

**EFFECT OF HEALTH EDUCATION ON ADOLESCENTS' KNOWLEDGE AND
ATTITUDES TOWARD THE PREVENTION OF PREMARITAL SEXUAL
BEHAVIOR IN PUBLIC JUNIOR HIGH SCHOOLS IN PEKANBARU, INDONESIA**

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Abstract

Background: The prevalence of free sex behavior among adolescents is increasing, and this can have negative impacts on their physical and mental health. Health education on the prevention of free sex is very important to improve adolescents' knowledge and attitudes toward responsible sexual behavior. **Objective:** This study aimed to examine the effect of health education on adolescents' knowledge and attitudes toward the prevention of premarital sexual behavior at Public Junior High School (SMPN) 13 in Pekanbaru, Indonesia. **Methods:** This quantitative study employed a pre-experimental design with a one-group pretest–posttest approach. The sample consisted of 80 students selected using stratified random sampling. Data were collected using validated questionnaires on knowledge and attitudes, and health education was delivered through educational videos. Statistical analysis was performed using paired t-tests to compare pretest and posttest scores. **Results:** The findings showed a significant improvement in both knowledge and attitudes after the health education intervention. Statistical tests indicated a p-value of 0.000 (< 0.05), leading to the rejection of the null hypothesis. This result demonstrates that health education had a significant positive effect on adolescents' knowledge and attitudes toward preventing premarital sexual behavior. **Conclusion:** Health education is effective in improving adolescents' knowledge and attitudes regarding the prevention of risky sexual behavior. Future studies are recommended to include control groups to allow stronger comparisons and to evaluate the long-term impact of educational interventions..

Keyword: *Health Education; Adolescents; Knowledge; Attitudes; Premarital Sexual Behavior*

INTRODUCTION

Adolescence is a period that ranges from ages 10 to 19 years. It is often considered a turbulent and stressful stage of life. During this phase, individuals begin to develop the desire and motivation to determine the direction of their own lives [1]. Adolescents experience puberty, which is marked by various physical changes in both males and females. In addition to physical changes, adolescents also tend to establish relationships with the opposite sex. At this age, they often spend time with peers and even with their partners. Many adolescents are tempted to explore their sexuality during puberty, influenced by peers, environment, socioeconomic conditions, and a lack of knowledge. Consequently, some adolescents engage in premarital sexual activity at an early age [2].

Free sex behavior among adolescents has become an increasingly common social phenomenon in society. This behavior includes various forms of physical intimacy such as holding hands, hugging, kissing, touching sensitive areas, and engaging in sexual intercourse outside of marriage [3]. According to the World Health Organization (WHO), it is estimated that 40–60 million people worldwide engage in free sex each year, and about 1.2 billion, or one-fifth of the global population, experience unwanted pregnancies. Several studies have shown that 20–30% of adolescents still in junior and senior high school have undergone abortions, and approximately 2.3 million abortion cases occur annually, with 20% involving adolescents (Nurul, 2024).

Based on a study by Pidah et al., (2021) global sexual activity among adolescents has increased over time. In Western countries, such behavior has become more socially accepted,

with around 29% of males and 23% of females engaging in premarital sexual intercourse. In Indonesia, the Indonesian Demographic and Health Survey (SDKI) in 2017 reported that 8% of male and 2% of female adolescents had sexual experience while dating. The proportion of male adolescents who had engaged in sexual intercourse increased from 6% to 8% within one year [4].

Furthermore, a survey conducted by the National Population and Family Planning Board (BKKBN) in February 2018 revealed that 71% of Indonesian adolescents admitted to being in a romantic relationship: 88% had held hands, 32% had kissed on the lips, 11% had engaged in fondling, and 2% of girls and 5% of boys had engaged in sexual intercourse. Among those, 90% reported doing so with their romantic partners and 10% with friends or commercial sex workers [5]. Free sex behavior among adolescents has become increasingly alarming due to its negative health impacts, such as sexually transmitted diseases, HIV/AIDS, cervical cancer, infertility, unwanted pregnancies, and abortions, which can result in infertility or even death (Februanti, 2018).

One of the efforts to improve adolescents' knowledge about premarital sex is through health education. Health education is specifically designed to provide knowledge and influence individuals or communities to engage in healthy behaviors, including the prevention of free sex among adolescents [6]. Sex education for adolescents has not yet been fully optimized. Low levels of knowledge often lead to risky sexual behavior. Studies have shown that adolescents' knowledge of free sex in Indonesia remains limited, partly due to early exposure to the internet. The rapid development of digital technology has had a significant influence on society, including adolescents, both in education and daily life [7].

Media can serve as an effective learning tool, with various options available for delivering health education. One of these is animated video media, which can attract adolescents' attention and improve learning engagement. Appropriate educational media can create effective and efficient learning activities, allowing educational messages to be better understood and retained by adolescents [8].

A study conducted by Febriyana et al., (2022) found a significant relationship between the level of knowledge and behaviors leading to free sex, with a p-value of 0.007, and between adolescents' attitudes toward sex education and behaviors leading to free sex, also with a p-value of 0.007. Based on a preliminary study conducted on November 1, 2024, at SMP Negeri 13 Pekanbaru involving 10 female students, it was found that 70% of them admitted to being in a romantic relationship and having gone on dates involving hand-holding, while 30% reported not being in a relationship.

Based on the background above, the researcher is interested in conducting a study entitled "The Effect of Health Education on the Knowledge and Attitudes of Adolescents in Preventing Free Sex at SMP Negeri 13 Pekanbaru City." The purpose of this study is to determine the effect of health education on the knowledge and attitudes of adolescents in preventing free sex at SMP Negeri 13 Pekanbaru City.

RESEARCH METHODS

This study is a quantitative research employing a pre-experimental design with a one-group pretest and posttest approach. The research was conducted at SMP Negeri 13 Pekanbaru. The study was carried out from the proposal submission stage until the final thesis defense, spanning the period from September 2024 to February 2025. The population in this study consisted of ninth-grade students at SMP Negeri 13 Pekanbaru, with a total of 405 students.

The population in this study consisted of ninth-grade students at SMP Negeri 13 Pekanbaru, totaling 405 students. The sampling technique used in this research was stratified random sampling, in which the sample size for each stratum was determined proportionally based on the number of students within each stratum of the population. The instruments used in this study were questionnaires measuring adolescents' knowledge and attitudes.

The knowledge questionnaire consisted of 20 items, comprising both favorable and unfavorable statements. The instrument used to assess adolescents' attitudes toward premarital sexual behavior was also administered through a structured questionnaire. The attitude questionnaire consisted of 10 items with a total score range of 10 to 40. The response options were as follows: Strongly Agree (SA) = 1, Agree (A) = 2, Disagree (D) = 3, and Strongly Disagree (SD) = 4.

RESEARCH RESULTS

Table 1 shows that the majority of respondents were female (48 respondents, 60%), and nearly all participants were categorized as middle adolescents (97.5%).

Table 1. Frequency distribution of the students' demographics (N = 80)

Variable	Category	n	%
Age	Early Adolescents (13 years)	2	2.5
	Middle Adolescents (14–16 years)	78	97.5
Gender	Male	32	40.0
	Female	48	60.0
Total		80	100.0

Source: Primary Data Analysis, 2025

The mean knowledge score increased from 11.28 (SD = 1.929) before the intervention to 14.94 (SD = 1.817) after the intervention (Table 2). The average attitude score before the health education intervention was 24.94 (SD = 3.513), whereas the average score after the intervention increased to 31.62 (SD = 2.691) (Table 3).

Table 2. Comparison of Adolescents' Knowledge and Attitude Scores Before and After Health Education

Variable	Test Type	N	Mean	Median	SD	Std. Error
Knowledge	Pre-test	80	11.28	11.31	1.929	0.216
	Post-test	80	14.94	14.92	1.817	0.203
Attitude	Pre-test	80	24.94	25.39	3.513	0.392
	Post-test	80	31.46	31.62	2.691	0.301

Source: Primary Data Analysis, 2025

As shown in Table 2, the mean difference was -3.665 and the result was statistically significant ($p < 0.001$). Similarly, Table 4.7 indicates a mean difference of -6.525, which was also statistically significant ($p < 0.001$).

Table 3 Paired t-test Results for Knowledge Before and After Health Education (N = 80).

Variable	Mean	SD	Std. Error Mean	t	df	Sig. (2-tailed)
Knowledge (Pre-Post)	-3.662	2.250	0.252	-14.560	79	< 0.001
Attitude (Pre-Post)	6,525	2,882	,322	20,254	79	<,001

Source: Primary Data Analysis, 2025

DISCUSSION

Based on Table 2, the average knowledge score before education was 11.28 (SD = 1.929), while after education it increased to 14.94 (SD = 1.817). These results show a significant improvement between pre-test and post-test scores, with a statistical significance of $p < 0.001$. According to the Ministry of Health 2024, adolescents are individuals aged 10–19 years. Adolescence is a period of rapid growth and development physically, psychologically, and intellectually. Adolescents tend to have a high level of curiosity, a desire for adventure, and are willing to take risks. This study aligns with Bojong et al., (2021), who stated that adolescence is a crucial stage in human life because it marks the beginning of reproductive maturity (puberty). Factors influencing free sexual behavior include hormonal changes that increase sexual desire, exposure to sexual content through advanced media, and lack of parental guidance. Wulandari & Aini (2020) reported that in major cities across Indonesia, around 20–30% of adolescents admitted to having sexual intercourse, most of whom were still in junior or senior high school. Therefore, schools and educators should recognize the importance of sex education to guide adolescent development. Sex education is not about teaching sexual techniques, but about helping adolescents understand responsible sexual behavior and the consequences of risky actions such as sexually transmitted infections, unwanted pregnancies, abortions, and even death. Sabhita et al., (2022) emphasized that health education should begin early, preferably during adolescence. One effective method for health education is the use of video media, as it combines visual and audio elements that enhance engagement and understanding. This analysis shows that animated video interventions effectively improved adolescents' knowledge about free sex prevention and can serve as an efficient tool for delivering health information. This finding is consistent with Irawan (2023), who stated that animated videos increase students' motivation and engagement during learning. The researcher assumes that animated videos are an effective educational medium because they are engaging, easy to understand, and suitable for adolescents.

Based on Table 4, the average attitude score before education was 24.94 (SD = 3.513), and after education increased to 31.46 (SD = 2.691). This shows a significant improvement in attitude scores ($p < 0.001$). According to Diana et al., (2020), sexual behavior refers to all actions driven by sexual desire, whether toward the opposite sex or the same sex. Free sex is defined as sexual intercourse between a man and a woman outside a legal marriage. Wisatawan et al., (2022) also stated that attitude reflects a person's perception, feeling, and tendency to act toward an object. Adolescent attitudes toward free sex are influenced by their knowledge and beliefs. Health education helps individuals maximize their potential and behavior to achieve optimal well-being. Providing sex education to adolescents aims to build correct perceptions about sexual behavior. Indriani & Putri (2021) found that among adolescents aged 15–19, most

began dating at 15–17 years old, with 33.3% of girls and 34% of boys starting before age 15. At this age, adolescents are still developing life skills, making them vulnerable to unhealthy dating behaviors, including sexual intercourse. Adolescents should be taught to develop self-respect, responsibility, and awareness of their actions through accurate information from parents, peers, and partners. The researcher assumes that adolescent attitudes are influenced by knowledge and beliefs, which can change through education that provides accurate information about free sex. Since many adolescents begin dating at a young age and are at risk of engaging in unhealthy behaviors, sex education plays an essential role in shaping positive attitudes and responsible behavior.

The paired *t*-test results showed a significant effect of health education on adolescents' knowledge and attitudes regarding free sex, with a significance value of $p < 0.001$ ($P = 0.001 < 0.05$). This means that health education had a significant impact on improving adolescents' knowledge and attitudes at SMPN 13 Pekanbaru. According to, (Febriyana et al., (2022) data from the Indonesian Child Protection Commission (KPAI) showed that 93.7% of junior and senior high school students had engaged in kissing or oral sex. One of the main causes is low sexual knowledge, leading adolescents to view sexual acts as a normal part of modern dating. Educational interventions play a key role in increasing knowledge and shaping positive attitudes toward sexual behavior. Among various methods, animated video-based education is particularly effective because it combines visual and auditory elements, overcoming learning barriers and enhancing understanding. According to Prasetya (2021), learning through animated video media is one of the most appropriate and acceptable methods to improve adolescents' knowledge and attitudes related to premarital sexual behavior. In this study, after receiving a health education intervention using animated videos, the average knowledge score of adolescents at SMPN 13 Pekanbaru increased to 14.94, while the average attitude score increased to 31.46. The development of animated video media in the learning process also obtained a very good qualification, indicating that this medium is feasible to be used as a learning tool in health education related to the prevention of premarital sex among adolescents. Overall, the results of the bivariate analysis showed that health education had a significant effect on improving adolescents' knowledge and attitudes in preventing free sex. The paired *t*-test result indicated a significance value of $P = 0.001 (< 0.05)$, which means there was a statistically significant relationship between health education and increased knowledge and attitudes among adolescents.

The researcher assumes that a lack of sexual knowledge is one of the main factors contributing to risky behavior among adolescents. Therefore, an effective and engaging educational method is highly needed. Animated video media has proven to be an attractive and easy-to-understand educational tool that enhances adolescents' motivation to learn. The findings of this study demonstrate that animated videos are effective in improving adolescents' knowledge and attitudes toward the prevention of free sex and are feasible to be used as health education media at SMPN 13 Pekanbaru.

CONCLUSION

This study demonstrated that health education using animated video media significantly improved adolescents' knowledge and attitudes regarding the prevention of premarital sexual behavior at SMPN 13 Pekanbaru. The mean knowledge score increased from 11.28 before the intervention to 14.94 after, while the mean attitude score rose from 24.94 to 31.46, with both showing statistically significant differences ($p < 0.001$). These results indicate that animated

video media is an effective and engaging educational tool that enhances understanding, motivation, and behavioral awareness among adolescents.

Health education on reproductive health and free sex prevention should be introduced early and delivered through interactive and age-appropriate media to help adolescents develop responsible behaviors and prevent risky actions. Schools, parents, and healthcare providers are encouraged to collaborate in integrating innovative health education strategies such as animated video based learning to promote positive knowledge, attitudes, and life skills among adolescents

REFERENCES

1. S. Adawiyah and Y. Winarti, "Hubungan Usia dan Jenis Kelamin dengan Inisiasi Seks Pranikah pada Remaja di SMK Istiqomah Muhammadiyah 4 Samarinda," *Borneo Student Research*, vol. 2, no. 2, pp. 1202–1208, 2021.
2. K. Bojong, J. Menggunakan, and K. B. Jaya, "Abstrak," *Jurnal*, vol. 7, no. 2, pp. 16–20, 2021.
3. D. C. Dewi, A. Riyanto, and D. Novitasari, "Sosialisasi dan Edukasi Remaja Sadar Gizi dan Sehat Bebas dari Anemia untuk Meningkatkan Sistem Imun pada Mahasiswa STIKes Bhakti Husada Bengkulu," *Jurnal Kesehatan Masyarakat*, vol. 5, no. 2, pp. 63–69, 2024.
4. A. Diana, L. O. Iqmy, and Y. Evayanti, "Penyuluhan tentang Bahaya Seks Bebas Mempengaruhi Pengetahuan Remaja," *Jurnal Kebidanan Malahayati*, vol. 6, no. 1, pp. 99–103, 2020. doi: 10.33024/jkm.v6i1.1732.
5. K. Emergensi, D. Ilmu, and K. Fk, "Edukasi Kesehatan dengan Media Video Animasi: Scoping Review," *Jurnal Perawat Indonesia*, vol. 5, no. 1, 2021. doi: 10.32584/jpi.v5i1.926.
6. R. N. Febriyana *et al.*, "Perilaku Mengarah kepada Seks Bebas di SMK Kota," *JKM Jurnal Kesehatan Masyarakat STIKES Cendekia Utama Kudus*, vol. 10, no. 1, pp. 1–15, 2022.
7. R. Hidayat, M. F. Nasrullah, F. Darmawan, *et al.*, "Penyuluhan Kesehatan Reproduksi sebagai Upaya Pencegahan Seks Bebas Remaja Desa Gongseng Jombang," *Jurnal Jumat Pendidikan*, vol. 4, no. 2, pp. 2–5, 2023.
8. N. Indriani and R. D. Putri, "Pengaruh Penyuluhan Bahaya Seks Bebas terhadap Sikap Remaja," *Journal of Mental Health Concerns*, vol. 1, no. 1, pp. 6–15, 2021.
9. T. Irawan, T. Dahlan, and F. Fitrianisah, "Analisis Penggunaan Media Video Animasi terhadap Motivasi Belajar Siswa di Sekolah Dasar," *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, vol. 7, no. 1, pp. 212–225, 2023. doi: 10.36989/didaktik.v7i01.738.
10. R. Kamalah, H. Honaryati, and I. Tina, "Pengaruh Health Education melalui Peer Review terhadap Pengetahuan dan Sikap Remaja tentang Bahaya Seks Bebas pada Siswa SMP," *Jurnal Kesehatan Almuslim*, vol. 7, no. 1, pp. 24–28, 2021. doi: 10.51179/jka.v7i1.431.
11. S. Khaufi and H. Hidayani, "Hubungan Sikap, Peran Orangtua, dan Peran Guru dengan Perilaku Remaja dalam Berpacaran," *SIMFISIS Jurnal Kebidanan Indonesia*, vol. 2, no. 4, pp. 434–442, 2023. doi: 10.53801/sjki.v2i4.143.
12. K. Kustin and Y. Handayanio, "Health Belief Model sebagai Upaya Pencegahan Perilaku Seks Bebas pada Remaja," *ARTERI: Jurnal Ilmu Kesehatan*, vol. 5, no. 3, pp. 40–47, 2024.
13. R. Kusuma, "Pengalaman Hamil pada Usia Remaja: Studi Fenomenologi," *Jurnal Kesehatan Reproduksi*, vol. 13, pp. 297–307, 2023.
14. W. A. Prasetya, I. I. W. Suwatra, and L. P. P. Mahadewi, "Pengembangan Video Animasi Pembelajaran pada Mata Pelajaran Matematika," *Jurnal Penelitian dan Pengembangan Pendidikan*, vol. 5, no. 1, pp. 60–68, 2021.

15. Y. Purnama, "Faktor Penyebab Seks Bebas pada Remaja," *Jurnal Ilmiah Indonesia*, vol. 5, pp. 156–163, 2020.
16. I. N. A. Putri, S. N. Djannah, and R. Ruliyandari, "Pengaruh Pendidikan Kesehatan dengan Media Video tentang Seks Pranikah terhadap Tingkat Pengetahuan dan Sikap pada Remaja: Literature Review," *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, vol. 7, no. 5, pp. 1174–1182, 2024. doi: 10.56338/mppki.v7i5.5101.
17. D. Sabhita, S. Winarni, and G. Djuwadi, "Pengaruh Edukasi Menggunakan Video tentang HIV/AIDS terhadap Pengetahuan dan Sikap Remaja di Kecamatan Sananwetan," *Jurnal Pendidikan Kesehatan*, vol. 11, no. 2, p. 139, 2022. doi: 10.31290/jpk.v11i2.3253.
18. D. Sari and Y. Lakumani, "Suatu Kajian Deskriptif Bimbingan Konseling terhadap Perilaku Kecanduan Menonton Video Porno dan Seks Bebas pada Remaja Masa Kini (Sex Before Marriage)," *Jurnal Pastoral Konseling*, vol. 4, no. 1, pp. 43–56, 2023.
19. S. Masruroh, "Hubungan Penggunaan Media Sosial Twitter dengan Perilaku Seksual Remaja di Masa Pandemi di SMPN 7 Samarinda," *Borneo Student Research*, vol. 3, no. 2, pp. 16–58, 2021.
20. P. Wisatawan *et al.*, "Pengaruh Pendidikan Kesehatan dengan Media Video terhadap Pengetahuan dan Sikap Remaja tentang Bahaya Seks Bebas di SMA X Palembang," *Jurnal Kesehatan Remaja*, vol. 12, no. 1, pp. 0–6, 2022.
21. P. Wulandari and D. N. Aini, "Program Sosialisasi Bahaya Seks Bebas pada Kalangan Remaja di Madrasah Aliyah Negeri 1 Semarang," *Jurnal Peduli Masyarakat*, vol. 2, no. 1, pp. 23–28, 2020. doi: 10.37287/jpm.v2i1.72.