



The Effectiveness of Video-Based Health Education in Improving Adolescents' Awareness of Premarital Sexual Behavior

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Abstract: Premarital sexual behavior among adolescents remains a significant public health concern globally and in Indonesia. The World Health Organization (2022) reported that approximately 16 million girls aged 15–19 give birth each year, with the highest proportion occurring in developing countries. In Indonesia, the National Population and Family Planning Agency (BKKBN) have documented a rise in unintended pregnancies among adolescents, which is strongly associated with limited sexual health knowledge and low awareness of the risks associated with premarital sexual behavior. This study aimed to examine the effectiveness of video-based health education in improving adolescents' awareness of premarital sexual behavior. This quasi-experimental study involved all 9th-grade students ($n = 282$) using a total sampling technique. Data analysis was performed using SPSS. Normality testing was conducted prior to hypothesis testing. A paired sample t-test was used for normally distributed data, while the Wilcoxon signed-rank test was used for non-normally distributed data. The Wilcoxon signed-rank test showed a significant difference in adolescents' knowledge and attitudes regarding premarital sexual behavior after the intervention (Asymp. Sig. (2-tailed) = 0.000). Since $p < 0.05$, the hypothesis is accepted. These findings indicate that video-based health education is effective in increasing adolescents' awareness of premarital sexual behavior. Video-based health education significantly improves adolescents' knowledge and attitudes regarding the risks of premarital sexual activity and represents an effective strategy for school-based sexual health promotion.

Keywords: Adolescent awareness; Premarital sexual behavior; Sexual health education; Video-based health education

Introduction

Adolescence is a critical transitional stage from childhood to adulthood that is characterized by rapid physical, cognitive, emotional, and social development. The World Health Organization (WHO) defines adolescents as individuals aged 10–19 years and emphasizes that this age group is highly vulnerable to various health risks, including risky sexual behaviors

that can lead to unintended pregnancies, sexually transmitted infections (STIs), and adverse psychological outcomes (World Health Organization, 2023b).

Globally, more than one million new cases of curable STIs occur every day among individuals aged 15–49, with adolescents and young adults being among the most affected groups (World Health Organization, 2023a). The Centers for Disease Control and Prevention (CDC) also reports that young people aged 15–24

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account for nearly half of all new STIs in the United States each year, largely due to limited access to reliable sexual health information and inadequate preventive behaviors (Centers for Disease Control and Prevention, 2023). Similarly, the United Nations Population Fund (UNFPA) highlights that insufficient knowledge of reproductive health significantly increases the likelihood of unsafe premarital sexual activity among adolescents (United Nations Population Fund, 2022).

In Southeast Asia, including Indonesia, concerns related to premarital sexual behavior among adolescents have shown an upward trend. UNICEF (2022) reports increasing rates of adolescent pregnancy and early marriage in the region, often driven by inadequate understanding of reproductive health and consequences of risky sexual activity. In Indonesia, the 2022 Indonesia Demographic and Health Survey (IDHS) revealed that 4.8% of adolescent girls and 6.1% of adolescent boys aged 15–19 had engaged in premarital sexual intercourse. Furthermore, the National Population and Family Planning Agency (BKKBN) documented more than 100,000 adolescent pregnancies annually, many of which are associated with low levels of awareness and insufficient sexual health education (BKKBN, 2022).

Sexual health education is therefore a key strategy for preventing risky sexual behaviors (Wang et al., 2023). Conventional approaches such as didactic, lecture-based methods have often been criticized for being less engaging and insufficiently effective for adolescent learners (Sari & Widyasari, 2021). Evidence suggests that audiovisual media, particularly educational videos, enhance adolescents' engagement, comprehension, and retention of information, and are more effective in promoting behavioral and attitudinal changes (Dewi et al., 2022; Fitriani et al., 2020; Maulani et al., 2025; Montano & Kasprzyk, 2015).

Educational videos offer visual and emotional stimulation that aligns with adolescents' digital media consumption patterns. For instance, Rahayu & Pratiwi (2022) found that video-based reproductive health education significantly increased high school students' knowledge and awareness of premarital sexual risks compared to traditional lectures. Similarly, Wahyuni et al. (2021) demonstrated that animated educational videos effectively improved students' understanding of HIV/AIDS and STI prevention.

Despite their potential, the use of video-based health education remains underutilized in many Indonesian schools and health facilities. Given the widespread accessibility of digital technology among adolescents, integrating video-based strategies into sexual health education could be a promising approach to improving adolescents' awareness and reducing risky sexual behaviors (Mulyani & Kartini, 2022).

Considering these issues, this study aims to evaluate the effectiveness of video-based health education in improving adolescents' awareness of premarital sexual behavior. The findings are expected to contribute to the development of more engaging, innovative, and impactful reproductive health education strategies for Indonesian adolescents.

Method

Time and Place of Research

This study was conducted from May to July 2025 at a junior high school in Indonesia, where all 9th-grade students participated in the intervention. The school was selected based on its readiness to implement structured health education programs and the availability of audiovisual learning facilities.

Research Design

This quantitative study employed a quasi-experimental pre-post design without a control group. The study population consisted of all 9th-grade students enrolled in the 2024/2025 academic year ($N = 282$). The sample size was identical to the population size, as the study used a total sampling technique, which is appropriate when the target population is relatively small and accessible in its entirety (Notoatmodjo, 2018). The independent variable was video-based health education, and the dependent variable was awareness of premarital sexual behavior, measured through two components: knowledge and attitudes. Primary data were collected using a structured, validated questionnaire administered before and after the intervention. The research instruments included: (1) an educational video on reproductive health and premarital sexual behavior risks, (2) a laptop and LCD projector for media delivery, and (3) standardized questionnaires assessing knowledge and attitudes toward premarital sexual behavior.

Research Procedure

The research procedure consisted of several stages. First, permission was obtained from the school and ethics approval was secured prior to data collection. Second, students were gathered in the school hall and given an explanation of the study's purpose, procedures, and confidentiality measures. Baseline (pre-test) data on knowledge and attitudes were collected using the questionnaire administered to all participants. Third, participants received a 15-minute educational video developed based on reproductive health guidelines and adolescent behavior theories. The video contained information on the definition, risks, consequences, and prevention of premarital sexual behavior. The

educational session was conducted in a controlled environment to ensure all students received the same exposure. Finally, immediately after the intervention, the same questionnaire was administered again (post-test) to assess changes in knowledge and attitudes. The completed questionnaires were collected, checked for completeness, coded, and prepared for analysis.

Data Analysis

Data were analyzed using SPSS version 26. Prior to hypothesis testing, a normality test was conducted using the Shapiro-Wilk test to determine whether the pre-test and post-test data were normally distributed. If the data met the assumption of normality, a paired sample t-test was used to compare mean differences before and after the intervention. If the data were not normally distributed, the Wilcoxon signed-rank test was applied. A significance level of $p < 0.05$ was used as the threshold to determine statistical significance.

Results and Discussion

Knowledge of Premarital Sexual Behavior

Before presenting the statistical findings, it is important to describe the overall distribution of respondents' knowledge levels. This analysis provides an overview of how well adolescents understood the risks of premarital sexual behavior prior to the intervention and how this changed afterward. The results also serve as the basis for evaluating the effect of video-based health education.

Table 1. Frequency Distribution of Respondents' Knowledge About Premarital Sexual Behavior (N = 282)

| Knowledge Level | Before (f) | Before (%) | After (f) | After (%) |
|-----------------|------------|------------|-----------|-----------|
| Good | 71 | 25.2 | 282 | 100 |
| Poor | 211 | 74.8 | 0 | 0 |
| Total | 282 | 100 | 282 | 100 |

Table 3. Mean Values of Knowledge and Attitude Scores Before and After Intervention (N = 282)

| Variable | Mean | Median | SD | Min-Max | 95% CI |
|--------------------|-------|--------|-------|------------|---------------|
| Knowledge (Before) | 56.79 | 53.30 | 11.27 | 40 - 73 | 55.45 - 58.09 |
| Knowledge (After) | 93.28 | 93.30 | 5.35 | 86.6 - 100 | 92.65 - 93.30 |
| Attitude (Before) | 28.68 | 28.00 | 2.92 | 25 - 33 | 28.34 - 29.03 |
| Attitude (After) | 40.24 | 40.00 | 2.35 | 38 - 45 | 39.97 - 40.52 |

Based on Table 3, the mean knowledge score increased markedly from 56.79 to 93.28 after the intervention. Similarly, the mean attitude score increased from 28.68 to 40.24. These results demonstrate substantial improvements in both knowledge and attitudes after the educational video was administered.

The results in Table 1 show that before receiving health education, most respondents had poor knowledge (74.8%). After the video-based intervention, all respondents (100%) achieved a good knowledge level, indicating a substantial improvement.

Attitudes Toward Premarital Sexual Behavior

An analysis of respondents' attitudes before and after the intervention was conducted to understand their perceptions and behavioral tendencies. Attitudes are an important component of awareness and often influence decision-making among adolescents. This analysis demonstrates whether the educational video contributed to attitude shifts toward safer behavior.

Table 2. Frequency Distribution of Respondents' Attitudes Toward Premarital Sexual Behavior (N = 282)

| Attitude Level | Before (f) | Before (%) | After (f) | After (%) |
|----------------|------------|------------|-----------|-----------|
| Positive | 44 | 15.6 | 282 | 100 |
| Negative | 238 | 84.4 | 0 | 0 |
| Total | 282 | 100 | 282 | 100 |

Table 2 indicates that the majority of respondents initially exhibited negative attitudes (84.4%). After the intervention, all respondents (100%) showed positive attitudes, suggesting that the educational video was effective in reshaping adolescent perspectives regarding risky sexual behavior.

Mean Scores of Knowledges and Attitudes Before and After the Intervention

This section presents the descriptive statistics of knowledge and attitude scores before and after the intervention. The analysis includes mean, median, standard deviation, minimum and maximum scores, as well as confidence intervals. These values provide a more detailed understanding of the magnitude of change in awareness.

Effect of Video-Based Health Education on Awareness of Premarital Sexual Behavior

Before presenting the statistical test results, it is important to emphasize that the analysis aimed to determine whether the changes in knowledge and attitudes were statistically significant. Because the data were not normally distributed, the Wilcoxon signed-rank test was used to compare pre-test and post-test scores.

Table 4. Effect of Video-Based Health Education on Knowledge and Attitudes (Wilcoxon Test)

| Variable | N | Z-value | p-value (Asymp. Sig. 2-tailed) |
|-----------|-----|---------|--------------------------------|
| Knowledge | 282 | -14.590 | 0.000 |
| Attitude | 282 | -14.597 | 0.000 |

The Wilcoxon test results in Table 4 show that both knowledge and attitude variables have a p-value of 0.000 (< 0.05), indicating statistically significant differences before and after the intervention. Thus, the hypothesis is accepted, confirming that video-based health education significantly increases adolescents' awareness of premarital sexual behavior.

The findings of this study demonstrated a significant increase in adolescent awareness regarding premarital sexual behavior after receiving health education using video media, as shown by the Asymp. Sig. (2-tailed) value of 0.000 ($p < 0.05$). This result indicates that video-based health education is effective in improving both knowledge and attitudes among adolescents. The use of communicative language, appealing visual elements, and contextual content has been proven to increase engagement and understanding of the risks associated with premarital sexual behavior among teenagers. Similar findings were reported by Ramdani (2024), who highlighted that video-based sexual health education improves knowledge and attitude changes among adolescents. Educational videos help students visualize real-life scenarios such as peer pressure, dating, risky behaviors, and consequences, making the learning experience emotionally meaningful. This is consistent with Rahmi (2019), who found that adolescents respond more positively to audiovisual learning materials that resemble their daily lived experiences.

The positive results of this study align with several previous studies supporting the effectiveness of video-based reproductive health education. Yulastini et al. (2021) showed that educational videos significantly increase adolescent knowledge and attitudes toward preventing risky sexual behavior. Video-based learning is also considered effective for Generation Z, who tend to be familiar with digital media and prefer visually rich learning methods. Furthermore, video education is a flexible tool that can be disseminated through schools, community health centers, and digital platforms. These findings support earlier studies stating that video-based interventions are superior to traditional methods like lectures or leaflets due to higher engagement and retention levels (Rahayu & Pratiwi, 2022a).

The effectiveness of video-based health education also aligns with behavioral change theories, particularly the Health Belief Model (HBM). According to the HBM, behavior change occurs when individuals perceive themselves as vulnerable to risks and understand the

seriousness of potential consequences. In this study, educational videos increased adolescents' perception of risk regarding premarital sex, sexually transmitted infections, and unwanted pregnancy. This is supported by Faizaturrahmi et al. (2024), who reported that audiovisual interventions enhance adolescents' risk perception related to HIV/AIDS and unplanned pregnancies. Videos allow adolescents to visualize real consequences, strengthening perceived susceptibility and severity—key drivers of behavioral intention according to Champion et al. (2008).

Another important finding relates to the role of group discussion following the video intervention. Interactive discussions help clarify concepts, promote reflective thinking, and reinforce knowledge internalization. Putri et al. (2024) found that combining video media with guided group discussions is more effective in building collective awareness and critical thinking among adolescents compared to video alone. This combined approach also enhances comprehension and provides a supportive environment for adolescents to ask questions and express concerns related to sexuality. Mayer (2020) further explains that discussions stimulate deeper cognitive processing, leading to stronger retention of health messages.

Awareness regarding free sex is influenced not only by knowledge but also by risk perception, self-control, and environmental context. Sari et al. (2020) demonstrated that educational video interventions improve students' ability to maintain healthy boundaries in interpersonal relationships and enhance refusal skills against sexual advances. Moreover, Asnita et al. (2021) noted that adolescents are more engaged with video content accessed through platforms such as YouTube or digital learning applications, leading to better retention compared to traditional materials. Additionally, Mustofa et al. (2021) reported that adolescents with higher risk perception are less likely to engage in premarital sex, reinforcing the importance of education that builds both cognitive and emotional awareness.

Based on the study findings, video-based reproductive health education should be integrated into school health promotion programs as an effective strategy to prevent risky sexual behavior among adolescents. Videos can convey emotional, visual, and auditory messages that are more impactful than traditional teaching methods. Fauziah et al. (2024) also found that educational videos containing narratives or dramatizations of negative consequences evoke emotional responses among students, increasing awareness and promoting safer decision-making. International guidelines, such as those from UNESCO (2018) and United Nations Population Fund (2022),

emphasize the importance of providing comprehensive sexuality education using digital platforms that suit adolescent learning characteristics.

Conclusion

The findings of this study indicate that health education using video media is effective in increasing adolescents' awareness of free sex, as demonstrated by significant improvements in both knowledge and attitudes after the intervention. Prior to receiving video-based education, most students had low levels of knowledge and predominantly negative attitudes toward free sex; however, after the intervention, all respondents showed good knowledge and positive attitudes. The increase was also reflected in the substantial rise in mean scores for knowledge—from 56.79 before the intervention to 93.27 after—and in attitude scores—from 28.68 to 40.24. The results of the Wilcoxon test further confirmed a statistically significant effect ($p = 0.000$), indicating that video-based health education successfully enhanced adolescents' awareness by providing clear, engaging, and easily accessible learning materials. Overall, these results highlight that video media are a relevant and effective educational strategy for strengthening reproductive health literacy and preventing risky sexual behaviors among adolescents.

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Author Contributions

Conceptualization, R. and K.; methodology, A. and F.F.; software, L.F.; validation, R., K., and A.; formal analysis, F.F.; investigation, R.; resources, K.; data curation, A.; writing—original draft preparation, R. and K.; writing—review and editing, A. and F.F.; visualization, L.F.; supervision, R.; project administration, K.; funding acquisition, R.

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Conflicts of Interest

The authors declare no conflict of interest.

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