



## THE EFFECTIVENESS OF THE SNAKES AND LADDERS METHOD ON ADOLESCENTS' KNOWLEDGE AND ATTITUDES TOWARDS REPRODUCTIVE HEALTH

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### ABSTRACT

Adolescent girls will undergo various physical and mental changes during puberty, which will increase the likelihood of unwanted pregnancies, abortions, and the risk of STIs such as HIV/AIDS, sexual violence, and vaginal discharge. A survey conducted by PIK-Teenager in 2020 stated that only 28% of teenagers received information. This means that out of 100 teenagers, only 28 have accessed information related to reproductive health on the topic of genital hygiene. Teenagers rank the highest in the world for genital infections, with an incidence rate of (35-42%), while adults have a rate of (27-33%). The incidence rates for reproductive tract infections among teenagers include candidiasis (25%-50%), bacterial vaginosis (20-40%), and trichomoniasis (5-15%). This research aims to determine the effectiveness of the snake and ladder method in improving adolescents' Knowledge and attitudes towards reproductive health. The research method used is the Pre Test-Post Test One Group Design, with a sample size of 56 respondents selected through purposive sampling. Data was collected using a questionnaire and analyzed bivariate. The results of this study indicate that before the intervention, the Knowledge of adolescents was as follows: 8 respondents (14.8%) with reasonable criteria, 19 respondents (35.2%) with sufficient criteria, and 27 respondents (50.0%) with poor criteria. In terms of Attitude, there were 5 respondents (4%) with very positive criteria, 47 respondents (87%) with positive criteria, and 2 respondents (4%) with negative criteria. However, after providing Knowledge using the snakes and ladders method on reproductive health, the results after the intervention showed that Knowledge improved to 21 respondents (38.9%) with reasonable criteria, 15 respondents (27.8%) with sufficient criteria, and 2 respondents (4%) with poor criteria. Regarding Attitude, there were 53 respondents (98%) with very positive criteria and 1 (2%) with positive criteria. The results of the paired T-Test analysis show a significant change in Knowledge at  $.000 > 0.05$ , while in Attitude, it is also at  $.000 > 0.05$ . This indicates that the snake ladder method effectively improves adolescent girls' Knowledge and attitudes.

**Keywords:** *Knowledge, Attitude, Snakes and Ladders Method, Adolescent Health*

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Adolescent girls will undergo various physical and mental changes during puberty, which will increase the likelihood of unwanted pregnancies, abortions, and the risk of STIs such as HIV/AIDS, sexual violence, and vaginal discharge. A survey conducted by PIK-Teenager in 2020 stated that only 28% of teenagers received information. This means that out of 100 teenagers, only 28 have accessed information related to reproductive health on the topic of genital hygiene. Teenagers rank the highest in the world for genital infections, with an incidence rate of (35-42%), while adults have a rate of (27-33%). The incidence rates for reproductive tract infections among teenagers include candidiasis (25%-50%), bacterial vaginosis (20-40%), and trichomoniasis (5-15%). This research aims to determine the effectiveness of the snake and ladder method in improving adolescents' Knowledge and attitudes towards reproductive health. The research method used is the Pre Test-Post Test One Group Design, with a sample size of 56 respondents selected through purposive sampling. Data was collected using a questionnaire and analyzed bivariate. The results of this study indicate that before the intervention, the Knowledge of adolescents was as follows: 8 respondents (14.8%) with reasonable criteria, 19 respondents (35.2%) with sufficient criteria, and 27 respondents (50.0%) with poor criteria. In terms of Attitude, there were 5 respondents (4%) with very positive criteria, 47 respondents (87%) with positive criteria, and 2 respondents (4%) with negative criteria. However, after providing Knowledge using the snakes and ladders method on reproductive health, the results after the intervention showed that Knowledge improved to 21 respondents (38.9%) with reasonable criteria, 15 respondents (27.8%) with sufficient criteria, and 2 respondents (4%) with poor criteria. Regarding Attitude, there were 53 respondents (98%) with very positive criteria and 1 (2%) with positive criteria. The results of the paired T-Test analysis show a significant change in Knowledge at  $.000 > 0.05$ , while in Attitude, it is also at  $.000 > 0.05$ . This indicates that the snake ladder method effectively improves adolescent girls' Knowledge and attitudes.

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## **INTRODUCTION**

Reproductive health affects human life from birth to death. One of the main concerns in reproductive health is adolescent reproductive health. The teenage years are marked by the onset of menstruation, which signifies their reproductive organs have matured. During menstruation, hygiene practices are essential to maintain physical and mental cleanliness and health.

Adolescent girls will undergo various changes, both physically and mentally. They will experience puberty, which increases the likelihood of risks such as unwanted pregnancies, abortion, sexually transmitted infections like HIV/AIDS, sexual violence, and vaginal discharge.

Data from East Java shows that 86.5% of cases of Reproductive Tract Infections (RTIs) in adolescent girls, such as cervicitis and candidiasis, are found in Malang and Surabaya. 77% of the causes are mainly due to the candida albicans fungus, which thrives in high-moisture

areas, such as during menstruation. Mushrooms can thrive in highly acid reproductive organs; increased acidity can occur when the reproductive organs are wet and humid (Ernawati, 2019).

A survey conducted by PIK-Teenager (Youth Information and Counseling Center) states that only 28% of teenagers receive information. This means that out of 100 teenagers, only 28 have accessed information related to reproductive health on the topic of genital hygiene. Adolescents rank the highest in the world, with genital infections occurring at a rate of (35-42%), while adults have a rate of (27-33%). The incidence rates for Reproductive Tract Infections among adolescents include candidiasis (25%-50%), bacterial vaginosis (20-40%), and trichomoniasis (5-15%).

Based on the research by Firdaus and Erni (2017) on "The Description of Knowledge, Attitudes, and Behaviors of Personal Hygiene of Female Students' External Genitalia in Banyuwangi Regency," it was found that out of 50 respondents, 34 students had good Knowledge (68%), 33 students had a good attitude (66%), and 35 students had good behaviour (70%). This indicates that the respondents' level of Knowledge, attitudes, and behaviours regarding personal hygiene is categorized as good.

One way to prevent such incidents is to pass on reproductive health knowledge to teenagers. This education includes understanding growth and development, anatomy and physiology, and adolescent physical changes. At the end of the session, it provides an opportunity for discussion or a question-and-answer session regarding reproductive health to deepen teenagers' understanding of sex. The media known to be effective is the game of snakes and ladders. This media is designed to educate teenagers about reproductive health in a fun way. Snakes and Ladders is a game where players on a snake square must move down, while players on a ladder square must move up. A player positioned at the tail of a snake must move their piece to the head of the snake, while conversely, a player on a ladder square must move their piece to the top of the ladder. The players move their pawns according to the number they have after rolling the dice in order. The game of snakes and ladders is an engaging educational tool for school-aged children, allowing them to learn while playing. This game also stimulates group or individual activities, making the students more engaged and creating a pleasant atmosphere, which makes information more accessible to absorb. Based on this issue, adolescent health has become an essential concern for observers

## **RESEARCH METHODS**

This type of research is a quantitative study using a Pre Test-Post Test One Group Design, an experimental study conducted on only one randomly selected group without testing the

stability and clarity of the group's condition before treatment is given. The aim is to investigate the effectiveness of an approach, method, and learning techniques in this research, hoping that adolescent girls can reasonably apply the results.

This study's population consists of 63 female students of SMP 01 Islam Jember. The sampling method used in this research is purposive sampling, which resulted in 54 respondents who met the inclusion criteria.

The data types collected are primary and secondary (characteristics, Knowledge, and attitudes). (profil sekolah dan jumlah siswi kelas 7,8 dan 9 di SMP 01 Islam Jember).

Data analysis was conducted using univariate and bivariate analysis. This study's sample size consisted of 54 respondents, and the characteristics of the research sample were described using univariate analysis with percentages. Bivariate analysis employed a paired T-test and was processed using SPSS to examine the relationship between independent and dependent variables.

## RESULTS

### 1. Characteristics of Age

Variable	Frequency (f)	Percentage (%)
13 Tahun	4	7%
14 Tahun	24	44%
15 Tahun	26	48%
Total	54	100%

According to the data on the characteristics of adolescent age, the average age of respondents at SMP 01 Islam Jember indicates that the early adolescent age is predominantly 15 years old, with 26 respondents (48%), while 13 years old accounts for 7% and 14 years old for 44%.

### 2. Characteristics based on sources of reproductive health information.

Variable	Frequency (f)	Percentage (%)
Guru	25	46%
Teman	2	4%
Orang Tua	0	0
Televisi	3	6%
Media Sosial	15	28%
Koran/Majalah	9	0%
Tidak Ada	0	17%
Total	54	100%

According to the results, the data from respondents indicate that most of the information sources related to reproductive health knowledge come from teachers, with 25 respondents

(46%). Meanwhile, other information sources include social media (28%), newspapers and magazines (17%), television (6%), and friends (4%).

### 3. Cross Tabulation Of Knowledge of adolescents pre test and post test the snake and ladder method intervention.

No.	Category	Pre test		Post Test	
		N	f (%)	N	f (%)
1.	Good	8	14.8	21	38.9
2.	Enough	19	35.2	15	27.8
3.	Lacking	27	50.0	18	33.3
	Total	54	100%	54	100%

The data collection results indicate that the pre-test and post-test results show an increase in adolescents' Knowledge of reproductive health after receiving counselling using the snake and ladder method. The data indicate that during the pre-test, the majority had a sufficient level of Knowledge at 35.2%. In contrast, after receiving counseling with the snake and ladder method, the data show that adolescents' Knowledge improved to a good level of 38.9%.

### 4. Cross Tabulation Of The Attitude of adolescents pre test and post test the intervention of the snake and ladder method.

No.	Category	Pre test		Post Test	
		N	f (%)	N	f (%)
1.	Very Positive	5	9	53	98
2.	Positive	47	87	1	2
3.	Negative	2	4	0	0
4.	Very Negative	0	0	0	0
	Total	54	100%	54	100%

The results of the data collection indicate that the pre-test and post-test results show an improvement in adolescents' attitudes towards reproductive health after receiving counselling using the snake and ladder method. The data indicates that adolescents' attitudes during the pre-test showed a positive result of 87%. In contrast, after receiving counseling with the snake and ladder method, the data showed that adolescents' attitudes improved to a positive result of 98%.

### 5. Analysis of paired T-Test on Effectiveness of the Snakes and Ladders Method on Adolescents' Knowledge and Attitudes Regarding Reproductive Health

**Paired Samples Test Knowledge Of Adolescents**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-1.148	1.071	.146	-1.441	-.856	-7.876	53	.000

The results of the T-Test show a result of  $.000 > 0.05$ . Thus, the snake and ladder method effectively improves adolescents' reproductive health

**Paired Samples Test The Attitude Of Adolescents**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre - post	-5.556	2.633	.358	-6.274	-4.837	-15.507	53	.000

The results of the T-Test showed a result of  $.000 > 0.05$ . Therefore, the snake and ladder method effectively improves adolescents' attitudes towards reproductive health

**DISCUSSION****1. Characteristics of Age**

The data collection results show that the characteristics of the respondents are mostly 15 years old, with 26 respondents (48%), while those aged 13 years make up 7% and those aged 14 years account for 44%.

According to Ahyani and Dwi (2018), the stages of adolescence include early, middle, and late adolescence. Early adolescence refers to individuals aged between 12 and 15. Middle adolescence refers to individuals aged between 16 and 18. Late adolescence refers to individuals aged between 19 and 21.

The results of this study are in line with the findings of the research conducted by Purwaningrum (2017), which states that the majority of the characteristics of the subjects in the study are middle adolescents, with 52 (92.9%) respondents.

The teenage years are a period of human development during which significant changes occur, both psychologically, biologically, and socially. These changes begin when adolescents experience menstruation. Teenagers often overlook the importance of healthy

behaviour, especially in maintaining their reproductive organs to avoid diseases commonly found in these areas.

## **2. Teen Knowledge**

Based on the research findings, adolescents' Knowledge of reproductive health increased after counselling using the snake and ladder method. The data showed that the level of Knowledge among adolescents during the pre-test indicated that the majority had a sufficient level of Knowledge at 35.2%. Meanwhile, after receiving counseling with the snake and ladder method, the data indicated that the adolescents' level of Knowledge improved to a reasonable level at 38.9%. The results of the T-Test show a result of  $.000 > 0.05$ . Thus, the snake and ladder method effectively improves adolescents' reproductive health

Knowledge results from the knowledge process that occurs when a person perceives a specific object. Knowledge is acquired through sensing via the senses of sight, hearing, smell, taste, and touch. (Pakpahan dkk., 2021). In the study by Sri Handayani (2019), it was shown that the Knowledge possessed by adolescents before being given health education using the snake and ladder method achieved scores nearly close to the maximum value of the questionnaire. According to Sri, in the research by Budiman and Rianto, an individual's level of Knowledge is influenced by education, information/social media, cultural environment, experiences, and age. This study's results align with the research conducted by Azzarah (2020), which found that students with low Knowledge are more numerous than those with high Knowledge.

According to Tarigan and Hasan (2013), increased Knowledge does not always lead to changes in behaviour. This is because other factors can shape behaviour.

## **3. Teenage Attitude**

The data collection results indicate that adolescents' attitudes during the pre-test were 87% positive. In contrast, after receiving counselling using the snake and ladder method, the data showed that the adolescents' attitudes improved to a very positive 98%. The results of the T-Test showed a result of  $.000 > 0.05$ . Therefore, the snake and ladder method effectively improves adolescents' attitudes towards reproductive health

Notoatmodjo (2010; 52) states that: "Attitude is an individual's reaction to a certain stimulus or object that includes elements of opinion and emotion, such as joy, disagreement, positive-negative judgments, and so on.

Adolescents' Knowledge of reproductive health influences their attitudes. The more positive benefits teenagers know about maintaining reproductive health, the more positively they will approach their reproductive health. In addition, teenagers also need to adhere to religious teachings and the norms that prevail in society to avoid engaging in risky sexual behaviour (Nisariati & Kusumaningrum, 2022).

The media of the snake and ladder game can enhance students' attitudes because, in this media, students are encouraged to think directly about the material, both in the form of questions and statements related to their attitudes towards reproductive health. This assumption is supported by research conducted by Zamzami (2014), which concluded that the snake and ladder media can improve students' attitudes before and after treatment, from (41.63) to (52.09). Based on these results, it can be concluded that health education on reproduction using snake and ladder media effectively enhances students' attitudes. According to Azwar (2012), Attitude has three main components: beliefs/thoughts (cognitive), emotional life (affective), and the tendency to act. (conation). These three components together form a complete attitude. Knowledge, thinking, beliefs, and emotions are crucial to a comprehensive attitude.

## **CONCLUSION**

The conclusion of this study indicates that there has been an increase in adolescents' Knowledge and attitudes towards reproductive health. This is evidenced by the significant changes observed in the pre and post-tests, where most adolescents had good Knowledge before the intervention using the snake and ladder method. In contrast, there was an improvement after the intervention, resulting in excellent Knowledge.

Meanwhile, adolescents' attitudes towards adolescent health have also changed. Initially, 87% of adolescents had a very positive attitude, but after the snake and ladder intervention, this increased to 98%. This indicates that the snake and ladder method effectively improves Knowledge and attitudes towards reproductive health

## **RECOMMENDATION**

This research is expected to serve as a source of information for students, enhancing their Knowledge of reproductive health. Future researchers should conduct studies more engagingly so that respondents focus not only on the format of the game but also on their understanding of reproductive health

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