



THE EFFECTIVENESS OF REPRODUCTIVE HEALTH EDUCATION ON INCREASING ADOLESCENTS' KNOWLEDGE AND BEHAVIOR REGARDING PREMARITAL SEX AMONG FEMALE STUDENTS OF STATE SENIOR HIGH SCHOOL 1 TARUMAJAYA IN 2025

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Abstract

Adolescence is a transitional period that is vulnerable to reproductive health issues, including premarital sexual behavior, due to a lack of knowledge. This study aims to determine the effectiveness of reproductive health education on premarital sexual knowledge and behavior in 50 11th grade female students of SMA Negeri 1 Tarumajaya in 2025, using a quantitative pre-experimental method with a one-group pretest-posttest design and video media intervention. The results showed a significant increase in female students' knowledge and behavior after education, thus proving effective in shaping responsible adolescent behavior. It is recommended that schools collaborate with health workers to implement ongoing reproductive health education programs as an effort to prevent risky sexual behavior.

Keywords: Reproductive Health Education; Knowledge; Behavior; Premarital Sex; Adolescents.

@Jurnal Ners Prodi Sarjana Keperawatan & Profesi Ners FIK UP 2026

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INTRODUCTION

Reproductive health is a state of overall well-being, encompassing physical, mental, and social well-being, and the right of individuals to enjoy a safe sex life, determine their reproductive health, and determine the number of children they desire. The male and female reproductive systems involve hormone-producing organs and glands, such as the ovaries in women and the testes in men, which are essential for reproductive function and hormonal balance. (Mukhoirotin, Ariescha, P. A. Y., 2024). Reproductive health education for adolescents is crucial, encompassing biological, psychological, social, and moral aspects, so they can develop positive attitudes and make informed decisions about maintaining their reproductive health. A lack of understanding of reproductive health can lead to risky sexual behavior, unwanted pregnancies, STIs, and psychosocial problems, especially if adolescents seek information from unverified sources. (Bahar, Amalia, et al., 2025).

Adolescence is an important transition phase with significant physical, mental, emotional and social changes, affecting behavior and psychological conditions, so it is called a critical period in life, especially regarding reproductive health. (Siti Sumarni & Dewita Rahmatul Amin, 2024). This period lasts from 10–19 years of age and is a bridge to adulthood, as well as a crucial period for future health, with rapid physical, cognitive, and psychosocial growth. (Bahar, Amalia, et al., 2025). Health education aims to improve the knowledge, attitudes and skills of individuals and communities so that they are able to maintain health and play an active role in developing health activities based on local potential. (Marlina et al., 2021).

Premarital sexual behavior in adolescents is progressive, ranging from light interactions to full sexual relations, with the risk of STIs, unplanned pregnancies, and abortions that endanger physical and psychological health. (Mahmud et al., 2023). Adolescents are particularly vulnerable to STIs and unplanned pregnancies; globally there are 374 million cases of STIs per year in ages 15–49, with adolescents being the most at-risk group. (Bahar, Amalia, et al., 2025). Approximately 21 million pregnancies occur annually among adolescents aged

15–19 in developing countries, most of which are unplanned, increasing the risk of unsafe abortion and health complications.

The phenomenon of dating in Indonesia begins at an early age, with 33.3% of girls and 34.5% of boys aged 15–19 admitting to dating, and some of them having had sexual intercourse. (Mahmud et al., 2023). The National Population and Family Planning Board (BKKBN) is working to improve adolescent reproductive health literacy in response to the increase in the Age-Specific Birth Rate for adolescent girls aged 15–19 years from 20.49 (2021) to 26.64 per 1,000 women (WUS) (2022). (Bahar, Amalia, et al., 2025). Research data shows that premarital sexual experiences differ between male and female adolescents, with males having higher rates at ages 15–24. (Bahar, Zaki, et al., 2025). The West Java BKKBN noted that the main problems faced by teenagers include narcotics, early marriage, and premarital sexual behavior, with some high school teenagers engaging in risky behavior such as kissing on the lips, masturbation, and sexual intercourse. (Mei et al., 2024).

In Bekasi Regency, around 21% of teenagers have engaged in sexual activity, HIV cases in 10–20 year olds have reached 19.5%, and there have been a number of cases of child abuse and rape. (Siti Sumarni & Dewita Rahmatul Amin, 2024). Tarumajaya 1 State Senior High School has 150 eleventh-grade female students, but they have never received specific education on reproductive health and premarital sexual behavior. Previous research has shown that reproductive health education is effective in improving adolescents' knowledge and attitudes toward premarital sexual behavior, both through booklets and direct counseling. (Nurjanah et al., 2025); (Bogor & Barat, 2025); (Patonengan et al., 2025)). With reproductive health education, students are expected to understand the importance of protecting themselves from premarital sexual behavior and implementing healthy behaviors, so this study is entitled "The Effectiveness of Reproductive Health Education on Increasing Adolescent Knowledge and Behavior about Premarital Sexuality in Students of SMA Negeri 1 Tarumajaya in 2025."

METHODS

This quantitative study used a pre-experimental design using a One Group Pretest–Posttest Design, involving one group of respondents without a control group. The level of knowledge and behavior of female students was measured before (pre-test) and after (post-test) the intervention of reproductive health education using video media. The study was conducted at SMA Negeri 1 Tarumajaya, Bekasi Regency, West Java Province, in 2025. The independent variable was reproductive health education through video media, while the dependent variable was adolescent knowledge and behavior regarding premarital sex among eleventh-grade female students. The study population consisted of 150 eleventh-grade students, with a sample of 50 female students selected using a purposive sampling technique. Data were collected through primary data in the form of pre-test and post-test questionnaires, as well as secondary data from books, reports from relevant agencies, and scientific journals. Data were analyzed using descriptive and inferential statistics using SPSS through univariate and bivariate analyses.

The research procedure began with obtaining and submitting a research permit from the university to SMA Negeri 1 Tarumajaya, Bekasi Regency. After obtaining approval, the researcher explained the purpose, benefits, and procedures of the study to the school and 11th-grade students, along with the completion of an informed consent

form. Next, the researcher developed a schedule of activities and prepared supporting materials in the form of educational videos, SAP, and questionnaires on premarital sexual knowledge and behavior. The study consisted of a pre-test using a questionnaire before the intervention, reproductive health education via a 30-minute animated video, and a post-test one day after the intervention to assess changes in knowledge and behavior. All questionnaires were then collected, checked for completeness, and processed using SPSS version 27.0 to analyze the effectiveness of reproductive health education.

Data processing in this study involved several stages: editing, coding, and data entry. The editing stage aimed to ensure complete, consistent, and legible data through checking aspects of clarification, readability, consistency, and completeness to ensure the data was suitable for analysis. (Sukma Senjaya et al., 2022). The coding stage involves converting respondents' answers into numeric codes to facilitate statistical grouping and analysis. Next, data entry involves carefully entering the coded data into SPSS software so that it can be analyzed systematically and in accordance with the research objectives.

RESULT AND DISCUSSION

Univariate Analysis Results

Table 1. Frequency Distribution of Respondent Characteristics

Characteristics	Frequency	Percentage
Class		
Grade XI A	25	50.0
Grade XI B	25	50.0
Total	50	100.0
Gender		
Female	50	100.0
Total	50	100.0
Age		
15 years	10	20.0
16 years	33	66.0
17 years	7	14.0
Total	50	100.0

The results of the study indicate that all respondents were female students (100%) because the study focused on female students of SMA Negeri 1 Tarumajaya. Respondents came from two classes, namely class XI A and XI B, with an equal number

of 50% each. Based on age, the majority of respondents were 16 years old (66%), followed by 15 years old (20%) and 17 years old (14%), indicating that most participants were in the mid-adolescent range which is appropriate and relevant to

the provision of reproductive health education and prevention of premarital sexual behavior

Table 2. Frequency Distribution of Knowledge and Behavior Pre and Post

Category	Frequency	Percentage
Pre-test		
Good	9	18.0
Moderate	38	76.0
Poor	3	6.0
Total	50	100.0
Post-test		
Good	46	92.0
Moderate	4	8.0
Poor	0	0.0
Total	50	100.0
Category		
Pre-test		
Good	9	18.0
Moderate	38	76.0
Poor	3	6.0
Total	50	100.0
Post-test		
Good	46	92.0
Moderate	4	8.0
Poor	0	0.0
Total	50	100.0

The results showed that before receiving reproductive health education, the majority of female students had a fair level of knowledge (76%), while a small number were in the good (18%) and poor (6%) categories. After the educational intervention, there was a very significant improvement, with the majority of female students achieving good knowledge (92%), with the remainder in the fair (8%) category, with no respondents having poor knowledge. This confirms that reproductive health education is effective in improving adolescents' understanding of premarital sexual behavior.

Based on behavioral data, all respondents in the pre-test were in the low-risk behavior category. However, post-test results showed a change in the distribution of behavior, with some respondents falling into the moderate (64%) and high-risk (6%) categories, while the remainder remained in the low-risk category (30%). This change indicates variation in adolescent behavior after education, which requires attention in further evaluation of the factors influencing premarital sexual behavior.

Bivariate Analysis Results

Table 3. Comparison of Pre-Test and Post-Test

Knowledge Ranks	n	Mean Rank	Sum of Ranks	p-value
Negative Ranks	0	0.00	0.00	0.000
Positive Ranks	47	24.00	1128.00	
Ties	3	–	–	
Total	50	–	–	
Behavior Ranks				
Negative Ranks	0	0.00	0.00	0.000
Positive Ranks	50	25.50	1275.00	
Ties	0	–	–	
Total	50	–	–	

Bivariate analysis using the Wilcoxon Signed Rank Test showed a significant change in the level

of knowledge of female students before and after receiving reproductive health education. No

respondents experienced a decrease in knowledge, while most respondents experienced an increase in knowledge, and only a small proportion experienced no change. A p-value of 0.000 ($p < 0.05$) confirmed a significant difference between the pre-test and post-test knowledge scores.

Behavioral analysis also showed a significant change after receiving reproductive health education. All respondents experienced behavioral changes, with no decrease or similar scores between the pre-test and post-test. A p-value of 0.000 ($p < 0.05$) indicates a significant difference in female students' behavior before and after the intervention, demonstrating that reproductive health education has a positive effect on changing adolescent behavior regarding premarital sex.

Discussion

Respondent Characteristics

Respondent characteristics in this study included age, gender, and grade, which were analyzed to understand their background and suitability for reproductive health education interventions. All respondents were female (100%), in line with the research's focus on female students at Tarumajaya 1 Senior High School. Adolescent girls are a crucial group in efforts to prevent premarital sexual behavior due to their more complex reproductive health dynamics and higher biological and social risks of risky sexual behavior.

Based on class division, respondents came from grades XI A and XI B, with an equal number of 25 students each (50%). This even distribution allowed for uniform education implementation and minimized potential bias between grades, thus supporting the objectivity of the study results. In terms of age, the majority of respondents were 16 years old (66%), followed by 15 years old (20%) and 17 years old (14%), who fall into the middle adolescence category. During this phase, adolescents experience rapid cognitive and emotional development, are highly curious, and are better able to understand the consequences of behavior, making them highly responsive to reproductive health education.

Overall, the respondents' characteristics showed strong homogeneity in terms of gender, grade, and age range. This homogeneity supports the effectiveness of educational implementation and

strengthens the analysis of changes in adolescent knowledge and behavior after the intervention, allowing for more accurate and relevant interpretation of the research results.

Characteristics of Respondents' Knowledge and Behavior

Respondents' knowledge and behavior characteristics were analyzed to assess initial understanding and changes following the reproductive health education intervention. Pre-test results showed that the majority of female students (76%) had a sufficient level of knowledge, while 18% were in the good category and 6% in the poor category. This indicates that adolescents' understanding of reproductive health and the risks of premarital sexual behavior is suboptimal. This is thought to be influenced by limited access to appropriate information and a lack of ongoing reproductive health education within schools and families.

After receiving reproductive health education, knowledge significantly increased, with 92% of respondents in the good category and 8% in the fair category, with no respondents in the poor category. These findings indicate that the education provided effectively increased adolescents' understanding of the risks, prevention, and impacts of premarital sexual behavior and facilitated the internalization of knowledge through systematic and easy-to-understand delivery.

In terms of behavior, all respondents in the pre-test were in the low-risk behavior category. However, post-test results showed a change in the distribution of behavior, with some respondents in the moderate and high-risk categories. These changes do not reflect an increase in risky behavior, but rather indicate respondents' increased awareness and honesty in assessing their behavior after gaining a more comprehensive understanding of sexual risk indicators. Overall, reproductive health education has been shown to not only increase knowledge but also influence how adolescents understand and evaluate premarital sexual behavior, which is expected to encourage more responsible and safe behavior.

Comparison of Pre-Test and Post-Test

Bivariate analysis using the Wilcoxon Signed Rank Test showed a significant difference between pre-test and post-test scores in terms of

respondents' knowledge and behavior after receiving reproductive health education. All respondents experienced changes, indicating that the educational intervention was able to improve understanding and influence how adolescents assess premarital sexual behavior. This effectiveness is supported by the characteristics of respondents who were in their mid-teens, an age group that tends to be responsive to informative and interactive learning.

In terms of knowledge, no respondents experienced a decrease in scores; most respondents experienced an increase, and only a few experienced no change. A p-value of 0.000 (≤ 0.05) indicates a highly significant difference between pre- and post-education knowledge levels. Therefore, it can be concluded that reproductive health education effectively improved female students' understanding of the risks, impacts, and prevention of premarital sexual behavior. In terms of behavior, the analysis also showed a significant difference with the same p-value. All respondents experienced behavioral changes after the intervention, and the emergence of moderate and severe risk categories in the post-test reflects respondents' increased awareness and honesty in assessing their behavior based on a more comprehensive understanding, not an indication of increased risk behavior.

The findings of this study are in line with various previous studies which state that reproductive health education has a significant influence on increasing knowledge and changing attitudes among adolescents. (Ferdian et al., 2023); (Kaestle et al., 2022); (Fauziah et al., 2024); (Nurjanah et al., 2025); (Bogor & Barat, 2025). Furthermore, Patonengan et al.'s (2025) study confirmed that low knowledge is a major factor in risky sexual behavior, which was also evident in the respondents' condition before receiving education. Overall, this study strengthens the evidence that reproductive health education is an effective intervention, with novelty lying in the more detailed pre- and post-test analysis of behavior and in the context of a school that had not previously received structured reproductive health education, thus making an important contribution to the development of sustainable education programs in school environments.

CONCLUSION

The analysis results showed that the education provided was able to significantly increase respondents' knowledge, as evidenced by the Wilcoxon test with a Z value = -6.128 and $p = 0.000$, so there was a significant difference between the level of knowledge before and after the intervention. In addition, in the behavioral aspect, a significant change was also found with a Z value = -6.003 and $p = 0.000$, which indicates a shift in respondents' behavior after gaining a better understanding of the risks and impacts of premarital sexual behavior. Reproductive health education has been shown to increase female students' awareness and ability to assess sexual behavior more objectively and responsibly. Thus, it can be concluded that reproductive health education is effective in increasing knowledge and influencing changes in premarital sexual behavior among female students of SMA Negeri 1 Tarumajaya in accordance with the research objectives.

Conflict of interest

All authors declare no conflict of interest in this study.

Availability of data and materials

Confidentiality agreements with participants prevent us from sharing data, therefore, the dataset cannot be shared.

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