



# The Influence of Spinning Wheel Media and Module on The knowledge and Attitude of Adolescent Marriage Age Maturation at Bengkulu

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<p><b>Track Record Article</b></p> <p>Revised: 15 January 2026 Accepted: 12 May 2026 Published: 20 May 2026</p> <p><b>How to cite :</b> Destariyani, E., Yuniarti, &amp; Yulyana, N. (2026). The Influence of Spinning Wheel media and Module on The knowledge and attitude of Adolescent Marriage age Maturation at Bengkulu. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 8(2), 27–35.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p><i>Early marriage, according to the WHO, is a marriage that occurs in individuals under the age of 19. This phenomenon is often caused by a lack of knowledge and insufficient information about the importance of delaying marriage until an appropriate age. The impacts of early marriage include premature birth, delivery complications, divorce, domestic violence, school dropout, and other social problems. The aim is to determine the influence of spinning wheel media on the knowledge and attitude of adolescent marriage age maturation. This study uses a Quasi-Experimental method with a Two Group Pretest and Posttest design. The research sample was taken using simple Random Sampling, involving 32 respondents who were given pretest and posttest questionnaires. The normality test used the Shapiro-Wilk test, and non-normal data were analyzed using the Mann-Whitney test. The results showed that the group receiving education through Spinning Wheel media experienced a significant increase in knowledge (average before 5.81, after 13.16) and attitudes (average before 39.00, after 52.94). Meanwhile, the group receiving education through Modul also showed an increase, though to a lesser extent, with an average knowledge score before 7.50 to 11.63 and an attitude score before 43.53 to 48.22. Statistical analysis showed a significant influence of education through Spinning Wheel media on improving adolescents' knowledge (p-value=0.000) and attitudes (p-value=0.000) about the maturity of marriage age. The findings of this study are expected to encourage academics, educational institutions, and other researchers to use Spinning Wheel media and develop other game-based learning methods to improve adolescents' knowledge and attitudes about the maturity of marriage age</i></p> <p><b>Keywords:</b> Knowledge, Attitude, Early Marriage, Spinning Wheel Game, Adolescent Health.</p>
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## INTRODUCTION

Early marriage is a marriage carried out by a couple or one of the partners is still categorized as a child or teenager under the age of 19 years (Mulyani et al., 2024). (Molitoris et al., 2023) The highest prevalence of early marriage cases was recorded in Nigeria (79%), Congo (74%), Afghanistan (54%), and Bangladesh (51%) (C. Harvey et al., 2022). According to results from UNICEF in 2020, it was noted that 1 in 9 girls aged 20-24 years were married before the age of 18, reaching 1,220,900 in 2018, making Indonesia in the top 10 countries with the highest child marriages (BPS, 2020). According to the 2017 IDHS, one third of registered marriages were couples under 16 years old with 50 million cases of early marriage, an average marriage age of 19.1% per year. Indonesia is in the top 10 countries with the highest early marriages in the world, second only to Cambodia in ASEAN, with 8.19% of girls married at the age of 15 - 17 years (BPS, 2022).

Bengkulu Province ranks sixth in Indonesia for cases of child marriage aged 10-14 years and the highest on Sumatra Island, with (14.33%). Data shows an increase in marriages under the age of 16 over the last three years: (16.17%) 2017, (16.66%) 2018, and (17.24%) 2019. In 2022, marriages under 19 years will be highest in Muko-Muko Regency (43.65%), Central Bengkulu (49.33%), and Bengkulu City (20.64%) (BPS Provinsi Bengkulu, 2021).

Early marriage leads to early pregnancies, which increase the risk of complications during pregnancy, childbirth, and maternal death. Pregnant women under 20 years of age are 2-5 times more likely to die during pregnancy and childbirth than those aged 20-29 years, and are also more likely to give birth to low birth weight (LBW) babies and experience fetal malformations (Nurmallah et al., 2025).

Various factors put children at risk of early marriage. It is widely known that early marriage is linked to tradition and culture, making it difficult to change. Poverty, lack of education, economic dependence, and inadequate healthcare are all significant contributing factors to early marriage (Lami et al., 2023).

The government has made efforts to address the number of early marriages, including the enactment of Law Number 16 of 2019, which sets the minimum age for marriage at 19 for both parties. Increasing the age of marriage is part of the national family planning program, which aims to raise the minimum age for first marriage to 21 for women and 25 for men (Yoshida et al., 2023).

Efforts to prevent early marriage are by providing knowledge and improving teenagers' attitudes about the maturing age of marriage (PUP), for this reason interesting learning media is needed according to the target. In the current era of technological and information development, games are very popular among students (Bafadal et al., 2020).

The Spinning Wheel is a circular game equipped with a curtain that can be rotated and stopped rotating in a circle. With the help of this learning media, students more easily learn to understand the maturity of marriage age, including the definition, causes, impacts of child marriage, and efforts to prevent child marriage, packaged with attractive images and colors so as to increase student attention in the learning process (Laila et al., 2023). Based on the data that has been explained, it can be concluded that the use of the Spinning Wheel as an aid and support for activities can improve learning outcomes. Based on the data presented, the Spinning Wheel is a means of supporting and helping activities to increase learning results (Hamdanah & Hanik, 2023). The result of Syifa et al., (2023), the study concluded that there was an influence of spinning sheel media on adolescents' knowledge and attitudes about premarital sex.

## METHODS

This study uses a Quasi-Experimental design (Two-Group Pretest and Posttest Design) to examine the effect of the Spinning Wheel media on adolescents' knowledge and attitude regarding marriage age maturity. The research technique employs Simple Random Sampling. The sample in this study consists of 32 eighth-grade students from SMPN 17 as the intervention group and eighth-grade students from SMPN 22 as the control group. Based on survey results from the recap of the Office of Religious Affairs (KUA) of Muara Bangkahulu that most individuals who got married came from students who had dropped out of school earlier due to various reasons, including cases of unwanted pregnancies or a definite personal desire to get married.

Data collection was carried out using a knowledge and attitudes questionnaire about marriage age maturity. Univariate data analysis techniques were carried out to identify variable characteristics and proportions of research subject characteristics. Bivariate analysis used the Wilcoxon sign rank test and *Uji Paired Sample T-Test and continued with the Mann Whitney test*.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards, 1) Sosial Values, 2) Scientific Values, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and 7) Informed Consent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard Number KEPK/BKL/012/02/2024.



Figure 1. Spinning Wheel Media

## RESULTS

**Table 1. Characteristics of respondent based on age**

Variable	Intervention Group		Control Group	
	F	%	F	%
<b>Age</b>				
12 years old	5	15,6	1	3,1
13 years old	22	68,8	15	46,9
14 years old	5	15,6	16	50
<b>Maternal education</b>				
Low	21	65,6	18	56,3
Higher	11	34,4	14	43,7
Totally	32	100	32	100

Based on table 1, the results show that out of 32 respondents categorized by age, the majority in the intervention group are 13 years old (68.8%), while the majority in the control group are 14 years old (50.0%). the results show that out of 32 respondents categorized by age, the majority in the intervention group are 13 years old (68.8%), while the majority in the control group are 14 years old (50.0%). Based on maternal education, most in the intervention group had low education (65,6%), while most in the control group had mothers with low education (56,3%).

**Table 2. Average increase on Knowledge and attitudes of Adolescent**

Variable	N	Mean	SD	Min	Max
<b>Intervention Group</b>					
<b>Knowledge</b>					
Before	32	5,81	1,857	2	9
After	32	13,16	1,370	10	15
<b>Attitude</b>					
Before	32	39,00	4,333	26	48
After	32	52,95	3,715	466	60
<b>Control Group</b>					
Before	32	7,50	3,203	2	13
After	32	11,63	1,497	9	14
<b>Attitude</b>					
Before	32	43,53	6,080	26	57
After	32	48,22	5,746	466	59

Based on the table above, in the spinning wheel intervention group, after being given education, knowledge increased by an average of 13.16. The attitude variable after being given education increased by an average of 52.94. The Modul control group's average knowledge after being given education increased to 11.63, while the attitude variable after being given education increased by an average of 48.22.

**Table 3. Differences in Knowledge and Attitudes of Adolescents**

Variable	n	Mean	Different Mean	SD	Min	Max	P-Value
<b>Intervention Group</b>							
Knowledge							
- Before	32	5.81	7.35	1.857	2	9	0.000*
- After	32	13.16		1.370	10	15	
Attitude							
- Before	32	39.00	13.94	4.333	26	48	0.000*
- After	32	52.94		3.715	46	60	
<b>Control Group</b>							
Knowledge							
- Before	32	7.50	4.13	3.203	2	13	0.000**
- After	32	11.63		1.497	9	14	
Attitude							
- Before	32	43.53	4.69	6.080	30	57	0.000**
- After	32	48.22		5.746	34	59	

\* *Uji Wilcoxon Signed Test*, \*\* *Uji Paired Sample T-Test*

Table 3 shows the results of the Wilcoxon test for the intervention group, with a knowledge p-value of 0.000, which is less than 0.05. This indicates that the Spinning Wheel media has an impact on adolescents' understanding of the ideal age for marriage at SMPN Kota Bengkulu. This is evident from the mean difference in pre-test and post-test knowledge scores (7.35).

Meanwhile, for attitude, the p-value is 0.000, which is also less than 0.05, indicating that the Spinning Wheel media influences adolescents' attitudes toward the ideal age for marriage at SMPN Kota Bengkulu. This is reflected in the mean difference between pre-test and post-test attitude scores (13.94).

Results indicate that the p-value for knowledge is 0.000, which means it is  $< 0.05$ . This demonstrates that there is a significant effect of Modul media on adolescents' knowledge regarding the maturation of marriage age at SMPN Kota Bengkulu. This is evident from the difference in the mean scores between the pre-test and post-test knowledge results, which is 4,13.

Similarly, the test results show that the p-value for attitude is 0.000, which also means it is  $< 0.05$ . This indicates that Modul media has a significant effect on adolescents' attitudes toward the maturation of marriage age at SMPN Kota Bengkulu. This can be seen from the difference in the mean scores between the pre-test and post-test attitude results, which is 4,69.

**Table 4. The effect of spinning wheel media on the knowledge and attitude**

Variabel	Intervention Group	Control Group	p-value
	Mean Rank		
Knowledge	41.11	23.89	0.000*
Attitude	40.16	24.84	0.001*

\*Uji Mann Whitney

Based on Table 4 the results of the Mann-Whitney analysis in Table 4.5, it was found that the knowledge scores in the intervention and control groups had a p-value of  $0.000 < 0.05$ . This indicates a significant effect of using *Spinning Wheel and Modul* media on increasing adolescents' knowledge regarding the maturation of marriage age at SMPN Kota Bengkulu.

Additionally, the p-value for attitude was  $0.001 < 0.05$ , indicating a significant effect of Spinning Wheel and Modul media on improving adolescents' attitudes toward the maturation of marriage age at SMPN Kota Bengkulu.

## DISCUSSION

Based on Table 1, it is known that the intervention group the majority are 13 years old (68.8%), while the majority in the control group are 14 years old (50.0%). In general, this research is in line with research (Gaffney et al., 2021) which found the majority of respondent at secondary school student aged 13-15 years old.

Table 2 shows an increase in knowledge and attitudes after the intervention on PUP educational materials. The findings indicate a difference in knowledge levels before and after receiving sex education using the Spinning Wheel method. Before the intervention, students' knowledge was categorized as low (11.4%), moderate (61.4%), and good (27.3%). After the intervention, the proportion of students in the moderate category decreased to 25.0%, while the proportion of students in the good category increased to 75.0% (Saputra et al., 2022).

Table 3 shows the results of the Wilcoxon test for the intervention group on the knowledge variable with a p-value of 0.000. This indicates that the Spinning Wheel media has a positive impact on adolescents' understanding of the ideal age for marriage at SMPN Kota Bengkulu. This is similar to research Simanjuntak & Andayani (2022), which showed that after the intervention, the average knowledge score increased, proving the effectiveness of the Spinning Wheel game in increasing knowledge. In addition, research Madinah et al., (2017), found that the average knowledge score in the post-test increased to 20.88. Similarly, research Pratiwi & Indriyani (2022), revealed that there was a change in knowledge to the good category after the intervention.

Table 3 also shows an increase in attitude scores after the intervention in the Spinning Wheel and Modul groups. This increase was due to the influence of the Spinning Wheel media, which allowed students to be more actively involved in the learning process, as they learned while playing, allowing them to focus more on the lesson. Meanwhile, in the Modul group, although there was a 27.5% increase in knowledge with a mean difference of 4.13, this increase was relatively lower compared to the Spinning Wheel group. This was due to the low level of respondent engagement in learning activities, as they mostly listened without actively participating, unlike in the Spinning Wheel group. Overall, the results of this study indicate that game-based interventions such as the Spinning Wheel are more effective in increasing student engagement and understanding of marriage maturity compared to conventional methods such as Modul. This finding is in line with research Saputra & Juliana (2022), which also showed a significant effect of sex education. This suggests that sex education using the Spinning Wheel method can be provided to students as an effort to increase their knowledge of sex education and prevent sexual violence among adolescents.

Table 4 shows the results of the Mann-Whitney test for the knowledge and attitude variables, with a p-value of 0.000. This indicates a significant effect of using the Spinning Wheel compared to Modul in improving the knowledge and attitudes of young women regarding marriage age at junior high schools in Bengkulu City. This study aligns with research by Saputra & Juliana (2022), which showed that all respondents experienced an increase in knowledge and attitudes regarding COVID-19 after the spinning wheel media intervention.

The results of this study are in line with research which showed a significant impact of health education using the Spinning Wheel game on dental health knowledge among students at Madrasah Ibtidaiyah Negeri 1, Bengkulu City. Similarly, research (Syifa et al., (2023), found an increase in the average attitude score from 33.65 before the intervention to 38.48 after the intervention, with a difference of 4.83 points. This confirms the effectiveness of education using the Spinning Wheel media at SMAN 10, Bengkulu City.

This research aligns with previous research that concluded there was an increase in knowledge and attitudes among women of childbearing age in RW 03 after using the Spinning Wheel media (Meylanda et al., 2023). Similarly, research (Simanjuntak & Andayani (2022), showed that the Spinning Wheel game can improve students' knowledge and attitudes.

## CONCLUSION

The study shows that respondents' knowledge and attitudes regarding marriage age maturity increased after the intervention. The improvement was more significant in the intervention group compared to the control group. The Spinning Wheel media proved to be effective in enhancing the knowledge and attitudes of female adolescents at SMPN Kota Bengkulu regarding marriage age maturity.

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