

Story-based animation and flip-chart education improves knowledge and attitudes toward sexual violence prevention among Elementary School Students

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ABSTRACT

Background: Sexual abuse of children has long-term effects on their psychological well-being and emotional development. Primary school-aged children are particularly vulnerable because their ability to protect themselves is still limited and education prevention is not yet adequate.

Objectives: To analyze the effect of health education using a combination of animated videos and flip charts on the knowledge and attitudes of elementary school children regarding the prevention of sexual violence.

Methods: This study used a pre-experimental design with a one-group pre-post test design without control. The sampling technique used was purposive sampling with a total sample of 39 respondents. The data collection method used a questionnaire on knowledge and attitudes towards sexual violence prevention, with demonstrated excellent content validity (I-CVI and S-CVI = 1.00) and good reliability (Cronbach's alpha = 0.770), supported by validated video and flipchart media (I-CVI and S-CVI = 1.00). Hypothesis analysis used the Paired Sample T-Test.

Results: The average knowledge of children increased significantly from 70.26 (95% CI: 64.92–75.59) in the pretest to 94.87 (95% CI: 92.92–96.82) in the posttest ($p < 0.001$). Children's protective attitudes increased from 71.01 (95% CI: 66.84–75.18) to 86.77 (95% CI: 84.46–89.07) ($p < 0.001$). Specifically, the most notable increase in knowledge occurred in understanding the prohibition of unauthorized touching (5.1% to 97.4%), the courage to say "no" and walk away (35% to 100%), and recognition of private body parts (48.7% to 100%).

Conclusions: Health education using a combination of story-based animations and flipcharts is effective in improving primary school children's knowledge and attitudes regarding the prevention of sexual violence. Nurses can use these materials as an educational strategy to enhance children's self-protection skills.

KEYWORD: elementary school children; flip cards; story-based animation; sexual violence

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INTRODUCTION

Sexual violence against children is a public health issue that has a global impact and remains a serious problem to this day. Various reports show that schools are often the scene of sexual violence against children (1). Sexual violence is behavior that involves obtaining sexual gratification in an inappropriate manner and accompanied by coercion. In children, sexual violence involves not only physical contact but also various acts that violate personal boundaries, such as touching or holding sensitive areas, exposing genitals, and communicating sexually suggestive messages via telephone, text, or digital media (2).

Global data shows an increase in cases of sexual violence against children. The 2023 Internet Watch Foundation (IWF) report recorded more than 255,571 instances of child sexual abuse content in the form of images and videos (3). In Indonesia, the Indonesian Child Protection Commission (KPAI) received 2,057 complaints in 2024, with 265 cases involving children as victims of sexual violence and 40 cases related to pornography and cybercrime. In addition, the victims came from various age groups, including 378 children aged 6–8 years, 342 children aged 9–11 years, and 368 children aged 12–14 years (4). National data on sexual violence is not much different in Central Java Province. In 2024, there were 1,349 cases of violence against children,

consisting of physical violence (265), psychological violence (385), and sexual violence (746 cases). As of February 2025, there were 183 new cases, including 110 cases of sexual violence. Data from the Sukoharjo District PPKBP3A Office also shows that cases of child abuse increased from 39 cases in 2023 to 70 cases in 2024, most of which were sexual violence against school-age children (5).

School age is a crucial period for growth, development, and character formation. During this period, children begin to learn to take responsibility for their behavior, build social interactions, and understand norms (6). The most common problem experienced at this stage is that children often find it difficult to distinguish between right and wrong behavior, making them vulnerable to becoming victims or perpetrators of sexual violence. Freud explained that children aged 6–12 years are in the latent phase, where they begin to show interest in the opposite sex, their curiosity increases, and their exploration of information, including through visual media, becomes more intense (7,8).

Research shows that there are factors that increase the risk of sexual violence against children. These factors include a dysfunctional family (*broken home*), an unsupportive social environment, and internal factors within the individual themselves (9,10). Research by (11) adds other factors, including sexual desire, manipulative behavior of perpetrators, as

well as aspects of sex education, socializing, opportunities, economic conditions, power relations, and technology abuse. Other studies state that with the development of the internet and increasingly widespread digital access, children have become more vulnerable to exposure to sexual content, online exploitation, and cyber-based sexual violence, which significantly increases the risk of sexual child abuse (12,13).

Violence against children can have lifelong negative impacts on their health and well-being (14). Sexual violence against children has physical, emotional, and mental consequences. Emotionally, children often face various challenges such as trauma, anxiety, depression, eating disorders, and post-traumatic stress disorder (PTSD) (15). Physically, children face injuries, sexually transmitted infections, and unwanted pregnancies. Socially, children experience difficulties in building relationships, lack of trust in others, and challenges in forming healthy relationships. Children who are victims of sexual violence may also exhibit suicidal behavior (11). School-based interventions are one of the efforts to prevent sexual violence against elementary school-aged children.

School-based health education is a strategic intervention that plays an important role in increasing children's understanding of how to recognize, prevent, and respond to situations that could potentially lead to sexual violence (10). The implementation of

health education for elementary school children still faces various challenges, especially the limited ability to understand abstract and sensitive material when delivered conventionally. Differences in cognitive development levels, short attention spans, and a lack of learning media suitable for children's characteristics also affect the effectiveness of educational messages. Therefore, an innovative, communicative, and easy-to-understand approach to health education is needed (16).

Previous studies have shown that the use of educational media, such as animated videos and flip charts, is effective in improving children's knowledge and attitudes in health education. A study by (17) confirmed that interactive visual media can significantly improve students' understanding (18). Research by (19,20) also found that animated videos had an effect on increasing children's knowledge about sex education, as shown by the difference in scores before and after the intervention. Another study reported that the use of flip charts as a learning medium was effective in shaping children's positive attitudes towards the prevention of sexual violence (21).

Most previous studies still focus on the use of one type of media separately and emphasize individual knowledge or attitude improvement (18,19,21,22). Research that specifically explores the simultaneous use of animated videos and flip charts,

especially in the context of preventing sexual violence in elementary school children, is still very limited. Another reason is that studies assessing the impact of this combination of media on two aspects at once, namely children's knowledge and protective attitudes, have not been widely reported in the literature.

The combination of animated videos and flip charts plays an important role in conveying visual information that is easy for children to understand. Visual media, especially animation, can attract children's attention and strengthen their memory of the material being taught. Animated videos utilize children's imagination, so that the knowledge provided can be applied effectively. Animated videos also increase children's motivation and actions during learning, improving their understanding (13,19).

Flip charts allow us to display a page containing illustrative images and another page presenting sentences as explanations of information related to those images. Learning with flip charts is very interesting, so it can encourage children to learn more and explore deeper (23). This research needs to be conducted to find out how health education using animated videos and flip charts can affect children's knowledge and attitudes towards the prevention of sexual violence (19,21,24). A preliminary study at an elementary school in Central Java showed that the school had never received education related to the prevention

of sexual violence. Interviews with the principal revealed that the school needed educational intervention to reduce the risk of sexual violence among students. The results of observations and interviews with five third-grade students showed that three of them did not understand the meaning of sexual violence. This phenomenon became the basis for the researcher to conduct a more in-depth study on the effect of health education using a combination of animated videos and flip charts on the knowledge and attitudes of elementary school children regarding the prevention of sexual violence.

MATERIALS AND METHODS

This study used a quantitative approach with a *pre-experimental* design with a *one-group pretest–posttest*, without a control group. The one-group pretest–posttest design was chosen because it was in line with the research objective, which focused on evaluating changes in respondents' knowledge and attitudes before and after the health education intervention. This design allowed researchers to directly measure the impact of the intervention by comparing the pretest and posttest results in the same group, so that any changes that occurred could be attributed to the intervention.

The use of a design without a control group was considered based on the limitations of the research context in the school environment, including ethical considerations in providing education on the

prevention of sexual violence, where all students have the same right to obtain information on self-protection (25).

This research was conducted at a religious-based elementary school in Indonesia. The location was chosen based on the need to strengthen education and the potential for applying the intervention media developed in the school environment. The research was conducted from February to September 2025, covering the stages of preparation, initial data collection, and main research data collection, which were adjusted to the academic calendar and the readiness of the relevant institutions. The research was conducted at a private primary school in Sukoharjo Regency, which was selected as the research site following a preliminary study on 12 April 2025 involving interviews with the headteacher and pupils, as well as observations. The school had never implemented any sexual violence prevention education and required an educational intervention. The results of interviews with five pupils revealed a low level of understanding of sexual violence, as well as experiences of harassment in the form of verbal advances, touching of sensitive body parts, lifting of skirts, and touching of the buttocks by peers.

The research sample was determined using the G*Power application based on a previous study by (26), which involved 50 respondents, with a pre-test mean of 32.96 (SD=3.410) and a post-test mean of 35.34 (SD=3.173). These data were used to

calculate an effect size (Cohen's d) of 0.72 (moderate–large category), with a significance level of 5% and a test power of 95%. The calculation results indicated a minimum requirement of 28 respondents, to which 10% was added to account for dropouts, resulting in a minimum sample size of 31 respondents. This study involved 39 respondents, meeting the minimum sample size requirement.

This study used *non-probability sampling* with the *purposive sampling* method. The researcher selected participants based on the following criteria: (a) third-grade students aged 8–9 years; (b) physically and mentally healthy, able to read and communicate well; (c) present during the educational process; and (d) willing to participate in the entire research process (*pre-test*, *intervention*, and *post-test*). The exclusion criteria consisted of students with disabilities or total visual impairment that could hinder their acceptance of the material. *The dropout* criteria included: (a) students who withdrew; (b) did not participate in the entire research process until the end. The independent variable in this study was a health education intervention using a combination of story-based animation and flip sheets. The dependent variables included elementary school students' knowledge and attitudes toward sexual violence prevention. Both dependent variables were measured using a structured questionnaire tailored to the age characteristics of the respondents.

The research instruments consisted of a knowledge questionnaire and an attitude questionnaire regarding the prevention of sexual violence. The knowledge questionnaire consists of 15 questions using a Guttman scale and dichotomous scoring (a score of 1 for a correct answer and 0 for an incorrect answer); whilst the attitude questionnaire consists of 15 statements using a 1–5 Likert scale. Both instruments each consist of 10 favourable items and 5 unfavourable items, with reverse scoring applied to the negative items. The knowledge questionnaire covers indicators of sexual violence prevention, body parts that may and may not be touched, causes, perpetrators, types, impacts, and victims of sexual violence; whilst the attitude questionnaire covers attitudes towards inappropriate touching, vigilance towards strangers, self-protection skills, courage to report, maintaining personal privacy, vigilance in public settings, and responses to threats or exposure to inappropriate content.

The content validity of both instruments was tested through expert judgement by five experts, namely three primary school teachers, one paediatric nursing specialist, and one doctor of public health, with results of I-CVI scores of 0.80–1.00 and S-CVI/Ave of 0.9875 for the knowledge instrument, and I-CVI and S-CVI/Ave of 1.00 for the attitude instrument, meaning both were deemed to have excellent content validity. A pilot study

involving 30 school-aged children yielded a Cronbach's Alpha of 0.770 for the knowledge questionnaire and 0.806 for the attitude questionnaire, confirming that both instruments are valid and reliable.

The research intervention utilised story-based animated videos and flipcharts as educational tools for the prevention of sexual violence against children, employing a multimodal approach that combines visual and auditory stimulation. Both media were developed by the research team based on a review of the literature, children's needs and their developmental stages, with identical content covering private body parts, the definition and forms of sexual violence, potential perpetrators, high-risk locations, prevention strategies, self-protection methods and the impact of sexual violence. The animated video is designed to be cheerful, engaging and easy to understand, with a duration of 9 minutes 59 seconds, whilst the A3-sized flip chart is used as a supporting medium for direct interaction through illustrations and simple text. Prior to use, the content and design of both media were reviewed by five experts comprising specialists in paediatric nursing, public health, and community leaders with expertise in the relevant fields. The content validity of both resources was tested using the Content Validity Index (CVI) and yielded I-CVI and S-CVI/Ave scores of 1.00 respectively; they were therefore deemed valid and suitable for use as intervention resources.

The study began with the school's informed consent, after which the researcher conducted a perception-alignment session with three nursing student facilitators to ensure consistency in the intervention. Respondents were randomly divided into four small groups and then completed a pre-test lasting approximately 15–30 minutes. The intervention was delivered via a 9-minute 59-second animated video, followed by an educational session using a flip chart lasting approximately 30 minutes. Following the intervention, participants completed a post-test lasting approximately 15–30 minutes, and the data were reviewed to ensure completeness.

The data were analysed using descriptive statistics, including the mean, standard deviation, minimum and maximum values. A Paired Sample t-test was used to compare the pre-test and post-test results after normality tests indicated that the skewness and kurtosis values fell within the range of -2 to +2. The analysis was conducted at a significance level of $\alpha = 0.05$, with $p < 0.05$ considered statistically significant.

This study was conducted by prioritizing the principles of research ethics in children. Informed consent was obtained from parents and school officials as the participants' guardians before the study began. The participants' identities were

protected through anonymity, using codes or initials without mentioning names, and the confidentiality of all data collected, which was used only for academic purposes. The principle of fairness was applied by ensuring that all children were treated equally without discrimination, while the principle of respect for human dignity was upheld by giving participants complete freedom to participate without coercion or pressure. This research has obtained ethical approval from the Ethics Committee of the Surakarta Ministry of Health Polytechnic and was declared ethically sound on August 21, 2025 (No. DP.04.04/XVII/3766/2025).

RESULTS AND DISCUSSION

The findings of a study on nurse-led health education combining story-based animation and flip charts in the prevention of sexual violence amongst primary school pupils are presented in the following section. The presentation of the findings covers the characteristics of the respondents as well as an overview of the pupils' knowledge and attitudes before and after the health education intervention. Changes in pupils' knowledge and attitudes following the intervention were subsequently analysed to determine the effectiveness of using story-based animated media and flipcharts in health education aimed at preventing sexual violence.

Table 1. Demographic characteristics of school-aged children (n = 39)

Characteristics	n	%
Gender		
Male	21	53.8
Female	18	46.2
Previous Information History on Sexual Violence Prevention		
Never	26	66.7
Parents	6	15.4
Teachers	4	10.3
Health worker	1	2.6
Others	2	5.1
Age (years)		
Mean $\pm$ SD	-	8.62 $\pm$ 0.49
Minimum–Maximum	-	8–9
95% CI Mean	-	8.46–8.78

Table 1 shows that of the 39 students, most were male (53.8%); most had never received information about sexual violence (66.7%), and the average age of the children was 8.62 years. This study involved 39 elementary school students aged 8–9 years with a relatively balanced gender distribution and confirmed that the risk of sexual violence can occur in children regardless of gender. Most school-aged children had never received information about sexual violence prevention before, indicating an important gap in basic education that needs to be addressed early on (12,28). This study was conducted on school-aged children with an average age of

8.62 years. At this age, children are in the concrete operational stage according to Piaget, where they begin to think logically but still need visual support to understand abstract concepts such as body boundaries and risky behavior.

Therefore, the use of visual learning media such as animations and flip charts is considered appropriate for children's cognitive development needs. In the industry versus inferiority stage of Erikson's theory, strengthening self-confidence and social skills through structured education is important for shaping children's assertive attitudes in dealing with situations that could potentially lead to sexual violence (8,19,27).

Table 2. Average knowledge and attitudes of elementary school-aged children before and after receiving health education using a combination of story-based animation and flip sheets (n=39)

Variable	Pre-test		Posttest	
	Mean $\pm$ SD	95% CI Mean	Mean $\pm$ SD	95% CI Mean
Knowledge	70.26 $\pm$ 16.462	64.92 – 75.59	94.87 $\pm$ 6.014	92.92 – 96.82
Attitude	71.01 $\pm$ 12.864	66.84 – 75.18	86.77 $\pm$ 7.111	84.46 – 89.07

Note: Mean = the average of the total scores for all items; data are presented as mean $\pm$ SD, and the 95% CI indicates the confidence interval for the mean total score.

Based on the **Table 2** bloom's cut-off point, knowledge and attitude scores were categorised into three levels: good (80–100 per cent), adequate (60–79 per cent) and poor (<60 per cent). The research findings show that the average knowledge score prior to the intervention was 70.26 (sufficient category) and increased to 94.87 (good

category) following the intervention. The average attitude score also increased from 71.01 (sufficient category) prior to the intervention to 86.77 (good category) following the intervention. These results indicate an improvement in the children's knowledge and attitudes following the health education programme.

Table 3. Percentage change in correct answers on the knowledge questionnaire before and after intervention (n = 39)

Statement Indicator	Correct Pre-test (%)	Correct Post-test (%)
Dare to say "no" and walk away	35.0	100
Private body parts	48.7	100
Causes of sexual violence	41.0	92.3
Prohibition of touching without permission*	5.1	97.4
Unauthorized touching is violence*	23.1	89.7
Asking to see the body is violence	17.9	92.3
Reporting to an adult	38.5	100
Emotional impact of sexual violence	43.6	100
The perpetrator may be someone close to the victim	33.0	94.9
Inappropriate images/videos constitute violence*	30.8	89.7
Physical coercion is violence	33.0	100
Anyone can be a perpetrator	33.0	100
Men can be victims*	15.4	89.7
Touching when sick still requires permission*	18.0	82.1
Saying "no" as a preventive measure	46.0	97.4

Note: Values in the pre-test and post-test columns represent the percentage of children who answered each statement correctly.

Table 3, Overall, the percentage of correct answers on all knowledge items increased consistently after the intervention, with some items reaching a perfect level of understanding (100%). The most notable improvement was seen in items related to personal boundaries, non-physical forms of sexual violence, and the role of close relatives as perpetrators, which showed substantial improvement in understanding the concept of sexual violence prevention.

The low average initial knowledge of school-age children was due to the lack of exposure to information about sexual

violence at school and at home, as indicated by the fact that the majority of children had never received such information before. Children often showed embarrassment, laughter, or awkwardness when discussing private body parts and the topic of sexual violence (28,29).

After the health education intervention. This increase shows that the story-based animation and flip sheets approach can improve knowledge, especially in recognizing non-physical forms of sexual violence such as inappropriate touching or visual exposure (21).

Table 4. Changes in the proportion of children's positive attitudes toward sexual violence prevention before and after the intervention (n = 39)

Attitude Indicators (Summary)	Positive Attitude Pre-test (%)	Positive Attitude Post-test (%)
Feeling uncomfortable when touched inappropriately	48.0	97.0
Refusing touch from strangers*	15.4	92.3
Dare to say "no" and walk away	59.0	10.0
Refusing gifts from strangers	61.5	94.0
Refusing invitations to secluded places	74.4	89.7
Refusing disruptive behavior	66.7	71.8
Dare to report to adults*	28.0	89.7
Caring for and helping friends who are being bullied*	25.6	87.0
The right to feel safe and seek help	66.7	92.3
Refusing unwanted touch	76.9	97.4
Maintaining personal privacy	84.6	92.3
Not choosing to remain silent when hurt*	38.5	56.4
Not being alone in public places*	23.0	56.4
Uncomfortable with inappropriate content	46.2	84.6
Reporting to parents/teachers when threatened	79.5	97.4

Note:

Positive attitudes on the pre-test and post-test are defined as Very Agree and Agree (VA + A) responses to favorable statements, and Disagree and Very Disagree (VD + VD) responses to unfavorable statements. Unfavorable items (negative statements).

The results **Table 4** show an increase in the proportion of positive attitudes on all indicators after the intervention. The most significant changes occurred in the aspects of courage to refuse, reporting to adults, and concern for peers, reflecting the strengthening of children's protective attitudes towards the risk of sexual violence.

The average attitude of children before and after the health education intervention increased by 15.76 points. This increase shows that the health education intervention successfully strengthened children's positive attitudes towards sexual violence prevention efforts. From a clinical perspective, these results indicate that children not only understand the concepts of "safe" and "unsafe," but have also begun to exhibit protective behaviors such as refusing, reporting, or seeking help when faced with uncomfortable situations. The

improvement in children's attitudes in this study may be influenced by their increased knowledge after receiving sex education.

This is in line with research stating that attitudes consist of three basic components, one of which is knowledge, which plays an important role in attitude formation (13,27). Observations during the study showed that the initial shyness at the beginning of the session turned into active participation, in line with Piaget's concrete operational stage, which emphasizes the effectiveness of visual and experience-based learning. The use of animated videos helped children understand abstract concepts such as sexual violence through concrete examples, while the interactive approach in line with Erikson's theory (*industry vs. inferiority*) also increased children's confidence and competence in dealing with risky situations (7).

Table 5. The effect of health education using a combination of story-based animation and flip sheets on knowledge and attitudes toward sexual violence prevention in Elementary School Children

Variable	Mean Difference $\pm$ SD	95% CI Mean	p-value
Knowledge	24.61 $\pm$ 13.35	20.29 – 28.94	< 0.001
Attitude	15.76 $\pm$ 9.29	12.75 – 18.77	< 0.001

Note: Mean Difference = the difference between the mean post-test and pre-test total scores; a positive value indicates an increase in scores following the intervention.

The results **Table 5** of the Paired Sample t-test showed an increase in knowledge scores of 24.61 points after the educational intervention, with a statistically significant difference ($p < 0.001$). In terms of attitude, the score increased by 15.76 points and also showed a significant

difference between before and after the intervention ($p < 0.001$). These findings confirm that the educational intervention provided was effective in increasing knowledge and forming positive attitudes among children regarding the prevention of sexual violence.

The results of this study indicate that health education using a combination of story-based animation and flip sheets is effective in increasing the knowledge and attitudes of school-age children regarding the prevention of sexual violence. This shift from adequate to excellent knowledge levels indicates a deeper internalization of prevention concepts. This is supported by Paivio's Dual Coding Theory (1986), which states that verbal and visual stimuli reinforce memory retention. The 45-minute intervention duration featured 10 minutes of engaging video viewing followed by 35 minutes of interactive flip sheet discussion, encouraging multisensory learning. This is in line with Dale's Cone of Experience for higher retention through direct experience. This contributes to the literature by validating interactive media as a powerful tool for sensitive topics such as sexual violence, where traditional methods have failed due to children's discomfort and limited exposure (30).

The results of this study on interactive learning media such as animated videos can influence student learning motivation, showing that interactive educational media can significantly increase student knowledge. Other studies show that education through animated video media is effective in increasing students' understanding of sexual violence in elementary school children, because it displays attractive visuals that are appropriate for their age group. This shows

that interactive educational media can significantly increase student knowledge (19,31,32). These findings confirm that the affective aspect plays an important role in health education, showing that interactive visual methods not only improve understanding but also strengthen children's emotional readiness to protect themselves. Sexual health education for adolescents to improve their attitudes toward sexual abuse shows that health education using simulation methods effectively improves adolescents' protective attitudes toward sexual violence, indicating that such interventions can strengthen preventive attitudes in a sustainable manner (8,20).

The research findings show that the use of a combination of story-based animated videos and flip charts in health education significantly improves primary school children's knowledge and attitudes regarding the prevention of sexual violence. Compared with conventional methods such as health education sessions that rely solely on verbal explanations or the use of booklets—which are more passive in nature—this combination of media provides visual and auditory stimulation, as well as direct interaction, which is better suited to children's learning characteristics. Story-based animated videos can capture children's attention and help them understand the material through a narrative, images, sound and messages appropriate to their developmental stage, whilst flipcharts reinforce understanding through

illustrations and direct interaction. These findings are consistent with the Health Promotion Model (HPM) by Nola J. Pender, which emphasises that behaviour-specific cognition and affect play a crucial role in health behaviour change. Increasing knowledge through the delivery of engaging and easily understandable information can form the basis for the development of positive attitudes towards behaviours that prevent sexual violence (33,34).

In addition to improving cognitive aspects, the combination of animated media and flip sheets also influences the affective and motivational components in HPM, particularly activity-related affect, perceived benefits of action, and perceived self-efficacy. The interactive and repetitive presentation of material through flip sheets helps students understand the benefits of self-protection and increases their confidence to reject and report inappropriate behavior. The educational interactions established during the intervention also strengthened interpersonal influence, thereby supporting the formation of more protective attitudes.

Overall, these findings confirm that a visual and narrative media-based health education approach is effective in encouraging children's readiness to adopt promotive and preventive behaviors as part of health-promoting behavior (21). The findings of this study have practical implications for pediatric nursing practice, particularly in the provision of preventive

health education regarding the prevention of sexual violence against school-aged children.

A nurse-led health education approach combining story-based animated media and flipcharts can enhance children's knowledge and protective attitudes towards the prevention of sexual violence; it can therefore be utilised as a health education strategy appropriate to children's cognitive and psychosocial developmental stages. Pediatric nurses can integrate these interactive and child-friendly media into school-based health promotion activities, counselling, and preventive interventions, whilst collaborating with teachers and parents to strengthen children's understanding of personal safety and protective behaviours. The use of visual and interactive media can also help nurses overcome the limitations of conventional health education methods when addressing sensitive topics with children. These findings underscore the role of pediatric nurses not only in providing health education, but also in supporting early prevention efforts and creating a safe environment for children (10,35,36).

This study has several limitations that need to be considered in interpreting the results. First, the study respondents only included third-grade elementary school students, so the results cannot be generalized to children in other grades who have different levels of cognitive development and experiences. Second, the

relatively small sample size ($n = 39$) has the potential to limit the statistical power and representativeness of the findings for a broader population. Therefore, future research should involve a larger and more diverse sample, use an experimental design with a control group, and implement shorter and repeated educational sessions to improve the effectiveness and sustainability of the intervention results.

CONCLUSION AND RECOMMENDATION

This study concludes that health education using a combination of Story-Based Animation and Flip Sheets is effective in improving knowledge and attitudes toward the prevention of sexual violence among elementary school children. Improvements in understanding occurred consistently across all knowledge items after the intervention, with some indicators even reaching maximum mastery levels. These findings particularly confirm significant improvements in understanding personal boundaries, non-physical forms of sexual violence, and potential perpetrators from the immediate environment.

Thus, the use of story-based and interactive visual educational media can serve as a relevant, contextual, and practical strategy for pediatric nurses in providing health education to support early prevention efforts against sexual violence in school settings.

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