

## ORIGINAL ARTICLE

# Sex Education Parenting Application in Improving Parents' Knowledge about the Prevention of Sexual Violence among Children

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## ABSTRACT

**Introduction:** Cases of violence against children in Indonesia are still a complex problem. The high prevalence highlights the importance of understanding effective ways through which parents can provide the best protection for their children. However, many Indonesian parents consider sex education vulgar and inappropriate. **Objective:** This study aims to evaluate the effectiveness of using the sex education parenting (SETTING) application to improve the level of knowledge about the prevention of sexual violence among children during the Covid-19 pandemic. **Methods:** This study was conducted using a quasi-experimental with one group pre-test and post-test design. A total of 91 parents at the Sempor I Health Center, Kebumen Regency, Central Java, Indonesia, selected accidentally participated for 3 months. The instrument used was the parental knowledge questionnaire and the smartphone-based SETTING application which has been confirmed valid and reliable, while data analysis was performed using the Wilcoxon test. **Results:** The results showed that the majority of parents' knowledge increased from sufficient (73.6%) to a good level (82.4%) and there were statistically significant improvements in parents' level of knowledge about the prevention of sexual violence after being given sex education through the SETTING application with  $p = 0.000$  ( $p < 0.05$ ). **Conclusion:** Sex education with the SETTING smartphone application can effectively increase parents' knowledge of preventing sexual violence in children. Future investigations are needed to further develop this study in evaluating the effectiveness of SETTING on parental behavior.

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## INTRODUCTION

Cases of sexual violence against children have increased during the Covid-19 pandemic. The National Society for the Prevention of Cruelty to Children reported that the cases rose by 20% in the United Kingdom (1). Meanwhile, the Indonesian Child Protection Commission (ICPC) stated that sexual violence such as sexual abuse of children was prevalent during the Covid-19 pandemic. A total of 419 cases of children in conflict with the law (ABH) for being victims of sexual violence were also recorded in 2020 (2).

Adults and children were quarantined for weeks to prevent the spread of Covid-19 and this is possibly the worst situation imaginable for family violence (1). However, sexual violence in the home was reported during the pandemic and the perpetrators were family members or people close to the victims. Most victims were also found to be girls and adolescents (3).

Sexual violence has been reported to impact children both physically and psychologically. The physical impacts include unwanted pregnancy, sexually transmitted diseases, and reproductive organ disorders. Meanwhile, psychological impacts are emotional disorders, children's interpersonal relationships with their social environment, changes in behavior, and deep trauma (4). This implies that the problem of sexual violence in children requires serious attention.

The high number of sexual violence cases against children shows the importance of understanding how parents can provide the best protection for their children. The pediatrics practice focuses increasingly on providing anticipatory guidance and preventive care to assure optimal growth and development against possible child abuse (5). Anticipatory guidance will guide parents to anticipate incidents that might occur in children's development, including deviations and sexual violence. However, parents in Indonesia currently consider sex education to be taboo, vulgar, and inappropriate. In other words, parents feel uncomfortable or unprepared to teach sex education (6).

The low awareness of parents in providing education

and protection to children is one of the factors causing the increase in cases of sexual violence. A study by ICPC showed that about 70% of parents have not raised their children using methods under the latest developments (7).

Violence against children specifically from closest relatives can be reduced through preventive efforts, such as sex education which has many positive impacts on children, including reducing early pregnancy and sexually transmitted diseases (8). Quality sex education will also protect children from pedophiles or sexual harassment (9). Joni (2020) reported a significant value on the gain score of sexual violence with  $p = 0.000$ . There was a significant difference in understanding sexual violence before and after providing sex education materials to teachers and parents (4). Furthermore, sexual education has a significant effect on the prevention of sexual violence in children aged 3-6 years old. Children who received child sexual abuse (CSA) prevention education from their parents demonstrated improved knowledge about private parts and what to do when they suspect sexual abuse (10).

Early sexual health education is important to form character and behavior patterns that can prevent children from the risk of sexual violence and deviant behavior (11). Furthermore, nurses can provide more effective anticipatory guidance using smartphone-based visual media.

Parents are the most important resource in the learning process about sexuality, specifically for children. Therefore, an effective sex learning method that is easily accessible for providing sex education is needed by parents in this digital era. The advantage of sex education parenting (SETTING) compared to other Health Education methods is the use of mobile-based application media that can be opened and read at any time. It also has attractive designs, pictures, and colors that make it easy for parents and children to understand the content of the material presented. The application contains guidance or instructions for sex education according to developmental age. The SETTING also provides a sexual violence screening menu for children which can be used as material for evaluation by the local government in increasing children's protection. The application has an admin chat menu wherein parents can discuss or ask questions regarding the material that they do not understand. Therefore, this study aims to analyze the effectiveness of the SETTING application in increasing the level of knowledge to prevent sexual violence among children.

## **MATERIALS AND METHODS**

### **Methods**

A quasi-experimental design with one group pretest-posttest design was used to examine the effectiveness

of the SETTING application in increasing the level of knowledge to prevent sexual violence among children.

### **Sex Education Parenting Application "SETTING"**

A preliminary study was conducted to design the Sex Education Parenting Application "SETTING" using Research & Development (R&D) by adapting the Borg & Gall (1983) model in Gustiani (2019) (11). The product validation test was carried out by assigning three experts in pediatric nursing and three media experts in informatics technology. Information conveyed to parents in the application includes sex education material according to age categories namely 3-4 years, 5-8 years, 9-12 years, 12-15 years, and 15-18+ years. This was compiled according to standard guidelines from UNESCO in 2018 entitled International Technical Guidance on Sexuality Education (13). Each age menu contains sex education that parents can offer their respective children. The "Anticipatory" menu comprises 11 guidelines that parents must pay attention to in preventing sexual violence against children (12). The SETTING application can easily be downloaded from the play store with the link: <https://play.google.com/store/apps/details?id=id.justapp.android6061fe1769a57>. Parents were asked to fill out the screening menu first and then carry out education through the material menu on the screen display. The duration for the health education with SETTING was 20 minutes which was carried out 2 times in the intervention group.

### **Sample**

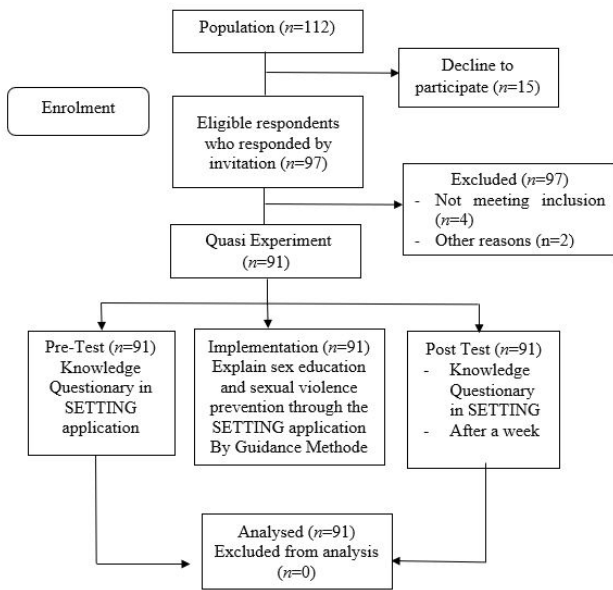
A total of 91 respondents were selected in the Sempor Health Center, Kebumen Regency, Central Java, Indonesia from April 2021 to July 2021. Participants were calculated from Slovin Analysis and were taken by accidental sampling technique. Data collection was performed for about 3 months with an intervention duration of only 1 week. Parents were given Sex Education two times and can access SETTING at any time according to their needs. However, since the participants were engaged for 3 months, there is a tendency to drop out and this might affect the study's validity. During the study, 6 participants dropped out of the intervention group, leaving only 91 parents who fulfilled the inclusion criteria such as aged 20-50 years, parents whose children were aged 18 years, and not experiencing mental disorders. In contrast, the exclusion criteria were parents who could not read and write.

### **Ethical Consideration**

This study was conducted in line with ethical principles and approval was granted from the Health Research Ethics Committee, School of Health Sciences Surya Global Yogyakarta, with reference number 3.26/KEPK/SSG/IV/2021.

### **Data Collection**

The prospective respondents initially received the explanation of the study, then informed consent was



**Figure 1: Data Collection**

signed by a total of 91 parents (Figure 1). They were asked to download the smartphone-based (SETTING) application from the Play Store. The screening of sexual violence risk in children was performed. The pre-test measurement of parental knowledge regarding sex education for children 3-18 years old was conducted. Furthermore, the sex education and prevention of sexual violence was conveyed to parents by the guidance method using the SETTING application. We ensure that education is accessed by respondents in their home by reminding via WhatsApp. The admin chat menu in the SETTING application can be used by respondents to ask questions or have discussions related to preventing sexual violence against children, and the admin can remind them to disclose the information contained in the application. After a week, we also contacted the respondents using WhatsApp to fill out a post-test on a questionnaire related to knowledge about sex education in children using the SETTING application.

### Data Analysis

Data were analyzed with descriptive and interpretive statistics, while the Wilcoxon test was employed to examine the effectiveness of the intervention by using SPSS 21.

### RESULTS

This study examined the effectiveness of the SETTING application in increasing the level of knowledge on the prevention of sexual violence among children. As shown in Table I, more than half of the respondents were in the early adult age range at 58.2% and females at 79.1%. The respondents who have children aged 5-8 years accounted for 30.8%.

Screening for Sexual Violence in Children was carried

**Table I: Characteristics of Respondents in the Sempor Health Center, Kebumen Regency**

Characteristics	Frequency (f)	Percentage (%)
<b>Age of Parents</b>		
Late Adolescence	7	7.7
Early Adulthood	53	58.2
Late Adulthood	27	29.7
Early Old Age	4	4.4
Total	91	100.0
<b>Gender</b>		
Male	19	20.9
Female	72	79.1
Total	91	100.0
<b>Age of Children</b>		
1-2 year	21	23.1
3-4 year	16	17.6
5-8 year	28	30.8
9-12 year	10	11.0
12-15 year	10	11.0
15-18 year	6	6.6
Total	91	100.0

out by using the SETTING application as shown in Figures 2, 3, and 4. Based on the results, Sexual Violence Screening contains a "Screening" menu wherein parents can first fill in their biodata, including name, age, and children as shown in Figure 2 (11). There are four questions to discover the potential for sexual violence in children in a family by adopting a previous study (14). Furthermore, there is an option for parents to send their data, as shown in Figure 3. Table II shows the results of Screening Sexual violence in children. Many children were not at risk of experiencing sexual violence in their families, while few had a risk with values of 92.3% and 7.7%, respectively.

The effectiveness of the SETTING application is evident from the level of knowledge about preventing sexual violence in children before and after being given sex education parenting. The results showed that the level of knowledge in 67 parents or 73.6% before being given sex education with the SETTING application was mostly in the sufficient category. Meanwhile, after being given sex education, most of the knowledge levels increased to a good category in 75 respondents, or 82.4%. The nonparametric test (Wilcoxon) showed a p-value = 0.000 (p-value < 0.05). This implies that sex education with the smartphone application significantly affected the level of parental knowledge with a Z score of -7.421 > Z score table. Meanwhile, the Z table value with an alpha level of 0.05 was -0.4750. This means that sex education parenting with the smartphone application effectively increased parents' knowledge of preventing sexual violence in children as shown in Table III.

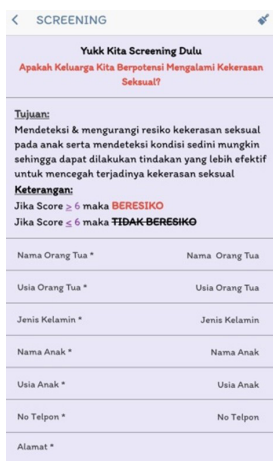


Figure 2: Screening Identity

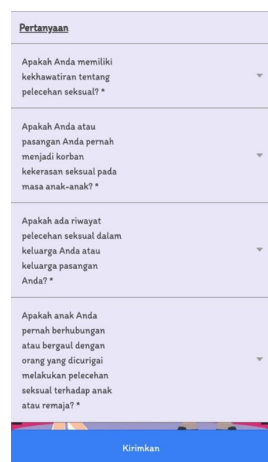


Figure 3: Screening Violence Questions



Figure 4: Educational materials according to the child's age groups

Table II: Screening for Sexual Violence in Children in the Sempor Health Center, Kebumen Regency

Child Sexual Violence Screening	Frequency (f)	Percentage (%)
High risk	7	7.7
Low Risk	84	92.3
Total	91	100.0

DISCUSSION

This study obtained a significant difference in parents' knowledge level after sex education with the SETTING application. The majority of parents' knowledge increased from sufficient to a good level. This increase is due to the attractive appearance of the application design with easy-to-understand pictures. Applications using smartphone media are easy to carry everywhere and are a basic need of society in this digital era.

The media used in this study was a sex education parenting application called smartphone-based SETTING. The application was created to reduce the amount of violence against children through sex education as a preventive effort. It was designed to run on mobile devices such as mobile phones or tablets. Mobile applications are made for handheld devices including mobile phones, or smartphones (15).

Notoatmodjo (2018) revealed that the delivery of materials using only words is less effective. The use of teaching aids is one of the principles of the educational process, such as using audiovisual media namely flipcharts, booklets, applications, and PowerPoint slides. The information conveyed through these methods will be more easily accepted (13).

The SETTING application was made by the study team and contains sex education materials. There was a choice of material domains according to age categories namely 3-4 years, 5-8 years, 9 -12 years, 12-15 years, and 15-18+ years. This teaching material has been compiled according to the standard guidelines from UNESCO in 2018 entitled International Technical Guidance on Sexuality Education. Each age domain contains sex education materials that parents can teach their children (6).

The SETTING application contains education about sexual violence and education for children. It is a medium for anticipatory guidance and contains instructions that need to be known in advance to enable parents to guide

Table III: The effectiveness of the sex education parenting (SETTING) application in preventing the incidence of sexual violence in children

Sex education parenting	The level of knowledge is sufficient, good and not good						Total	Z score	P value
	Good	%	Sufficient	%	Not good	%			
Before being given Sex education parenting	21	23.1	67	73.6	3	3.3	91	-7.421	0.000
After being given Sex education parenting	75	82.4	16	17.6	0	0	91		

their children wisely to grow and develop optimally. The component materials include definitions and forms of sexual violence, as well as anticipatory guidance on age-appropriate sex education (11).

For children aged 1-2 years, parents can teach the correct names of the genitals such as penis and vagina. They can also introduce toilet learning to children at the age of 2 years by teaching them to wipe or clean the genital organs. For children aged 3-4 years, parents should teach them to wear clothes according to their gender and cover their genitals. Sex education for children aged 5-15 years begins by introducing sexuality as well as the anatomy and physiology of the reproductive system, puberty, body image, and sexual behavior. In addition, at this age stage, children should be taught what to do when someone touches them in a bad way (6).

Sex education has been proven to increase knowledge about sex to reduce the incidence of sexual abuse in children. This is consistent with a study conducted by Kemigisha (2019) which observed greater improvements in sexual and reproductive health (SRH) knowledge among intervention schools with AOR: 2.18, 95% CI: 1.66–2.86. Furthermore, sex education improved SRH knowledge and behavioral intentions among Vyas in Uganda. Qualitative evidence increased their perception of SRH-related risks, perceived SRH knowledge acquisition, as well as intentions to delay sexual intercourse to prevent unwanted pregnancy, HIV, and other STIs. This study confirmed the importance of initiating sex education before most adolescents start engaging in sexual activity, enabling them to make informed decisions in the future.

## CONCLUSION

Based on the results, it can be concluded that the majority of children in the Sempor Health Centre area, Kebumen Regency, Central Java, are not at risk of experiencing sexual violence. The level of parental knowledge increased from sufficient to a good level after the intervention of sex education parenting with the SETTING application. In other words, sex education parenting with the application effectively improved parents' knowledge of preventing sexual violence in children.

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