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Differences in Knowledge of Sexually Transmitted Infections Before and After Video-Based Education Among Premarital Couples

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ABSTRACT

One of the government's efforts to prevent the transmission of sexually transmitted infections among premarital couples is the requirement to undergo screening at community health centers and attend premarital counseling at the Office of Religious Affairs before obtaining a marriage schedule. This study aimed to determine the effect of video-based educational media on the knowledge of premarital couples regarding sexually transmitted infections. This quantitative study used a quasi-experimental design with a one-group pretest–posttest approach. The sample consisted of 38 premarital couples selected through accidental sampling. Data were collected using a validated and reliable questionnaire on knowledge of sexually transmitted infections. Data analysis was conducted using univariate analysis and bivariate analysis with the Wilcoxon test. The results showed an increase in the mean knowledge score of 14.74 after the intervention, indicating a significant effect of video-based education on the knowledge of premarital couples (p-value = 0.001). These findings demonstrate that video-based educational media significantly improves knowledge regarding sexually transmitted infections among premarital couples. Therefore, the Office of Religious Affairs is recommended to provide video-based educational materials before premarital counseling to improve the knowledge of prospective couples.

INTRODUCTION

Sexually transmitted infections (STIs) are a significant public health concern that contribute to substantial social and economic burdens in many countries, particularly in Indonesia (1). The prevalence of STIs among individuals aged 15–49 years in 2022 ranged from 1 to 8 million cases, with an estimated 374 million new infections annually, including 129 million cases of chlamydia, 82 million cases of gonorrhea, 7.1 million cases of syphilis, and 156 million cases of trichomoniasis (1). In Indonesia, STI cases have shown a consistent increase. National data indicate a rise from 36.902 cases in 2021 to 57.299 cases in 2023, along with an increase in AIDS-related cases from 5.750 to 16.410 (2). Regionally, North Kalimantan reported a slight increase from 475 cases in 2022 to 488 cases in 2023, with a similar trend observed in Tarakan City, where cases rose from 454 to 459 (3).

Data from the Tarakan City Health Office in 2024 indicate that STI cases were reported across all community health centers in the region. The highest number of cases was recorded at Karang Rejo

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Community Health Center with 251 cases, followed by Mamburungan Community Health Center with 102 cases. Other health centers also reported notable numbers of cases, including Juata Permai (46 cases), Sebengkok (45 cases), Gunung Lingkas (45 cases), and Pantai Amal (12 cases). These findings highlight the widespread distribution of STI cases and underscore the importance of strengthening preventive efforts, including health education for populations at risk such as premarital couples [4]. In the working area of Karang Rejo Community Health Center, a total of 251 cases of sexually transmitted infections were reported, including gonorrhea, syphilis, and cervicitis. This high number of cases suggests that the level of public knowledge, including among premarital couples, regarding reproductive health and the prevention of sexually transmitted infections remains inadequate.

A preliminary study conducted on June 11, 2025, at the Office of Religious Affairs (KUA) in West Tarakan found that 15 out of 20 prospective couples (75%) had limited knowledge of sexually transmitted infections (STIs). Knowledge of sexually transmitted infections among premarital couples is an important aspect of preparing for a healthy married life. Efforts to prevent sexually transmitted infections require the implementation of communication, information, and education programs in reproductive health, involving community health centers as healthcare service providers and the Office of Religious Affairs as an institution responsible for family and premarital guidance [5].

As part of the government's efforts to prevent the transmission of sexually transmitted infections among premarital couples, it has been established that one of the requirements to obtain a marriage schedule at the Office of Religious Affairs is to undergo sexually transmitted infection screening at community health centers and to attend premarital counseling [6]. Limited understanding of sexually transmitted infections can increase the risk of disease transmission; therefore, efforts to improve knowledge through effective educational methods are necessary [7].

One study reported that the use of educational animated videos is more effective than printed media in delivering information on reproductive health and the prevention of sexually transmitted infections [8]. Video-based health education is both engaging and easily understood, as the integration of visual and auditory stimuli has been shown to enhance knowledge acquisition and memory retention among prospective couples [9]. These conditions highlight the need for engaging and easily understandable health education through video-based media, as audiovisual information delivery has been proven effective in improving knowledge and memory retention among premarital couples [10].

METHOD

This study employed a quasi-experimental design with a one-group pretest–posttest approach. Data were collected using a pretest–posttest design conducted in three sessions. The intervention was delivered through a video-based education on STIs (duration: 4 minutes 19 seconds), administered between the pretest and posttest during premarital counseling sessions at KUA Tarakan Barat. The population consisted of all premarital couples preparing for marriage at the Office of Religious Affairs (KUA) of West Tarakan in October 2025, totaling 38 individuals. A sample of participants was selected using an accidental sampling technique based on predetermined inclusion and exclusion criteria.

The inclusion criteria were: (a) prospective couples registered in the premarital counseling class at the Office of Religious Affairs (KUA) in West Tarakan; (b) individuals with adequate hearing and vision and able to understand the STI educational video; (c) those who had not received prior STI education; and (d) individuals who had never been married. The exclusion criteria were: (a) respondents diagnosed with STIs; (b) those who did not complete the video intervention; (c) respondents with incomplete pre-test or post-test questionnaires; and (d) those who withdrew during the study.

Data were collected using a structured questionnaire assessing knowledge of sexually transmitted infections among premarital couples. The questionnaire was developed by the researcher based on key aspects of sexually transmitted infections (STIs), including definition, types, symptoms, risky sexual behavior, complications, and prevention. The initial instrument consisted of 50 items, which were tested for validity and reliability. Based on Pearson Product-Moment analysis ($r > 0.444$), 25 items

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were found to be valid and retained, while 25 items were excluded. The reliability test showed a Cronbach's alpha value of 0.843, indicating good internal consistency. The scoring system assigned 1 point for each correct answer and 0 for incorrect answers, with the total score reflecting the respondent's level of knowledge. This study was approved by the Health Research Ethics Committee of the Faculty of Health Sciences, Borneo Tarakan University (No. 212/KEPK-FIKES UBT/X/2025).

Data analysis was conducted to determine differences between pretest and posttest knowledge scores. Because the data were not normally distributed, a non-parametric statistical test, the Wilcoxon Signed Rank Test, was used for the analysis.

RESULT AND DISCUSSION

Table 1. Characteristics of Respondents

Characteristics	Frequency (n)	Percentage (%)
Age		
10-19 years	3	7.9
20-39 years	35	92.1
Total	38	100
Sex		
Female	19	50
Male	19	50
Total	38	100
Educational Level		
Primary Education	23	60.5
Higher Education	15	39.5
Total	38	100
Occupation		
Student	2	5.3
Civil Servant	3	7.9
Private Employee/Self-employed	14	36.8
Housewife	0	0
Others	19	50
Total	38	100

Table 1 indicates that the majority of respondents were adults (92.1%), with a balanced sex distribution (50% male and 50% female). Most participants had a basic level of education (60.5%), and half were categorized as "others" in terms of occupation (50%), followed by private employees or self-employed individuals (36.8%).

Table 2. Distribution of Respondents' Knowledge Before the Intervention

Knowledge Category	Frequency	Percentage (%)
Good	16	42.1
Moderate	15	39.5
Poor	7	18.4
Total	38	100

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The findings indicate that prior to the video-based intervention, knowledge of sexually transmitted infections (STIs) among prospective couples was variable, with most respondents categorized as having good (42.1%) and moderate knowledge (39.5%), while a smaller proportion had poor knowledge (18.4%). This suggests that although some participants possessed basic understanding, a considerable group still demonstrated suboptimal knowledge. Knowledge acquisition is influenced by multiple factors, including education, access to information, age, environment, and experience, which collectively shape individual understanding [11]

Age maturity contributes to improved cognitive ability and decision-making related to healthy behaviors [12]. Increased age is associated with greater exposure to information and accumulated experience, both of which enhance knowledge and support more informed decision-making [13]. In addition, higher educational attainment is linked to better comprehension of health information and stronger cognitive capacity in processing knowledge and making decisions [14,15].

Work environment and occupational activities also play a role in facilitating knowledge exchange through social interaction and access to information [16,17]. However, limited access to health information remains a concern, as reflected by half of the respondents who had never received reproductive health information. Previous studies have shown that low exposure to information media is associated with poorer reproductive health knowledge due to limited access to formal education and health services [18,19]. These findings highlight the need for accessible and targeted educational strategies, such as video-based interventions, to improve STI knowledge among prospective couples.

Premarital couples with higher educational attainment tend to demonstrate better knowledge, which is consistent with health education theory stating that individuals with higher education levels are more likely to understand health information effectively [20]. The findings of this study indicate that 50% of premarital couples had never received information related to reproductive health, suggesting limited access to health information among some respondents. This finding is supported by Saparini, who reported that limited exposure to information media contributes to low levels of reproductive health knowledge due to restricted access to formal information sources such as educational media and health services [21]. Limited access to reliable information sources and supporting facilities may hinder the dissemination of reproductive health information. These conditions indicate that inadequate access to health information is one of the important factors contributing to the low level of knowledge among respondents. Therefore, accessible and targeted educational strategies, such as video-based educational media, are needed to improve premarital couples' knowledge regarding sexually transmitted infections [22].

Table 3. Distribution of Respondents' Knowledge After the Intervention

Knowledge Category	Frequency	Percentage (%)
Good	36	94.7
Moderate	2	5.3
Poor	0	0
Total	38	100

After the intervention using video-based media on sexually transmitted infections, a substantial increase in the knowledge level of premarital couples was observed. This improvement indicates that video media is effective in helping respondents understand information about sexually transmitted infections more clearly, systematically, and comprehensively. This finding is consistent with the study conducted by Kurniasari, which reported that health education delivered through video media resulted in greater knowledge improvement compared to printed materials such as leaflets [23]. The effectiveness

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of video media lies in the combination of visual and auditory elements that present information more clearly, making it easier for individuals to receive, understand, and retain health messages [12].

In addition, engaging video presentations can increase participants' attention and reduce the sense of discomfort or stigma when discussing reproductive health issues, allowing premarital couples to receive sensitive information more comfortably [25].

Table 4. Comparison of Knowledge Levels Before and After the Intervention

Category	Knowledge Level Among Premarital Couples						Total		*p-value*
	Poor		Moderate		Good				
	f	%	f	%	f	%	n	%	
Pre-Test	7	18.4	15	39.5	16	42.1	38	100	
Post-Test	0	0	2	5.3	36	94.7	38	100	0.001
Total									

This improvement was statistically significant (Table 4), with a p-value of 0.001 (<0.05), indicating that the video-based intervention had a substantial effect on participants' knowledge of STIs. The improvement in knowledge among premarital couples in this study indicates that video-based educational media not only increases knowledge scores but also enhances respondents' understanding of the material. Video-based health education is considered an effective communication method because it involves both visual and auditory senses, enabling information to be delivered more clearly and effectively [26] This finding is in line with the study conducted by Yulianti, which demonstrated that video-based reproductive health education significantly improved respondents' knowledge, particularly for complex health topics that are difficult to explain through written materials or lectures alone [27]

The combination of audio and visual elements in video media can enhance learning motivation, increase interest in health information, and improve long-term memory retention. Compared with printed media such as leaflets, audiovisual media are considered more effective in increasing knowledge because the messages are delivered in a more engaging and easily understandable format [28]. Mustar also reported that video media effectively improved adolescents' knowledge and attitudes toward sexually transmitted infections by integrating visual images, sound, and narrative explanations, which facilitate understanding of complex health topics [27].

The Wilcoxon Signed Rank Test analysis showed a p-value of 0.001 ($p < 0.05$), indicating a statistically significant difference between knowledge levels before and after the video intervention. These results suggest that the use of video-based educational media effectively improves premarital couples' understanding of the concepts, causes, transmission routes, and prevention of sexually transmitted infections.

CONCLUSION

This study demonstrates that the use of video-based educational media significantly improves the knowledge of premarital couples regarding sexually transmitted infections. The findings indicate that audiovisual education can serve as an effective strategy for delivering reproductive health information in premarital counseling programs. Therefore, integrating video-based education into premarital guidance activities at the Office of Religious Affairs may enhance couples' understanding of sexually transmitted infection prevention. Future studies are recommended to explore the long-term effects of video-based education on behavioral changes related to reproductive health.

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