

## Development and Content Validation of a Manga-Based Educational Technology on Child Sexual Abuse: A Nursing Tool for Health Literacy in Brazil

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### ABSTRACT

As child sexual abuse remains a pervasive and silent crime, there is an urgent need for innovative nursing tools that enhance health literacy to empower young populations. The objective of this study was to develop and validate a manga-based nursing educational technology aimed at child sexual abuse prevention and health literacy in Brazil. Regarding the method, a methodological study with a quantitative approach was conducted to validate the content of the manga, which was designed as a nursing information tool using ibisPaint software. The material was evaluated by 12 experts in child health, protection networks, and information technology who met Jasper's criteria with validation analyzed using the Content Validity Index (CVI) at an acceptable agreement rate of 90%. Additionally, Gwet's AC2 was used for intra-expert agreement evaluation. The results revealed a CVI of 1.00 for objectives and relevance, while the structure of the manga achieved a CVI of 0.97 with a clarity rating of 0.92. Gwet's AC2 indicated almost perfect agreement, yielding values of 0.92 for objectives, 0.84 for structure, and 0.93 for relevance. In conclusion, this validated manga serves as an effective nursing educational technology that facilitates health literacy by providing children and adolescents with the necessary autonomy to recognize abuse and access protection networks. This research contributes a rigorous technological framework to nursing informatics, offering a culturally relevant instrument for promoting social justice and child protection in the Brazilian context.

**Keywords:** Child Sexual Abuse, Health Literacy, Nursing Informatics, Educational Technology, Validation Study



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## 1. INTRODUCTION

Childhood is understood as a socially constructed category (Carnevale, 2022; Sudarsan et al., 2022) that is deeply permeated by the historical conception of the child as a passive recipient of knowledge transmitted by adults (Davies et al., 2024). According to Pacini-Ketchabaw et al. (2023) and Navidmanesh et al. (2025), early childhood encompasses a multidimensional and critical period during which children experience primary content that forms a continuous repertoire for their ongoing relationship with their environment. Consequently, specific attention and care regarding the peculiar characteristics of early childhood, alongside the environmental influences on the developing child, are fundamentally necessary (Scattolin et al., 2022). This relationship is of extreme relevance to the social sphere, given the vital role of childhood and the family in their primary care responsibilities (Dubowitz et al., 2022). However, when these protective functions fail, children become acutely vulnerable to various forms of exploitation and violation.

Sexual abuse is considered a severe violation of these primary cares and represents a pervasive form of intrafamily violence that transcends all social classes, ethnicities, religions, and cultures (Ajayi et al., 2022; Bajos et al., 2023). It is characterized as a silent crime due to the profound abuse of power in which children and adolescents are utilized for the sexual gratification of an aggressor without their consent (Sahu et al., 2024). Such violence is often exerted through force, intimidation, coercion, blackmail, bribery, or manipulation, which effectively nullifies or limits the personal will (Ferrari et al., 2025). The resulting health damages are overwhelming and persist throughout the victim's life, involving not only physical injuries but also complex emotional conflicts characterized by fear, anger, guilt, and helplessness (Valente et al., 2025; Widanaralalage et al., 2022). These feelings constitute a trauma that can be either transient or permanent, fundamentally altering the child's developmental trajectory.

In the Brazilian context, social inequality factors, specifically low educational levels and poverty, significantly contribute to the increased incidence of child sexual abuse cases (Diehl et al., 2022; Pedroso & Leite, 2022). Frequently, situations of financial dependence lead to the omission of abuse reports and the subsequent impunity of abusers, creating a cycle of vulnerability (Rana et al., 2025). In such a complex environment, nursing interventions must move beyond traditional clinical roles toward a liberating process of health education. This approach contributes to the formation of children and adolescents by promoting practices and skills centered on autonomy, self-care, and self-protection within the family and community context. Such educational initiatives foster trust and empowerment, which are essential components of effective health promotion actions.

A primary pillar of this empowerment is the development of health literacy. Through structured health education activities, children learn about social determinants and are encouraged to take a stand in the face of injustice (Bell & Adams, 2024; Jenkins et al., 2023). Literacy for children and adolescents can catalyze significant changes in attitude in the pursuit of social justice, especially when considering environmental factors and sociocultural conditions (Simpson & Cremin, 2022). A robust understanding of health determinants significantly contributes to equitable promotion and the reduction of health disparities (Mamun & Alam, 2025). In this framework, the nurse acts as a vital facilitator of information, requiring specialized instruments or nursing tools that can effectively bridge communication gaps with victims who are often silenced by trauma.

The development of new models and instruments aimed at prevention in vulnerable contexts, particularly educational technologies, is essential because they not only promote health but also strengthen the bond between the health professional and the user (Ramsden et al., 2022). These technological initiatives underpin the exchange of knowledge and the reconstruction of understanding between the nurse and the patient (Altmiller & Pepe, 2022). Within the child protection network, educational technologies strengthen both the continuous professional education of nurses and the empowerment of users through health and social security literacy (Lia Dewi et al., 2025). These tools are designed to help children and adolescents identify scenarios of violence and seek support from established service networks. Consequently, the study of these technologies is crucial for modernizing nursing interventions in the face of increasingly sophisticated forms of violence.

Regarding the choice of technological platforms, according to Rohmah & Rosyidha (2025), manga stands out as a highly effective narrative element due to its visual power and ability to convey complex messages. The use of specific layout tools, such as the "T" layout, confers fluidity to the narrative, aiding not only in reading but also in the comprehension and immersion of the reader. The strategic organization of panels and the use of imagery are integral to the work's meaning, allowing for a deep connection with the audience. Unser-Schutz (2025) added that manga frequently employs extratextual elements and immersive imagery, making it a potent medium for discussing sensitive topics that children may find difficult to articulate verbally.

Despite the documented urgency of child protection, a significant research gap exists regarding the availability of validated, interactive instruments that combine popular aesthetics with clinical nursing content to enhance health literacy on the issue of sexual abuse. Most existing educational materials remain instructional and one-dimensional, lacking the immersive capacity necessary to foster genuine autonomy in children. This study intends to fill this void by developing a technology that serves not merely as an information medium but as a rigorously tested nursing tool. Based on this background, the objective of this study is to analyze the development and validation of an educational technology in the format of a manga focused on child sexual abuse. This research contributes a rigorous technological framework to nursing informatics, offering a culturally relevant instrument to empower children in Brazil to recognize signs of violence and navigate protection networks independently.

## 2. METHOD

This research is a methodological study with a quantitative approach focused on the operational validation of an educational technology. The increasing demand for rigorous testing of nursing

interventions and sophisticated data collection has driven the necessity for such methodological research. The development process began with a literature review to inform the plot, which was written by experts in child health and educational technology. The chosen medium was a shoujo-type manga, a genre strategically selected because it primarily targets girls, who represent the majority of child sexual abuse reports in Brazil. Designed by the main author using ibisPaint software, the manga utilizes a "T" layout to facilitate reading fluidity, comprehension, and immersion. By framing panels with extratextual elements and imagery, the tool creates a significant narrative environment to engage young readers.

The content validation followed the six-stage framework proposed by Yusoff (2019), which includes preparing the form, selecting experts, conducting the validation, reviewing domains, scoring, and calculating indices. The validation instrument was based on the criteria of Streiner et al. (2024), evaluating relevance, clarity, and pertinence regarding objectives, structure, and appearance through an ordinal scale. A panel of 12 experts was recruited using snowball sampling, involving remote contact via messaging apps, emails, and phone calls. These experts were selected based on Jasper's (1994) criteria, representing child health, health education, protection networks, and design. This sample size aligns with Lakens (2022) recommendation of 0 to 20 participants. Judges received an invitation letter and a Google Forms link to access the manga and providing their evaluations and free-expression opinions.

Profile data and judge responses were organized and analyzed using Microsoft Excel 2010 and Word 2019, employing descriptive statistics such as absolute and relative frequency, central tendency, and dispersion. For validation scoring, responses were dichotomized into a concordance classification: positive responses (scores 3 and 4) were recorded as 1 (agreement), while negative responses (scores 1 and 2) were recorded as 0 (disagreement). This structured approach ensured that the theoretical domain of the construct was sufficiently covered and that the relevance of the indicators was evidenced through quantitative measures.

The Content Validity Index (CVI) was calculated to determine the proportion of agreement, with a minimum acceptable rate set at 0.90. Recognizing the limitations of the Kappa coefficient, the study also employed Gwet's second-order agreement coefficient (AC2) to evaluate inter- and intra-expert reliability, homogeneity, and equivalence. Interpreted similarly to Kappa, AC2 values range from 0 to 1, where values above 0.8 indicate almost perfect agreement. All statistical calculations were performed using the Real Statistics Resource Pack (Release 7.6) with a significance level of 5% and a 95% confidence interval.

### 3. RESULTS AND DISCUSSION

#### 3.1. Results

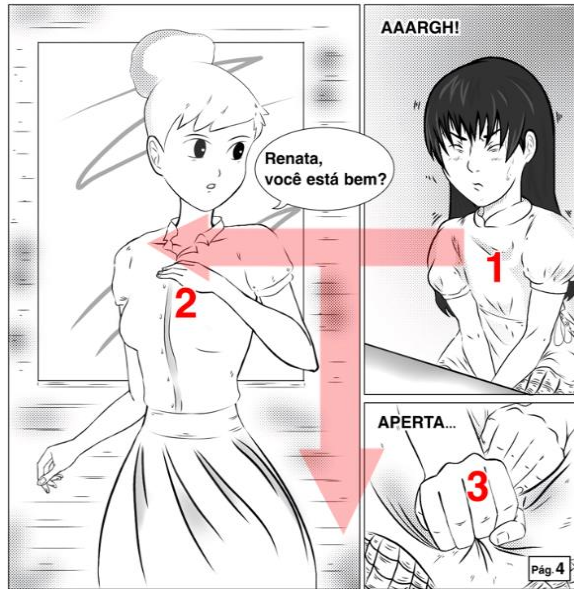
The developed educational technology, titled "Under the Barren Waters of the Sugarcane Field," is a 34-page manga set within the sugarcane culture of Pernambuco. The narrative centers on Renata, an 11-year-old girl navigating the trauma of family-based sexual violence. To ensure immersion and cultural relevance, the manga follows the traditional Japanese reading pattern from right to left and top to bottom, as detailed in the reading instructions provided to users (Figure 1) and demonstrated through sample page layouts (Figure 2). The "T" layout was specifically utilized to facilitate fluid reading and deeper comprehension of the poignant narrative experiences depicted.

**Figure 1**

*Instructions for Reading the Manga*



**Figure 2**  
*Demonstration of How To Read One of the Manga Pages*



The validation process involved a multidisciplinary panel of 12 experts, aged between 24 and 59 years, comprising seven women and five men. This panel brought together diverse expertise, including four educators and researchers, six professionals from child and adolescent support networks, one lawyer, and two designers. Their educational backgrounds spanned nursing, pedagogy, social services, and information technology, ensuring a rigorous and objective evaluation of the tool's effectiveness.

The quantitative analysis through the Content Validity Index (CVI) revealed exceptionally high agreement across all domains, as synthesized in Table 1. The "Objectives" domain achieved a CVI of 0.97, reflecting the judges' consensus that the manga effectively strengthens ties with protection networks and empowers children through health literacy. The "Structure and Presentation" domain attained a CVI of 0.92, while the "Relevance" domain reached a perfect CVI of 1.00, indicating that the instrument is highly significant for clinical and educational practice. Overall, the technology demonstrated a validity rate exceeding 90% across all evaluated criteria, including clarity and pertinence.

**Table 1**  
*Evaluation of Educational Technology based on CVI: Objectives, Structure and Presentation, Relevance*

Scale Items	Positive responses ( $\geq 3$ )		Negative responses ( $< 3$ )		CVI	CVI domain
	n	%	n	%		
Objectives:						
Was the manga relevant in assessing the purposes, goals, and/or aims of strengthening ties with the protection network, as well as contributing to the empowerment of children and adolescents regarding child sexual abuse, considering health literacy and social security?	11	91.7	1	8.3	0.92	0.97
Was the manga clear in evaluating the purposes, goals, and/or aims of strengthening ties with the protection network, as well as contributing to the empowerment of children and adolescents regarding child sexual abuse, considering health literacy and social security?	12	100	-	-	1.00	
Was the manga relevant in evaluating the purposes, goals, and/or aims of strengthening ties with the protection	12	100	-	-	1.00	

network, as well as contributing to the empowerment of children and adolescents regarding child sexual abuse, considering health literacy and social security?

Structure and Presentation:

Was the manga relevant in terms of organization, structure, strategy, coherence, and sufficiency of each of the elaborated panels?	12	100	-	-	1.00	0.92
Was the manga clear in terms of organization, structure, strategy, coherence, and sufficiency of each of the elaborated panels?	10	84.6	2	15.4	0.85	
Was the manga relevant in terms of organization, structure, strategy, coherence, and sufficiency of each of the elaborated panels?	11	91.7	1	8.3	0.92	

Relevance:

Was the manga relevant in referring to characteristics that evaluate the degree of significance of the instrument for practice?	12	100	-	-	1.00	1.00
Was the manga relevant in referring to characteristics that evaluate the degree of significance of the instrument for practice?	12	100	-	-	1.00	
Was the manga relevant in referring to characteristics that evaluate the degree of significance of the instrument for practice?	12	100	-	-	1.00	

Statistical reliability was further confirmed by Gwet's AC2 values, which address the equivalence of agreement among experts (Table 2). The results indicated almost perfect agreement for the objectives (AC2 = 0.87) and relevance (AC2 = 0.91). The structure and appearance domain yielded an AC2 value of 0.75, which, despite being slightly lower than the other domains, still represents a substantial and acceptable level of agreement within the 95% confidence interval.

**Table 2**

*Reliability Analysis via Gwet's Second-Order Agreement Coefficient (AC2)*

Scale Items	Lower	Upper	Values of Gwet's AC2
Objectives	0.83	0.91	0.87
Structure and Presentation	0.62	1.00	0.75
Relevance	0.46	1.00	0.91

In addition to quantitative indices, the evaluation form provided a "Free Expression" space for experts to offer suggestions for instrument improvement or deeper research opinions. These qualitative insights were categorized according to the validation domains to facilitate thematic analysis and the subsequent refinement of the educational technology.

**Table 3**

*Expert Qualitative Feedback and Technical Suggestions*

Domain	Judge ID	Expert Feedback and Suggestions
Objectives	Judge 1	Stated the manga is excellent and accurately represents the current reality of abusers within the domestic environment.
	Judge 2	Suggested emphasizing the need for victims to communicate with adults or police and noted ambiguity regarding the teacher's role in seeking help.
	Judge 3	Noted that while the purpose is relevant and presentation is impeccable, clearer instructions are needed to aid reading.
	Judge 4	Warned that children or adolescents without prior experience with the manga style may face difficulties in reading and comprehension.

Structure and Presentation	Judge 6	Described the project as an extremely relevant work that successfully addresses a delicate topic both realistically and artistically.
	Judge 8	Recommended providing official reporting channels, such as DISQUE 100, DISQUE 125, and DISQUE 181, on the last page.
	Judge 3	Specifically suggested adding clearer and more detailed instructions on how to read the manga format.
	Judge 7	Proposed increasing the number of panels to divide text in sections where panels contain too much information.
	Judge 9	Recommended making context changes clearer throughout the story description to improve narrative flow.
	Judge 11	Praised the structural organization as impeccable, noting that the careful session division facilitates a profound understanding of characters.
Relevance	Judge 1	Affirmed that the technology provides a clear way for the target audience to understand child sexual abuse.
	Judge 2	Stated the content is extremely necessary and aligns with the evolution of current social realities and legal frameworks.
	Judge 5	Envisioned the practical application of the manga as a relevant educational tool within a classroom setting.
	Judge 10	Cautioned the authors to be careful not to apply too many simultaneous themes, even those relevant to the situation.
	Judge 12	Highlighted the essential educational and social role of the work, from identifying signs of abuse to procedures following recognition.

The qualitative synthesis presented in Table 3 confirms that the experts recognize the manga as a poignant and realistic instrument for health communication regarding sensitive topics. Within the objectives domain, the primary focus was on enhancing the tool's actionable nature by including explicit reporting channels, such as DISQUE 100, which transforms the manga into a functional nursing tool for immediate intervention.

Regarding structure and presentation, although the organization was deemed impeccable by some, others identified a potential barrier related to the specific "T" layout and right-to-left reading pattern. To mitigate this, experts recommended optimizing panel density and providing more robust reading instructions to ensure that children, regardless of their familiarity with the genre, can navigate the narrative without excessive cognitive load.

In the relevance domain, the experts emphasized that the work fulfills a critical social role by offering hope and empowerment amidst the portrayal of trauma. These qualitative contributions were integral to the final refinement of the technology, ensuring that it is not only statistically valid but also pedagogically sound and culturally adapted for the Brazilian context.

## 3.2. Discussion

### 3.2.1. Manga as a Methodological Innovation in Nursing Educational Technology

The validation results of the manga titled "Under the Barren Waters of the Sugarcane Field" demonstrate that the selection of the shoujo genre and the "T" layout served as a calculated methodological strategy rather than a purely aesthetic choice. By specifically targeting the female demographic, which represents the majority of child sexual abuse reports in Brazil, the *shoujo* genre (young girl) creates a tailored narrative environment that fosters identification and emotional safety. Furthermore, the "T" layout was methodologically implemented to facilitate reading fluidity and cognitive immersion, ensuring that the transition between panels supports the comprehension of sensitive information without overwhelming the reader. This strategic design is scientifically justified by the high Content Validity Index (CVI) obtained in this study, specifically 0.97 for objectives and 0.92 for structure and presentation, which proves that the visual framework is highly accepted by experts as a rigorous instrument for health education.

The integration of such visual technologies into nursing practice is essential for strengthening the professional-user bond, as it transforms the nurse from a mere transmitter of information into a facilitator of empowerment. According to health literacy concepts (Bindhu et al., 2024; Ghorbanian Zolbin et al., 2022; Li, 2025), an effective educational tool must provide autonomy for the user to recognize and respond to social determinants of health, a goal achieved here through immersive imagery that bridges communication gaps often present in trauma-related cases. This approach aligns with the concepts

presented by Adif et al. (2025) and Krupp et al. (2025), who emphasizes that expert-validated tools are fundamental for advancing nursing informatics and ensuring that interventions are evidence-based. By utilizing manga, nurses can navigate the silent nature of sexual abuse, offering a poignant yet safe medium for children to develop the action competencies necessary for self-protection.

Compared to previous studies, the methodological rigor and high validation scores of this manga-based tool position it as a significant innovation in the field. For instance, the results echo the study by Nóbrega et al. (2021), which utilized a booklet format and achieved a CVI of 0.99, suggesting that structured visual aids are consistently effective for vulnerable populations. Additionally, the multidisciplinary validation process used here follows the successful model of Wild et al. (2019), highlighting that a heterogeneity of expert perspectives is favorable for creating comprehensive health materials. The use of Gwet's AC2 for reliability assessment, yielding values such as 0.87 for objectives and 0.91 for relevance, further confirms the scientific robustness of this tool compared to traditional Kappa-based studies. This is consistent with the youth empowerment frameworks proposed by Barros et al. (2023), which advocate for technological instruments that promote social justice through enhanced literacy. Following the six content validation stages of Yusoff (2019), the high CVI and AC2 values serve as definitive evidence that this manga is a validated nursing tool capable of modernizing child protection interventions.

### **3.2.2. Enhancing Health Literacy and Empowerment in Child Sexual Abuse Prevention**

The quantitative results regarding the domain of objectives, which attained a Content Validity Index of 0.97, along with the relevance domain achieving a perfect score of 1.00, indicate that the manga is a powerful instrument for fostering empowerment. This high level of expert consensus reflects the ability of the technology to transcend passive information delivery by providing a narrative framework that encourages children to recognize scenarios of sexual violence. By depicting the poignant story of the character Renata, the manga facilitates a necessary process of guidance where victims can acquire the knowledge and direction required to take the first step toward seeking help within established protection service networks.

Health literacy is conceptualized within this study as an action competency that focuses on personal attributes to enable informed decision-making and a critical response to the social determinants of health. This technological tool functions as a liberating process in health education, promoting specific skills of autonomy and the emancipation of healthy attitudes within both the family and the wider community context. As supported by the youth empowerment framework proposed by Barros et al. (2023), such literacy practices are fundamental for catalyzing significant changes in attitude and pursuing social justice through a deeper understanding of equitable health promotion. The innovation provided by the manga format allows for more effective dialogues between nursing professionals and young victims, thereby reducing the communication barriers created by the silent and complex nature of intrafamily violence.

The integration of this educational technology into the broader protection network serves as both a training tool for professionals and a vital means of empowerment for the users. By identifying signs of abuse and understanding the specific procedures to follow after such recognition, children gain the necessary autonomy to face challenges and access specialized services. This study aligns with the methodological innovations in scientific communication that aim to protect vulnerable populations, reflecting the success of previous visual tools such as the booklet developed by Nóbrega et al. (2021) and Silva et al. (2024) to combat sexual violence. Ultimately, the manga acts as a catalyst for social security literacy, ensuring that children and adolescents are not merely passive recipients of knowledge but active participants in their own self-protection and health promotion.

### **3.2.3. The Significance of CVI and Gwet's AC2 in Nursing Tools**

The methodological rigor of this study is primarily evidenced by the exceptionally high validity indices achieved during the expert evaluation phase, where the overall Content Validity Index (CVI) ranged from 0.92 to 1.00. This level of consensus among the 12 experts confirms that the theoretical domain of the construct is sufficiently covered and that the tool effectively measures its proposed objectives regarding child protection. By strictly following the six content validation stages proposed by Yusoff (2019), the research ensures that each item within the manga is clear, pertinent, and relevant to the prevention of child sexual abuse. Furthermore, the inclusion of a diverse panel of judges meeting the criteria of Jasper (1994), including specialists in child health, nursing, and information technology, provides a multidisciplinary perspective that is vital for creating robust and reliable nursing tools.

A distinguishing feature of this research is the application of Gwet's second-order agreement coefficient (AC2) to evaluate inter-expert reliability, which effectively addresses the inherent limitations and potential paradoxes often associated with the traditional Kappa coefficient. The AC2 values of 0.87 for objectives and 0.91 for relevance indicate an almost perfect agreement, demonstrating that the validation results are statistically stable and not merely products of chance. Even the substantial agreement value of 0.75 for structure and appearance confirms the overall effectiveness of the instrument's design according to the standards of Streiner et al. (2024). This sophisticated statistical

approach, supported by the Real Statistics Resource Pack at a 5% significance level, fulfills the increasing demands for rigorous outcome evaluations and sophisticated data collection procedures in modern nursing informatics research.

The high scores obtained in this study compare favorably with other validated educational technologies in the field of child health, such as the booklet for young people with intellectual disabilities developed by Nóbrega et al. (2021), which achieved a CVI of 0.99. Such consistent results across different visual formats highlight that structured aids, when subjected to rigorous methodological testing, serve as effective strategies for health promotion in vulnerable contexts. Furthermore, adhering to the recommendations of Lakens (2022) regarding sample size ensures that the validation process is both representative and scientifically sound for the target population. Ultimately, the combination of high CVI and AC2 values reinforces the robustness of the manga as a culturally relevant instrument that facilitates health literacy, providing a rigorous technological framework for promoting social justice and child protection within the Brazilian healthcare system.

### 3.2.4. Cultural Relevance and the Integration into Brazil's Child Protection Network

The effectiveness of nursing educational technologies is fundamentally dependent on their cultural sensitivity and proximity to the lived reality of the target population. The manga titled "Under the Barren Waters of the Sugarcane Field" intentionally permeates the sugarcane culture of Pernambuco, Brazil, by featuring characters who navigate the harsh realities of sugarcane cutters. By situating the protagonist, Renata, an 11-year-old girl, within this specific sociocultural context, the technology transcends generic instruction to create a poignant narrative that resonates with the regional identity of its readers. This approach aligns with the principle that health education must consider environmental factors and sociocultural conditions to foster changes in attitude and promote social justice. The perfect Content Validity Index (CVI) score of 1.00 in the relevance domain confirms that the expert panel recognized the significant importance of this instrument for practice within the Brazilian social landscape. These findings align with the research conducted by Lua et al. (2023) and Gomes et al. (2025), which underscores that health interventions tailored to specific cultural contexts demonstrate enhanced effectiveness in addressing the social determinants of health among vulnerable populations in Brazil.

Integration into the child protection network is a critical requirement for any educational tool addressing sexual violence. Qualitative feedback from the expert panel, specifically from Judge 8, emphasized the necessity of providing explicit reporting channels such as DISQUE 100, DISQUE 125, and DISQUE DENÚNCIA 181 on the last page of the manga. This suggestion is vital for transforming the technology into an actionable nursing tool that bridges the gap between identification and intervention. Furthermore, the experts highlighted that the manga achieves its goals by strengthening ties with the protection network and contributing to the empowerment of children and adolescents regarding child sexual abuse. By providing clear instructions on how to seek support, the technology empowers victims to navigate the complex social security and health networks that are often overwhelming for those experiencing trauma. This modernization aligns with recent Brazilian legislative efforts, such as Bill PL 2628/2022 (Kurschner, 2025), which aims to strengthen child protection in the digital era.

The potential for integrating this technology into national health strategies is supported by its alignment with Article 227 of the Federal Constitution and other legal frameworks governing child and adolescent rights (Moreira et al., 2024). As noted by the experts, although child sexual violence is a widely discussed topic, it requires more emphasis through innovative models that support the professional-user bond. The manga represents a methodological innovation in scientific communication that can be utilized by both health professionals and educators within the broader protection network. Such a culturally relevant instrument facilitates health literacy and social justice by offering equitable promotion and a deeper understanding of health determinants. Therefore, its adoption within national protection service networks would offer a robust support structure for identifying abuse signs and guiding victims toward transformation and hope. Consistent with the findings of this study, similar research conducted by (Logie et al., 2023), Maineny et al. (2023) and Rizzo et al. (2023) has demonstrated that the strategic implementation of comic-based media significantly enhances knowledge regarding sexual violence prevention among school-aged children.

### 3.2.5. Implications for Nursing Practice and Social Justice

The implications of this study for nursing practice are multifaceted, as the validated manga provides a sophisticated instrument that bridges the gap between clinical informatics and community-based protection networks. By integrating such educational technologies into their daily workflows, nurses can strengthen the professional-user bond and facilitate a liberating process of health education that promotes the autonomy and self-protection of children. This tool is particularly vital in the Brazilian context, where it supports the identification of abuse scenarios and ensures that victims are appropriately referred to specialized social support and service networks. Furthermore, the project serves as a catalyst for social

justice by addressing the overwhelming health damages caused by sexual violence through the lens of enhanced health literacy. The high agreement among experts regarding the relevance of this tool underscores its potential to foster a safer environment where transformation and hope can thrive despite the profound trauma of abuse. Ultimately, the use of this innovative nursing tool empowers vulnerable populations, reinforcing the ethical commitment of the nursing profession to protect and fulfill human rights within the public health sphere.

#### 4. CONCLUSION

The multidisciplinary expert panel reached a near-perfect agreement regarding the objectives and relevance of the developed technology, while substantial agreement was observed for its structure and presentation, thereby reinforcing the overall robustness of the instrument. The manga titled "Under the Pale Waters of the Sugarcane Field" represents a significant methodological innovation in scientific communication for children, adolescents, and health professionals, specifically designed to support the protection of victims of sexual violence. As a fundamental training tool for professionals, this educational technology facilitates adequate guidance and support, enabling victims to achieve the necessary empowerment to face complex challenges. Ultimately, these elements underpin an integrated network of welcoming, information, and prevention, contributing to a safer and more supportive environment where children and adolescents can find the assistance required to overcome difficult trauma.

While the instrument demonstrates strong methodological validity, its current limitation is the focus on expert-level evaluation rather than direct clinical testing with the target population of children and adolescents. Future research should prioritize field implementation to assess the manga's practical impact on health literacy and reporting behaviors, alongside exploring digital adaptations to further expand its accessibility. This research contributes a validated nursing educational technology to the field of nursing informatics, providing a culturally relevant and scientifically rigorous framework to promote social justice and strengthen the protection networks for vulnerable populations in Brazil.

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