant care cited by the mothers for preventing childhood diarrhea, according to the primer</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene</td>
<td>16</td>
<td>51.6</td>
</tr>
<tr>
<td>Washing of fruits and vegetables</td>
<td>15</td>
<td>48.4</td>
</tr>
<tr>
<td>Cleaning of the environment</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>Food care</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Vaccination</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Care to avoid dehydration</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Cutting nail care of children</td>
<td>1</td>
<td>3.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Need for increased information in the primer</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>25</td>
<td>80.6</td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>19.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information suggested to be added in the primer</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementary feeding</td>
<td>3</td>
<td>9.8</td>
</tr>
<tr>
<td>Coconut water supply when the child has diarrhea</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Hygiene of belongings from the heating</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Clarification on offer of fatty foods that may cause diarrhea</td>
<td>1</td>
<td>3.2</td>
</tr>
</tbody>
</table>
From the data exposed, we can observe that the educational primer had satisfactory ratings in terms of the clarity and relevance, and favorable results of CVI to the construct evaluated (maternal self-efficacy for preventing infant diarrhea).

Regarding the domains evaluated (understanding, attractiveness, self-efficacy, cultural acceptability, and persuasion), we found that mothers were able to verbally reproduce the guidelines described throughout the primer, which confirms the understanding. The material was also considered attractive and with good cultural acceptance, being reported by mothers the interest to complete the reading. The participants verbalized that they would be able to execute the knowledge acquired through the primer so that the material could be used for inquiries about prevention and conduct before the childhood diarrhea.

In the self-efficacy domain, though all mothers have stated they were able to follow the procedures described in the primer, three participants (9.7%) suggested that, for a better understanding, the information should be explained by a professional. Hand hygiene (51.6%) and washing of fruits and vegetables (48.4%) were highlighted by the mothers as the most important content of the material, and most of the participants declared that there was no need of other information in addition to that already contained in the primer (80.6%) (Table 2). All mothers considered that the figures presented on pages helped in understanding the subject.

Finally, the mothers did not indicate need for inserting new pages or deleting any page of the educational primer, being the final version of the material composed of 32 pages, 22 for the content.

DISCUSSION

Results of previous researches, which served as a basis for elaborating the survey on the primary care for promoting maternal self-efficacy in preventing childhood diarrhea, showed that mothers presented similar characteristics to those from this study, such as low education and families consisting of more than three members\(^[\text{7,12}]\). These aspects reflect the reality of part of the Brazilian population, so that the educational primer emerges as a valid and reliable material both for economically disadvantaged families and those with greater socioeconomic conditions, since the primer is understandable to the lowest stratum of the population, it will also be for the highest.

Thereby, the validation by the target audience allows the written material to express ideas clearly, ensuring the understanding and avoiding dubious interpretations that may influence the development of concepts and/or inappropriate actions\(^[\text{10}]\). For this reason, national and international researches have carried out, in the process of elaborating educational materials, the validation by the target population, so that the material can be considered suitable for application in daily life\(^[\text{12,20,22}]\). Therefore, it is appropriate to point out that educational technologies can assist in nursing care and, in this case, reduce the rates of childhood diarrhea by promoting the empowerment of mothers\(^[\text{12}]\).

In this research the mothers suggested the changes above-mentioned to the primer, from which will be discussed three changes made. It was added the term “health center” throughout the primer for being the most widely used and known by the target population, meeting the need to portray its reality regarding the production of educational materials\(^[\text{23}]\).

In the guidelines of the vaccination topic, it was added information about the period for immunization of the rotavirus vaccine; however, it was not added the specific range of two to four months for the vaccination, current at the time of validation\(^[\text{23}]\), because the technical reports undergo constant updates. Thus, to keep the content of the primer updated for longer, we decided to insert guidelines for the mother to find a health professional who can inform the correct period of vaccination.

Regarding the care related to diarrhea in children who are in exclusive breastfeeding, new information was added based on the script of the educational video, proposed in previous research\(^[\text{18}]\). Thus, we advise to the mother to keep breastfeeding and, in addition, to offer to the child oral rehydration solution only, since it is consensus that breastfeeding must be maintained during episodes of diarrhea\(^[\text{20}]\).

We also highlight the fact that some suggestions have not been accepted also occurred in other studies, being necessary to assess whether the mothers’ suggestions are relevant to the purpose of the educational material\(^[\text{12}]\).

Concerning the domains evaluated, it is appropriate to point out that other researches\(^[\text{12,20}]\) noted the importance of examining the same properties on the validation of educational materials by the target population, because this evaluation process allows to check the participants’ learning as well as the adequacy of health instructions contained in the materials\(^[\text{10}]\).

The result for the self-efficacy domain, in which all mothers claimed to feel able to follow the guidelines indicated in the primer, is due to the fact of reading the material has enabled the development of motivation and security to undertake the actions or behaviors described to improve health\(^[\text{10}]\) and raise the self-efficacy to prevent childhood diarrhea.

Concerning the care covered in the primer, as already pointed out, hand hygiene and of fruits and vegetables was considered by the mothers as the most important care to be followed. We highlight that mothers pointed out relevant themes, because earlier study shows influence of inadequate hygiene in the occurrence of diarrhea episodes\(^[\text{28}]\). However, many people still assign diarrhea to supernatural factors and dental eruptions, which shows a lack of knowledge about the mode of transmission, as well as the definition of the disease\(^[\text{29}]\). Another research conducted with mothers accompanying children hospitalized for diarrhea revealed that maternal knowledge about the pathology was based on cultural beliefs and symptoms of the child\(^[\text{30}]\).
Thus, it is appropriate to point out that the lack of knowledge, difficulty to memorize and the vulnerability of the customers can be some of the factors justifying the development of educational technologies\(^{33}\), being important that the textual preparation of educational materials be suitable for the educational and cultural level of the target audience\(^{32}\). Such requirements have been met by other researchers, whose experimental studies showed that the application of an educational video\(^{29}\) and a TV series\(^{33}\), built from the theory of self-efficacy and validated by judges of content and the target population, favored the elevation of maternal self-efficacy in preventing childhood diarrhea and in breastfeeding, contributing to reducing diarrhea in children, in addition to increasing the period of exclusive breastfeeding, respectively\(^{7,33}\).

Therefore, the use of educational technologies is a viable alternative as a source of information and sensibility of the population, serving as a guide in case of doubts and assisting in the decision-making of the daily life and in verbal guidance, being a path to health promotion\(^{14,35}\).

**Study limitations**

The limitation of this study is related to the completion of the validation of content and design of the primer by the target population in a single health unit of the city of Fortaleza and may introduce weaknesses regarding the cultural identification of readers of other places of Brazil.

**Contributions to the field of nursing, health, or public policies**

The use of the primer *You can prevent diarrhea in your child* can assist educational activities developed by nurses and other health professionals, contributing to the promotion of mothers' self-efficacy for preventing diarrhea in their children. In addition, it must be noted that the primer is a tool easy to use and that requires few resources for application and may be used both by mothers and others responsible for the care of the child, such as parents, grandparents, uncles, among others.

Thereby, we hope the educational material designed be widely promoted, so that health professionals, mothers, families and caregivers can make use of this technology to improve the management, prevent diarrhea and, therefore, reduce the number of child deaths caused by diarrheal diseases.

**CONCLUSION**

From the results presented in this study, we can note that the primer *You can prevent diarrhea in your son* was considered an educational material with content validity and appropriate design regarding the promotion of maternal self-efficacy in preventing childhood diarrhea, which may be evidenced by CVI exceeding 0.8 assigned by the target population.

The primer was also evaluated in a satisfactory way by the target population about the understanding, attractiveness, self-efficacy, cultural acceptance and persuasion. In addition, the participants verbalized domain on the subject, stating the increased motivation and confidence to adopt the desired behavior for preventing childhood diarrhea.

We highlight that the validation by the target population, described in this study, is important to give more confidence to the material prepared. Thereby, we can say that the educational material is able to be used by health professionals in search of increasing maternal self-efficacy in preventing diarrhea in their children, which may reflect in a decrease of the recorded cases of this pathology and morbimortality for childhood diarrhea.

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