

The Effect Of Health Education About Sexually Transmitted Infections Using E-Module Media On Adolescent Knowledge At Sma Mujahidin Pontianak

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ABSTRACT

Background: Sexually Transmitted Infections (STIs) are diseases transmitted through sexual contact that can cause serious complications, especially in women. In Indonesia, the prevalence of STIs including HIV/AIDS remains high. In Pontianak, in 2021 there were 85 HIV cases and 4 AIDS cases, mostly in male patients. Given the high risk of STIs among adolescents, early prevention efforts are essential.

Methods: This study used a pre-experimental design with a one-group pretest-posttest design. Convenience sampling was used with 83 respondents from class XI and XII. Data were collected using a validated questionnaire (15 items, Cronbach's Alpha = 0.857) and analyzed using the Wilcoxon signed-rank test.

Results: The mean pre-test score was 66.75 (SD = 20.424) and post-test score was 93.96 (SD = 5.359). Wilcoxon test showed $Z = -7.764$ and $p\text{-value} = 0.000$ ($p < 0.05$), indicating a significant difference in adolescent knowledge before and after the intervention.

Conclusion: Health education using e-module media is effective in increasing adolescent knowledge about sexually transmitted infections. Schools are recommended to integrate e-modules into their health education programs.

ABSTRAK

Latar Belakang: Infeksi Menular Seksual (IMS) merupakan penyakit yang ditularkan melalui kontak seksual dan dapat menyebabkan komplikasi serius, terutama pada wanita. Di Indonesia, prevalensi IMS termasuk HIV/AIDS masih tinggi. Di Pontianak, pada tahun 2021 tercatat 85 kasus HIV dan 4 kasus AIDS, mayoritas penderitanya berjenis kelamin laki-laki. Mengingat tingginya risiko IMS pada remaja, diperlukan upaya pencegahan sejak dini.

Metode: Penelitian ini menggunakan desain pre-experimental dengan model one-group pretest-posttest design. Teknik convenience sampling digunakan dengan 83 responden dari kelas XI dan XII. Instrumen berupa kuesioner yang telah divalidasi (15 soal, Cronbach's Alpha = 0,857) dan dianalisis menggunakan uji Wilcoxon signed-rank test.

Hasil: Nilai rata-rata pre-test sebesar 66,75 (SD = 20,424) dan post-test sebesar 93,96 (SD = 5,359). Uji Wilcoxon menunjukkan $Z = -7,764$ dan $p\text{-value} = 0,000$ ($p < 0,05$), yang berarti terdapat perbedaan pengetahuan remaja yang signifikan sebelum dan sesudah intervensi.

Kesimpulan: Pendidikan kesehatan dengan media e-modul efektif dalam meningkatkan pengetahuan remaja tentang infeksi menular seksual. Sekolah disarankan untuk mengintegrasikan e-modul dalam program pendidikan kesehatan yang ada.

ARTICLE INFO

Article history: **Submitted:** 2026-04 **Revised:** 2026-05 **Accepted:** 2026-06

Keywords: Health Education; Knowledge; Sexually Transmitted Infections; Adolescents; E-module Media

How to cite:

Cahyani, F. D., Fajrin, D. H., & Yulianti, E. (2026). The Effect Of Health Education About Sexually Transmitted Infections Using E-Module Media On Adolescent Knowledge At Sma Mujahidin Pontianak. AFIYATUN: Journal of Health Sciences, 2(2), 53–57.

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INTRODUCTION

Sexually Transmitted Infections (STIs) are infections that can be transmitted through sexual intercourse, both vaginal, anal, and oral. This infection is caused by bacteria, viruses, and parasites that can infect the genitalia area and its surroundings. STIs are still one of the world's leading causes of death and are a serious reproductive health problem (Hazra et al., 2022).

In Indonesia, the prevalence of STIs, including HIV/AIDS, is still high. Data for 2022 recorded 36,665 people with HIV, of which 71% were men. The most age group is in the range of 25–49 years.

In Pontianak City, in 2021 there were reported 85 HIV patients and 4 cases of AIDS. Based on age groups, preventive education is needed from adolescence considering that adolescents have a curious nature of new things and are at risk of unsafe sexual behavior (SIHA Kemkes, 2022; Dareda et al., 2021).

Early prevention of STIs in adolescents is very important, considering the long-term impact in the form of reproductive health damage, infertility, and stigmatization. Health education through electronic media such as e-modules is one of the approaches that is relevant to the lifestyle of modern adolescents and has been proven effective in various studies (Erdi & Padwa, 2021; Lidayni et al., 2022). SMA Mujahidin Pontianak, which is located in the South Pontianak area, was chosen as the location of the research considering the reports of cases of online prostitution of teenagers in the region (Novembriany, 2019).

Based on this background, this study aims to analyze the influence of health education about STIs with e-module media on adolescent knowledge at SMA Mujahidin Pontianak.

METHOD

Types of Research

This study uses a pre-experimental design with a one-group pretest-posttest design model.

Research Location and Time

The research was conducted at SMA Mujahidin Pontianak on August 1–2, 2024.

Population and Sample

The population is all students in grades XI and XII which totals 499 people. The sample size was calculated using the Slovin formula with a margin of error of 10%, obtained by 83 respondents. The sampling technique uses convenience sampling with inclusion criteria: willing to be a respondent, able to communicate well, and present during the study.

Data Collection

Data collection was carried out using a likert scale questionnaire and employee Rank Sequence List as of April 2017. The statement on the questionnaire is in the form of a positive/*favorable statement* with five answer choices, namely a score of 5 for a very agreeable choice of answer, a score of 4 for a choice of unagreeable answer, a score of 3 for a choice of disagreeable answer, a score of 2 for a choice of unpleasant answers, and a score of 1 for a very unpleasant choice of answer.

The questionnaire was tested for validity with *Product Moment Correlation* and the reliability test was carried out with the Cronbach Alpha Coefficient Technique. The initial questionnaire amounted to 33 items, after the validity test was carried out, only 26 items were declared valid and 7 items were declared invalid. An item that is invalid because it has a calculated value of r lower than the r of the table, which is 0.339. The range of validity test results is between 0.352 – 0.725. Invalid statements are removed from the list before reliability testing is performed. Reliability tests were performed on 26 items and based on the test results all statements were declared reliable with a calculated r -value greater than the r -table value. All statements are declared reliable with the results of the *Alpa Cronbach statistical test* with a value range between 0.668 – 0.706.

Data Processing and Analysis

The intervention was carried out by sending an e-module link to students through the school admin intermediary. Data analysis used univariate analysis to describe respondent characteristics, and bivariate analysis using the Wilcoxon signed-rank test after normality test showed data not normally distributed ($p < 0.05$). This research has obtained research ethics from related institutions.

RESEARCH RESULTS

The results of the Chi Square test on the lecturer's characteristic variables can be seen in the table below:

Table 1. Frequency Distribution Based on Respondent Characteristics (n=83)

Characteristics	n	Percent (%)
Age		
15 – 18 years	83	100
Gender		
Male	53	63.9
Female	30	36.1
Grade		
XI	67	80.7
XII	16	19.3

Based on Table 1, all respondents (100%) were aged 15–18 years. Most of them were females as many as 53 people (63.9%), and most of them came from class XI as many as 67 people (80.7%).

Table 2. Pre-test and Post-test Score Analysis (n=83)

Research Variables	Mean	Median	Min	Max	SD
Pre-test	66.75	73.00	13	93	20.424
Post-test	93.96	93.00	80	100	5.359

Based on Table 2, the average pre-test score is 66.75 (SD = 20.424) with a minimum score of 13 and a maximum of 93. After being provided with health education with e-module media, the average post-test score increased to 93.96 (SD = 5.359) with a minimum score of 80 and a maximum of 100.

Table 2. Wilcoxon Signed-Rank Test Results (n=83)

Research Variables	N	Mean Rank	Z	p-value
Pre-test – Post-test (Negative Ranks)	1	24.00	-7.764	0.000
Pre-test – Post-test (Positive Ranks)	81	41.72		
Ties	1			
Total	83			

Based on Table 3, the Wilcoxon test showed a value of $Z = -7.764$ and $p\text{-value} = 0.000$ ($p < 0.05$), so that the research hypothesis was accepted: there was a significant difference in adolescent knowledge before and after being given health education with e-module media.

DISCUSSION

Before the intervention was given, the level of adolescent knowledge about STIs was in various categories with an average score of 66.75. This is in line with research that shows that most adolescents have sufficient but inadequate basic knowledge about reproductive health, considering that the information they receive is still limited and not well structured (Setiawati et al., 2022).

After being given health education using e-module media, the average score increased significantly to 93.96. This is in line with previous research that states that e-module media allows adolescents to access information repeatedly and independently, increasing understanding of the material (Kuswardinah, 2020). The advantage of electronic media is its engaging and interactive

presentation, including text, animated images, and videos, which is more relevant for adolescents in the digital era (Herawati & Muhtadi, 2018).

HaWilcoxon's test sil showed a value of $Z = -7.764$ and $p = 0.000$, which means that there is a significant influence of health education with e-module media on adolescent knowledge. These findings are consistent with the research of Sulastrri & Astuti (2020) which proves that health education interventions significantly improve adolescents' knowledge and attitudes about reproductive health and sexually transmitted diseases. Research by Setiawati et al. (2022) also states that the use of digital media in health education has proven to be effective compared to traditional methods.

The limitation of this study is that the filling out of the questionnaire is carried out indirectly through the intermediary of the school admin, so it cannot be ascertained whether the respondents' answers are pure without the help of other parties. In addition, pre-experimental designs without control groups limit the ability to definitively infer cause-and-effect relationships.

CONCLUSIONS AND SUGGESTIONS

Health education with e-module media was effective in increasing adolescents' knowledge about sexually transmitted infections at SMA Mujahidin Pontianak, as evidenced by an increase in the average score from 66.75 to 93.96 and a p value = 0.000 on the Wilcoxon test.

For schools, it is recommended to integrate this e-module into existing health education programs. For subsequent researchers, it is recommended to use a research design with a control group and a more monitored questionnaire filling method to improve the internal validity of the study.

Author's Contribution Statement:

Febby Dwi Cahyani: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing – Original Draft. **Dessy Hidayati Fajrin:** Conceptualization, Methodology, Supervision, Writing – Review & Editing. **Emy Yulianti:** Methodology, Investigation, Writing – Review & Editing, Validation.

Conflicts of Interest: The authors declare that they have no conflicts of interest that could have influenced the impartiality of this research.

Source of Funding Statements: This research was self-funded by the authors. The funding source had no involvement in the design, execution, analysis, or manuscript preparation.

Acknowledgments: The authors thank the Principal and staff of SMA Mujahidin Pontianak for permission and assistance during data collection, and to all respondents who voluntarily participated in this research.

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