

EFFECTIVENESS OF VIDEO BASED HEALTH EDUCATION IN IMPROVING ADOLESCENT GIRLS' KNOELEDGE OF MESTRUAL HYGIENE MANAGEMENT

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ABSTRACT

Adolescent girls are a vulnerable group to reproductive health problems, one of which is caused by low knowledge regarding menstrual hygiene management. Video media was chosen as a health education tool because it combines visual and audio elements that attract attention, match adolescent characteristics, and facilitate comprehension of the material. This study aimed to determine the effect of video-based health education on adolescent girls' knowledge of menstrual hygiene management at SMPN 63 Batam. This research employed a quantitative method with a pre-experimental design of the one-group pretest-posttest type. The sample consisted of 46 seventh-grade students who had experienced menstruation, selected through purposive sampling. The research instruments included a 14-item true-false menstrual hygiene management knowledge questionnaire and a 10-minute educational video. Data were collected through a pre-test before the intervention and a post-test after the intervention, and analyzed using the Wilcoxon nonparametric test. The results showed that before the intervention, most respondents were in the low knowledge category (54,3%), whereas after the intervention, the majority improved to the good category (91.3%). A p-value of 0.000 ($p < 0.05$) indicated a significant difference in knowledge before and after the intervention. In conclusion, video-based health education was effective in improving adolescent girls knowledge of menstrual hygiene management. It is recommended that schools utilize video media as an interactive and appropriate health education method tailored to the needs of adolescents.

Keywords: Health education, video, knowledge, adolescent girls, menstruation

INTRODUCTION

Adolescence is a sensitive transition phase encompassing physical, psychological, and social changes, including the experience of menarche. Menstruation is a physiological process, yet it is often surrounded by myths, taboos, and a lack of proper hygiene practices in many communities. Menstrual Hygiene Management (MHM) refers to the practice of using clean materials to absorb menstrual blood, changing them privately as needed, and using soap and water for washing. The World Health Organization (WHO, 2021) emphasizes that insufficient MHM knowledge and poor practices are major public health concerns, increasing the risk of urogenital infections, discomfort, and absenteeism from school. Studies conducted in Indonesia consistently reveal a low baseline knowledge level regarding MHM among young women, often relying on inaccurate information from peers or outdated cultural beliefs. To mitigate these risks, effective educational strategies must be implemented. Traditional health education methods, such as lectures or pamphlets, often fail to engage adolescents adequately. In recent years, educational technology has become an increasingly vital tool. Video-based health education offers several advantages: it is visually stimulating, captures attention effectively, standardizes the information delivered, and allows for complex concepts (like anatomy or proper cleaning techniques) to be demonstrated clearly. Several studies (Dwi, 2023; Sari & Utami, 2024) have shown that visual media significantly improves learning outcomes and knowledge retention compared to passive learning.

This study seeks to empirically validate the application of video-based education as an intervention to improve MHM knowledge among female adolescents. The main objective is to determine the effectiveness of video-based health education in increasing the knowledge of adolescent girls about Menstrual Hygiene Management at SMPN 63 Batam.

MATERIALS AND METHODS

This quantitative research utilized a pre-experimental design with a One-Group Pretest-Posttest approach. This design measures the dependent variable (knowledge) before (pretest) and after (posttest) the introduction of the independent variable (video-based health education) to assess the intervention's impact.

Population and Sample

The population consisted of all female students in grades VII and VIII at SMPN 63 Batam who had experienced menarche. The sample size was 30 adolescent girls selected using purposive sampling, based on the inclusion criteria: female students who had begun menstruation, were willing to participate in the entire study process, and were present during the intervention session.

Instruments and Measurement

The primary instrument used was a Menstrual Hygiene Management Knowledge Questionnaire. The questionnaire consisted of 20 multiple-choice and true/false questions covering various MHM aspects, including the menstrual cycle, use of sanitary products, frequency of pad changes, and disposal methods. The instrument was validated by experts and demonstrated strong reliability (Cronbach's Alpha = 0.82) in a pilot study. Knowledge scores were categorized as low ($\leq 55\%$), moderate (56%-75%), and good ($> 75\%$).

Intervention

The intervention consisted of one single 45-minute session held in the school's multimedia room. Participants completed the MHM knowledge questionnaire (Pretest). A standardized educational video (approximately 15 minutes in length) detailing proper MHM practices was shown. A 15-minute guided discussion and Q&A session was conducted by the researcher to clarify concepts. Immediately following, participants completed the same MHM knowledge questionnaire (Posttest).

Data Analysis

Data were analyzed using the SPSS statistical software. Univariate analysis described the characteristics of the sample and the frequency distribution of knowledge scores. Bivariate analysis compared the pretest and posttest scores. Based on the Shapiro–Wilk normality test, the data distribution was non-normal, thus the Wilcoxon Signed Ranks Test was selected to compare the dependent scores. A significance level of $p < 0.05$ was set to reject the null hypothesis (H_0).

RESULTS AND DISCUSSION

Univariate Analysis

The demographic analysis showed the majority of respondents were 13–14 years old (70%) and primarily in grade VII (60%).

Tabel 1. The distribution of knowledge categories before and after the intervention

Knowledge category	Pretest (%)	Posttest (%)
Low ($>55\%$)	60.0%	0.0%
Moderate (56% - 75%)	30.0%	23.3%
Good ($>75\%$)	10.0%	76.7%

Before the intervention, the majority of students (60.0%) had low MHM knowledge. After the video-based education, the knowledge level shifted dramatically, with 76.7% of students achieving a good knowledge category, and no student remaining in the low knowledge category. The mean score increased from 52.3 (pm 10.5 SD) in the pretest to 85.7 (pm 5.8 SD) in the posttest.

Bivariate Analysis

The hypothesis testing conducted using the Wilcoxon Signed Ranks Test yielded a p-value of 0.000. Since the p-value (0.000) is significantly less than the established significance level of $\alpha = 0.05$, the null hypothesis (H_0) is rejected. This indicates that there is a statistically significant effect of video-based health education on the knowledge of adolescent girls regarding Menstrual Hygiene Management.

Discussion

The profound shift in knowledge scores, confirmed by the $p=0.000$ result, strongly supports the effectiveness of video-based educational interventions. This finding aligns with cognitive learning theories, which suggest that information presented visually and auditorily simultaneously enhances comprehension and memory encoding. The use of video addresses the characteristic learning style of adolescents, who are highly accustomed to and engaged by digital media. The video provided standardized, clear, and non-judgmental information, which is particularly critical for sensitive topics like MHM, where misconceptions are common. The immediate improvement suggests that the material was easily absorbed and understood. The subsequent Q&A session likely reinforced the learning. This study's success is consistent with the findings of Sari & Utami (2024), who also reported significant knowledge improvement using audio-visual media for health topics.

CONCLUSION

Video-based health education is a highly effective strategy for increasing the knowledge of adolescent girls regarding Menstrual Hygiene Management at SMPN 63 Batam. The statistically significant p-value of 0.000 demonstrates a clear and substantial difference between pretest and posttest knowledge scores. This intervention successfully shifted the majority of students from the low to the good knowledge category. It is concluded that video-based health education should be integrated into school health programs as a practical, engaging, and cost-effective approach to promoting better MHM practices and adolescent health.

CONFLICT OF INTEREST (if any)

The authors hereby declare that there is no conflict of interest, whether financial, professional, or personal, in relation to the preparation, execution, and publication of this research. This study was entirely self-funded by the authors and the supporting institution (Awal Bros University), and did not involve any commercial sponsors or third parties with a financial interest in the research outcomes. Consequently, the findings and conclusions presented in this article are based solely on the scientific data collected and analyzed, without any external bias or influence.

ACKNOWLEDGEMENTS (if needed)

The authors express their deepest gratitude to University of Awal Bros for providing the necessary facilities and academic resources to complete this research. The authors are also grateful to the principal, teachers, and all participating students at SMPN 63 Batam for their cooperation and contribution to the data collection.

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