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The Effect of Sasak Ladder Educational Game (PENTAS) on the Level of Adolescents' Knowledge about the Impact of Early Marriage

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Abstract
Background: Globally it shows that about 12 million adolescents' are married before the age of 18. This is also a dilemma in Indonesia, around 25.53 million children are married at an early age. Indonesia is still the 4th highest in the world in the case of early marriage, providing education is one of the effective ways to provide valid, updated, and evidence-based information to improve adolescents' knowledge. The Sasak Ladder Education Game (PENTAS) can be used as an educational medium for adolescents' to increase knowledge about the impact of early marriage, so that it can prevent early marriage among adolescents'.
Objective: To determine the Influence of the Sasak Ladder Education Game (PENTAS) on the Adolescents' Knowledge Level Regarding the Impact of Early Marriage.
Method: This type of research is Pre-Experimental with Design One Group Pretest- Posttest. The population of this study is 659 students of SMAN 1 Lingsar class X and class XI and a sample of 30 respondents. Data analysis used the Marginal Homogenity Test.
Results: The results of the knowledge value before the intervention of the Sasak Ladder Educational Game (PENTAS) were obtained that most of the respondents had sufficient knowledge as much as 18 (60%). The results of the knowledge value after the Sasak Ladder Education Game (PENTAS) intervention were obtained by most respondents who had good knowledge as many as 22 (73.3%). Marginal Homogenity analysis test with a p-value of knowledge level of 0.000 ($p < \alpha = 0.05$)
Conclusion: There is an effect of the Sasak Ladder Education Game (PENTAS) on the level of adolescents' knowledge about the impact of early marriage at SMAN 1 Lingsar.

Keywords: Sasak Ladder Educational Game (PENTAS); Early Marriage; Adolescent Knowledge; Educational Games; Health Education

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INTRODUCTION

Early marriage is a problem that is being experienced by low- and middle-income countries, including Indonesia. (Rumble et al., 2018). Globally, about 12 million girls worldwide marry before the age of 18 each year, which means that one in nine girls worldwide marry before reaching adulthood (UNICEF, 2023).

In Indonesia, it is still the 4th highest country in the world in the case of early marriage of girls married before the age of 18 with around 25.53 million children marrying at an early age (Central Statistics Agency, 2020). In West Nusa Tenggara, the highest child marriage rate was recorded at the national level, which was 16.23%. This figure is twice as large as the national achievement of 8.06% in the same year (BPS NTB, 2022)

The factors that cause early marriage are difficult economic factors, lack of access to education, social and cultural factors, family factors, and pregnancy factors outside of marriage (Ruwatul Qomariya, 2024). The impact that occurs on early marriage is failure to continue education, domestic violence and divorce as much as 24%, poverty as much as

13.76%, the risk of complications that occur in pregnancy in women under the age of 17 1 2 years can cause maternal and infant death, birth defects in babies, high blood pressure, premature birth, birth weight below normal, sexually transmitted diseases (STDs), and postpartum depression (Central Statistics Agency, 2020).

Efforts by various international organizations, such as UNICEF and UNFPA, work to address early marriage through education, advocacy, and women's empowerment programs (Central Statistics Agency, 2020). The Government of Indonesia also has efforts to prevent child marriage by issuing Marriage Law Regulation No. 16 of 2019 article 7a concerning Marriage which regulates the minimum age limit for women and men to marry is 19 (Central Statistics Agency, 2020). In addition, in an effort to prevent early marriage, West Lombok district has an Anti-Merarik Kodeq Movement (GAMAQ) program which is the authority of the Office of Women's Empowerment, Child Protection, Population Control and Family Planning (DP3AP2KB) (DP3AP2KB, 2018).

Educational games are one of the factors that can affect a person's knowledge. Health education with the medium of snake and ladder games has been proven to make students more enthusiastic in the implementation of learning and students can enjoy the flow of snake and ladder games from start to finish. The existence of students' interest and enthusiasm in learning is proven by increasing students' knowledge about reproductive health (Maarif, 2017).

Educational games based on local wisdom can be a solution to reintroduce the cultural values of the Sasak Tribe to the younger generation. By utilizing technolog y, educational games are not only an entertainment medium but also an effective learning tool. Research shows that educational games can improve students' knowledge, skills, and learning motivation through an interactive and fun approach (Yusuf et al., 2023). This research contributes to the achievement of the Sustainable Development Goals (SDGs), especially in quality education and cultural preservation. Through a game-based learning approach based on local wisdom, this research opens up opportunities to integrate learning methods that are not only locally relevant but also have the potential to be adapted in a global context (Viranny & Wardhono, 2024).

Based on research conducted by Winarni et al., (2023) that the use of educational Snake and Ladder game media significantly improves the ability to recognize words in preschool-age children. Based on research conducted by Maarif (2017) that the use of snake and ladder media is very effective in increasing students' knowledge about reproductive health with an increase in the average knowledge score between before and after being treated with snake and ladder games of 3.49. Based on the results of the study Stt et al., (2023) that the educational game "Puzzlo Puzzle" can improve 4 fine motor skills of children aged 4 to 5 years by getting p value 0.000 (<0,05).

Based on BPS data from West Lombok Regency, the population aged 10-19 years is 118,000 people in 2023 and there are reported 19 cases of early marriage between the ages of 15-18 years. Lingsar District is ranked 2nd highest after Kediri, which recorded 4 cases of early marriage in 2023 (PPA of West Lombok Regency, 2023).

The Lingsar area has made various efforts, one of which is the effort made by the Lingsar religious affairs office and the Lingsar health center by providing counseling on the impact of early marriage but it is not carried out comprehensively. At SMAN 1 Lingsar, there are still 3 cases of early marriage which shows that this problem has not been completely resolved. It is supported by a preliminary study conducted by researchers at SMAN 1 Lingsar that 8 students (80%) out of 10 students do not know the impact of early marriage and there has been no research that uses educational games, especially the educational game Ladder Sasak (PENTAS). This shows the urgent need to increase adolescents' knowledge about the impact

of early marriage. This study aims to explore the influence of the educational game Ladder Sasak (PENTAS) in providing an understanding of this issue, an effective approach is needed to increase adolescents' awareness and knowledge about its negative impacts. One of the methods that can be used is game educational media, such as the game Tangga Sasak (PENTAS).

METHOD

The researcher used a pre-experimental research design with the design of this study is One Group pre and post test design. The population in this study is all students at SMAN 1 Lingsar, a total of 1,028 students, with stratified random sampling technique. Data analysis uses the Marginal Homogeneity Test.

RESULTS

Table 1. Identification of Characteristics of Adolescent Respondents at SMAN 1 Lingsar Based on Gender and Information Sources

Variabel	n	%
Gender		
1. Male	12	40
2. Women	18	60
Total	30	100
Health Information		
1. Peers	3	10
2. Social Media	10	33
3. Environment	13	43
4. Never	4	14
Total	**30**	**100**

Source: Primary Data, 2025

Based on table 1, it shows that the respondents' gender is mostly female at 18 (60%) and health information is obtained mostly from the environment at 13 (43.3%) and the lowest peer at 3 (10.0%).

Table 2. Identification Knowledge about the Impact of Early Marriage Before the Sasak Ladder Educational Game (PENTAS)

Pretest Knowledge	Frequency	Presentase
Good	6	20 %
Enough	18	60 %
Less	6	20 %
Total	30	100%

Based on table 2, the results of adolescent knowledge were obtained before the educational game of the Sasak Ladder (PENTAS), some respondents were knowledgeable, namely as many as 18 respondents (60%).

Table 3. Identification Knowledge about the Impact of Early Marriage After the Sasak Ladder Educational Game (PENTAS)

Posttest Knowledge	Frequency	Presentase
Good	22	73 %
Enough	5	17 %
Less	3	10 %
Total	**30**	**100 %**

Based on table 3 above, the results of adolescent knowledge were obtained after the sasak ladder educational game (PENTAS) Most of the respondents were knowledgeable as many as 22 respondents (73.3%).

Table 4. Analyzing the Influence of the Ladder Educational Game (PENTAS) on the Level of Adolescent Knowledge About the Impact of Adolescent Marriage Regarding the Impact of Early Marriage

		N	Mean Rank	Sum Of Rank	P- Value
Pretest-Posttest	Negative Ranks	0	0.00	0.00	0.000
	Positive Ranks	29	15.00	435.00	
	Ties	1			
	Total	**30**			

Based on table 4 above, the results of the statistical test can be concluded that there are no respondents who have decreased knowledge, there are 29 respondents who have increased knowledge, and there is 1 respondent who has permanent knowledge.
The data from the *marginal homogeneity test* was obtained with a p-value of 0.000 ($p<0.05$) thus there was a significant difference in knowledge between before and after. It can be concluded that there was a significant difference in the value of the change in the respondent's score change.

DISCUSSION

The results of the study showed that the respondents with the most genders were women as many as 18 people (60%). The gender of women is more in accordance with the reality in the field of SMAN 1 Lingsar.

The results of the corresponding study show that the most common gender is female, with a percentage of 77.5% (Anesthesia, 2023).
Women's brains tend to be better at relating memories and social circumstances, so they are able to see from different perspectives and draw conclusions more quickly than men. In answering questions about marital age, women often involve their feelings. In contrast, men prefer to see things clearly and usually don't have a good connection to feelings or emotions, so they answer questions about marital age maturation realistically based on the knowledge they have (Zuhairi Lubis Yora Nopriani, 2023).

This is caused by several anatomical factors of the brain, namely *hippocampus* As the memory center in the female brain is larger, it is able to remember things longer even down to the details.
Cells *hippocampus* and also parietal lobe cells in women disappear (die) faster, so that women in old age will more easily lose memory, spatial recognition skills and also become forgetful (Amin, 2018).

The results of the study showed that respondents with the number of information sources obtained by adolescents in gaining knowledge about the impact of early marriage were 3 (10%), 10 (33.3%), 13 (43.3%) and never received information as many as 4 (13.3%).

Knowledge can be obtained from various sources, such as schools, social media, parents, books, and peers, especially related to sexual violence (Ulfaningrum, 2020). This is in line with the theory expressed by Notoatmodjo (2014), which states that knowledge is formed through understanding that arises after individuals perceive something. This perception includes sight, feelings, hearing, touch, and smell, where the eyes and ears play an important role in shaping this understanding (Ulfaningrum, 2020).

Adolescents' knowledge is influenced by several factors. One of them is an internal factor, namely age; In general, 16-year-old adolescents have reached a developmental stage that allows them to think logically, consider various points of view, and solve problems that are then used as learning. At school, they begin to get explanations about early marriage and its impact gradually. External factors also play a role, especially information sources that are usually obtained from parents and print media. With technological advancements, internet access in various areas that was previously difficult has now become easier. This allows them to get clearer and more complete information through the internet (Singarimbun, 2021).

Adolescents' lack of understanding of reproductive health is caused by inaccurate information about the changes that occur during adolescence. This happens due to the difficulty of accessing the correct information, coupled with the assumption that talking about sexuality is taboo. In addition, the lack of knowledge that parents have also contributes to this problem (Herna Rinayanti Manurung.et al. 2025).

Factors that influence knowledge include information received, such as health education. Health education serves as a bridge between information about health and health practices, encouraging individuals to seek information and maintain health by avoiding bad habits and building positive habits. Through health education, adolescents' knowledge about early marriage can be increased, as the goal is to direct behaviors that are detrimental to health or do not conform to health norms to behaviors that are more favorable and in accordance with health standards (Millenia et al., 2022).

The results of the knowledge obtained by the respondents before the educational game of the Sasak Ladder (PENTAS) were obtained by some respondents who had enough knowledge of 18 respondents (60%).

Knowledge is influenced by internal and external factors. Internal factors include age and gender, while external factors include employment, sources of information, experience, socio-culture, and environment. All of these factors contribute to a person's knowledge. According to Hasnah et al. (2021), the factors that affect knowledge consist of internal factors, external factors, and learning approaches.

Research that is in line with research conducted by Kusrini and Febrina (2024) said the mean value of knowledge before the intervention using Flash Card media was 5.89 with a standard deviation of 1.943 and a min-max value of 1-10. This study is also in line with the research conducted by Haulia, Marsia, et al. (2024) The results of the previous knowledge measurement in the intervention group were 72.00 while in the control group it was 70.33. After being given the intervention, the knowledge in the intervention group was 89.00 and in the control group was 81.33.

The results of the knowledge obtained by the respondents after the educational game of the Sasak Ladder (PENTAS) were obtained that most of the respondents had good knowledge, namely as many as 22 respondents (73.3%).

The increase in students' knowledge also shows that game-based learning methods are effective in conveying complex health issues, as Adams revealed that educational games can

make it easier to understand material through experience (Dewi et al., 2024). The enthusiasm of students at SMA Negeri 1 Lingsar shows that this media is able to be a solution to the limited access to modern technology in the archipelago.

Research This is in line with research conducted by Inna et al., (2024) The results showed that overall most of the 2nd grade adolescents at SMAN 1 Pujut and SMKN 1 Pujut had knowledge related to the reproductive system in the high category as many as 72 people (64.3%), medium category knowledge as many as 33 people (29.5%), and low category knowledge as many as 7 people (6.3%). The level of knowledge in adolescent girls is higher than in adolescent boys.

This study is also in line with research conducted by Widayati, Ishariani, and Rachmania (2022), the use of card game media shows a significant increase in knowledge after providing education. Before education, only 4 people (19.04%) had good knowledge, but after that it increased to 30 people (57.15%).

The results of *the marginal homogeneity test* were obtained with a p-value of 0.000 ($p<0.05$) thus there was an effect of the educational game of the spur ladder (PENTAS) on the level of meaningful knowledge between before and after.

Corresponding research by Arindiani (2011) in Ramdani (2023) at SD Pakudeng Semarang showed that the average student knowledge score increased after the intervention. This increase was likely due to information about healthy snacks obtained by students during health education. This intervention was effective in increasing students' knowledge and demonstrating the importance of delivering information through interesting methods.

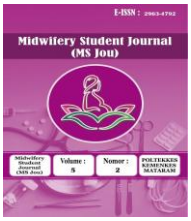
One of the factors that determines the success of health education is the role of the media. Health education media function as a channel for officers to convey health materials, materials, or messages. These tools make it easier for the public or clients to receive health messages, thereby increasing the effectiveness of information delivery (Notoatmodjo, 2012).

The use of the right media can make health education more interesting and easy to understand. One of the effective media for health education for children is the snake and ladder game. This learning model has several advantages, namely Creating fun learning, Stimulating students to be active in learning, both individually and in groups, Developing students' creativity, Encouraging mutual communication, Fostering a sense of responsibility and discipline, Structured in a memorable way (Ramdani, 2023).

This research is in line with research conducted by Ramdani (2023) said the results of statistical tests showed that the p-value was 0.000. When compared to $\alpha = 0.05$, a p-value smaller than α shows that there is a significant influence of health education through snake and ladder games on knowledge about healthy snacks at SDN Ciawang, Tasikmalaya Regency, in 2023.

CONCLUSION

The study involved 30 adolescents, consisting of 18 females (60%) and 12 males (40%). Regarding sources of information about the impacts of early marriage, most respondents obtained information from their surrounding environment (43.3%), followed by social media (33.3%) and peers (10%), while 13.3% had never received any information. Before the implementation of the Sasak Ladder Educational Game (PENTAS), the majority of respondents (60%) had poor knowledge about the impacts of early marriage. However, following the educational intervention, most respondents (73.35%) demonstrated good knowledge. Statistical analysis revealed a significant effect of the Sasak Ladder Educational Game (PENTAS) on adolescents' knowledge about the impacts of early marriage ($p = 0.00$). These findings suggest that PENTAS can serve as an educational tool to improve adolescents' knowledge and awareness of the impacts of early marriage.



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