



ARTICLE

MODIFIED SNAKES AND LADDERS TO INCREASE ELEMENTARY STUDENTS KNOWLEDGE ABOUT ANTICIPATING CHILD SEXUAL ABUSE

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ABSTRAK

Child sexual abuse (CSA) is a severe public health urgent, affecting roughly 1 in 4 girls and 1 in 13 boys worldwide. Actions to address the problem of CSA with reproductive health education that is interactive, educational and fun through snakes and ladders game. The purpose of this study was to determine the effect of snakes and ladders game modification to increase knowledge about CSA anticipation. *The* research design used a quasi-experimental design with *pre post test only control group design*. The sample size was 118. The experimental group was given a modified snakes and ladders game of 59 students, the control group was given a leaflet of 59 students. The sample technique uses consecutive sampling. The inclusion criteria for this study were grade 4-6 elementary school students. The results of this study showed that the snakes and ladders modification group averaged pretest 68.3 SD 16.4 post test 82.0 SD 12.5. In the leaflet group, the average pre test was 67.8 SD 11.4 and post test was 76.4 SD 14.1. The increase in the snake and ladder modification group was 13.6 while the average increase in the leaflet group was 8.5. The average difference between the snakes and ladders modification group and the leaflet was 5.1 with a p value of 0.037 <0.05. So it can be concluded that there is an effect of giving snake modification on increasing the average knowledge of female students.

Keywords: Child sexual abuse, Snakes and ladders, knowledge, leaflet

АБСТРАКТ

Сексуальное насилие над детьми (СНН) - это серьезная проблема общественного здравоохранения, затрагивающая примерно каждую четвертую девочку и каждого тринадцатого мальчика во всем мире. Действия по решению проблемы КСД с помощью просвещения в области репродуктивного здоровья, которое является интерактивным, образовательным и увлекательным, осуществляются посредством игры «Змеи и лестницы». Целью данного исследования было определить эффект модификации игры «Змеи и лестницы» для повышения уровня знаний о прогнозировании КСУ. В исследовании использовался квазиэкспериментальный дизайн с контрольной группой до и после тестирования. Размер выборки составил 118 человек. В экспериментальной группе 59 студентов играли в модифицированную игру «Змеи и лестницы», в контрольной группе 59 студентов получали листовку. В качестве метода выборки использовалась последовательная выборка. Критериями включения в исследование были учащиеся 4-6 классов начальной школы. Результаты исследования показали, что в группе модификации игры «Змеи и лестницы» средний показатель до теста составил 68,3 SD 16,4, после теста - 82,0 SD 12,5. В группе с листовками средний показатель до теста составил 67,8 SD 11,4, а после теста - 76,4 SD 14,1. Средний прирост в группе модификации змей и лестницы составил 13,6, в то время как средний прирост в группе листовки - 8,5. Средняя разница между группой модификации змей и лестниц и группой листовки составила 5,1 при значении $p = 0,037 < 0,05$. Таким образом, можно сделать вывод, что существует эффект от модификации змей для повышения среднего уровня знаний студентов.

Ключевые слова: Сексуальное насилие над детьми, змеи и лестницы, знания, листовка

INTRODUCTION

Child sexual abuse (CSA) affects the health and well-being of children and adolescents.¹ CSA is a severe public health urgent, affecting roughly 1 in 4 girls and 1 in 13 boys worldwide.² In Indonesia, in 2023 there were 15,120 cases of violence against children in Indonesia, 12,158 female victims and 4,691 male victims where sexual violence cases ranked first.³

CSA causes various adverse effects on child development, including increasing oxidative stress index (OSI),⁴ social emotional disorders, post-traumatic stress disorder, low self-esteem and loneliness, and risk of becoming a perpetrator in the future,⁵⁻⁷ schizophrenia, conversion disorder, borderline personality disorder, eating disorders, anxiety, and depression, have been described.⁸ CSA can also cause symptoms of post traumatic stress disorder (PTSD). The earlier and more severe CSA occurs, the more severe the impact and can remain for a long time.⁹ Long-term effects of CSA include Hypothalamic-Pituitary-Adrenal Dysfunction in adults with a history of Child sexual abuse in childhood. Early environment is an important factor in the programming of the HPA axis in adults, further triggering one's vulnerability to psychiatric-related stress.¹⁰

Predisposing factors for CSA include gender, age,¹¹ previous or co-occurring CSA in the child's home environment and a history of parental child abuse. Other risks identified were related to parental issues e.g. intimate partner violence; parenting issues e.g. low quality of parent-child relationship; non-core family structure e.g. having a stepfather, family issues e.g. social isolation; child issues e.g. having a chronic mental/physical condition and other child characteristics e.g. being female,¹² child gender, smoking, and alcohol use, lack of discussion about sexual issues with parents, living without both parents, drinking alcohol, and living in rural areas had significant associations with CSA. The main perpetrators of child sexual abuse are neighbors, boyfriends, family members, school teachers, and strangers.¹³ CSA against children generally

occurs in the victim's or perpetrator's home, school, and neighbor's home.¹⁴

Knowledge about reproductive health has a positive relationship with reproductive health behavior.¹⁵ Health-related knowledge has a role in improving health behavior.¹⁶ Increased knowledge of students will help them live a life with healthy reproduction.¹⁷ Sex- and age-appropriate health education programs can facilitate the development of healthy sexual and reproductive behavior patterns among adolescents through increased knowledge and development of correct attitudes.¹⁸

Child, caregiver and perpetrator-focused prevention strategies should be implemented to mitigate risk factors and enhance protective factors against the recurrence of CSA against children.¹⁹ Concerned stakeholders should strengthen comprehensive sexual and reproductive health education to reduce the magnitude and consequences of CSA against children.^{14,20} A combination of the health and education sectors is needed to address various adolescent health issues, including reproductive health issues.²¹ The importance of synergy between reproductive health education at school at home and in the community.²² Schools are ideal places for sexual and reproductive health education.²³ Health education in schools can improve health and academic achievement success.²⁴

Games can be utilized to improve learning outcomes in science.²⁵ Health education by considering the fun aspect of a game can enhance the learning experience and motivate to continue using the game.²⁶ Games that involve physical activity can increase positive emotions in children and adolescents.²⁷ Learning with attention to positive emotions will result in better understanding and critical thinking skills. Positive emotions moderate the relationship between knowledge and cognitive skills.²⁸ Learning with positive emotions improves learning outcomes and can increase students' achievement of better academic results.²⁹

Snakes and ladders games provide a visual and interactive experience that helps children to better understand the consequences of their

behavior.³⁰ The snakes and ladders game is an educational game that can provide a fun learning atmosphere so that students are happy with the material being studied.³¹ Snakes and ladders game as an interactive, creative, educational learning media. effectively improve cognitive, language and socio-emotional development. Snakes and ladders is a board game for children played by two or more people. The game board is divided into small squares and on some squares a number of "ladders" or "snakes" are drawn connecting them to other squares. Each player starts with his piece on the first square (usually the square in the lower left corner) and takes turns rolling the dice. The piece is run according to the number of dice eyes that appear. If a player lands on the bottom end of a staircase, they can immediately go to the other end of the staircase. If they land on a square with a snake, they must go down to the square at the bottom end of the snake. The winner is the first player to reach the last square.³² In this study, the piece was developed by adding educational material about anticipating sexual violence.

Based on this description, sexual and reproductive health education is needed to improve the knowledge, attitudes and behavior of adolescents who are appropriate in addressing sexual health problems, including CSA by using interactive and fun game media. The purpose of this study was to determine the effect of snakes and ladders game modification to increase the level of knowledge about CSA anticipation.

MATERIAL AND METHODS

This study is a quasi-experimental study using a pre post-test only control group design. The sample technique used consecutive sampling. The sample size was 118. The experimental group was 59 students, the control group was 59 students. Inclusion criteria: students in grades 4-6. The experimental group was given a pretest followed by the provision of a modified snakes and ladders game three times in a week, then a post test was conducted. The control group

was given a pretest followed by leaflet and students were asked to study the leaflet for a week, then a post test was conducted. The instrument used a questionnaire. Data analysis with T-test.

RESULT

This research was conducted at SDN Purwomartani Kalasan Sleman, SDN 1 Maguwoharjo Sleman Yogyakarta. The experimental group at SDN Purwomartani was 59 students, the control group at SD 1 Maguwoharjo was 59 students.

Table 1. Distribution of respondents based on Gender.

Group	Male		Female		Total	
	n	%	n	%	n	%
Modified Snake	27	48,2	29	51,8	56	100
Ladder						
Leaflet	25	44,6	31	55,4	56	100

Table 1 shows that the majority of respondents in this study were female in both the snakes and ladders modification group and the leaflet group.

Table 2. Mean difference in knowledge level about anticipating child sexual abuse

Knowledge Level Child Sexual Abuse	Group				T-Test	P-Value	95% CI
	Snake Ladder		Leaflet				
	\bar{x}	SD	\bar{x}	SD			
Pre Test	68,3	16,4	67,8	11,4	7,42	0,000	-17,3 -- 9,9
Post Test	82,0	12,5	76,4	14,1	5,54	0,000	-11,6 -- 5,4

Based on Table 2. that in the snake ladder modification group given snake modification, the pretest average was 68.3 SD 16.4 while the post-test average was 82.0 SD 12.5. The average level of knowledge of Anticipating Child Sexual Abuse in the group given the modification with a p value of 0.000 <0.05, means that there is a significant difference in the average before and after providing information through the snakes and ladders modification.

The average level of knowledge about anticipating Child Sexual Abuse in the group given the leaflet pretest 67.8 SD 11.4 and post-test 76.4 SD 14.1 with a p value of 0.000 <0.05, meaning there is a significant difference in the average before and after providing information through leaflets.

Table 3. The difference in the mean difference in the increase in knowledge of anticipation of sexual violence in students

Group	\bar{x} upgrade	mean	t	P value	95% CI
Snake Ladder	13,6	5,1	2.1	0,037	0,31—9,8
Leaflet	8,5				

In Table 3, the average increase in knowledge about Child Sexual Abuse in the snake ladder modification group was 13.6 while the average increase in the leaflet group was 8.5. The average difference between the snake and leaflet modification groups is 5.1 with a p value of 0.037 <0.05, meaning that there is a significant difference in the average increase in knowledge between the snake and leaflet modification groups. So, it can be concluded that there is an effect of giving Snake modification on increasing the average knowledge of female students.

DISCUSSION

The results of the study based on the characteristics of the respondents showed that the majority of the gender of the respondents in this study were female in both the snake ladder modification group and the leaflet group. Women are more likely to be victims of sexual abuse than men.²

The results of this study showed that in the experimental group given the snake modification, the pretest average was 68.3 while the post-test average was 82.0. The average level of knowledge of anticipating child sexual abuse in the group given the modification with a p value of 0.000 <0.05, means that there is a significant difference in the average before and after providing information through the modification of

snakes and ladders. Education-based games such as snakes and ladders are effective game tools in providing information related to sensitive topics such as reproductive health.³³ Snakes and ladders game is an educational game that increases knowledge and in obeying the moral rules of the consequences of actions.³⁰

The results of this study indicate that the average level of knowledge about anticipating Child Sexual Abuse in the group given the leaflet pretest 67.8 and post-test 76.4 with a p-value of 0.000 <0.05, meaning that there is a significant difference in the average before and after providing information through leaflets. According to recent studies,³⁴ leaflet media can play a role in increasing students' knowledge and attitudes about pornography. This is also supported by research that leaflets can be utilized as an efficient educational medium to increase understanding of reproductive health in schools,³⁵ but health literacy does not always play a role in improving health promotion interventions.³⁶

In this study, the average increase in knowledge about Child Sexual Abuse in the snake ladder modification group was 13.6 while the average increase in the leaflet group was 8.5. The average difference between the snake and leaflet modification groups was 5.1 with a p value of 0.037 <0.05, meaning that there was a significant difference in the average increase in knowledge between the snake and leaflet modification groups. So, it can be concluded that there is an effect of giving snake modification on increasing the average knowledge of female students. The findings of this study are consistent with future prevention efforts that can better inform and involve parents and other adult protectors in preventing CSA. The need for parents to better protect their children's access to online devices.³⁷ Snakes and ladders is one of the interactive educational media that effectively increases adolescents' awareness and knowledge of important materials such as HIV/AIDs³⁸. The use of snakes and ladders games in addition to improving learning outcomes can also optimize student

involvement in the learning process³⁹, also corroborated the results of this study that students were happy with the snakes and ladders game and they more easily understood the material.⁴⁰

CONCLUSION

The snakes and ladders modified game effectively increase on knowledge about anticipated sexual abuse. It is hoped that this game will make it easier for parents and teachers to provide information about anticipating sexual abuse in an interactive and fun atmosphere for children. Suggestions for teachers, midwives or other health workers can use this game as an alternative health promotion media to increase students' knowledge about anticipating sexual abuse.

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Teachers or teachers or parents can utilize the modified snakes and ladders game media as a medium for education to their students or children to increase knowledge about anticipating child sexual abuse.

DECLARATIONS

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