Preventing sexual violence in adolescence: digital booklet construction and validity
Prevenção à violência sexual na adolescência: construção e validação de cartilha digital
Prevención de la violencia sexual en la adolescencia: elaboración y validación de cartilla digital

Kelanne Lima da Silva¹
https://orcid.org/0000-0002-3462-4589
Patrícia Neyva da Costa Pinheiro¹
https://orcid.org/0000-0001-7022-8391
Kirley Kethellen Batista Mesquita¹
https://orcid.org/0000-0002-6459-3656
Joana Maria Rocha Sales¹
https://orcid.org/0000-0002-9941-7248
Edna Johana Mondragón-Sánchez²
https://orcid.org/0000-0002-7950-2809
Lorena Barbosa Ximenes¹
https://orcid.org/0000-0002-8006-7517
Fabiane do Amaral Gubert¹
https://orcid.org/0000-0003-3016-9619
Francisca Elisângela Teixeira Lima¹
https://orcid.org/0000-0002-7543-6947

Abstract
Objective: To develop and analyze a digital booklet for preventing sexual violence in adolescence as proof of content validity.

Methods: This is a methodological study developed in three stages: digital booklet construction based on the Falkembach model; material validity by a committee of experts using the Index of Agreement (IA), considering it greater than 80%; and assessment by the target audience (adolescents), based on the application of the Suitability Assessment of Materials (SAM), considering it “Superior” between 70% and 100%; “Suitable”, between 40 and 69%; “Unsuitable”, between 0 and 39%.

Results: The digital booklet was considered valid by experts, with an agreement rate between 86% and 100%, and qualified as “Superior” by adolescents with a score percentage of 97% on the SAM.

Conclusion: The booklet was considered valid by experts and target audience, being able to be used as a technological resource to identify situations of sexual violence in adolescence and enable the adoption of preventive behaviors.

Resumo
Objetivo: Desenvolver e analisar como prova de validade de conteúdo cartilha digital para prevenção da violência sexual na adolescência.

Métodos: Estudo metodológico desenvolvido em três etapas: construção da cartilha digital a partir do modelo de Falkembach, validação do material por um comitê de especialistas por meio do Índice de Concordância (IC), considerando-o maior que 80%; e avaliação pelo público-alvo (adolescentes) com base na aplicação do instrumento Suitability Assessment of Materials (SAM), considerando-o “Superior” entre 70% a 100%; “Adequado”, de 40 a 69%; “Inadequado”, de 0 a 39%.

Resultados: A cartilha digital foi considerada válida pelos especialistas, com o índice de concordância entre 86% e 100% e qualificada como “Superior” pelos adolescentes com percentual de escore de 97% no instrumento SAM.

Conclusão: A cartilha foi considerada válida pelos especialistas e público-alvo, estando apta a ser utilizada como recurso tecnológico para identificar situações de violência sexual na adolescência e possibilitar a adoção de comportamentos preventivos.

Resumen
Objetivo: Elaborar y analizar como prueba de validez de contenido una cartilla digital para la prevención de la violencia sexual en la adolescência.
Preventing sexual violence in adolescence: digital booklet construction and validity

Introduction

Adolescence is a critical period for promoting attitudes and behaviors aimed at preventing sexual violence.\(^1\) This preventive approach must be comprehensive by focusing on changes in society regarding sexual behavior, the development of prevention programs and policies as well as training potential victims with knowledge and defense skills to act in situations of risk.\(^2\)

Sexual violence against adolescents can be characterized by physical, sexual, psychological abuse and neglect, resulting in serious consequences for their health, development and dignity.\(^3\) In Brazil, from 2017 to 2020, 179,277 cases of sexual violence against victims up to 19 years old were recorded. Globally, it is estimated that approximately 50% of children between the ages of two and 17 suffer some type of violence every year; of these, 120 million are sexually assaulted before the age of 20.\(^4\)

In 2020, with the arrival of the COVID-19 pandemic, there was a decrease in the number of reports of sexual violence among this public. It is estimated that the epidemiological data of these cases are undersized, considering possible causes such as lack of information on how to report online, prejudice and the presence of the perpetrator in the environment and daily lives of these victims, given that a large part of sexual abuse occurs within the family.\(^4,5\)

Adolescents are among the groups most vulnerable to sexual violence, which is aggravated by unequal power relations, low economic conditions, physical and emotional dependence.\(^6\) A history of sexual violence leads to the recurrence of these events, suffering bodily harm and developing clinically significant post-traumatic stress symptoms, which can lead to cases of morbidity and mortality in this population.\(^7\)

As it is a multifaceted violence that poses a series of challenges to public intervention, it is necessary for different professionals and segments of society to act in sexual violence prevention in adolescence. It is understood that nurses, in their work process, with their holistic and broad care from an individual and collective perspective, must perform, in addition to clinical practice, educational actions to prevent sexual violence in order to modify beliefs and behaviors, considering the plural dimension of adolescents' needs.\(^8,9\)

When thinking about strategies for identifying risk situations for sexual violence in adolescence, technological advances must be considered, as adolescents constantly use information and communication technologies (ICTs).\(^10\) ICTs have proven effectiveness and favor the acquisition of knowledge that, in turn, can contribute to the development of skills and attitudes aimed at preventing and promoting health among adolescents.\(^11\)

These digital technologies can be used both in health services and in school spaces and favor accessibility and interaction among the target audience.\(^11,12\) Based on this assumption, the research problem was defined: Is the booklet content and appearance in digital format “Booklet for prevention: sexual violence at school” valid as an intervention that will guide sexual violence prevention in adolescence?

It is believed that its use could favor actions to prevent sexual violence, with emphasis on early detection of cases, reporting and adoption of preventive behaviors. Therefore, the objective is to develop and analyze a digital booklet for sexual violence prevention in adolescence as proof of content validity.
Methods

This is a methodological study developed in three stages: digital booklet construction for preventing sexual violence in adolescence, material validity by a committee of experts and assessment by the target audience, according to figure 1.

![Figure 1. Development phases and actions carried out in this study](image)

The digital booklet was created, based on the Falkembach model, in the following phases: a) analysis and planning - literature review and focus group; b) modeling – organization of information selected in the previous phase; c) implementation – booklet structuring, formatting and setting in digital format with layout professionals.(13)

The literature review was based on scientific articles and official sources from the Brazilian National Plan to Combat Sexual Violence against Children and Adolescents,(14) which resulted in the guiding question “What do you know about sexual violence?”, which was discussed in a focus group with 15 adolescents in a state public school in two consecutive meetings, carried out with the aim of identifying information and prior knowledge that adolescents had about sexual violence. Participants created murals with phrases about the definition and ways to prevent sexual violence.

Based on the content extracted from the literature and materials produced in the focus group, the layout and interactive activities that were part of the digital booklet were developed. The material produced was sent for formatting and setting to layout professionals and placed in digital format. For the graphic creation and elaboration of the activities present in the booklet, the Adobe Flash program was used, which provided content interactivity and playfulness.(15)

To validate the booklet, we chose to select experts using non-probabilistic snowball sampling. Experts with experience in the area of assistance to adolescents or sexual violence, teaching or research in the area of study and health education, based on data from the Brazilian National Council for Scientific and Technological Development (CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico) Directory, were included. Thus, in the end, the sample consisted of seven experts.

It should be noted that the judges were contacted via email. After contact, the recruitment of professors specializing in the topics was carried out, who were also asked to recommend other professionals with a profile eligible for participation. After the recommendation, the Curriculum Lattes was consulted to verify judge’s suitability for the selection criteria for this study.

As it is a multifaceted problem that requires intersectoral actions, experts from different professional categories participated (two nurses, two social workers, a psychologist, a pharmacist and an administrator) aged between 24 and 67 years old.

To validate the content, objectives, structure and presentation, and relevance were analyzed based on López’s questionnaire adapted by Oliveira on a Likert scale with four response options: (1) unsuitable; (2) partially suitable; (3) suitable; and (4) completely suitable. Furthermore, the instrument included space for comments and suggestions.(16,17)

For all experts, a kit was delivered containing a copy of the technology on a CD and a questionnaire to assess the material, with a period of 15 days to return it completed. Those who did not return within the pre-established period were offered an additional seven days. Thus, it took a total of 21 days to analyze and return the material. Those who did not respond within this period were excluded from the survey.
Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 22. The Index of Agreement (IA) value assigned to each objective of the booklet was calculated based on the level of agreement among experts, obtained by applying the formula: IA = \( \frac{\text{sum of the number of agreement responses}}{\text{number of total responses}} \times 100 \). A minimum IA of 80% was adopted so that assessment could be considered suitable or excellent.

After suggestion and analysis by experts, changes were made to the material in the digital booklet by a layout professional and graphic designer, resulting in the booklet entitled “Booklet for prevention: sexual violence at school”, made available free of charge on the homepage: https://ppgenfermagem.ufc.br/index.php/2023/07/24/elementor-53534/

The target audience was selected for convenience in a municipal school in the Metropolitan Region of Fortaleza, aged between 10 and 13 years old, which precedes the phase with the highest rate of sexual violence in adolescence, consisting of 196 adolescents.

For collection, groups of 10 adolescents individually assessed the digital booklet on computers in the school’s IT room. There were five groups per shift, requiring four shifts to reach the final sample. After viewing the booklet completely, the SAM was handed over for assessment. Thus, the reading and assessment period comprised 20 to 30 minutes.

The Suitability Assessment of Materials (SAM) by Doak, Doak and Root, translated and adapted by Oliveira,\(^{16,18}\) was the instrument used to assess the digital booklet by adolescents. SAM scores were assessed according to classifications: 2 points = “superior material”; 1 point = “suitable material”; and 0 point = “unsuitable material”. The final score of each assessment was transformed into a percentage by adding the scores obtained, divided by the total scores and multiplied by 100. In this way, the score percentages were considered “Superior” when they reached the percentage range of 70% to 100%, “Suitable”, from 40 to 69%, “Unsuitable”, from 0 to 39%.\(^{19}\)

The study was approved by the Research Ethics Committee (REC) of the Universidade Federal do Ceará (UFC), under CAAE (Certificado de Apresentação para Apreciação Ética - Certificate of Presentation for Ethical Consideration) 26440614.1.0000.5054, with Opinion 640.696.

**Results**

The digital booklet portrayed a comic book experienced at school, with Ana being the main character and responsible for presenting adolescents’ information and reflections on sexual violence. The digital technology consists of 68 screens, with six objectives: 1. concept and types of sexual violence; 2. profile of sexual offenders; 3. use of the internet as a conducive place for sexual violence to occur; 4. guidance on complaints and assistance; 5. legislation that protects adolescents; 6. actions to develop protective attitudes. To facilitate access to the digital booklet, access was limited to free access, without the need to register in advance. In the initial presentation, there is a button that directs adolescents to the next screens. To encourage content interaction and playfulness, activities on the topic were included, present on 12 screens of the digital booklet (Figure 2).

Characters’ speech and the activities contained in the educational material focused on the early detection of sexual violence by adolescents, the importance of protective behaviors, ensuring confidentiality after reporting to responsible bodies. The digital booklet was validated by seven experts, the majority of whom were women, with an average age of 46 years. Thus, 43% were social workers, 29%, nurses, 14%, pharmacists, and 14%, psychologists. All experts had extensive knowledge about sexual violence in adolescence. The items in the digital booklet were validated with an agreement equal to or greater than 86%. The material presented an overall IA of 98.7%, thus being considered valid and appropriate as it presents a high level of agreement among experts (Table 1).

The main suggestions made by experts were: inclusion of images of adolescents that represented cultural diversity and social inclusion (black and/or with disabilities); replacement of the word “always” with “generally” in the sentence “Perpetrators
always appear to be happy, communicative people and willing to help the victim” to avoid the universalization of this behavior among perpetrators; and inclusion of victims of sexual violence’s feeling of trust in order to encourage reporting. It is worth noting that all of them were accepted. After booklet
validity by experts, the material was again forwarded to a layout professional and graphic designer to make the necessary adjustments regarding content and layout. The target audience’s assessment regarding the booklet organization, writing style, appearance and motivation obtained an overall percentage of 97%, being considered “Superior” in all items (Table 2).

The target audience’s assessment was, in general, positive. Of the 196 adolescents, 11.7% (n=23) gave suggestions for improvement, which stand out: use of black in the cover illustration, signaling that it should be more colorful; criticizing flower use on the cover by stating that it meant that the subject was exclusive to girls; and low motivation to read the material completely because it is extensive and contains sentences that are difficult to understand. The changes were not required to be corrected due to the high percentage of assessment scores, but despite this, the relevant suggestions were accepted.

**Table 2. Target audience’s assessment regarding the digital booklet organization, writing style, appearance and motivation**

<table>
<thead>
<tr>
<th>Domains</th>
<th>Items assessed</th>
<th>Total scores/Score percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>1.1 Did the cover catch your attention?</td>
<td>193(98.5)</td>
</tr>
<tr>
<td></td>
<td>1.2 Does it show the subject to which it refers?</td>
<td>196(100)</td>
</tr>
<tr>
<td></td>
<td>1.3 Is the sequence of topics appropriate?</td>
<td>195(99.5)</td>
</tr>
<tr>
<td></td>
<td>1.4 Is topic size suitable?</td>
<td>185(94.4)</td>
</tr>
<tr>
<td>Writing style</td>
<td>2.1 Regarding sentence understanding, they are suitable:</td>
<td>189(96.5)</td>
</tr>
<tr>
<td></td>
<td>2.2 Written content is suitable:</td>
<td>195(99.5)</td>
</tr>
<tr>
<td></td>
<td>2.3 Text is appropriate:</td>
<td>193(98.5)</td>
</tr>
<tr>
<td>Appearance</td>
<td>3.1 Illustrations are appropriate:</td>
<td>195(99.5)</td>
</tr>
<tr>
<td></td>
<td>3.2 Do illustrations serve to complement the text?</td>
<td>196(100)</td>
</tr>
<tr>
<td></td>
<td>3.3 Do sections look organized?</td>
<td>196(100)</td>
</tr>
<tr>
<td>Motivation</td>
<td>4.1 Did you feel motivated to read until the end?</td>
<td>189(96.5)</td>
</tr>
<tr>
<td></td>
<td>4.2 In your opinion, will any adolescent who reads this booklet understand what it is about?</td>
<td>175(89.5)</td>
</tr>
<tr>
<td></td>
<td>4.3 Does the booklet address issues necessary for preventing sexual violence?</td>
<td>175(89.5)</td>
</tr>
<tr>
<td>Overall percentage of scores</td>
<td></td>
<td>97.0</td>
</tr>
</tbody>
</table>

**Discussion**

Sexual violence in adolescence is considered a public health problem and the challenges are great, especially with regard to discrimination between violence and consent and daily practices towards more comprehensive care for this population. The development of digital technological strategies, such as the digital booklet developed, aims to promote and expand adolescents’ knowledge about behaviors that make them vulnerable to sexual violence. It therefore constitutes an effective resource to assist in the development of educational health actions aimed at preventing sexual violence in adolescence.

Digital technologies have been widely used by health professionals for educational purposes, especially in strategies aimed at adolescents. The advantages regarding the use of these digital tools are notable and are associated with the low or no cost for disseminating health information, the delivery of a product of equal quality to a greater number of people, constant availability of technology for use and possibility of using images, videos, activities and interactive games.

Considering specifically the adolescent public, the development of digital health technologies must observe essential points such as the availability of safe knowledge, dynamism, attractiveness and access to resources. From this perspective, the digital booklet “Booklet for prevention: sexual violence at school” was developed after an extensive literature review and focus groups to collect accurate data. To ensure the material attractiveness and catch readers’ attention, in addition to informative texts, images/illustrations and educational activities were used.

The content explored and conveyed by the main character of the booklet included concise information regarding the definition of sexual violence as well as its types, the importance of preventing episodes, adopting preventive behaviors and the need to make reports to understand the magnitude of the problem and for the development of coping strate-
gies. All information was based on national guidelines, and endorsed by scientific productions on the topic, and endorsed by scientific productions on the topic. Through the main character’s speeches, it was also possible to explain adolescents’ knowledge about sexual violence. These statements were based on the content obtained in focus groups previously held in the school space. It is known that the focus group technique has been effective for adolescents and young people, and enables the researcher’s immersion in the researched environment through interactive discussion and exchange of experiences among participants regarding the topic addressed, which allows obtaining real information from the reality in which interviewees are inserted.

The black color and the flower on the home screen were selected because they portray aspects related to sexual violence, such as silence and the Faça Bonito Campaign, respectively. Silence refers to the darkness associated with underreporting and the lack of reporting of episodes that arises, for example, from adolescents’ fear regarding the consequences that complaining to a competent body could generate for themselves. In addition to this aspect, sociocultural factors contribute to the low rate of complaints, such as the condition of dependence, threats and embarrassment imposed on victims by perpetrators. In addition to encouraging complaints, the booklet addressed the environments in which sexual violence occurs and the profile of perpetrators. Sexual violence can occur in intra- and extra-family environments, with the victims’ own home being the main setting for cases to occur, since it makes it possible to interact with likely perpetrators, who are, for the most part, people with excessive familiarity, including parents, which contributes to the silent recurrence of episodes.

Sexual violence practice has serious consequences and requires the adoption of protective behaviors. In addition to physical injuries, episodes of sexual aggression generate a greater likelihood of chronic mental disorders, including substance dependence, eating disorders, anxiety and depression, which can culminate in suicide. In this regard, in addition to explaining the seriousness of the consequences, digital technology brought, through the main character’s speeches together with her group of friends, information regarding effective attitudes to be adopted by adolescents to prevent sexual violence.

As for the resources used, when reading the booklet, associated with the use of attractive images, there are activities that address the definition of sexual violence and its types, the profile of perpetrators, protective behaviors and the current overview of complaints. Educational activities using digital health technologies are innovative tools that enable education and health promotion in adolescents, in addition to generating interaction and universal access to health information.

In this way, by encouraging interactivity between the system and readers, the games present in the booklet enable the consolidation of the information conveyed, thus contributing to increasing the level of digital health literacy among adolescents, which directly implies greater adherence to protective behaviors against sexual violence.

Considering the above, the developed and validated digital booklet can be used as an individual or collective health education tool in the school space, as it provides suitable information to support adolescents’ decision-making in situations that may be considered dangerous, aiming to strengthen and increase confidence in adhering to protective behaviors. Despite achieving a high level of agreement among experts and satisfactory assessment among adolescents, as a limitation, this study did not assess the effects, after using this digital technology, on adolescents’ behavioral changes and the consequent reduction in cases of violence. Sexual activity in this age group. Further studies that assess the adoption of protective behaviors among adolescents after using this digital booklet are necessary.

Conclusion

The digital booklet was created and validated, reaching a percentage considered “suitable or excellent” (IA greater than 80%) in the validity of experts and “superior” (70 to 100%) in adolescents’ assessment.
It was found that the digital booklet was consistent with the reality of sexual violence in adolescence and included the necessary steps for creating digital educational materials. It is concluded that it is an innovative, attractive and compatible material with adolescents’ specificities, and it is inferred that it is capable of being used as a technological resource to identify situations of sexual violence in adolescence and provide information on the adoption of preventive behaviors.

Acknowledgments

To the Coordination for the Improvement of Higher Education Personnel (CAPES - Coordenação de Aperfeiçoamento de Pessoal de Nível Superior), for the master’s scholarship granted to Kirley Kethellen Batista Mesquita and Joana Maria Rocha Sales.

Collaborations

Silva KL, Pinheiro PNC, Mesquita KKB, Sales JMR, Mondragón-Sánchez EJ, Ximenes LB, Gabert FA and Lima FE contributed to study design, data analysis and interpretation, article writing, relevant critical review of intellectual content and approval of the final version to be published.

References


