



# The Effect of Snakes and Ladders Game on Adolescent Knowledge Levels about Leucorrhoea for Class VIII at SMP Negeri 1 Sukoharjo Pringsewu Lampung

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## ABSTRACT

Leucorrhoea is one of Women's Reproductive Health. The problem of Leucorrhoea occurs in adolescents, and it needs more attention. If Leucorrhoea during adolescence is left unchecked, it will cause serious illness. Some women in Indonesia do not know about Leucorrhoea, and they think Leucorrhoea is a common and trivial thing. To determine the snakes and ladders game effect on Leucorrhoea knowledge of the second-years students in SMP Negeri 1 Sukoharjo Pringsewu Lampung. This study was a quasi-experimental design using a pre-post-test with a control group. The sampling technique was carried out using random sampling and obtained 64 respondents. Data were collected through questionnaires. The intervention group's level of knowledge after playing the snake and ladder game treatment increased with a mean of 13.19, median of 13, and SD of 1.38. In contrast, the intervention group in the post-test phase had a mean of 14.63, median of 15, and SD of 1.93. The control group had a mean of 15.03, median of 15, SD of 2.26. At the same time, the control group had a mean of 15.47, median of 15, SD of 2.15. There was an effect of the snake and ladder game on the level of adolescents' knowledge about Leucorrhoea in second years at SMP Negeri 1 Sukoharjo Pringsewu Lampung in the intervention class. The results of this study can be a reference of new teaching methods for adolescents to improve health education.

**Keywords:** *Leucorrhoea; Adolescence Knowledge; Snakes and Ladders*

## 1. INTRODUCTION

Leucorrhoea problem is often experienced by adolescence as a health reproductive problem. White discharge is fluid that comes out of the vagina, and it can be physiological or pathological [1]. Leucorrhoea that persist and can continuously disturb a woman's reproductive function, ovaries and affect women's infertility [2]. Based on the World Health Organization (WHO) that 75% of women worldwide experienced white discharge problem [3]. In Indonesia, 90% of women have leucorrhoea persists and can continuously disturb a woman's reproductive function, ovaries and affect women's infertility problems. Some women do not know about the leucorrhoea persists and can continuously disturb a woman's reproductive function, ovaries and affect women's infertility problem, and they consider this case not a severe problem. More than thirty percent (31.8%) of adolescents (15-24 years old) have a white discharge problem [4]. Leucorrhoea problems in

adolescence need special attention. If they leave it, it will cause serious illness in the future.

Adolescents are individuals in the 14-18 years age group. In this period, growth development of the reproductive system and highly sensitive genetic toward bacteria and germs are working. Most adolescence who experienced leucorrhoea because they were low knowledge, attitude, and poor personal hygiene [5]. Adolescence knowledge about reproductive health problems has to be the principle of health behaviour. But, not all adolescent groups are well-known about it [6]. They understood that leucorrhoea is a reproductive health problem. However, they did not know the reason for leucorrhoea and how to prevent it [7].

A pilot study conducted in third years students in SMP Negeri 1 Sukoharjo Pringsewu Lampung showed that 4 of 19 students (21%) did not agree if the moist environment can influence leucorrhoea raises, moreover 21% of students did not approve that nylon panties is one of the cause white discharges. Then 63% of students did

not agree that using tight trousers can affect reproductive problems, and 11% agreed that vaginal care and cleaning with soap was the right way. The researcher concluded that adolescents' knowledge about white discharge was still insufficient, and they did not know how to clean up the vaginal. These problems can be the reason white discharge happens in adolescence.

Educational games can increase knowledge, such as snakes and ladders games. This game is able to influence the learning and attitude of student's lifestyles [8][9]. The previous study by Zuhriya said that the snakes and ladders game was a happy educational game that is so glad for adolescence. Therefore, they can learn and play it indoors or outdoors. This game stimulates players to play individually or as a group, and it makes adolescence interested to play it [10].

This study aims to find out the effect of the snakes and ladders game on adolescent knowledge levels about leucorrhoea.

## 2. METHOD

This study used quasi-experimental design using pre-post-test with a control group and conducted on SMP N

**Table 1** Normality test data from intervention and control groups.

Group	Statistic	Shapiro-Wilk		Sig.
		Df		
Intervention	<i>Pre-test</i>	0.867	32	0.001
	<i>Post-test</i>	0.944	32	0.098
Control	<i>Pre-test</i>	0.907	32	0.009
	<i>Post-test</i>	0.967	32	0.415

Table 1 shows that the normality test used Shapiro Wilk resulting different significant score, pre-test result of intervention and control groups got grade under 0.05,

1 Sukoharjo Pringsewu Lampung. Sixty-four respondents were collected by random sampling technique and divided into two groups: thirty-two joined the control group, and thirty-two were placed in the intervention group.

This study used a structured instrument to measure students' knowledge about leucorrhoea. This instrument was measured with a reliability test procedure, and Cronbach's alpha showed 0.789. All variables' characteristics were described with univariate analysis whilst bivariate analysis was conducted to know whether both the variables have a relationship. Wilcoxon test was applied as a statistic test.

## 3. RESULT AND DISCUSSION

### 3.1. Results

The researcher collected the respondent's data, it was followed by a process normality test and then conducted data analysis. A bivariate test was carried out to realize whether the snakes and ladders game had an effect on adolescent knowledge levels about leucorrhoea.

it means that non-normal data distribution. Therefore, data analysis applied another type of data analysis, the Wilcoxon test.

**Table 2** Descriptive of knowledge levels on third years students at SMPN 1 Sukoharjo Pringsewu Lampung (n=64)

Knowledge Levels	Mean	Median	SD	95%CI	
				Lower Bound	Upper Bound
Intervention					
<i>Pretest</i>	13.19	13	1.38	12.69	13.68
<i>Posttest</i>	14.63	15	1.93	13.93	15.32
Control					
<i>Pretest</i>	15.03	15	2.26	14.21	15.85
<i>Posttest</i>	15.47	15	2.15	14.69	16.25

Table 2 represents that the knowledge levels about leucorrhoea of the intervention group (pre-test) are mean score of 13.19, median of 13, standard deviation of 1.38. At the same time, the result of the intervention group (post-test) has a mean score (14.63), median (15.0),

standard deviation (1.93). On the other hand, the control group (pre-test) are a mean of 15.03, a median of 15.0, a standard deviation of 2.26. In comparison, the control group (post-test) has a mean (15.47), median (15.0), standard deviation (2.15).

**Table 3** Comparing means of knowledge in pre-test and post-test score between intervention and control groups

Knowledge	Groups	Median (Minimum – Maximum)	p-value
Pre-test	Intervention (n=32)	13 (10-18)	-2.930 <sup>b</sup>
Post-test	Intervention (n=32)	15 (10-20)	.003
Pre-test	Control (n=32)	15 (10-21)	-1.265 <sup>b</sup>
Post-test	Control (n=32)	15.5 (11- 20)	.206

Table 3 shows that in the intervention group, the knowledge of five students experiences a decreased level, twenty students are at the same level, and seven students are increased knowledge level. While if looked at in the control group, eleven students have decreased knowledge, sixteen students are indifferent levels, and five have advanced knowledge.

The table above shows Wilcoxon test results that the intervention group gets a significant score of 0.002, low than 0.05. A snakes and ladders game affect the leucorrhoea knowledge level of third-year students in SMP N 1 Sukoharjo Pringsewu Lampung. In comparison, the control group has a significant score of 0.206 ( $>0.05$ ), which means that this game has no significant effect on students' knowledge.

### 3.2. Discussion

The respondents' age in this study is adolescence the aged 12-14 years old. Based on age categories, these age groups are included in the young adolescence group [11]. The characteristic of young adolescence, among others, are close with their peers, preoccupation with body image, starting to protest their parents, having critical thinking and abstract, and labile mood.

Lilik Hanifah supported the previous statement, and she said that age is one-factor determining mature people [12]. The older someone gets; the mature levels will have strong thinking principles. That process will influence to knowledge, attitude, and behaviour of someone. A study conducted on third-year old SMP N 1 Sukoharjo Pringsewu Lampung found that the intervention group showed an increasing knowledge score of students in the pre-test and post-test phase. This condition happened because pre-test phase, the students were conducted directly based on their perception about leucorrhoea insight. Then the researcher explained leucorrhoea through the snakes and ladders game, and students were asked to fill the research questionnaire again. Furthermore, their knowledge score about leucorrhoea was increased in posttest results.

The scoring pre-test score was lower than the post-test because the students had limitations of leucorrhoea insight. The students got high scores in the post-test phase because they got health education about leucorrhoea before answering the questionnaire twice. This result aligns with the theory, which tells that knowledge levels are influenced by information received

[13]. Likewise, a study by Kurniawati mentioned that there is enhancement knowledge about menarche (40.1%) before getting intervention, whereas the positive attitude of students when they encounter menarche, their knowledge was increasing (46.6%) after getting intervention [14].

The result of this study, the control group, defined that students' knowledge about leucorrhoea was still low category. This condition was caused when students were measured by questionnaire, they answered questionnaire spontaneously with their knowledge, different situations experienced by an intervention which has a chance to get knowledge more through educational health. Therefore, the intervention group can analyse and answer every question.

The scoring of the control group in this study showed that the students did not know well about leucorrhoea. Research by Komariyah., et al said that most women adolescence were low knowledge category, of 57.5% of them did not know that itching, skin rash, and pain were signs and symptoms of leucorrhoea. Female adolescents' knowledge about leucorrhoea causes was low (42.5%), female adolescence did not understand that stress does not cause leucorrhoea and is led by the menarche cycle. Students' knowledge about the classification of leucorrhoea was decline category (50.7%). Female adolescences have common knowledge about leucorrhoea 65.8%). They did not understand how to prevent leucorrhoea (67.1%). Along female adolescences were misunderstanding that leucorrhoea can be avoided with exercise regularly, and leucorrhoea treatment kills the fungi and hampers its growth up [15].

Bivariate analysis in this study used the Wilcoxon test with a significant score was of 0.002 ( $<0.05$ ). It means the snakes and ladders game affects adolescent knowledge levels about leucorrhoea in the intervention group. While in the control group was a significant score of 0.206 ( $>0.05$ ), It can be concluded that there was no significant effect.

The study by Zuhriya et al. showed that after getting intervention, most of their knowledge increased because there were learning materials inside the game and interested pictures. These reasons why the students are interested in educational games like the snakes and ladders game [10]. Another study by Whittam dan Chow confirmed that educational games could increase knowledge and stimulate the players to discuss. The

students said that the learning process, if it was designed such as an educational game, they will be enjoyed [16].

#### 4. CONCLUSION

This study showed that the snakes and ladders game could increase knowledge levels about leucorrhoea in the intervention group. The further research hopes to apply educational games such as the snakes and ladders game designed by modern design concept capable of facilitating the student to they will be enjoyed with the learning process.

#### ACKNOWLEDGMENT

The author says thank to all respondents, students of SMP Negeri1 Sukoharjo Pringsewu Lampung, who participated in this study. Unforgettable to Universitas Muhammadiyah Gombong, which had been given all support in this study.

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