



## The Effect of Animated Health Education Videos on Knowledge of Premarital Sexual Health: A Quasi Experimental Study

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### ORIGINAL ARTICLE

#### ABSTRACT

Adolescence is a developmental period characterized by increased vulnerability to risky behaviors, including premarital sexual behavior. Inadequate sexual health knowledge among adolescents may lead to unintended pregnancies, increased maternal health risks such as anemia and pregnancy-related bleeding, and adverse psychological consequences, all of which can negatively affect adolescents' future well-being. Therefore, effective sexual health education is essential to improve adolescents' knowledge and prevent risky sexual behavior. This study aimed to examine the effect of health education delivered through animated videos on adolescents' knowledge of premarital sexual health. This study employed a quasi-experimental one-group pretest–posttest design. The research was conducted at a vocational high school in Jambi City in June 2025. A total of 117 students were selected using purposive sampling. Adolescents' knowledge of premarital sexual health was measured before and after the intervention. Data were analyzed using the Wilcoxon signed-rank test. The results shows that the mean knowledge score increased from 7.43 before the intervention to 9.14 after the intervention. The minimum score increased from 4 to 5, while the maximum score increased from 10 to 11. Statistical analysis showed a significant improvement in knowledge after the health education intervention using animated videos ( $p = 0.000$ ,  $p < 0.05$ ). In conclusion, health education using animated video media significantly improves adolescents' knowledge of premarital sexual health. Animated videos can be considered an effective educational tool for adolescent sexual health promotion.

**Keywords:** Health Education, Knowledge, Adolescents, Premarital Sexual Health.

#### ABSTRAK

Masa remaja merupakan periode perkembangan yang ditandai dengan meningkatnya kerentanan terhadap perilaku berisiko, termasuk perilaku seksual pranikah. Kurangnya pengetahuan kesehatan seksual pada remaja dapat menyebabkan kehamilan yang tidak diinginkan, meningkatnya risiko kesehatan ibu seperti anemia dan perdarahan terkait kehamilan, serta dampak psikologis yang merugikan, yang secara keseluruhan dapat memengaruhi kesejahteraan remaja di masa depan. Oleh karena itu, pendidikan kesehatan seksual yang efektif sangat penting untuk meningkatkan pengetahuan remaja dan mencegah perilaku seksual berisiko. Penelitian ini bertujuan untuk mengetahui pengaruh pendidikan kesehatan yang disampaikan melalui media video animasi terhadap pengetahuan remaja tentang kesehatan seksual pranikah. Penelitian ini menggunakan desain kuasi-eksperimen dengan pendekatan one-group pretest–posttest. Penelitian dilaksanakan di sebuah Sekolah Menengah Kejuruan di Kota Jambi pada bulan Juni 2025. Sebanyak 117 siswa dipilih menggunakan teknik purposive sampling. Pengetahuan remaja mengenai kesehatan seksual pranikah diukur sebelum dan sesudah intervensi. Data dianalisis menggunakan uji Wilcoxon signed-rank. Hasil penelitian menunjukkan bahwa rerata skor pengetahuan meningkat dari 7,43 sebelum intervensi menjadi 9,14 setelah intervensi. Skor minimum meningkat dari 4 menjadi 5, sedangkan skor maksimum meningkat dari 10 menjadi 11. Analisis statistik menunjukkan adanya peningkatan pengetahuan yang signifikan setelah pemberian pendidikan kesehatan menggunakan media video animasi ( $p = 0,000$ ;  $p < 0,05$ ). Kesimpulannya, pendidikan kesehatan menggunakan media video animasi secara signifikan meningkatkan pengetahuan remaja tentang kesehatan seksual pranikah. Media video animasi dapat dipertimbangkan sebagai sarana edukasi yang efektif dalam promosi kesehatan seksual remaja.

**Kata Kunci:** Pendidikan Kesehatan, Pengetahuan, Remaja, Kesehatan Seksual Pranikah.

## INTRODUCTION

Adolescence is a transitional developmental period characterized by rapid physical, psychological, and social changes (Darling, & Steinberg, 1993; Bearinger et al., 2007; Diclemente, Salazar, & Crosby, 2007; Santrock, 2018; WHO, 2018). In Indonesia, adolescents are defined as individuals aged 10–19 years who are unmarried, most of whom are enrolled in junior high school, senior high school, or higher education institutions. During this period, adolescents are particularly vulnerable to engaging in risky behaviors, including premarital sexual behavior. According to Hurlock (2002), adolescence begins with sexual maturation and ends when an individual reaches legal adulthood. This stage is commonly divided into early adolescence (ages 13–17 years) and late adolescence (ages 18 years and above). The developmental changes that occur during adolescence often influence decision-making processes and behavioral patterns, which may increase the likelihood of engaging in deviant or risk-taking behaviors.

Deviant behavior among adolescents remains a significant social problem in Indonesia. Such behaviors include alcohol consumption, physical violence, gambling, school truancy, and premarital sexual activity, all of which violate social and legal norms (Hardiyanto, 2018). Premarital sexual behavior among adolescents is influenced by multiple factors, including individual curiosity, lack of parental supervision, peer pressure, and environmental influences. Advances in technology and easier access to information and social interaction further increase adolescents' exposure to risky sexual behavior.

Premarital sexual activity among adolescents may result in unintended pregnancies, which pose serious health risks. Pregnancy during adolescence is associated with higher rates of maternal complications, such as anemia, pregnancy-related bleeding, and prolonged labor (Kusmiran, 2011). In addition to physical risks, unintended pregnancy and forced or unprepared sexual experiences can lead to significant psychological distress, which may negatively affect adolescents' future development and well-being (Nirwana, 2011). These risks highlight the importance of adequate knowledge of sexual and reproductive health among adolescents.

Sexual health education plays a crucial role in providing adolescents with accurate information, fostering awareness, and shaping responsible attitudes toward sexual behavior (Bandura, & Walters, 1977; Bandura, 2004). Effective sexual health education includes knowledge about reproductive organ function, prevention of sexual abuse, and guidance to help adolescents avoid engaging in risky sexual activities before they are developmentally prepared (Mayer, 2009; Santelli et al., 2006; Kirby, 2007; Ratnasari & Alias, 2016). Innovative educational approaches, such as the use of animated video media, have been shown to improve adolescents' engagement and comprehension by presenting complex information in an attractive and easily understood format.

National data indicate that premarital sexual behavior among Indonesian adolescents remains a serious concern. A survey conducted by the Indonesian Child Protection Commission (KPAI) reported that 32% of adolescents aged 14–18 years in major Indonesian cities had engaged in sexual intercourse. Other studies have found that approximately one in four adolescents in Indonesia has engaged in premarital sexual activity, with 62.7% reporting first sexual intercourse while still in junior high school, and some reporting experiences of abortion (Wagino, 2014).

At the regional level, data from Jambi Province show a high rate of adolescent pregnancy. According to the 2018 Performance and Accountability Survey Program, the age-specific fertility rate (ASFR) among adolescents aged 15–19 years in Jambi Province was 89.70 per 1,000 adolescents, and the proportion of unintended pregnancies reached 16%, exceeding the provincial target of 5.4%. These findings indicate that efforts to reduce adolescent pregnancy in Jambi Province have not yet achieved optimal outcomes and require further improvement.

Despite the high prevalence of premarital sexual behavior and adolescent pregnancy, evidence on the effectiveness of innovative health education media, particularly animated videos, in improving adolescents' knowledge of premarital sexual health remains limited, especially in vocational high school settings. Therefore, this study aims to examine the effect of health education using animated video media on adolescents' knowledge of premarital sexual health. It

is hypothesized that health education delivered through animated videos will significantly improve adolescents' knowledge related to premarital sexual health.

## RESEARCH METHODS

This study employed a quasi-experimental design using a one-group pretest–posttest approach. The research was conducted at a vocational high school in Jambi City, Indonesia, in June 2025. The study population consisted of adolescents aged 15–18 years, with a total of 117 students selected through purposive sampling. The inclusion criteria were students who were actively enrolled and willing to participate in the study, while students who were absent during either the pretest or posttest were excluded.

The intervention consisted of a single 30-minute health education session delivered using animated video media. The educational content covered premarital sexual and reproductive health, the risks associated with premarital sexual behavior, and strategies for preventing unintended pregnancy.

Data were collected using a structured self-administered questionnaire designed to assess adolescents' knowledge of premarital sexual health. Higher scores indicated better levels of knowledge. The questionnaire had been tested and demonstrated acceptable validity and reliability. Data were analyzed using statistical software. Since the data were not normally distributed, the Wilcoxon signed-rank test was applied to compare pretest and posttest knowledge scores, with a significance level set at  $\alpha = 0.05$ . Ethical approval was obtained from the institutional ethics committee prior to data collection. Written informed consent was obtained from all participants, and confidentiality and anonymity were assured throughout the study.

## RESULTS

**Table 1.** Distribution of Answer Results Respondents about Sex Free Before Health Education Provided Using Animated Videos SMK N 1 Jambi City in 2025 (n=117).

Statement	Know		No know	
	f	%	f	%
Understanding free sex	113	98.6	4	3.4
Understanding sexuality	62	53	55	47
Things that cause teenagers having premarital sex	54	46.2	63	53.8
Physical impacts on women of premarital sex	117	100	0	0
free sex behavior	57	48.7	50	51.3
Problems faced teenager from aspect behavior sexual	79	67.5	38	32.5
Forms from behavior sex free	117	100	0	0
Impact social issues that arise consequence do connection sex	113	96.6	4	3.4
Benefits we can get by studying education	53	45.3	64	54.7
Part of education sex in the family	52	44.4	65	55.6
What to do if you find out that one of your friends is engaging in promiscuous sexual behavior	52	44.4	65	55.6

Based on table 1, before being given education health using animated videos about most respondents have free sex as many as 117 respondents (100%) know the physical impacts on women if they have premarital sex and know forms of promiscuous sexual behavior.

**Table 2.** Knowledge about Sex Free Before Providing Health Education Using Animated Videos to Teenagers SMK N 1 Jambi City in 2025 (n=117).

Knowledge	Distribution	
	f	%
Good	36	30.8
Enough	38	32.5
Not enough	43	36.8
Total	117	100

Based on table 2, it can be seen of 117 respondents part big respondents own lack of knowledge about 43 (36.8%) had casual sex.

**Table 3.** Distribution of Answer Results Teenager About Knowledge about Sex Free After Health Education Provided Using Animated Video of SMK N 1 Jambi City in 2025.

Statement	Know		No know	
	f	%	f	%
Understanding free sex	113	96.6	4	3.4
Understanding sexuality	78	66.7	39	33.3
Things that cause teenagers having premarital sex	91	77.8	26	22.2
Physical impacts on women of premarital sex	117	100	0	0
free sex behavior	93	79.6	24	20.5
Problems faced teenager from aspect behavior sexual	99	84.6	18	15.4
Forms from behavior sex free among others	117	100	0	0
Impact social issues that arise consequence do connection sex	115	98.3	2	1.7
Benefits we can get by studying education	98	83.8	19	16.2
Part of education sex in the family	86	73.5	31	25.5
What to do if you find out that one of your friends is engaging in promiscuous sexual behavior	62	53	55	47

Based on table 3, before being given education health using animated videos about most respondents have free sex as many as 117 respondents (100%) know the physical impacts on women if they have premarital sex and know forms of promiscuous sexual behaviour.

**Table 4.** Knowledge about Sex Free After Providing Health Education Using Animated Videos to Teenagers SMK N 1 Jambi City in 2025.

Knowledge	Distribution	
	f	%
Good	76	65
Enough	41	35
Total	117	100

Based on table 4, can seen of 117 respondents part big respondents own good knowledge about free sex as many as 76 (65%).

**Table 5.** The Influence of Health Education Using Animated Video Media on Knowledge about Free Sex at SMK N 1 Jambi City in 2025 (n=117).

Variables	N	Average (Minimum-Maximum)	p value
Adolescents' knowledge about free sex before being given health education using animated videos	117	7.43 (4-10)	0.00 0*
Knowledge teenagers about sex free after given education health using animated videos	117	9.14 (5-11)	

*Wilcoxon test\**

Based on Wilcoxon test in table 5, then the average value is obtained for the level of knowledge of teenagers regarding free sex before being given education health about sex free to use animated videos is 7.43 and increased to 9.14 after being given health care about sex free to use animated videos The minimum value of 4 increases to 5 and the maximum value of 10 increases to 11. Based on the analysis, the p value = 0.000 (  $p < 0.05$  ) is obtained, so statistically there is an influence of health education using animated video media on knowledge about free sex at SMK N 1 Jambi City in 2025.

## **DISCUSSION**

### **Adolescents' Knowledge of Premarital Sexual Health Before the Intervention.**

The findings of this study indicate that, prior to the intervention, a substantial proportion of adolescents demonstrated insufficient knowledge of premarital sexual health. Although most respondents were able to identify the general meaning of sex and recognized the physical risks for women associated with premarital sexual activity, notable gaps remained, particularly regarding the role of family-based sex education, appropriate responses to peers engaging in risky sexual behavior, and the broader benefits of sexual health education. These findings suggest that adolescents' knowledge was fragmented and largely limited to basic or commonly discussed aspects of sexual behavior.

The limited knowledge observed before the intervention may be attributed to inadequate access to structured sexual health education within both school and family environments. Previous studies have emphasized that adolescents often rely on informal sources of information, such as peers and digital media, which may provide incomplete or inaccurate content (Zahrah, 2012). From a theoretical perspective, this condition reflects the information deficit model, which posits that insufficient or poorly delivered information contributes to risky health-related behaviors.

### **Adolescents' Knowledge of Premarital Sexual Health After the Intervention.**

Following the implementation of health education using animated video media, adolescents' knowledge of premarital sexual health showed a marked improvement. The majority of respondents demonstrated good knowledge, particularly regarding the physical consequences of premarital sexual behavior and the various forms of risky sexual activities. This improvement indicates that animated video-based education effectively enhances adolescents' understanding of complex and sensitive health topics.

The effectiveness of animated videos can be explained through cognitive learning theory, which suggests that visual and audiovisual learning media facilitate better information processing and retention. Animated videos combine images, narration, and movement, which can capture attention, reduce cognitive load, and support deeper comprehension. These findings are consistent with previous studies reporting improved knowledge following animated video-based health education (Vidayanti, 2020).

### **Effect of Animated Video-Based Health Education on Knowledge.**

Statistical analysis confirmed a significant increase in adolescents' knowledge after the intervention, as indicated by the Wilcoxon test results ( $p < 0.05$ ). This finding supports the hypothesis that health education delivered through animated video media positively influences adolescents' knowledge of premarital sexual health. Similar results have been reported in previous studies, which found that animated educational media significantly improved knowledge outcomes compared to conventional methods (Asnita, 2021; Kantohe, 2016).

From the perspective of health promotion theory, increased knowledge represents an essential first step toward behavior change. Although this study did not assess behavioral outcomes, improved knowledge may contribute to more informed decision-making and increased awareness of sexual health risks. This aligns with the Health Belief Model, which emphasizes that knowledge and perceived risk are key determinants of health-related actions.

The findings suggest that animated video media can serve as an effective and engaging educational tool in adolescent sexual health promotion, particularly in school settings. Integrating animated videos into health education curricula may enhance student engagement and facilitate the delivery of sensitive content in a culturally appropriate manner. Collaboration between schools, health professionals, and families is essential to reinforce consistent and accurate sexual health messages.

Several limitations should be acknowledged. First, the study employed a one-group pretest-posttest design without a control group, limiting causal inference. Second, the use of purposive sampling may restrict the generalizability of the findings. Third, the study focused solely on knowledge outcomes and did not examine changes in attitudes or behaviors. Future research should incorporate control groups, larger and more diverse samples, and longitudinal designs to

assess the long-term impact of animated video–based health education on adolescents’ sexual behavior.

## CONCLUSION

This study concludes that health education delivered through animated video media significantly improves adolescents’ knowledge of premarital sexual health. The increase in knowledge scores after the intervention indicates that animated videos are an effective educational medium for conveying sexual health information to adolescents. Although this study did not directly assess behavioral outcomes, improved knowledge is an important foundational factor in promoting informed decision making related to premarital sexual behavior. Therefore, animated video–based health education may be considered a valuable strategy in adolescent sexual health promotion programs, particularly in school settings.

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