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Original

Headache during home visits: content and appearance validation of educational material for community health workers

Igor Dutra Tschope, Anthony Marcos Bryam Oliveira Pereira, Vitória Conceição Freitas de Aguiar, Amanda Rodrigues Spinola, Tatiane Costa Quaresma, Átila Barros Magalhães

State University of Pará, Santarém, Pará, Brazil

Tatiane Costa Quaresma
tatiane.quaresma@uepa.br

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Marcelo Moraes Valença

Abstract

Introduction
Headaches are highly prevalent and disabling conditions, with a significant impact on Primary Health Care. Despite the strategic role of Community Health Workers (CHWs) in the early identification of these complaints during home visits, there is a shortage of validated educational materials. This study aimed to describe the development and validation process of an educational booklet on headaches intended for CHWs.

Methods
This was a methodological study focused on technological development, conducted in three stages: situational assessment, booklet development, and validation. The situational assessment included a literature review in the WoS, VHL, SciELO, and PubMed databases, as well as an analysis of the curriculum of the course "Mais Saúde com Agente". The booklet was developed based on the scientific literature, manuals from the Brazilian Ministry of Health, and guidelines from the International Headache Society, using accessible language and visual resources. Validation occurred in two phases: evaluation by six expert judges from the health field and validation by the target audience, consisting of eight CHWs. The Educational Content Validation Instrument in Health was applied, and the Content Validity Index (I-CVI and S-CVI/Ave) was calculated.

Results
The booklet demonstrated high validity indices, with I-CVI values exceeding the minimum thresholds in all evaluations, resulting in an S-CVI/Ave of 0.99 among experts and 1.00 among CHWs. The material was considered clear, relevant, and applicable to professional practice.

Conclusion
The booklet was validated for content and appearance and is a potential tool for improving the identification and initial management of headaches during home visits.

Keywords:
Primary health care
Cephalalgia
Educational technology

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Introduction

Headaches comprise a group of clinical manifestations characterized by head pain and are classified as primary or secondary. Primary headaches are those in which pain is the main symptom, with no direct association with other diseases, whereas secondary headaches are attributed to underlying conditions and, although less frequent in Primary Health Care (PHC), tend to be more severe and carry a potential risk of death (1).

Headaches affect individuals regardless of sex, age, race, or income (2) and represent a major public health problem, with a significant impact on well-being and health. They are among the most disabling conditions worldwide, also affecting the social and economic spheres. It is estimated that 52% of the global population experiences at least one headache episode per year (3) and that, in Brazil, approximately 70% of the population is affected (4).

In this context, the Community Health Worker (CHW) stands out as a strategic professional who mediates between health services and the community and monitors the epidemiological situation of the territory through home visits (5). However, although CHWs are vital in addressing headaches in PHC, there is a shortage of specific theoretical materials on headaches for their training, which hampers the identification, follow-up, and early treatment of cases.

Given this scenario, this study aims to fill part of this gap by detailing the process of developing and validating an educational booklet intended for CHWs. The study is justified by the proposal of a support material that can serve both as a theoretical foundation and as a practical guide for CHWs during home visits to patients with headache complaints.

Methods

Study design

This is a methodological and technological development study aimed at developing and validating an educational booklet on headaches for CHWs in the context of PHC. The research was conducted in eight steps organized into three stages: situational assessment, booklet development, and validation (Figure 1).

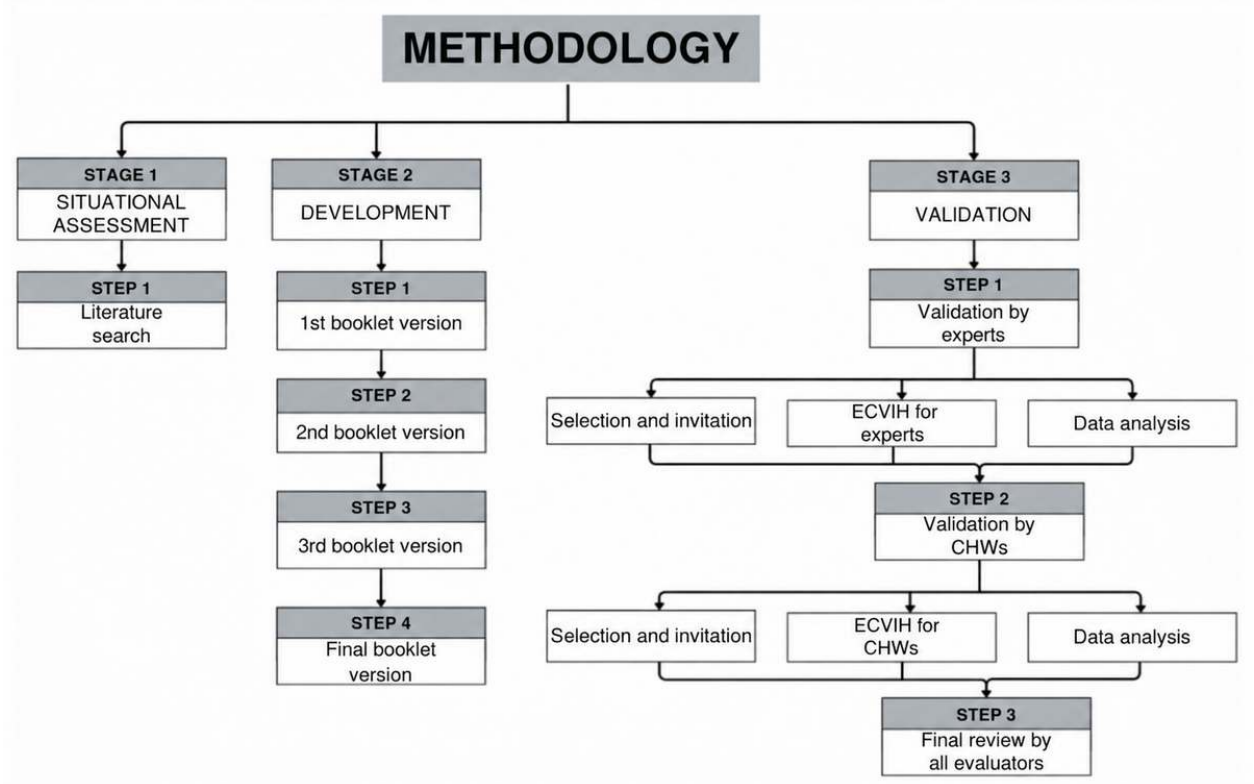

Figure 1. Flowchart of the methodological stages and their respective steps.
*ECVIH: Educational Content Validation Instrument in Health.

Ethical considerations

The project was self-funded by the researchers and approved by the Research Ethics Committee (*Comitê de Ética em Pesquisa, CEP*) of the State University of Pará (*Universidade do Estado do Pará, UEPA*), in accordance with Resolution No. 466/12 of the Brazilian National Health Council, under approval number 7.808.488. The authors declare no conflicts of interest. The final version of the material was made available to the public under a CC BY-NC-SA license.

Situational assessment

In the first stage, a literature search was conducted, initially in March 2025 and updated in September 2026, with no time or language filters, in order to increase its sensitivity and to identify the existence, quality, and availability of validated educational materials on headaches aimed at CHWs. For this purpose, the following databases were searched: Web of Science (WoS), PubMed, Virtual Health Library (Biblioteca Virtual em Saúde, VHL), and Scientific Electronic Library Online (SciELO).

The search strategy combined MeSH descriptors and free terms in PubMed, DeCS/MeSH descriptors and free terms in the VHL, and free terms in SciELO and Web of Science, using English-language expressions in PubMed and Portuguese, English, and Spanish in the other sources. The terms were organized into three blocks and are presented here in English for consistency: (1) headaches, including the descriptors "Headache," "Headache Disorders," "Migraine Disorders," "Tension-Type Headache," "Cluster Headache," and "Headache Disorders, Secondary," plus the free terms "headache" and "primary headache," as well as "cephalalgia" in PubMed, and "headache red flag" in PubMed and Web of Science; (2) community health workers and their practice setting, with the descriptors "Community Health Workers," "House Calls," "Ambulatory Care Sensitive Conditions," and "Primary Health Care," together with the free term "community health worker training," as well as "community health agent," "lay health worker," "village health worker," "home visit," and "domiciliary visit" in PubMed, and "primary care" in PubMed and Web of Science; and (3) educational materials, with the descriptors "Teaching Materials," "Educational Technology," "Education, Public Health Professional," and "Health Education," plus the free term "educational booklet." The terms within each block, with their linguistic variations and truncations, were combined using the Boolean operator OR, while the blocks were combined using the operator AND.

Studies were eligible if they described the development and/or validation of health education materials, such as booklets, leaflets, and pamphlets, on headaches aimed at CHWs in the primary care setting. Duplicate studies, studies outside the thematic scope, and those without available full text or with overlapping data were excluded. Screening was performed by two independent reviewers (IDT and VCFA) using the Rayyan software, with blinded assessment of titles and abstracts followed by full-text reading; disagreements were resolved by consensus or by a third reviewer (ABM or TCQ). If eligible studies were identified, the data would be presented descriptively in tables and compared with the present study through narrative synthesis. Additionally, the coverage of headaches in the curriculum of the "Mais Saúde com Agente" ("More Health with Agents") course of the Brazilian Ministry of Health was analyzed.

Booklet development

The second stage, which began in the first half of 2025, involved developing the booklet in four versions, considering criteria of clarity, objectivity, accessible language, didactic quality, interactivity, and practical applicability (6), consistent with the educational level of CHWs, who are required to have completed at least high school to practice the profession. The technological product was developed with the assistance of a hired professional designer and laid out using the Canva Pro platform. The illustrations were produced using the "Create images" tool of the Google Gemini artificial intelligence model (version 2.5 Pro) for educational purposes only; the tool was not used to generate, modify, or analyze data.

The first version of the booklet was based on reliable sources, namely indexed scientific articles, manuals from the Brazilian Ministry of Health, and guidelines of the International Headache Society, ensuring technical and scientific rigor. The second version incorporated adjustments resulting from expert validation, while the third version resulted from contributions of the target audience. Lastly, the fourth and final version was prepared based on all judges' review of the material, before definitive approval.

Validation

The third stage was divided into three steps: validation of the educational material by expert judges, validation by the target audience, and a final review by all judges. In the first step, in October 2025, the booklet was evaluated by six health professionals with expertise in the subject matter, selected through convenience sampling using the snowball technique (7). The inclusion criteria were being a health professional, having experience in PHC, having published on headaches, and having experience in developing educational materials. Those who did not meet at least three of the four criteria above, did not respond, or did not sign the Informed Consent Form (Termo de Consentimento Livre e Esclarecido, ICF) were excluded.

The instrument used was adapted from the Educational Content Validation Instrument in Health (ECVIH) (8). The adapted version

included 18 quantitative questions on objectives, structure/presentation, and relevance, rated on a four-point Likert-type scale, as well as open-ended questions for comments at the end of each domain. Eight experts were invited via WhatsApp, of whom six agreed to participate, a number considered representative in the literature (9). After accepting the invitation and signing the ICF, they received the digital booklet and a Google Forms questionnaire containing questions on the inclusion criteria, the adapted ECVIH, and instructions for completion.

The data were analyzed using descriptive statistics in the Jamovi software (v. 2.3.28). The Content Validity Index (CVI) was calculated from the adapted ECVIH using two formulas, as described in the literature (9). For this purpose, the Likert-type scale was dichotomized: scores of "1" or "2" indicated disagreement with the booklet content, while scores of "3" or "4" indicated agreement among the judges. Analysis was performed at the individual item level (I-CVI) and for the scale as a whole (S-CVI/Ave), and the minimum thresholds adopted were I-CVI ≥0.78 and S-CVI/Ave ≥0.90 (9). Any items below these values would be revised and resubmitted for a new evaluation. After this process, the booklet was revised into its second version.

The second step of the third stage took place in November 2025 and consisted of validation by the target audience. Eleven CHWs from the municipality of Santarém, Pará, Brazil, selected using the snowball technique, were initially invited, of whom eight agreed to participate, a number reported as representative in the literature (9). The inclusion criteria were being affiliated with a Primary Health Care Unit (Unidade Básica de Saúde, UBS) and having at least five years of experience. Those who did not sign the ICF or who were temporarily away from their duties were excluded. The invitation was sent via WhatsApp, and, after consent, participants received the booklet, instructions, and a questionnaire via Google Forms containing questions on sociodemographic data and the adapted ECVIH for the target audience, based on previous research (10).

The form allowed the target audience to evaluate the booklet through 12 objective questions, distributed across the sections of organization, writing style/content, appearance, and motivation, with responses on a four-point Likert-type scale, as well as open-ended questions for general comments. The data were analyzed using descriptive statistics in Jamovi (v. 2.3.28), applying the same criteria and minimum validity values adopted in the expert evaluation. After this step, the material was revised into its third version.

Subsequently, the third version of the booklet was sent back to all judges for the final review step. At this point, each judge was individually asked whether they had any suggestions or whether the material could be considered approved. After analysis and adjustments, the booklet was resubmitted to all judges until unanimous approval was obtained. Once consensus was reached among the judges, the final version was established.

Results

The results are presented according to the three stages of the study: situational assessment, booklet development, and validation. The final version of the booklet is freely available in the institutional repository eduCAPES (http://educapes.capes.gov.br/handle/capes/1181106115:21).

Situational diagnosis

In the initial identification phase, the search of the selected databases retrieved 74 articles from PubMed, 10 from WoS, 23 from the VHL, and none from SciELO, for a total of 107 publications. Next, the Rayyan platform was used to detect and remove 15 duplicate articles, reducing the number of studies to 92. In the screening stage, the titles and abstracts of the publications were analyzed based on the exclusion criteria, and 80 articles were discarded. The remaining 12 publications were read in full, and all of them were excluded for being outside the scope of the topic.

At the end of the process, although one booklet aimed at training physicians, nurses, and nursing assistants on headaches in primary care was found (11), no article or material was specifically directed at CHWs, nor was there any adaptation to their duties in the context of home visits. Consequently, the literature search revealed a lack of studies for this purpose, since no articles on the development and validation of educational material aimed specifically at the management of headaches by CHWs were identified. In addition, another gap was identified: the technical course "Mais Saúde com Agente" does not mention headaches in its curriculum (12).

Booklet development

The development of the booklet began with the survey and selection of content. Five references focused on headache-related care and the role of the CHW were included, among them the International Classification of Headache Disorders (ICHD-3) and the Therapeutic Recommendations for Headaches of the Portuguese Headache Society (*Sociedade Portuguesa de Cefaleias*).

Next, the text was written, the illustrations were selected, and the visual layout was prepared in Canva Pro. The booklet was titled "Dores de cabeça: um guia para Agentes Comunitários de Saúde sobre cefaleias" ("Headaches: A Guide on Headache Disorders for Community Health Workers"). It was produced in A5 format (148 × 210 mm), predominantly in shades of burgundy, and was structured as follows: front cover, inside

cover, table of contents, theoretical content, pocket guide for home visits, references, and back cover.

After layout, the first version of the booklet had 17 pages and was sent first to the expert judges and later to the CHWs for content validation. The final version, adjusted after the judges' review and approval, had 20 pages.

Booklet validation

Validation by experts

Initially, six judges from different health fields were selected: four (66.7%) women and two (33.3%) men, aged 33 to 62 years. Regarding academic degrees, half of the sample held doctoral degrees, one held a master's degree, and two had a specialization in pain and headache. In addition, all had previously published educational materials or other publications related to headache, as well as experience in PHC and in neuroscience, with varying lengths of experience, ensuring sample heterogeneity.

Table 1. Headache-related academic profile of the six experts.

Expert profile	n	%
Sex		
Women	4	66.7
Men	2	33.3
Age		
>30 and ≤40 years	2	33.3
>40 and ≤50 years	2	33.3
>50 and ≤60 years	1	16.7
>60 years	1	16.7
Professional background		
Neurologist	4	66.7
Neurosurgeon	1	16.7
Biomedical scientist	1	16.7
Academic degree		
Specialization (postgraduate certificate)	2	33.3
Master's degree	1	16.7
Doctoral degree	3	50.0
Length of experience in neuroscience		
5 years	1	16.7
7 years	2	33.3
10 years	1	16.7
22 years	1	16.7
35 years	1	16.7
Length of experience in PHC*		
2 years	1	16.7
3 years	2	33.3
15 years	1	16.7
20 years	1	16.7
35 years	1	16.7
Has publications on educational materials?		
Yes	5	83.3
No	1	16.7
Has publications on headache?		
Yes	6	100.0

*PHC: Primary Health Care.

Table 2. Responses of the health expert judges and CHW judges to the adapted ECVIH on the four-point Likert-type scale

Adapted ECVIH for health experts	S1	S2	S3	S4	S5	S6		
Objectives								
Does it contribute to the CHW's knowledge of the topic?	4	4	4	4	3	3		
Does it arouse the CHW's interest in learning more about the topic?	4	4	4	4	4	4		
Is it consistent with the CHWs' daily work needs?	4	3	3	4	3	4		
Does it have practical applicability for CHWs in the context of home visits?	4	3	2	4	4	4		
Structure/presentation								
Is the language appropriate for the target audience?	4	4	4	3	4	4		
Is the language appropriate for the type of educational material?	4	4	4	4	4	4		
Is the material socioculturally appropriate for the CHW's context?	4	4	4	4	4	4		
Is the language interactive, allowing active involvement in the educational process?	4	4	3	4	3	4		
Is there a logical sequence of presentation?	4	4	4	4	4	4		
Are the messages presented clearly and objectively?	4	4	4	3	4	4		
Are the size and organization of the titles and topics appropriate?	4	3	3	3	4	4		
Are the grammar and grammatical agreement appropriate?	4	4	3	4	4	4		
Are the illustrations appropriate?	4	4	4	4	4	4		
Is the number of pages appropriate?	4	3	4	4	4	4		
Relevance								
Does the material satisfactorily address the key elements of the topic?	4	4	4	3	4	3		
Is the material relevant in the PHC context?	4	4	4	4	4	4		
Does it encourage the CHW to pay closer attention to headaches in the PHC context?	4	4	4	4	4	4		
Does it facilitate the early identification of clinically important headaches?	4	3	4	4	4	4		
Adapted ECVIH for CHWs	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**
Organization								
The sequence of the content is appropriate	4	4	3	3	4	4	3	4
The pages and sections look organized	4	4	3	3	4	4	4	4
The table of contents helps me find information easily	4	4	3	4	4	4	3	4
Writing style and content								
The sentences in the booklet are clear and easy to understand	4	4	3	3	4	4	4	3
I was able to learn from the booklet	4	4	3	3	4	4	3	3
The text is interesting	4	3	3	3	4	4	3	4
Any Community Health Worker (CHW) who reads this booklet will be able to understand its content	3	3	3	3	4	3	3	4
Visual appearance								
The cover caught my attention	3	3	3	3	4	4	3	3
The illustrations complement the text well	3	3	3	3	4	4	3	3
Motivation								
I felt motivated to read the booklet to the end	4	3	3	3	4	4	3	4
The booklet encouraged me to think about and seek more information on headache care	4	3	3	3	4	4	3	4
The content of the booklet can be applied in home visits	4	3	3	4	4	4	3	4

*"S" corresponds to the codes of the health expert judges, whereas "A" corresponds to the codes of the CHW judges. Scores range from 1 to 4 on the four-point Likert-type scale. ECVIH: Educational Content Validation Instrument in Health; CHW: Community Health Worker; PHC: Primary Health Care.

Nevertheless, some experts, even while rating the items positively, made suggestions for improving the booklet, regarding both its appearance and its content (Table 3).

The experts' suggestions were duly analyzed in light of the literature, and the necessary changes were implemented, and the judges were subsequently informed of them.

Table 3. Comments made by the health experts about the material

Judge	Comments by section*
	Objectives
S2	P. 16 - "(I recommend) the ID-Migraine instrument for use by the CHW."
S3	P. 16 - "The questionnaire (HIT-6) is long, and administering it may take up too much of the CHW's time."
S4	General - "The material is very useful for guiding and directing the CHW."
S5	P. 5 - "I would modify the part about primary headaches (about their being less severe); it needs to state that they are extremely stigmatized"; P. 6 - "Regarding migraine being only on one side, I would write 'usually on one side'"; P. 13 - "Regarding medication use, I suggest changing it to: advise the person to go to the PHC unit if they are using headache medication at least once a week."
S6	P. 6 - "I suggest considering only the ID-Migraine™ criteria to (describe) migraine"; "Regarding tension-type headache, I would point out the relationship with sleep disorders and anxiety"; and "Regarding cluster headache, I would also put lacrimation in bold, considering that it is the most frequent cranial autonomic symptom."
	Structure/presentation
S2	General - "(I suggest) presenting some of the information as a diagram or infographic to reinforce the process of memorizing the content."
S3	P. 16 - "I consider the administration and interpretation of the HIT-6 scale too specific for use by CHWs."
S4	General - "The overall organization and sequence of the information are logical"; "I suggest increasing the font size."
	Relevance
S2	General - "Very relevant for case screening, for scientific discussion involving the whole PHC team, and for diagnostic confirmation by the physician."
S4	P. 6 - "In the table of secondary headaches, I suggest adding 4 more types: post-traumatic, acute sinusitis, alcohol abuse or caffeine withdrawal, and visual disorders"; and "I disagree with the (generalization of the behavior of) frequent use of pain medication with regard to tension-type headache."

*These quotations are reproduced in full, except for the parts in parentheses, which were deliberately inserted to provide context and facilitate understanding of the comments.

Validation by the target audience

Content validation by the target audience was carried out with eight CHWs, of whom seven (87.5%) were women and one (12.5%) was a man, aged 34 to 54 years. As shown in Table 4, the sample was heterogeneous in terms of educational level, completion of the technical course recommended by the Brazilian Ministry of Health, and length of experience, which contributed to its representativeness.

When asked how often headache cases occurred in their catchment area, most CHWs (87.5%) answered that they occurred fairly often. However, regarding prior contact with educational material on headaches for CHWs, all eight (100%) reported never having had access to this type of content.

Regarding the data obtained through the adapted ECVIH for the target audience, Table 2 shows that the sections "Organization," "Writing style and content," "Visual appearance," and "Motivation" obtained the maximum I-CVI (1.00) for all items. As a result, the overall CVI (S-CVI/Ave) of the booklet was 1.00. In addition, the comments made by the CHWs in the open-ended questions at the end of each section reinforce these results qualitatively (Table 5).

Table 4. Profile of the eight CHW judges

CHW profile	n	%
Sex		
Women	7	87.5
Men	1	12.5
Age		
>30 and ≤40 years	5	62.5
>40 and ≤50 years	2	25.0
>50 years	1	12.5
Education		
Completed high school	2	25.0
Completed technical education	3	37.5
Completed higher education	3	37.5
Has completed the technical course "Mais Saúde com Agente"?		
Yes	5	62.5
No	3	37.5
Length of experience as a CHW (years)		
≥5 and ≤10 years	1	12.5
>11 and ≤20 years	6	75.0
≥21 years	1	12.5

Final review and approval by all judges

The third version of the booklet, developed based on the target audience's input, was then resubmitted to all the judges involved for final analysis and approval of the educational material. At this stage, the expert judges suggested that the section "Como orientar quem tem dor?" ("How to advise people in pain?"), on pages 11 to 14, be refocused on healthy lifestyle habits, replacing the previous versions' focus on headache attack triggers.

In addition, the judges were presented with updated versions of the figures from the previous version and a newly included referral diagram, intended to complement the understanding of the text. New characters of varied ethnicities and genders were added, and one of them was depicted wearing a CHW uniform, in order to make the material more representative. After this stage, the final version of the booklet was sent to all the judges involved for review and was unanimously approved without reservations.

Discussion

The CHW plays an essential role in PHC, acting as a link between the multiprofessional team and the community and participating in care in a cross-cutting manner (5). With regard to headaches, their work is relevant to the prevention and management of cases, facilitating the early recognition of warning signs, timely referral to the PHC unit, longitudinal follow-up, the promotion of healthy habits, and the monitoring of treatment adherence during home visits.

Despite their central role in care, there is a gap in the continuing education of CHWs, which compromises the efficiency of their actions (13). In the field of headaches, this deficiency is reflected in the absence of headaches as a specific topic in the curriculum of the technical course "Mais Saúde com Agente" (12). This scenario is compounded by the scarcity of validated educational materials aimed at these professionals, as identified in the literature search of the present study, reinforcing the need for alternative strategies for ongoing training, such as the development of targeted educational materials.

Despite limitations related to comprehension and applicability in different contexts, educational booklets have proven effective because they facilitate access to information and are easy to disseminate (6). When aimed at health professionals, these materials contribute to the standardization of guidance based on the scientific literature, promoting clearer and more assertive communication with patients and their families. In addition, owing to their self-instructional nature, they support the understanding of the health–disease process and the strengthening of self-care practices (10).

In this context, the present booklet was designed to raise awareness of headaches as a highly prevalent condition with a significant

Table 5. Comments from the target audience about the material

Judge	Comments by section*
	Organization
A1	General - "It is organized in an objective and direct way."
	Writing style and content
A3	General - "I believe distributing printed copies to some PHC units would help."
A7	General - "Easy to understand and useful for guiding the families in my catchment area."
	Visual appearance
A4	General - "Very understated appearance, nothing excessive."
	Motivation
A1	General - "Stimulating, encouraging me to improve my knowledge of the topic."
A6	General - "I found the final part interesting; the pocket guide works as a roadmap for home visits."

*These quotations are reproduced in full.

functional impact (3), aiming to promote the early recognition of complaints given the long wait for specialist consultation (14). Developed for the context of home visits, the booklet supports daily practice and has the potential to improve the quality of home visits. Although this was not measured in the present study, it is assumed that, owing to its simplicity, the material would not add to the workload of a professional category whose work is already recognized as exhausting (15).

Regarding its content, the booklet prioritizes the most prevalent headaches in PHC, with an emphasis on primary headaches (4). It also incorporates warning signs for the early identification and prompt referral of severe secondary headaches (16) through a referral decision flowchart.

The material also includes evidence-based guidance on pain management (17), addressing the identification of epidemiologically relevant headaches, the promotion of healthy habits, non-pharmacological strategies, and monitoring tools, and it also publicizes the "3 é demais" ("3 is too many") campaign of the Brazilian Headache Society (*Sociedade Brasileira de Cefaleia, SBCe*). Finally, it presents an objective history-taking guide in pocket format to support home visits.

To ensure scientific rigor, in addition to the careful selection of the most relevant topics and sources, the booklet was validated by experts and by the target audience, a strategy widely recommended in the literature (9). This process is essential for identifying inconsistencies, improving the information, and ensuring the applicability of the material to the reality of CHWs (18)

Validation by expert judges involved an experienced multiprofessional group, ensuring representativeness and rigor in the evaluation process (7). The adapted ECVIH covered aspects related to the objectives, structure, presentation, and relevance of the booklet. Only one rating of "2" on the Likert-type scale was recorded, given by judge S3 on item four of the "Objectives" section, which resulted in an I-CVI of 0.83; this judge pointed out that the HIT-6 questionnaire was too long for the context of home visits (19). The booklet, however, was considered didactic, well structured, and applicable to work practice, with satisfactory validity indices for both the I-CVI and the S-CVI/Ave across all items evaluated.

Despite the positive evaluation, the other experts also proposed adjustments to improve the material. Among the suggested modifications that were accepted, the most notable were adjustments for conceptual accuracy, an increase in font size, and the inclusion of frequent use of analgesics as an additional criterion for referral to the PHC unit. There was convergence of opinion regarding the replacement of the HIT-6 questionnaire with the ID-Migraine™ (20), owing to its faster and simpler administration and its high sensitivity for migraine screening.

The experts also suggested emphasizing topics related to lifestyle habits rather than those related to headache attack triggers, since readers may overestimate the latter to the point of functional impairment, often without significant changes in the prognosis of the disease (21). A referral flowchart was also included to facilitate understanding of the appropriate referral pathway for headache cases in the community.

Some suggestions, however, were not incorporated, such as describing migraine using only the ID-Migraine™ criteria instead of the ICHD-3 criteria and including other secondary headaches. The authors chose to keep the focus on the etiologies most relevant to PHC (4), avoiding an excessive expansion of the content without substantial benefit for the target audience; in addition, headaches related to refractive errors and trauma were already addressed on page 6.

Validation by the target audience, as recommended in the literature (7), involved a heterogeneous and representative group of CHWs. The scarcity identified in the situational assessment stage is consistent with the deficiency in continuing education reported in previous research (13). Reinforcing the relevance of the topic, most participants reported headache as a frequent complaint in their catchment area, although none had had previous contact with educational materials specifically on headaches.

The evaluation by the target audience, through the adapted ECVIH, showed unanimous agreement regarding the organization, language, content, appearance, and motivation of the booklet, with maximum validity indices for all criteria, indicating the appropriateness of the changes suggested by the experts. Notably, the appearance section received multiple ratings of "3" on the Likert-type scale; although adequate, these ratings prompted an update of the booklet's figures, which were later unanimously approved in the final version. The qualitative comments also reinforced the adequacy of the material, highlighting the pocket guide as a support for home visits and the importance of making it available in both digital and printable formats, a suggestion aligned with previous literature (18) and incorporated by laying out the material as a booklet.

The maximum agreement among the CHWs, however, should be interpreted with caution because, despite an acceptable sample size (9) and the fact that the CHWs marked both "3" and "4" on the Likert-type scale, participants were recruited from a single municipality. In addition, the use of a four-point Likert-type scale without a neutral option, possible social desirability bias arising from the way participants were selected, and a ceiling effect may have contributed to the uniformity of responses after the statistical dichotomization of the scale values.

Further limitations include the lack of readability assessment instruments, the absence of prior pilot testing of the adapted ECVIH instruments, and the impossibility of direct comparison with other validated headache booklets for CHWs, given the scarcity of such materials documented in the scientific literature. In addition, future studies are needed to evaluate the impact of the booklet on professional practice by implementing it in different contexts and with a larger number of CHWs, in order to assess its effectiveness and identify possible improvements.

Conclusion

The development and validation of the booklet "Dores de cabeça: um guia para Agentes Comunitários de Saúde sobre cefaleias" ("Headaches: A Guide on Headache Disorders for Community Health Workers") followed a methodologically consistent process. The validity indices (I-CVI and S-CVI/Ave) obtained from the evaluations of both the experts and the target audience regarding content and appearance showed satisfactory levels of agreement.

In short, despite the limitations inherent in the present study and in the booklet as a text genre, the data analysis indicates that the material is an alternative with the potential to strengthen continuing education on headaches for CHWs. It is assumed, based on the results, that its use, even though it does not fully remedy the deficiency in CHW training, has the potential to improve guidance, screening, record-keeping, identification of warning signs, and timely referral to the reference team, contributing to earlier interventions and care practices with greater problem-solving capacity.

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Igor Dutra Tschope
https://orcid.org/0009-0006-1835-1994
Anthony Marcos Bryam Oliveira Pereira
https://orcid.org/0009-0003-1022-0576
Vitória Conceição Freitas de Aguiar
https://orcid.org/0009-0000-5255-0985
Amanda Rodrigues Spinola
https://orcid.org/0009-0003-7787-3977
Tatiane Costa Quaresma
https://orcid.org/0000-0003-3052-2363
Átila Barros Magalhães
https://orcid.org/0000-0003-2930-9530

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