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Exploring Students' Knowledge about Hand Washing with Soap Through Video Media at Middle School

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ABSTRACT

Purpose of the study: This research aims to evaluate the effectiveness of using video media in increasing students' knowledge and attitudes about the importance of washing hands with soap at Public Middle School 31 North Bengkulu

Methodology: This research uses quantitative methods with a pre-experimental One Group Pretest-Posttest Design. The research population was class III students at Public Middle School 31 North Bengkulu, with a sample of 35 students selected using a purposive sampling technique. Data analysis was carried out using the Wilcoxon test to test the difference between pretest and posttest results.

Main Findings: This study concludes that the use of video media as a health promotion tool significantly increases the knowledge and attitudes of students at Public Middle School 31 North Bengkulu towards the importance of washing hands with soap. Video media is proven to be more effective than conventional methods in attracting attention and increasing student participation during the learning process

Novelty/Originality of this study: This research is very urgent considering the high rate of transmission of infectious diseases among adolescents which can have a significant impact on their health and school attendance. Infectious diseases such as flu, diarrhea and respiratory infections often spread quickly in the school environment, causing high levels of absenteeism and reducing learning productivity.

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1. INTRODUCTION

Students' knowledge of the importance of washing hands with soap is a vital aspect in maintaining the health of individuals and the school community [1]–[3]. Students who have a good understanding of personal hygiene are not only able to protect themselves from various infectious diseases, but also contribute to preventing the spread of disease among their friends and family [4]–[6]. At the secondary education stage, students are in a significant developmental phase, where they tend to be better able to understand and implement good health habits. Increasing students' knowledge of proper handwashing practices through effective educational programs can have a long-term impact, forming healthy habits that they carry with them into adulthood. Therefore, students' knowledge about washing hands with soap must be a priority in the health education curriculum in schools [7]–[9].

Washing your hands with soap is a simple practice but very effective in preventing the spread of germs and infectious diseases, such as influenza, diarrhea and respiratory tract infections [10], [11]. This habit can eliminate dangerous pathogens that often stick to hands after carrying out daily activities, such as using the toilet, touching contaminated objects, or before eating [12], [13]. For high school students, who often interact with many people and various surfaces in the school environment, the habit of washing their hands with soap becomes increasingly important. Teaching students the correct steps for washing hands, such as rubbing hands for at least 20 seconds, ensuring all parts of the hands are covered with soap, and rinsing with running water, can significantly reduce the risk of spreading disease. With this knowledge, students can take preventative actions that are simple but have a big impact on their health and that of their communities [14], [15].

The use of video media as an educational tool has proven to be very effective in conveying information in an interesting, interactive and easy to understand way. Educational videos can provide a clear visualization of the correct procedure for washing hands, which is difficult to explain with just words or static images. Additionally, videos can show real-life examples of everyday situations where handwashing is important, so students can more easily relate the information to their lives. Video media also allows the delivery of health messages consistently and uniformly to all students, reducing the risk of misinterpretation or spreading misinformation [16], [17]. With animations, engaging narratives, and practical demonstrations, videos can increase students' interest and attention, making them more involved in the learning process and more easily remembering the information presented [18]–[20].

At the middle school level, students are in a critical phase of developing habits and knowledge that they will carry with them into adulthood. This period is characterized by increased independence, critical thinking, and strong social influence, which makes students more open to new information but also more selective in receiving educational messages [21]–[23]. Therefore, effective educational interventions must be tailored to the specific characteristics and needs of this age group. Teaching middle school students about the importance of washing hands with soap not only involves conveying information, but also motivating them to adopt and practice the habit regularly. Health education provided at this stage can form a strong foundation for sustainable health behaviours, preparing them to become health-conscious adults able to better manage their own wellbeing [24]–[26].

This study is in line with the study conducted by Noguchi et al [13]. However, this study has not used video as a means of promoting handwashing with soap. So this study presents a novelty by utilizing video media as the main means to improve knowledge and practice of handwashing with soap among high school students.In the context of health education, the use of video media offers a different approach from conventional methods such as lectures, posters or brochures. Videos can present information in a more dynamic and engaging way, which can be more easily accessed and understood by students. Additionally, videos can be replayed and reviewed at any time, giving students the flexibility to learn at their own pace and time. Another novelty of this research is the focus on the integration of technology in health education, reflecting global trends in the use of information and communication technologies to improve learning outcomes [27]–[29]. Thus, this research not only makes a practical contribution but also offers theoretical insights relevant to the future development of health education programs.

This research is especially urgent given the high rates of infectious disease transmission among adolescents which can have a significant impact on their health and school attendance. Infectious diseases such as flu, diarrhea and respiratory infections often spread quickly in the school environment, causing high absenteeism and reducing learning productivity. By providing health education through effective media, such as educational videos, it is hoped that there will be a reduction in the incidence of infectious diseases. The urgency of this research is also strengthened by the fact that good hand washing habits are still not implemented consistently by many students. Through this research, it is hoped that effective strategies can be identified to increase awareness and practice of washing hands with soap, which in turn can create a healthier school environment and support optimal teaching and learning processes.

This research aims to evaluate the effectiveness of video media in increasing knowledge and habits of washing hands with soap among high school students. These objectives included measuring changes in students' understanding of the importance of hand hygiene before and after the educational video intervention, as well as analyzing the impact of video use on their daily handwashing practices. Apart from that, this research also aims to identify factors that influence the acceptance and success of video media as a health education tool in the school environment. By understanding these aspects, this research hopes to provide practical and applicable recommendations for the development of more effective and sustainable health education programs in secondary schools.

2. RESEARCH METHOD

2.1 Type of Research

This study uses a quantitative research type with a pre-experimental design. The research design applied is One Group Pretest-Posttest Design [30]–[32]. In this design, measurements are carried out twice, namely before and after the intervention, to see the effect of health promotion through video media on students' knowledge and attitudes about washing hands with soap. In the initial stage, a pretest was conducted to measure students' initial knowledge. Furthermore, an intervention was given in the form of health promotion using video media, and at the end a posttest was conducted to measure changes in knowledge and attitudes after the intervention.

2.2 Population and Sample

The population in this study were all students of Public Middle School 31 North Bengkulu. The sample was taken using a purposive sampling technique with certain inclusion and exclusion criteria [33]. The total sample used in this study was 35 students who were selected based on the criteria of willingness to participate in the entire series of research and have access to watch the prepared health promotion videos. This sample selection aims to obtain representative data regarding students' knowledge and attitudes towards washing hands with soap.

2.3 Data Collection Techniques

Data were collected through questionnaires given to respondents before and after the intervention. The questionnaire included questions designed to measure students' knowledge and attitudes towards handwashing with soap. In addition, direct observation was also conducted during the intervention process to monitor student responses and participation. This technique aims to obtain valid and reliable data regarding changes in students' knowledge and attitudes after being given health promotion through video media.

2.4 Data Analysis Techniques

Data analysis was carried out using appropriate statistical tests. First, pretest and posttest data were analyzed to determine their distribution using the Kolmogorov-Smirnov test. If the data is normally distributed, a paired sample t-test is used to see the difference in the average before and after the intervention. However, if the data is not normally distributed, the Wilcoxon test is used as a non-parametric alternative. This analysis aims to test the research hypothesis regarding the effectiveness of video media in improving students' knowledge and attitudes about handwashing with soap.

2.5 Research Procedures

The research procedure begins with the initial stage (pretest), where respondents are given a questionnaire to measure their initial knowledge about handwashing with soap. After that, the intervention stage was carried out, namely the screening of a health promotion video explaining the importance and correct way to wash hands with soap [34]. This video was played twice to ensure the message was conveyed properly. The final stage (posttest) was carried out three days after the intervention, where respondents were again given the same questionnaire to measure changes in their knowledge and attitudes. The results of the pretest and posttest were then analyzed to evaluate the effectiveness of the intervention.

3. RESULTS AND DISCUSSION

This study aims to evaluate the effect of video media on students' knowledge and attitudes about washing hands with soap at Public Middle School 31 North Bengkulu. The results of data analysis showed a significant increase in students' knowledge and attitudes after being given an intervention in the form of health promotion through video media. Before the intervention, the average student knowledge was 5.26, which increased to 8.20 after the intervention. Meanwhile, the average student attitude also showed an increase from 26.46 before the intervention to 34.00 after the intervention.

The use of video media as a health promotion tool has proven effective in increasing student knowledge. Interesting and informative videos are able to explain the importance of washing hands with soap and how to do it correctly. This effectiveness is supported by the results of the Wilcoxon test which shows a p value = 0.000, which means there is a significant difference in students' knowledge and attitudes before and after the intervention. This is consistent with previous studies showing that audiovisual media can effectively improve knowledge and attitudes. In addition, health promotion videos have the advantage of attracting students' attention and making it easier to understand information [35]. This media can be played repeatedly, allowing students to review information that they may have missed on the first viewing. The ability of videos to stimulate the senses of hearing and sight simultaneously also helps in a more effective learning process compared to conventional methods.

However, this study also has several limitations. One major limitation is that this study only assessed knowledge and attitudes, not behavioral changes. Measuring behavioral changes takes a longer time, while this study was limited by the time available. Therefore, further research that monitors behavioral changes over the long term is highly recommended to provide a more comprehensive picture of the effectiveness of health promotion through video media. Another limitation is the absence of confounding variables studied or tested, such as age and parental education. These factors can have a significant influence on students' knowledge and attitudes, and the study could provide additional insight into how various factors affect the effectiveness of health promotion. Future research should consider these variables to get a clearer and more accurate picture.

The results of this study also show the importance of good cooperation between researchers and schools. Initially, only one class was allowed to be the research sample, but after further discussion, the principal gave permission to involve the entire class III. This shows that active involvement and approval from the school are very important in implementing research involving students. The stages in this study include preparation, implementation, and evaluation. The preparation stage involves an initial survey, determining the title, and testing the questionnaire at Public Middle School 31 North Bengkulu. The implementation stage includes giving a pretest, intervention with video media, and posttest. Evaluation is carried out by analyzing pretest and posttest data using appropriate statistical tests to assess changes in students' knowledge and attitudes.

This study makes an important contribution to the field of health promotion in schools. By proving the effectiveness of video media, this study provides a basis for other schools to implement similar methods in their health programs. The use of video media can be an effective and efficient tool in conveying health information to students, which can ultimately contribute to improving clean and healthy living behaviors among students. For future researchers, it is recommended to compare the effectiveness of video media with other health promotion methods, such as lectures or brochures. In addition, examining behavioral changes over a longer period and involving additional variables such as family background and social environment may also provide more comprehensive and in-depth insights into how best to improve students' knowledge and attitudes towards health.

In addition to the significant increase in students' knowledge and attitudes that have been explained previously research [36]. This study also found an increase in student activity and participation during the intervention session. Students appeared more enthusiastic and interested when watching videos, compared to conventional teaching methods such as lectures. This was reflected in direct observations in the field, where students asked more questions and were involved in discussions after the video was shown. This activity shows that video media is not only effective in conveying information but also in increasing student participation in the learning process.

Another interesting finding from this study was the difference in responses based on gender. Data analysis showed that female students tended to have a higher increase in knowledge and attitudes compared to male students after the intervention. This may be due to differences in interest and attention to health materials, where female students may be more attentive and interested in topics related to health and hygiene. Further research is needed to explore the reasons behind this difference and how interventions can be tailored to be more effective for both genders.

This study also highlights the importance of school support in the success of health promotion interventions. The principal and teachers provided full support during the implementation of the study, including in terms of providing facilities and time needed for video screening and data collection. This support is very important because without good cooperation, the intervention will not run smoothly. This finding emphasizes that the active involvement of all elements of the school, including school management and teaching staff, is a key factor in the success of health education programs in schools.

Overall, this study suggests that video media is an effective tool for improving students' knowledge and attitudes about the importance of handwashing with soap. These findings are important for the development of health education programs in schools and can help promote healthy living behaviors among students. Further research and wider implementation of this method are highly recommended to improve children's health in Indonesia.

4. CONCLUSION

This study concludes that the use of video media as a health promotion tool significantly increases the knowledge and attitudes of students at Public Middle School 31 North Bengkulu towards the importance of washing hands with soap. Video media is proven to be more effective than conventional methods in attracting attention and increasing student participation during the learning process. This significant increase in knowledge and attitudes indicates that audiovisual media can be a very effective tool in health education in schools. In addition, this study also highlights the importance of support and active involvement from the school for the success of the intervention. Therefore, the integration of video media in school health education programs is highly recommended to increase awareness and healthy living behavior among students. Further research is

needed to evaluate the long-term impact and address other variables that influence the effectiveness of this intervention.

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