

The Effect of Education by Using Snakes and Ladders as a Medium on Adolescents Knowledge and Attitudes in the Prevention of Premarital Sex in Junior High School

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Abstract--- *Along with the growth and development of adolescents will generate interest in the opposite sex, so it does not rule out the possibility to start dating, which leads to premarital sexual behavior. Adolescents need to be given health education following the characteristics of teenagers who are interested in something new by using snakes and ladders as a medium in providing health education. This study aimed to explain the effect of learning by using snakes and ladders on the knowledge and attitudes of adolescents in preventing premarital sexual behavior. This study method used a quasi-experiment with a pretest-posttest with a control group. The population is the eighth-grade students of Junior High School. The sampling technique used Simple Random Sampling. The number of samples in the study was 36 students, which consisted of a treatment group of 18 students and a control group of 18 students. The research instrument used questionnaires of knowledge and attitudes to prevent premarital sexual behavior. The independent variable in this study was education by using snakes and ladders as a medium, and the dependent variable was knowledge and attitudes. This study applied the Wilcoxon, and Mann-Whitney tests with the significance technique $\alpha < 0.05$. Wilcoxon test result showed that education with snake and ladder media increased the level of knowledge ($p = 0.000$), but not on the students' attitudes ($p=0.257$). Mann-Whitney test result showed that there were significant differences in the average level of knowledge between the treatment group and the control group ($p=0.002$). Education with snakes and ladders can be applied to improve students' knowledge about the prevention of premarital sexual behavior by avoiding the causes and methods of prevention.*

Keywords--- *adolescent, behavior, education, knowledge, premarital sex, snakes and ladders*

I. INTRODUCTION

Adolescents in their development begin to be attracted to the opposite sex, so adolescents are encouraged to date. Dating behavior will help adolescents to engage in premarital sexual behavior [1]. Adolescents with fewer life skills will quickly engage in premarital sex. Psychosocial development in early adolescents is still unstable in contrast to late adolescents who tend to be more stable and ready to become independent adults [2].

Research data shows that adolescents aged 13-16 years report that they have kissed with their partners [3]. In a previous study states that 4.26% of respondents claim to have had premarital sex [4]. According to the results of the unstructured interview of 10 students in the eighth grade of Junior High School showed that six teenagers have girlfriends and boyfriends, and two of them have kissed. Results of Indonesia's basic health research in 2013, which still shows the proportion of pregnancies in women aged less than 15 at 0.02% [5].

Premarital sex behavior can be influenced by biology, parents, peer influence, comprehension, and sexual experiences experienced by adolescents [6], [7]. Adolescent behavior is affected by the function of social, emotional, and cognitive processes [3], [8]. Many juvenile practices that diverge toward free sex who have premarital sex [9]. Adolescent behavior in the prevention of free sex is also influenced by self-efficacy [10]. Therefore, the formation of action requires to be conducted on adolescents to increase knowledge and creates positive attitudes of adolescents in preventing problems that frequently arise in adolescence, such as premarital sexual behavior. The government has made various attempts, one of them is by creating the Adolescent Health Care Program (PKPR). PKPR has a promotive and preventive program by conducting counseling about adolescent reproductive health.

Health education about efforts to prevent premarital sexual behavior needs to be given to junior high school students because they have experienced an attraction with the opposite sex and confusion on a matter. Methods in providing health education need to be considered and selected based on participant criteria. One of the counseling methods which can increase the active role of students is the educational game method [11], [12]. Instructional game methods have advantages in the learning process to be fun and providing active participation from students [13]. A suitable type of game media that given to adolescents is snakes and ladders. The advantage of snakes and ladders is that this game can be played outside or inside the classroom. Besides, it can stimulate them to move in groups or individuals. A study by Amelia in 2010 showed that the game of snakes and ladders increases knowledge effectively about the dangers of smoking in class VII and VIII [14]. The results showed that snakes and ladders were effectively given in efforts to prevent sexual harassment in elementary students [15]. Based on the analysis, it is necessary to research the effect of the educational game of snakes and ladders on the adolescent's behavior in preventing premarital sex in middle school.

AI. METHODS

This research design used a quasi-experiment with pre and post designs. It involved two research groups and a control group. The population in this research was eighth-grade students of Junior High School. The sample in this study amounted to 36 respondents. The sampling technique used simple random sampling. The tools and materials in this research were banner, dices, pawns, and flashcards. The instruments used in this study were knowledge and attitudes questionnaires. Data analysis using a Wilcoxon signed-rank test and Mann-Whitney test. This study has implemented the ethical principle and received consent from participants.

BI. RESULT

- General data of respondents

Table 1. Distribution of respondents' general characteristics

Characteristics of Respondents	Treatment Group (n)	Control Group (n)
Gender		
Male	12	12
Female	6	6
Live with		
Parents	16	16
Fathers or Mothers	2	1
Grandfathers and Grandmothers	0	1
Total	18	18
Fathers' educational backgrounds		
Not completed in elementary school	0	2
Elementary school	6	11
Middle school	6	3
High school	6	2
Mothers' educational backgrounds		
Not completed in elementary school	0	3
Elementary school	5	4

Middle school	9	8
High school	4	3
Fathers' occupations		
Private employee	2	2
Farmer	11	12
Entrepreneur	4	3
Fisherman	1	1
Mothers' occupations		
Private employee	5	2
Farmer	9	7
Entrepreneur	1	3
Fisherman	3	6

Table 1 showed that men and women in the treatment and control groups had the same proportions. The number of male students was more than female students, where male students were 66.7% while female students were 33.3%. The average of students living with their parents in the treatment group and the control group had the same proportion, which was 88.9% (16 students).

- Specific data of respondents

Table 2. Adolescent knowledge in preventing premarital sexual behavior

Knowledge Level	Treatment Group		Control Group	
	Pretest	Post-test	Pretest	Post-test
	n	n	n	n
Good	1	10	2	2
Enough	11	8	12	12
Less	6	0	4	4
Total	18	18	18	18
Mean	2.28	1.44	2.11	2.11
Elementary school	0.575	0.511	0.583	0.583
Wilcoxon test	p=0.000		p=1.000	
Mann-Whitney test	p=0.002			

Table 2 showed the knowledge level of respondents in the treatment group and the control group before the intervention, most of which have a sufficient level of knowledge. In the treatment group, there were 61.1% (11 students), while in the control group, there were 66.7% (12 students). After the intervention in the treatment group, the knowledge level of respondents had increased in the majority of respondents who had the right level of knowledge, which was 55.6% (10 students). In comparison, the level of knowledge in the control group did not change at 66.7% (12 students) with a sufficient level of knowledge.

The result of the statistical test that applied a Wilcoxon signed-rank test in the treatment group obtained $p=0.000$. It showed that there was a change in knowledge in the treatment group after being educated with snakes and ladders. Which meant there was no difference between the pre-test and post-test in the control group. The result of the Mann-Whitney U test after the intervention obtained a significance value of less than 0.05, which was 0.002. It showed that there were significant differences in post-test results between the treatment group and the control group.

Table 3. Adolescent attitudes in preventing premarital sexual behavior

Attitude	Treatment Group		Control Group	
	Pretest	Post-test	Pretest	Post-test
	n	n	n	n
Positive	9	12	7	10
Negative	9	6	11	8
Total	18	18	18	18
Mean	0.50	0.67	0.39	0.44
Elementary school	0.514	0.485	0.502	0.511
Wilcoxon test	p=0.257		p=0.564	
Mann-Whitney test	p=0.186			

Table 3 showed the number and percentage of respondents based on the attitude category before and after the intervention in the treatment and control groups. In the treatment group, the result of the pre-test can be seen that the percentage of students who had the same positive and negative attitudes was 50% (9 students). While in the control

group, the result of the pre-test percentage, which was 61.1% (11 students), had negative attitudes. After being provided intervention in the treatment group, the number of students who had positive attitudes increased to 66.7% (12 students). The result of the post-test in the control group increased the number of students who had positive attitudes, which was 55.6% (10 students). The result of the statistical test that used the Wilcoxon signed-rank test in the treatment group was $p = 0.257$, in which there was no difference in the average of adolescent attitudes before and after the intervention was given. These results were the same as the result of statistical tests that used the Wilcoxon signed-rank test in the control group, which showed that there was no difference in the average of adolescent attitudes in the pre-test and post-test, which was $p = 0.564$. The result of the Mann-Whitney U test was $p = 0.186$, so that H_0 was accepted, which meant there was no difference in the average of post-test results in the treatment group and the control group.

IV. DISCUSSION

Based on the results of the pre-test, the average level of respondents' knowledge in the treatment and control groups is sufficient. After conducting intervention by using snakes and ladders in the treatment group, the level of respondents' knowledge is increased. Providing information about efforts to prevent premarital sexual behavior is a form of health promotion that can increase adolescent awareness. The report can be provided by using a health education approach with a variety of methods [16]–[18]. A research conducted by Karundeng, Solang, & Imbar in 2015 who revealed that health promotion was very effective in increasing one's knowledge [19].

Snakes and ladders influence the level of adolescent education regarding efforts to prevent premarital sexual behavior. The results of the statistical test show differences in the average level of knowledge in the treatment group after the intervention are provided. The results of the data collection show that 94% of students have the right level of expertise, and there are no students who have a level of knowledge that is decreased. The respondents are enthusiastic during the interview. Besides that, they are enthusiastic during the discussion.

In educating by using snakes and ladders, respondents can easily understand the material that is provided. It is proved by an increase in the number of respondents who have the right level of knowledge. Students say that they feel happy and interested in playing snakes and ladders because they can discuss with other participants [20], [21]. This is in line with research conducted by Amelia in 2010, which shows that as a learning medium, snakes and ladders have the advantage of building cooperation by answering existing questions [14]. Therefore, snakes and ladders are suitable for educational media to increase adolescent knowledge.

V. CONCLUSION

Provision of education with snakes and ladders as a medium can make students understand the materials and discuss the prevention of premarital sexual behavior so that it affects the increase in the level of knowledge. Still, it has not affected the attitude change yet. It requires developing methods in providing education by using snakes and ladders as a medium. Thus, it can improve attitudes in adolescents.

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