



The Effectiveness of Sexual Education Video-Based Learning in Improving Adolescents' Knowledge on Preventing Premarital Pregnancy to Support Sustainable Development Goals (SDGs)

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Abstract: Premarital pregnancy among adolescents remains a major reproductive health problem that may negatively affect adolescents' physical, psychological, and social well-being. This study aimed to determine the effectiveness of sexual education video-based learning in improving adolescents' knowledge regarding premarital pregnancy prevention at SMAN 21 Makassar. This study used a quantitative quasi-experimental design with a one-group pretest-posttest approach. The population consisted of 61 tenth-grade students selected using a total sampling technique. The intervention consisted of a 15-minute sexual education video discussing reproductive health, risk factors, and prevention of premarital pregnancy. Data were collected using a validated questionnaire and analyzed using the Wilcoxon Signed Rank Test. Before the intervention, most respondents had poor knowledge (85.24%), while after the intervention, the majority demonstrated good knowledge (93.44%). Statistical analysis showed a significant increase in adolescents' knowledge after the intervention ($p < 0.01$). Sexual education video-based learning can be used as an effective educational strategy to improve adolescents' reproductive health knowledge and support Sustainable Development Goals (SDGs).

Keywords: Adolescent; Knowledge; Premarital pregnancy; Sexual education; Video learning

Introduction

Adolescence is a transitional period from childhood to adulthood characterized by physical, psychological, emotional, and social development. According to Gainau (2021), adolescence is divided into early adolescence (10–13 years), middle adolescence (14–17 years), and late adolescence (18–24 years). During this period, adolescents experience reproductive and psychosocial changes that may influence risky sexual behavior.

Globally, adolescents represent approximately 16% of the world population. In Indonesia, the adolescent population continues to increase, highlighting the importance of reproductive health education among

young people. Badan Pusat Statistik (2024) reported that adolescents aged 10–19 years account for a substantial proportion of the Indonesian population. However, limited reproductive health knowledge and inadequate sexual education remain major public health concerns among adolescents.

The World Health Organization (2022) reported that adolescent pregnancy remains a global reproductive health problem, particularly in developing countries. Premarital pregnancy may negatively affect adolescents' physical, psychological, social, and educational well-being. Several factors contribute to risky sexual behavior among adolescents, including peer influence, lack of parental supervision, unrestricted

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social media exposure, and inadequate reproductive health education.

One educational strategy that may improve adolescents' reproductive health knowledge is video-based sexual education. Audiovisual learning media combine visual and audio elements that can improve adolescents' attention, concentration, and understanding during educational activities. Previous studies demonstrated that educational videos effectively improve adolescents' knowledge regarding reproductive health and prevention of risky sexual behavior.

Preliminary interviews conducted at SMAN 21 Makassar revealed that several students still had limited understanding regarding premarital pregnancy prevention and felt embarrassed discussing reproductive health issues. This condition indicates the need for appropriate educational interventions to improve adolescents' reproductive health knowledge.

This study has novelty because it specifically evaluates the effectiveness of sexual education video-based learning in improving adolescents' knowledge regarding premarital pregnancy prevention among senior high school students in Makassar. Previous studies generally focused on reproductive health education using conventional methods, whereas this study emphasizes audiovisual learning media as an interactive educational strategy to support adolescent reproductive health programs and Sustainable Development Goals (SDGs). Therefore, this study aimed to analyze the effectiveness of sexual education video-based learning in improving adolescents' knowledge regarding premarital pregnancy prevention at SMAN 21 Makassar.

Method

This study employed a quantitative approach using a quasi-experimental design with a one-group pretest-posttest design. The study aimed to determine the effect of sexual education videos on adolescents' knowledge regarding the prevention of pregnancy outside marriage at SMAN 21 Makassar.

The population in this study consisted of all students in classes X3 and X4 at SMAN 21 Makassar, totaling 61 students. Since the population size was relatively small, this study used a total sampling technique, in which all members of the population were included as respondents. The respondents consisted of 40 female students and 21 male students.

The intervention was conducted by providing health education through sexual education videos containing information about reproductive health, causes of pregnancy outside marriage, risk factors, impacts, and prevention strategies among adolescents.

The educational video was delivered once during the learning session with a duration of approximately 15–20 minutes.

The research instrument used was a structured questionnaire adapted from Aisyah (2019) regarding adolescent knowledge about premarital pregnancy prevention. The questionnaire consisted of 32 multiple-choice questions. Prior to data collection, the questionnaire was tested for validity and reliability on respondents with characteristics similar to the study population. The validity test showed that all questionnaire items were valid, while the reliability test produced a Cronbach's alpha value of >0.70, indicating that the instrument was reliable.

Knowledge scores were categorized into three levels: good (76–100%), moderate (56–75%), and poor (<56%). Data collection was conducted twice, namely before the intervention (pretest) and after the intervention (posttest).

Data were analyzed using SPSS version 25. Univariate analysis was used to describe respondent characteristics and knowledge levels before and after the intervention. The Kolmogorov–Smirnov test was used to assess data normality. Since the data were not normally distributed ($p < 0.05$), the Wilcoxon signed-rank test was used to determine differences in adolescents' knowledge before and after the intervention. Statistical significance was determined at $p < 0.05$.

Result and Discussion

SMAN 21 Makassar is one of the state level schools located in the Tamalanrea sub-district, Makassar city, South Sulawesi, JL. Tamalanrea Raya No. 1A BTP Makassar South Sulawesi. SMA N 21 Makassar consists of 3 grade levels, namely grade X, XI and XII with the number of each grade level there are 12

Characteristics of Respondents Based on Age

Based on Table 1, most respondents were aged 15 years, accounting for 34 respondents (55.74%), followed by 16 years with 25 respondents (40.98%). The smallest proportion was respondents aged 17 years, totaling 2 respondents (3.28%).

Table 1. Frequency Distribution Based on Age of Respondents at SMA N 21 Makassar

Age (Years)	Frequency (f)	Percentage (%)
15 Years	34	55.74
16 Years	25	40.98
17 Years	2	3.28
Total	61	100.00

Source: Primary Data, 2025

Gender Characteristics

Based on Table 2, the majority of respondents were female students, totaling 40 respondents (65.57%), while male students accounted for 21 respondents (34.43%).

Table 2. Frequency Distribution Based on Gender of Respondents at SMA N 21 Makassar

Gender	Frequency (f)	Percentage (%)
Women	40	65.57%
Male	21	34.43%
Total	61	100.00

Source: Primary Data, 2025

Knowledge Before Intervention

Based on Table 3, before the intervention, most respondents had poor knowledge regarding pregnancy prevention outside marriage, totaling 52 respondents (85.24%). Only 2 respondents (3.28%) had good knowledge.

Table 3. Frequency Distribution, Pre Test Knowledge of Respondents at SMAN 21 Makassar

Knowledge Pre Test	Frequency (f)	Percentage (%)
Good	2	3.28
Simply	7	11.48
Less	52	85.24
Total	61	100.00

Source: Primary Data, 2025

Knowledge after Intervention

Based on Table 4, after receiving education through sexual education videos, the majority of respondents demonstrated good knowledge, totaling 57 respondents (93.44%). No respondents were categorized as having poor knowledge after the intervention.

Table 4. Frequency Distribution, Pre Test Knowledge of Respondents at SMAN 21 Makassar

Knowledge Post Test	Frequency (f)	Percentage (%)
Good	57	93.44
Simply	4	6.56
Less	0	0.00
Total	61	100.00

Source: Primary Data, 2025

Effect of Education on Adolescents' Knowledge through Learning Video Media Normality Test

The results of the normality test analysis using Kolmogrov Smirnov showed the results of the knowledge score before the intervention 0.015 and after the intervention 0.000. Based on the information above, it can be concluded that before and after being given a learning video, the data is not normally distributed because <0.05 . This study uses an alternative non-parametric test, namely the Wilcoxon test.

Table 5. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk	
	Statistic	Df	Sig.	Statistic	DF
Pretest	.128	61	.015	.951	61
Posttest	.173	61	.000	.918	61

Source: Primary Data, 2025

Table 6. Test Statistics^a

	Posttest - Pretest	
Z		-6.780 ^b
Asymp. Sig. (2-tailed)		.000

Source: Primary Data, 2025

Based on the results of the Wilcoxon test, the pretest-posttest knowledge and attitude of adolescents towards unwanted pregnancy obtained a significance p-value of $0.000 < 0.05$. So that the learning video media has an influence on the knowledge and attitudes of adolescents at SMAN 21 Makassar.

Knowledge Before and After Educating Adolescents with Learning Video Media at SMAN 21 Makassar

The results showed an increase in knowledge after being given education using learning videos for adolescents at SMAN 21 Makassar from sufficient knowledge to good knowledge. This is indicated by the majority of respondents correctly answered the question about factors from the surrounding environment is one of the factors causing unwanted pregnancy in the present after being given education using learning videos. The results of the research after education there were 4 respondents who were still in the moderate category. this was addressed by the same respondents in the pre-test and post-test, the points of each respondent were still below 75 points, (moderate), which in the Good category must reach 76 points (Good).

Research conducted by Rismayati (2023) explained that the level of knowledge about unwanted pregnancy increased to good after being given an intervention because adolescents absorb the information provided more quickly. With adequate knowledge and motivation to undergo adolescence in a healthy manner, adolescents will try to maintain their health so that they can enter family life with a healthy reproductive system. This is influenced by level of education, occupation, age, interest, experience, culture, and information. Correct and appropriate information about sexual and reproductive health issues can be obtained from books or health journals so that adolescents will better understand unwanted pregnancy.

In line with research conducted by Dartiwen et al. (2024) showed that the majority of respondents answered correctly from 30 questions so that the level of knowledge was good. Unwanted pregnancy is a condition where the couple does not want the birth process of a pregnancy, this pregnancy occurs due to

sexual intercourse outside of marriage either intentionally or unintentionally. Factors that cause unwanted pregnancies are the earlier age of menstruation accompanied by an increasing age of marriage which makes it vulnerable to sexual behaviour as evidenced by the many cases of teenage pregnancy outside of marriage. The environment can influence adolescents' knowledge about the factors that cause unwanted pregnancies, because the environment has an effect on shaping one's personality. Meanwhile Pivazyan et al. (2025) unwanted teenage pregnancy is caused by sex education factors.

Sexual activity is influenced by adolescents' assessment of their knowledge and attitudes about sex, resulting in unwanted pregnancies. The impact of unwanted pregnancy for adolescent girls affects health, physical, psychological and mental aspects. The safety and health of adolescents and children in the womb are at risk due to weak uterine muscles, an underdeveloped reproductive system, premature birth, low birth weight (LBW), congenital defects, and infant mortality. This impact is exacerbated if teenagers are not prepared to deal with unwanted pregnancies. Some health problems that arise due to the physical and psychological unpreparedness of adolescents in undergoing unwanted pregnancies include anaemia, pre-eclampsia, hypertension, and gestational diabetes (Ballestín et al., 2021; Bezzant, 2019; Hart et al., 2025; Salfadila et al., 2023).

One of the risks of unwanted pregnancy is reproductive system disorders. This is due to the imperfection of the reproductive organs that make pregnancy unstable, easy to bleed, resulting in abortion or fetal death. In addition, pregnant teenagers are more likely to experience severe nausea and vomiting, high blood pressure, convulsions, and death. Prevention of unwanted pregnancy can be done by not having sexual intercourse before marriage, utilising free time with positive activities, avoiding actions that will cause sexual urges, such as groping a partner's body, watching pornographic videos, and education about sex (Incekara et al., 2023; Navarro-Mantas et al., 2025; Salfadila et al., 2023).

Providing education using learning video media about unwanted pregnancy in adolescents at SMAN 21 Makassar can provide information that is more effective and better understood by adolescents. So that the value before being given the intervention and after being given the intervention has increased the knowledge of adolescents towards unwanted pregnancy. In line with research conducted by 9 shows the results of the Mann-Whitney test obtained a p-value of 0.024 < 0.05, then H0 is rejected, meaning that there is a significant difference in knowledge scores after being given education in the

form of short message services via WA about unwanted pregnancy.

The Effect of Educational Video Learning Media on Adolescents' Knowledge at SMAN 21 Makassar

The results showed that there was a significant effect on the level of knowledge of adolescents before and after receiving education on learning video media, as evidenced by the results of bivariate analysis using the Wilcoxon test which resulted in a p value of 0.000 < 0.05, indicating that there was a significant effect of learning video media education on adolescents' knowledge at SMAN 21 Makassar. Adolescents at SMAN 21 Makassar who were given education using learning videos showed good focus during video viewing and no one was sleepy. This learning video media can attract the attention of adolescent girls, reduce boredom, and sleepiness because there is a combination of audio and images that attract students to concentrate more.

In line with research conducted by Rohimah et al. (2024) shows that there is an effect of sexual health education on the level of knowledge of adolescent girls with the Wilcoxon test resulting in a p-value of 0.000 < 0.05. Increased knowledge of adolescents in this study was supported by leaflet media. The content of the leaflet is in accordance with health education material about unwanted pregnancy, packaged in the form of attractive images and colours, and presents the leaflet material into a questionnaire. Some studies explain health education in adolescents about sexual behaviour and its impact is very important, so avoiding unwanted pregnancies in adolescents, especially using learning video media, makes it easier to increase the knowledge and attitudes of adolescent (Fatimawati et al., 2023). The reactions of adolescents who experience unwanted pregnancies include negative emotions that are dominantly experienced by adolescents towards rejection of pregnancy, not being ready to become mothers, and not being ready to give birth (Izmaylov, 2022).

Unintended pregnancies are found to be high in adolescence, influenced by low education levels and economic levels (Zhu et al., 2020). Independent factors that lead to unwanted pregnancies are inadequate knowledge about the ovulation period, sex education, and not sharing adolescent problems with family members. Unintended pregnancy in adolescence can be prevented by providing correct and appropriate information through sex education programmes so as to change adolescents' preferences from early birth (Mbizvo et al., 2023; Mohamed et al., 2023; Myat et al., 2024; Pivazyan et al., 2025).

Conclusion

This study concluded that education through sexual education videos significantly improved adolescents' knowledge regarding the prevention of pregnancy outside marriage at SMAN 21 Makassar. The proportion of respondents with good knowledge increased from 3.28% before the intervention to 93.44% after the intervention. The Wilcoxon signed-rank test showed a significant difference in knowledge levels before and after the intervention ($p < 0.05$). Educational video media can therefore be considered an effective health education strategy for improving adolescents' understanding of reproductive health and preventing risky sexual behavior. Schools are encouraged to implement audiovisual-based sexual education programs regularly to increase adolescents' awareness and reproductive health knowledge.

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Author Contributions

Conceptualization, F.A.S. and W.M.L.I.; methodology, F.A.S., A.M., and R.M.; formal analysis, F.A.S. and D.; investigation, F.A.S., W.M.L.I., and A.M.; data curation, F.A.S.; writing – original draft preparation, F.A.S.; writing – review and editing, W.M.L.I. and R.M.; supervision, D.; project administration, F.A.S. All authors have read and approved the published version of the manuscript.

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Conflicts of Interest

No conflict interest.

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