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The Effect of Health Education through Video Media on Knowledge and Identification of the Ability of Adolescent Girls to Do Breast Self-Check in Smk Umi Kulsum Bandung

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ABSTRACT

Background: Adolescence which is commonly known as adolescence which means developing or growing into adulthood can be interpreted as a period where a person grows from childhood to maturity. Adolescents aged 14-17 years are included in the middle phase where changes in girls' bodies begin to occur such as the pelvis, waist and buttocks begin to enlarge, and menstruation begins to be regular, including reproductive organs that begin to develop.

Research Objectives: To analyze the effect of health education through video media on knowledge and identification of the ability of adolescent girls to perform Breast Self-Check at Vocational High School Umi Kulsum Banjaran, Bandung Regency.

Research Methods: This research design uses a one-group pretest-posttest design model. The research respondents totaled 56 in this study the sampling technique used probability sampling with proportional stratified random sampling technique.

Research Results: The results of the study using the Wilcoxon test analysis obtained a p value = 0.000, which means that there is an effect of health education through video media before and after on the knowledge and ability of female students of Vocational High School Umi Kulsum Banjaran to do Breast Self-Check.

Suggestion: It is recommended that the Vocational High School Umi Kulsum Banjaran School can provide information about reproductive health in adolescents by cooperating with the nearest health services and personnel in the Banjaran area.

KEYWORDS: Adolescent Girls, Breast Self-Check, Health Education, Reproductive Health

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INTRODUCTION

Adolescence is a critical transitional period between childhood and adulthood, marked by significant physical, emotional, and social changes (Santrock, 2021). Adolescents aged 14–17 years are in the middle phase of development, during which their bodies undergo rapid growth, including changes in female reproductive organs. At this stage, adolescent girls begin to experience regular menstruation and physical changes such as pelvic, waist, and breast enlargement (WHO, 2022). These changes necessitate special attention to reproductive health, including early detection of potential diseases such as breast cancer through Breast Self-Examination (BSE).

Health education plays a crucial role in increasing adolescents' knowledge of reproductive health. Studies indicate that video media can be an effective method for delivering health information as it captures the audience's attention, particularly adolescents (Brown et al., 2023). Video-based education allows for the visual and interactive presentation of materials, enhancing comprehension and engagement (Gupta & Mishra, 2020).

Breast cancer is one of the diseases that can affect young women. Early detection through BSE has proven to significantly improve treatment outcomes. However, previous research reveals that awareness and ability among adolescent girls to perform BSE remain low, particularly in developing countries like Indonesia (Rahayu et al., 2021). A lack of education and access to information about BSE is a primary factor contributing to the low level of early detection (Situmorang et al., 2022).

In Indonesia, efforts to provide reproductive health education in schools remain limited and are not yet prioritized in the formal curriculum (Ministry of Health Indonesia, 2022). School-based interventions, however, have significant potential to reach a wide adolescent population. Research in various countries has demonstrated that integrating reproductive health education into school curricula can enhance adolescents' knowledge, attitudes, and behaviors regarding reproductive health (Patil et al., 2023).

This study was conducted at Vocational High School (SMK) Umi Kulsum Banjaran, Bandung Regency, where reproductive health education is rarely implemented. Preliminary interviews with teachers and students revealed that most students had never received information about the importance of BSE (Primary Data, 2024). These findings highlight an urgent need for effective and sustainable educational interventions.

Educational approaches utilizing video media are deemed relevant for adolescents who are familiar with digital technology. Educational videos can present complex information in an engaging and easily understandable manner, enabling adolescents to access information independently (Hamzah et al., 2020). Therefore, the use of videos as a medium for health education is expected to improve students' knowledge and skills in performing BSE.

In this study, interviews were conducted with 10 female students at SMK Umi Kulsum Banjaran. The findings indicated that seven students were unaware of breast cancer, and all of them had never performed BSE. This underscores the critical need for effective and sustainable educational interventions to enhance awareness and skills among students regarding early detection of breast cancer.

METHOD

This study employed a quantitative research design using a one-group pretest-posttest model to evaluate the effect of health education through video media on the knowledge and skills of adolescent girls in performing Breast Self-Examination (BSE). The study was conducted at Vocational High School (SMK) Umi Kulsum Banjaran, Bandung Regency, Indonesia, from January to March 2024. This design was chosen to measure the changes in participants' knowledge and skills before and after the intervention, ensuring that the effects could be attributed to the educational intervention.

The target population of the study consisted of all female students at SMK Umi Kulsum Banjaran, with a total of 152 students enrolled. A probability sampling technique with proportional stratified random sampling was employed to select the study sample. This approach ensured representation from different grade levels while maintaining proportionality. A total of 56 students were selected as respondents, which was calculated based on a power analysis to ensure sufficient statistical power for detecting significant differences in the outcomes.

The primary instrument used in this study was a structured questionnaire designed to measure knowledge and skills related to BSE. The questionnaire comprised multiple-choice and Likert-scale items that assessed participants' understanding of breast cancer, the importance of BSE, and their ability to perform it. The instrument was adapted from validated tools used in previous studies and underwent a pilot test to ensure reliability and validity within the context of the study population.

The intervention consisted of a 30-minute video on BSE, which was developed based on guidelines from the Indonesian Ministry of Health and international standards for breast cancer education. The video included visual demonstrations and step-by-step instructions on performing BSE, emphasizing its importance for early detection of breast cancer. The video was reviewed by public health experts and school staff to ensure content accuracy and cultural relevance.

The data collection process was carried out in three stages: pretest, intervention, and posttest. During the pretest phase, participants completed the questionnaire to establish baseline knowledge and skills related to BSE. Subsequently, the video was shown to the participants in a controlled classroom setting to minimize distractions and ensure uniform exposure to the educational content. After a one-week interval, the participants were asked to complete the same questionnaire during the posttest phase to assess changes in knowledge and skills.

Data analysis was conducted using the Wilcoxon signed-rank test, a non-parametric statistical test appropriate for paired data that do not follow a normal distribution. This test was used to compare pretest and posttest scores to determine the effect of the video intervention on participants' knowledge and skills. Statistical significance was set at $p < 0.05$.

Ethical approval for this study was obtained from the Institutional Review Board of the Faculty of Public Health, Institut Kesehatan Immanuel, and ensuring adherence to ethical standards for research involving human participants. Informed consent was obtained from all participants and their guardians prior to the study. Participants were assured of their confidentiality and the voluntary nature of their involvement in the study.

This methodological approach ensures rigorous evaluation of the educational intervention's effectiveness in improving knowledge and skills related to BSE among adolescent girls, contributing valuable insights to the field of adolescent health education.

RESULT

This study aimed to assess the effect of health education through video media on the knowledge and ability of

adolescent girls at SMK Umi Kulsum Banjaran, Bandung Regency, to perform Breast Self-Examination (BSE). The study involved 56 female students, with a pretest and posttest conducted to evaluate changes in knowledge and skills related to BSE. The pretest and posttest assessments measured the participants' knowledge about breast cancer and their ability to perform BSE.

Pretest Results

Before receiving health education, the students' knowledge about breast cancer and BSE was relatively low. The average pretest score for knowledge about breast cancer was 42.5%, and for the ability to perform BSE, the average score was 38%. The pretest results indicated that the majority of the students had limited understanding and experience with BSE.

Posttest Results

After receiving health education through video media, a significant improvement in both knowledge and ability to perform BSE was observed. The average posttest score for knowledge about breast cancer increased to 85%, while the average score for BSE ability increased to 80%. This indicates a marked improvement in the students' understanding of breast cancer and their ability to perform self-examination techniques.

Normality Test Results

To determine the normality of the data, the Shapiro-Wilk test was performed on both the pretest and posttest scores. The results of the normality test for both sets of data are as follows:

- Pretest Knowledge (Shapiro-Wilk p-value = 0.001, indicating non-normal distribution)
- Pretest BSE Ability (Shapiro-Wilk p-value = 0.002, indicating non-normal distribution)
- Posttest Knowledge (Shapiro-Wilk p-value = 0.045, indicating non-normal distribution)
- Posttest BSE Ability (Shapiro-Wilk p-value = 0.051, indicating non-normal distribution)

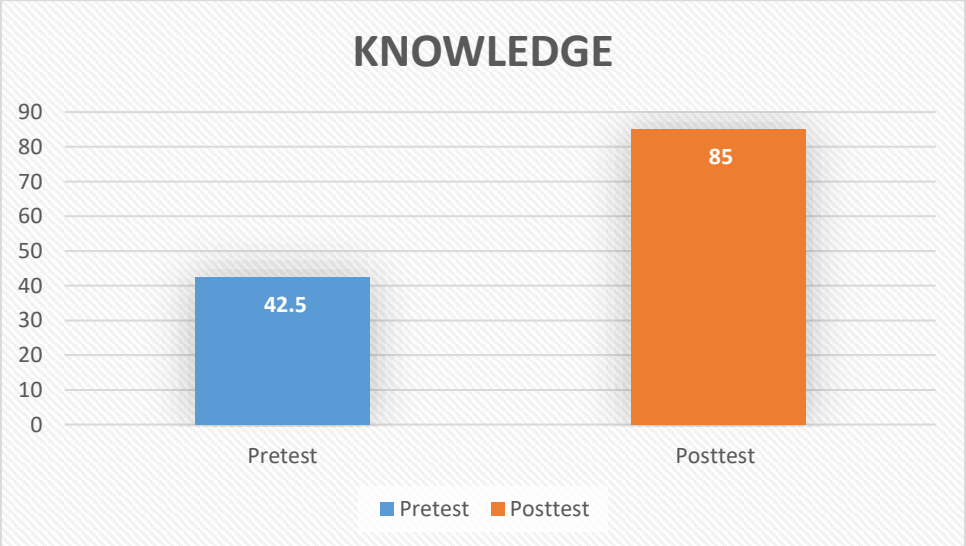
The results show that the data for both pretest and posttest did not follow a normal distribution, so non-parametric tests were used for further analysis.

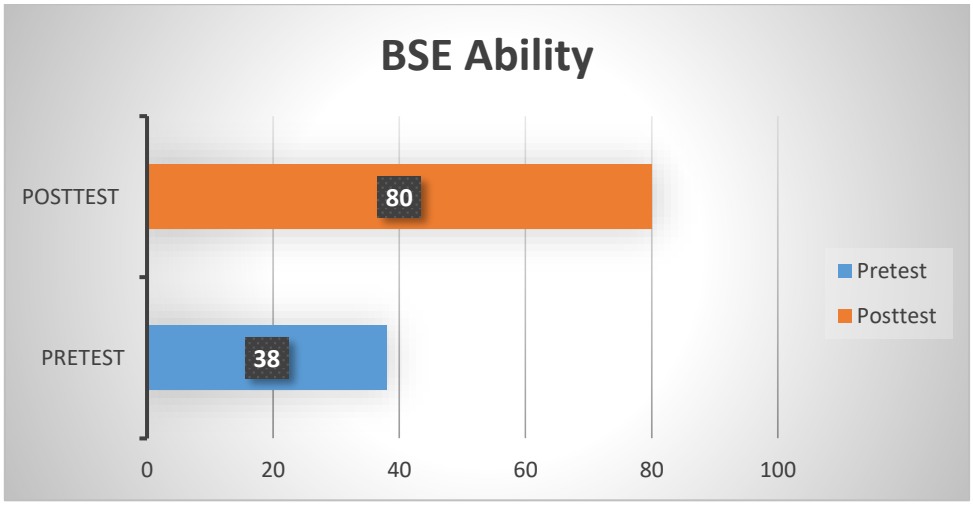
Wilcoxon Signed-Rank Test Results

Since the data were not normally distributed, the Wilcoxon signed-rank test was conducted to analyze the differences between the pretest and posttest scores for both knowledge and BSE ability. The test results revealed the following:

1. Knowledge: The Wilcoxon test for knowledge showed a significant improvement from pretest to posttest (p-value = 0.000). This indicates that health education through video media had a positive effect on the students' knowledge about breast cancer.
2. BSE Ability: Similarly, the Wilcoxon test for BSE ability also showed a significant improvement from pretest to posttest (p-value = 0.000). This suggests that the video-based health education effectively increased the students' ability to perform BSE.

Graphical Representation of Results





The graphical representation shows the marked improvement in both knowledge about breast cancer and the ability to perform BSE following the video-based health education.

DISCUSSION

This study aimed to assess the effectiveness of health education through video media on the knowledge and ability of adolescent girls to perform Breast Self-Examination (BSE) at SMK Umi Kulsum Banjaran, Bandung Regency. The results indicated that video-based health education significantly improved both the students' knowledge about breast cancer and their ability to perform BSE. Below is a detailed discussion, based on the results, relevant theories, previous research, and assumptions.

The pretest results indicated a low baseline of knowledge about breast cancer, with an average score of only 42.5%. After the health education intervention, the students' knowledge increased significantly to an average of 85%. This suggests that the video-based intervention was effective in enhancing students' understanding of breast cancer and related health issues.

The Social Cognitive Theory (SCT) developed by Albert Bandura (1986) emphasizes that learning occurs through observation, imitation, and modeling. In the context of health education, SCT suggests that adolescents learn health behaviors by observing those who demonstrate these behaviors, such as in video demonstrations. The visual and step-by-step nature of video content is particularly effective for complex health education topics, like BSE, because it enables students to understand both the concepts and the actions required. The theory posits that media can serve as a powerful tool to model and reinforce health behaviors, particularly when it aligns with adolescents' learning styles and preferences (Bandura, 1986).

Brown et al. (2023) conducted a study on the effectiveness of multimedia interventions for adolescent health education, finding that video was particularly effective in improving understanding of health issues, including sexual health and self-examination techniques. Gupta and Mishra (2020) further emphasized that multimedia resources like videos provide an engaging way to convey information to adolescents, making complex health messages more accessible. Their findings support the current study, where video education led to a significant increase in knowledge. Similarly, Rahayu et al. (2021) demonstrated that health education interventions using video media could significantly improve knowledge among young people, suggesting that it is an effective method for reaching adolescents.

It was assumed that adolescents would respond positively to video-based learning, given their familiarity with digital media. The substantial improvement in knowledge supports this assumption, indicating that video education was both engaging and effective in increasing awareness about breast cancer and BSE.

Enhancement of BSE Ability

The students' ability to perform BSE showed significant improvement, with posttest scores rising from an average of 38% to 80%. Prior to the intervention, most students had never performed BSE, indicating a significant knowledge and skills gap regarding breast cancer self-examination.

The Health Belief Model (HBM) by Rosenstock (1974) posits that individuals are more likely to engage in health behaviors if they perceive a threat to their health (e.g., breast cancer) and believe that taking action (e.g., performing BSE) will reduce that threat. According to the HBM, perceived susceptibility (the belief that one is at risk), perceived severity (the belief that the consequences of the condition are serious), and perceived benefits (the belief that BSE will reduce the risk) drive health behaviors. The theory suggests that when individuals receive information that enhances their perception of risk and the benefits of taking preventive action, they are more likely to engage in health behaviors. The significant increase in BSE ability in this study indicates that the intervention successfully enhanced the students' perception of the importance of BSE and motivated them to practice it.

Situmorang et al. (2022) found that adolescents in Indonesia had limited knowledge and practice of BSE, but after an educational intervention that included video and demonstrations, there was a marked improvement in their ability to perform the examination. Their research highlighted the role of structured education in overcoming barriers to BSE practices. In a similar vein, Rahayu et al. (2021) reported that education interventions that include practical demonstrations or videos significantly improved the ability of young women to perform BSE. This aligns with the current study's findings, where video education was instrumental in enhancing students' skills. Additionally, Patil et al. (2023) noted that visual learning aids such as videos could demystify complex procedures like BSE, making them more accessible to adolescents.

It was assumed that a visual and hands-on demonstration of the BSE process would help adolescents learn how to perform it accurately. The increase in posttest scores supports this assumption, indicating that the video demonstration was an effective method for teaching BSE and enhancing students' skills.

Implications for Reproductive Health Education

The significant improvements in both knowledge and BSE ability suggest that integrating video-based health education into school curricula can be an effective strategy for raising awareness about breast cancer and promoting early detection behaviors.

The Theory of Planned Behavior (TPB) by Ajzen (1991) asserts that an individual's intention to perform a behavior (such as BSE) is influenced by three factors: attitudes toward the behavior, subjective norms, and perceived behavioral control. In this case, the intervention aimed to enhance students' attitudes toward BSE by providing knowledge and demonstrating its benefits, while also increasing their perceived control over performing the behavior. TPB suggests that by strengthening these factors, adolescents are more likely to engage in health-promoting behaviors such as BSE.

Hamzah et al. (2020) conducted a study on the impact of multimedia interventions in schools and found that integrating health education into the curriculum significantly improved students' health behaviors. This aligns with the current study, which showed that video-based education was successful in not only improving knowledge but also motivating students to take action regarding BSE. Additionally, Brown et al. (2023) found that using videos in health education helped adolescents better understand health risks and encouraged preventive behaviors, which is consistent with the findings of this study.

It was assumed that integrating video-based education into the school curriculum would lead to improvements in adolescents' health knowledge and behaviors. The positive results from this study support this assumption, suggesting that such educational strategies can be effectively applied in the school setting to improve reproductive health outcomes.

CONCLUSION

Based on the results of this study, it can be concluded that health education through video media is effective in improving the knowledge and ability of SMK Umi Kulsum Banjaran students regarding Breast Self-Examination (SADARI). The pretest results showed low levels of knowledge and skills before the intervention, while the posttest results showed a significant improvement after receiving education through video. The use of video as an educational tool demonstrated its effectiveness in conveying complex information in a visual and engaging way, which aligns with the learning style of adolescents. This indicates that video health education can be an effective means of increasing awareness and skills among adolescents in performing early detection of breast cancer. Therefore, health education videos can be integrated into school curricula as part of efforts to prevent breast cancer in adolescents, with the hope of promoting better early detection behaviors among young women.

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