

Application of Sexual Education Game To Increasing Knowledge and Attitudes About Sexual Abuse In Elementary School Children

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Abstract: Factors that cause sexual abuse in children are the lack of knowledge of children about the prevention of sexual abuse. Efforts to prevent sexual abuse against children that can be given are sexual health education. One of them is by using the Game Based Learning method. The purpose of this study was to examine the effect of sexual education applications to increasing children's knowledge and attitudes about sexual abuse. The study used a Quasi Experiment design with a pre-post test, using a control group. The sampling technique was simple random sampling with 48 samples, 25 in intervention and 23 in control groups. The intervention group was given a treatment of sexual education applications, and the control group was given the teachers method. The results showed that the application of sexual education applications had a significant effect on increasing students' knowledge ($p = 0.005$) and attitudes ($p = 0.003$) regarding sexual abuse in elementary school-age children. The application of sexual education can be applied as a strategy to provide health education to elementary school-age children.

Keywords: child sexual abuse; elementary school-age children; sexual education application

I. Introduction

Throughout the school years, interest in sex increases and usual peaks during periods of puberty change. Therefore, there is a great possibility of the involvement of a child being a perpetrator or victim in sexual activities that he does not fully understand which can result in sexual behaviour irregularities both at school and outside the school environment. (Hurlock, 2008; WHO, 2003). UNICEF (2015) data states that around the world it has been estimated that there are around 120 million children dominated by girls under the age of 20 (around 1 in 10 children) have experienced sexual deviations.

Low and middle-income countries, such as Indonesia, increasingly recognize that sexual abuse against children is a serious social problem (Wismayanti, O'Leary, Tilbury, & Tjoe, 2019). The Indonesian Child Protection Commission explains the data that has been recorded from the results of public complaints in the Data and Information Center within a period of six months there were 965 cases of violations of children's rights during January - June 2018 in Indonesia. Of the 965 cases, sexual crimes were dominated by 52%. Where generally the average victim is 13 years old, and the youngest is 2 years old (KPAI, 2015).

Factors that cause sexual abuse are parenting, parental knowledge about early sex education in children, children's knowledge of reproductive health, and the negative influence of rapidly developing information technology (Maryuni & Anggraeni, 2017). Possible impacts of sexual abuse against children can have direct and long-term effects such as physical, psychological, behavioural, and poor sexual health disorders (Langevin, Hébert, & Cabecinha-Alati, 2020).

Promotive and preventive efforts that can be implemented through sexual education. Sexual education has great potential to provide the knowledge and skills needed for children to make safe choices related to sex. This can reduce misinformation and improve children's critical thinking, communication, and confidence. The knowledge gained helps children to reduce their chances of engaging in risky sexual behaviour (Vanwesenbeeck, Westeneng, de Boer, Reinders, & van Zorge, 2016).

Strategies in preventing sexual abuse against school-age children can be done in various ways to reduce the potential risk of children becoming victims of sexual abuse. Learning media that can be used include: presentations, picture story discussions, role play, watching short films / videos, singing using local language songs, and using sexual education games (Haruna et al., 2018; Neherta, 2017).

In line with the rapid development of science and technology, currently the use of learning media is becoming more extensive and interactive, such as the presence of computers, smartphones and the internet. Educational games have become very popular and appropriate learning media for children today. Not only as a medium of entertainment, but also as an alternative learning media or known as Game Based Learning (Haruna et al., 2018; Scholes, Jones, Stieler-Hunt, & Rolfe, 2014)

Haruna et al. (2018) have conducted a study to found that game-based learning was effective for improving sexual health education. The similar results were also found in Rilianti and Ima (2011) found that games with educational backgrounds are more easily understood by children so they can be used as media for learning sex education and provide correct understanding for children.

Based on this, it is necessary to provide interventions to improve knowledge and attitudes in elementary school students with early sexual education using Game Based Learning. The author uses a quiz game application because the authors assume that the selected media will attract the attention of children and more easily provide an understanding of sexual education.

II. Materials And Methods

The tool used in the study is the Sexual Education Application in Elementary School Children which has developed a quiz game. This research is a quantitative study using the Quasi Experiment method pre-post test using a control group. The number of samples involved in this study was 48 students selected by simple random sampling divided into 25 respondents in the intervention group and 23 respondents in the control group. Inclusion criteria include children aged 7-12 years, able to read and write, and have not received information about sexual health.

The research was conducted in Padang, West Sumatra from January to March 2019. This study obtained administrative permission at the study site and this research applies the principles of research ethics namely the benefits and disadvantages, respecting the respondents' autonomy rights, as well as confidentiality and the rights to respondent's protection.

Intervention in the form of the use of Game Based Learning in providing information about sexual health in children using laptops and smartphones. Quiz games include children's knowledge and attitudes about sexual behavior. Meanwhile, the control group was only given through the teacher's method. Data collection tool in this study was a questionnaire of knowledge and attitudes of elementary school children about sexual behaviour consisting of 8 questions adopted from Mira (2017) with a validity ≥ 0.8 and reliability 0.912.

Data analysis in this study was univariate analysis using frequency distribution for sex and class, and analysis using mean, median for child age variables. Bivariate analysis uses Wilcoxon analysis to compare the pretest and post test values.

III. Results And Discussion

Characteristics of respondents based on the average age of students in the intervention group of 9.92 years and not much different from the control group of 10.17 years. Based on the sex of students in the intervention group the majority were female (64%) almost the same in the control group with a majority of women which was 60%.

Table 1. Effects of Game Based Learning on Students' Knowledge and Attitudes in the Intervention and Control Groups

Groups	n	\bar{x} Pre (%)	\bar{x} Post (%)	Normality test	deviation	p-value
Knowledge						

Intervention	25	1,48 (37)	3,56 (89)	0,005	52	0,000
Control	23	1,43 (35,86)	1,83 (45,65)	0,006	9,79	0,088
Attitude						
Intervention	25	1,20 (30)	3,68 (92)	0,003	62	0,000
Control	23	1,35 (33,69)	1.91 (47,82)	0,010	14,13	0,009

Table 1 shows that in the intervention group the average before knowledge intervention (37%) and attitude (35.86%) whereas after the intervention the percentage increased to knowledge 89% and attitude 92% with the difference in the average percentage difference in knowledge 52 % and attitude 62%, with a value of $p = 0,000$ which means there is a significant influence.

In the control group showed data before knowledge intervention (37%) and attitude (30%) whereas after intervention the percentage increased to knowledge (45.65%) and attitude 47.82% with the difference in the average percentage difference in knowledge 9.79% and attitudes 14.13%, with $p = 0.088$ and 0.009 which means that there is no significant influence on students 'knowledge and there is a significant influence on students' attitudes about sexual abuse.

The bivariate statistical test results of knowledge and pre-post attitudes showed an increase in knowledge and attitudes of children in the intervention group before and after the intervention was given significantly, whereas in the control group only showed an increase in attitude variables only with an average difference in pre-post increase of 14 , 13% compared to the intervention group which increased higher by 62%.

An understanding of sexual abuse knowledge is very important for children and must be understood correctly so that children can know the moral values and good health in accordance with the stage of sexual development (Sudiyat, 2017). Education of information about sexual behavior for students must be able to use appropriate media and methods (Papalia, Olds, & Feldman, 2009)

In its implementation, health education using Sexual Education Applications in Elementary School Children applies the Game Based Learning method to increase knowledge and attitudes about sexual behavior in elementary school students. The use of media in health education in children can increase enthusiasm and children more easily understand. This is influenced by cognitive development in children during school-age where children begin to do and practice the thought process of events that are evident (Hockenberry & Wilson, 2009)

Game Based Learning Method is an effective method used in providing sexual education (Haruna et al., 2018). Health education through game applications can enhance cognitive development, innovate health promotion, increase awareness, and encourage behaviour change (Arnab & Clarke, 2017). With the existence of educational-based games make educational methods easier and more motivating for children to learn compared to learning methods with lectures (Chu et al., 2015; Haruna, Hu, & Chu, 2018; Kashibuchi & Sakamoto, 2001).

Sexual health education through Game Based Learning allows children to absorb easily, transfer, and justify the information they receive (Jiang, McKanna, Calabrese, & Seif El-Nasr, 2017). The potential of Game Based Learning as a new method in providing child sexual health education. Digital game technology has great potential to educate digital-oriented children about their current health behaviours. Digital health games can be used as a media for promoting child sexual health more effectively (Eleftheriou, Bullock, Graham, & Ingham, 2017; Hieftje, Edelman, Camenga, & Fiellin, 2013).

Digital health game interventions have been shown to affect children's sexual behaviour. Some game interventions have focused on promoting sexual education (Arul, 2011; Chu et al., 2015). The application of information technology in education enables changing behaviour and increasing effective knowledge. Thus, advances in technology and information in the health sector can be beneficial for sexual education in the development of interventions that involve the use of Game Based Learning (Eleftheriou et al., 2017).

In health education many methods can be done especially by targeting children, the Sexual Education Application in Elementary School Children by applying the Game Based Learning method can be used as a method that uses the application as a health education media innovation with an effective approach because it is designed with its main purpose is learning and can also be a medium of entertainment that attracts children's attention.

The conclusion of this study shows that the application of sexual education significantly influences students' knowledge and attitudes in the intervention group. Therefore, this Sexual Education Application can be one of the variations that involve technology in providing health education in preventive and promotive efforts in the environment of elementary school children. Given the increasingly massive technological advances nowadays so that further application development is still needed to perfect this application. The implication of this research is to initiate the role of nurses in applying technology approaches to develop nursing care strategies to improve the quality of care.

IV. References

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