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Submission date: 21-Jan-2024 11:10PM (UTC+1100)

Submission ID: 2274709525

File name: NEW_Gufron_Wahyudi_Revisi.doc (181K)

Word count: 3472

Character count: 25550

The Influence of Health Education through Videos on Adolescents' Knowledge of Reproductive Health

Gufron Wahyudi¹, Rahmawati Raharjo²

^{1,2}Universitas Bakti Indonesia

Email: gufron.wahyu@gmail.com

ABSTRACT

Reproductive health knowledge is a critical aspect of adolescents' overall well-being, and its effective promotion plays a pivotal role in ensuring their long-term health and decision-making. In recent years, the utilization of video-based health education has gained popularity as a means of delivering information to this demographic. However, it was imperative to investigate the extent to which this innovative approach truly influences adolescents' knowledge. This study employed a *quasi-experimental two-group pretest-posttest design* and involved a total of 34 respondents who were selected through a *comprehensive total sampling technique*. The primary objective was to evaluate the impact of video-based health education on adolescents' knowledge of reproductive health. Statistical analysis was conducted using the *Mann-Whitney Test* and the *Wilcoxon Test*, revealing a statistically significant improvement in reproductive health knowledge among the participants, as indicated by a p-value of 0.000, which was less than the significance level of 0.05. These findings emphasize the effectiveness of video-based health education as a powerful tool in enhancing adolescents' comprehension of reproductive health matters. It underscores the importance of integrating video-based education into comprehensive health promotion strategies targeted at adolescents, as it has the potential to significantly contribute to their overall health awareness and decision-making capabilities.

Keywords: health promotion, video-based education, reproductive health knowledge

INTRODUCTION

According to the World Health Organization (WHO) report, one of the most significant challenges faced by adolescents worldwide is related to their reproductive health and rights. Sexual violence and rape, unwanted early pregnancies, all stem from adolescents' limited access to relevant education and information during their vulnerable periods (WHO, 2022b). Adolescence, also known as the pubertal period, is a phase characterized by remarkable changes in adolescents. These transformations involve significant alterations in height and body weight, which are manifestations of hormonal changes resulting from the ongoing reproductive processes within the body (Ministry of Health, RI, 2022).

UNICEF estimated that the number of adolescents worldwide has increased, reaching approximately 1.3 billion in 2021, or around 16 percent of the global population (Ochieng et al., 2022). In Indonesia, there are about 46 million individuals in the adolescent age range, from 10 to 19 years old, which constitutes approximately 17 percent of the country's total population. In Banyuwangi, in 2020, approximately 763 dispensation permits for child/adolescent marriages were issued. The Banyuwangi district government has made various efforts, including recognizing 200 adolescents as "Youth Ambassadors for Preventing Child Marriage". Nevertheless, despite these efforts, it remains crucial to provide educational facilities related to adolescent reproductive health. This is intended to ensure that adolescents are not merely instructed to avoid marrying at a young age but also to understand why early marriages need to be prevented (WHO, 2018). In this phase, which falls within the adolescent age range, individuals seek to develop themselves and adopt a positive attitude towards social groups. Adolescence is also characterized by a growth period known as the "growth spurt."

The research conducted by Nurmawati and Erawantini (2019) underscores the significance of adolescents' need for knowledge about reproductive health, as indicated by the Ministry of Religious Affairs report for Bantul District in 2019. Adolescent reproductive health education has a clear objective, which is to enhance their knowledge. This knowledge has a substantial impact on shaping adolescents' attitudes and motivation to engage in further learning about their reproductive health. Moreover, employing appropriate educational methods serves as an effective tool in achieving this goal, aligning with the pressing need to improve adolescents' understanding of reproductive health issues. In a study conducted by Dag Oivind Ostereng in

Norway, Anderson (2019) posits that creative teachers have the ability to introduce innovation into their teaching methods and inspire many children through the use of technology, such as engaging videos or media, to convey knowledge. The findings of this research emphasize the importance of teachers who can create more captivating and appealing learning experiences, enabling students to grasp and appreciate the subject matter more easily. Innovative and creative teaching styles, particularly those utilizing modern technology, hold the potential to motivate students in the learning process, ultimately leading to a better understanding and application of knowledge.

When adolescents lack adequate reproductive health education, they may face several detrimental consequences. One of these is the lack of understanding that can lead to unsafe sexual behaviors, such as unprotected sexual intercourse, the spread of sexually transmitted diseases, or the risk of unwanted teenage pregnancies. Insufficient knowledge of reproductive health can also result in stigma and discomfort when seeking help or information related to sexual health issues. Additionally, adolescents may be more vulnerable to sexual exploitation and abuse. Therefore, effective reproductive health education can assist adolescents in making more informed decisions, reducing the risk of undesirable health outcomes, and increasing awareness of their rights regarding reproductive health.

Generally, adolescents have not received reproductive health education or information about the physical changes they undergo during their primary school years. Therefore, the researcher is interested in conducting a study that explores the impact of video-based health education on adolescents' knowledge of reproductive health. This research is focused on adolescents residing in Sembulung Village, Cluring District, Banyuwangi Regency. The primary goal of the study is to understand the effects of health education delivered through video media on adolescents' knowledge concerning their reproductive health. Given the lack of reproductive health education at the primary school level, this research is intended to bridge the gap and provide a more comprehensive perspective to adolescents. It is hoped that this will assist them in better coping with their physical changes and reproductive health aspects.

METHODS

The type of research used in this study is quasi-experimental research with a two-group pretest-posttest design. The variables examined in this study encompass two aspects. Firstly, there is a dependent variable that includes knowledge about reproductive health. Secondly, there is an independent variable, which is health education through video, and it is the factor to be tested in its relation to adolescents' knowledge and attitudes concerning reproductive health. In this study, the researcher employed a questionnaire instrument consisting of three sections: a questionnaire on characteristics and a questionnaire on adolescents' knowledge of physical changes. The validity test for the knowledge instrument employs content validity, while its reliability is assessed using the KR-20 formula, considering reliability good if it exceeds 0.72. The calculation results indicate a knowledge instrument reliability of 0.82, affirming its effectiveness and reliability for research. The study's population consists of 34 female adolescents in Sembulung Village, Cluring District. The sampling technique employed is *total sampling*. The influence analysis is conducted using the *Wilcoxon test*, while the analysis of the differences in knowledge levels is performed using the *Mann-Whitney test*.

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RESULTS

Table 1. Distribution of Respondent Characteristics in Sembulung Village, Cluring District

Variable	Frequency	Percent (%)
Age		
10 years	8	23,5
11 years	14	41,2
12 years	12	35,3
Gender		
Male	18	52,9
Female	16	47,1
Total	34	100

Source: Primary Data

Table 1 presents the distribution of respondent characteristics in Sembulung Village, Cluring District. Out of a total of 34 respondents, the majority are 11 years old (41.2%), followed by those who are 12 years old (35.3%), and 8 respondents (23.5%) are 10 years old. Regarding gender, the number of male and female respondents is nearly balanced, with 52.9% being male and 47.1% being female. Thus, this table provides an overview of the distribution of age and gender of the respondents in this study in Sembulung Village, Cluring District.

Table 2. The Frequency Distribution of Respondent Knowledge Before and After Intervention

Knowledge	Good		Sufficient		Insufficient		Total
	Frequency	Percent (%)	Frequency	Percent (%)	Frequency	Percent (%)	
Before Intervention	3	17,6	5	29,5	9	52,9	17
After Intervention	16	94,1	1	5,9	0	0	17

Source: Primary Data

Table 2 presents the frequency distribution of respondent knowledge before and after the intervention. Before the intervention, only 3 respondents (17.6%) had good knowledge on the discussed topic. The majority of respondents, a total of 16 individuals (94.1%), had sufficient knowledge. However, 17 respondents (29.5%) had insufficient knowledge. After the intervention, there was a significant improvement in the level of respondent knowledge. The number of respondents with good knowledge increased to 5 (29.5%), while the number of respondents with sufficient knowledge remained at 1 (5.9%). A decrease was observed in the category of insufficient knowledge, where no respondents had insufficient knowledge after the intervention. Therefore, this table reflects a positive change in the level of respondent knowledge after the video-based health education intervention.

Table 3: Analysis of the Impact of Video-Based Health Education on Reproductive Health Knowledge

Intervention	N	Mean	SD	Min-Max	Z	P
Pretest Knowledge Scores	17	64.23	6.891	39-78		
Posttest Knowledge Scores	17	96.76	4.979	68-98	-3.873	0,000

Source: Wilcoxon Sign Rank Test Statistical Test

Table 3 depicts the results of the analysis regarding the impact of video-based health education on reproductive health knowledge. In this study, there were 17 respondents who underwent a pretest (initial measurement) of their knowledge, with an average score of 64.23 and a standard deviation of 6.891. The pretest score ranged from 39 to 78. After the video-based education intervention, the same 17 respondents were retested in a posttest (measurement after the intervention) and exhibited an increased average score of 96.76 with a standard deviation of 4.979. The posttest score ranged from 68 to 98. The statistical analysis using the Wilcoxon Sign Rank Test revealed a significant difference between the pretest and posttest knowledge scores, with a Z-value of -3.873 and a p-value of 0.000. These results indicate that video-based health education has a positive impact on improving the reproductive health knowledge of the respondents after the intervention.

DISCUSSION

The results presented in Table 2 depict the changes in the knowledge of the respondents before and after the intervention of video-based health education. Prior to the intervention, the majority of the respondents possessed sufficient knowledge, with only 3 respondents (17.6%) having good knowledge regarding the discussed topics. However, a total of 17 respondents (29.5%) were classified as having insufficient knowledge. This table aligns with the theories supporting the notion that interventions using video-based health education can enhance knowledge. Previous studies, as mentioned by Smith et al. (2018), highlight that the use of video media in health education can improve the understanding and knowledge of learners. Likewise, Jones et al. (2017) found that video can be an effective tool in enhancing knowledge of reproductive health among

adolescents. The research conducted by Mukhtar et al.(2022) yielded interesting conclusions regarding the positive impact of a reproductive health education program using multimedia videos on adolescent girls. The findings indicate that incorporating video media into education can significantly enhance behaviors and capabilities in preventing pathological fluor albus. It is important to acknowledge that such interventions have the potential to create sustained changes in awareness and actions among adolescents regarding personal hygiene and reproductive health issues. Furthermore, the research conducted by Ghimire & Devkota (2020) also supports studies in which the results indicate that they applied a participatory video (PV) approach to explore issues related to adolescent reproductive health, particularly focusing on menstrual hygiene, among school adolescents in the Chitwan District of Nepal. The PV process involved student participation for over 6 months, during which they were provided with smartphones equipped with a 15-megapixel camera for video recording. School adolescents regarded PV as an innovative and participatory medium that contributes to the development of critical thinking, collaboration, communication, and creative skills, essential for the 21st century.

In this study, a participatory method was employed to introduce elementary school students to the concept of reproductive health, in line with the findings of Rahmadhani et al. (2021), which highlighted that elementary school students have a good ability to explore new things. There was a significant increase in students' understanding, with an increase from 19.22% before the provision of reproductive health education to 23.156% after the intervention. The results of the study by Hasanah (2021) also reflect an improvement in knowledge after the implementation of an intervention through educational videos. These findings align with research results indicating an increase in the knowledge of adolescent girls after exposure to educational video interventions, with a p-value of 0.000. In the research conducted by Istiyar (2020), the effectiveness of video media in enhancing knowledge of reproductive health was similarly demonstrated. The study's results suggested that students' knowledge significantly improved after receiving reproductive health education through video media, shifting their knowledge category from insufficient to good. The findings of this study, in harmony with previous research, emphasize that the use of participatory methods and educational videos can effectively enhance knowledge about reproductive health among elementary school students. This, in turn, has a positive impact on their understanding of reproductive health issues.

The researcher's opinion is that the results in Table 2 illustrate the positive impact of video-based health education in enhancing the knowledge of the respondents. It is evident that the majority of the respondents experienced an increase in their knowledge after the intervention, particularly in the category of good knowledge. This aligns with the goals of health education, which aim to enhance the understanding and knowledge of individuals on specific health topics. These results indicate that video-based health education is an effective approach in improving reproductive health knowledge among adolescents, thereby positively impacting their understanding of reproductive health issues.

Table 3 illustrates the findings of the analysis concerning the influence of video-based health education on the knowledge of reproductive health. In this research, a pretest was administered to 17 participants to gauge their initial knowledge levels. The results of the pretest unveiled an average score of 64.23, accompanied by a standard deviation of 6.891. The pretest scores ranged from 39 to 78, reflecting the variance in knowledge among respondents before the intervention.

Subsequent to the video-based educational intervention, the same group of 17 respondents underwent a posttest to assess the effects of the intervention on their knowledge. The results of the posttest revealed a noteworthy increase in their average score, which climbed to 96.76, with a standard deviation of 4.979. The posttest scores exhibited a range from 68 to 98, demonstrating a more consolidated and improved understanding of reproductive health issues among the participants. Statistical analyses, specifically the Wilcoxon Sign Rank Test, were conducted to determine the significance of the observed differences between pretest and posttest knowledge scores. The results unveiled a substantial and positive transformation, with a Z-value of -3.873 and a p-value of 0.000. These statistical outcomes firmly support the notion that video-based health education has a beneficial influence on the enhancement of reproductive health knowledge among the participants after the intervention. These results align with established theories and prior research that emphasize the effectiveness of multimedia educational approaches in improving health knowledge. Prior studies, as cited by Smith et al. (2018) and Jones et al. (2017), have indicated that video-based interventions can significantly boost participants' understanding and knowledge, particularly regarding reproductive health issues.

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The research findings, supported by Imran (2017), underscore the importance of an educational approach in enhancing knowledge about health. Health education through counseling or health promotion plays a significant role in improving individuals' understanding, particularly in the context of reproductive health knowledge among adolescents. This study reaffirms these findings through bivariate analysis using the Wilcoxon test, which demonstrates a significant difference in the level of knowledge among adolescent girls before and after receiving counseling. In society, health knowledge, especially regarding reproductive health, is a crucial aspect that can influence individuals' behavior and decisions related to their well-being. Therefore, efforts to enhance health knowledge are critical, particularly among adolescents who are in a pivotal stage of development. Health education, including counseling or health promotion methods, can serve as an effective means to communicate relevant information, provide better understanding, and ultimately assist individuals in making well-informed decisions regarding their reproductive health.

This research is consistent with the findings presented by Lia Kurniasari (2017), as discussed in Istiyar's study (2020). The research emphasizes that an individual's knowledge can be positively influenced through the use of video media as an educational tool. Video is considered effective because it can convey information more efficiently by engaging both visual and auditory senses. By combining visual and audio elements, videos can facilitate better and deeper understanding compared to methods that rely solely on visual perception. The results of this study indicate that video media is an effective tool for increasing knowledge, as evidenced by the comparison between pre- and post-intervention knowledge levels using video media. Significant differences in knowledge improvement have been demonstrated, showing that video media can be a powerful means in the educational process and has a positive impact on enhancing understanding and knowledge of specific health topics. According to Khairani et al. (2019), instructional video media serves as teaching material with the aim of clarifying and facilitating the communication of messages without relying too heavily on words. This media helps overcome limitations in terms of time, space, and sensory abilities for both learners and instructors, allowing for appropriate and diverse usage.

In the researcher's perspective, the outcomes presented in Table 3 signify a positive impact of video-based health education on the enhancement of respondents' knowledge. It is evident that a majority of the respondents experienced increased knowledge levels following the intervention, especially in the category of good knowledge. This outcome is congruent with the fundamental goal of health education, which aims to enhance individuals' comprehension and knowledge regarding specific health topics. These results signify that video-based health education is an effective approach to improving reproductive health knowledge among adolescents, resulting in a greater understanding of reproductive health matters.

CONCLUSION

This research reveals that health education through video media has a positive impact on improving adolescent reproductive health knowledge. The study's findings indicate a significant difference in knowledge levels before and after the intervention, with knowledge levels improving significantly after the implementation of video education. This underscores the importance of an educational approach that emphasizes interactive and visual methods, especially in the context of adolescent health education.

SUGGESTION

It is recommended that the consideration of integrating videos into adolescent reproductive health education be supported by teacher training, cross-sector collaboration, and further research for long-term evaluation. This approach aims to enhance adolescents' understanding of reproductive health issues, assist them in making informed decisions, and promote healthy behaviors.

ACKNOWLEDGEMENT

This research was made possible with the support from Universitas Bakti Indonesia. The roles of the faculty team, the provided facilities, the research site, the respondents, as well as the support from family and friends were vital in the completion of this study. I sincerely express my heartfelt gratitude for the invaluable support that has been given, which has allowed this research to be successfully completed.

FUNDING

The funding for this research comes from an internal grant of Universitas Bakti Indonesia.

CONFLICTS OF INTEREST

All authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

GW acted as a contributor of ideas, data analysis, manuscript preparation, and publication. RR, on the other hand, was responsible for developing the research methods, conducting data collection, data editing, and manuscript preparation.

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