



EFFECTIVENESS OF AUDIO-VISUAL-BASED HEALTH EDUCATION IN IMPROVING ADOLESCENTS KNOWLEDGE OF HIV/AIDS

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ABSTRACT

Globally, the number of HIV/AIDS cases remains high, while in Indonesia the disease continues to be a serious public health problem. This situation is particularly evident in Sorong City, West Papua Province, which continues to record a relatively high number of cases. Given these conditions, researchers are interested in studying the impact of audio-visual health education on adolescents' knowledge of HIV/AIDS as an effort to support the prevention of infectious diseases among the younger generation. This Study aimed to determine the effect of audio-visual-based health education on adolescents knowledge of HIV/AIDS at SMK Negeri 5 Sorong City. This pre-experimental design with one group pretest-posttest. The sampel comprised 54 students selected with total sampling teqnique. Data were collected using an HIV/AIDS knowledge questionnaire administered before and after an audio-visual based health education intervention. Data were analyzed using the Wilcoxon signed rank test. This study showed that before intervention adolescents level knowledge varied, with the majority categorized as having poor knowledge (51,9%). After the audio visual health education was conducted good knowledge increased to 88,9%. Analysis using the Wilcoxon signed-rank test p-value of 0.00 (<0.05) indicating a significant effect of the intervention. The study concluded that audio-visual-based health education significantly improved adolescents' knowledge about HIV/AIDS at SMK Negeri 5 Sorong City.

Keywords: adolescents; audio-visual method; HIV/AIDS knowledge

How to Cite (in APA Style)

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INTRODUCTION

Human Immunodeficiency Virus (HIV) is a virus that attacks white blood cells and causes a decline in the immune system in humans. Meanwhile, Acquired Immunodeficiency Syndrome (AIDS) is a collection of symptoms that arise due to a decrease in the body's immunity due to HIV infection (Ministry of Health of the Republic of Indonesia, 2020). According to the World Health Organization (2023), several regions of the world have reported high percentage of people living with HIV, in Africa (25.6 million), America (3.8 million), Europe (3.0 million), the Mediterranean (490,000 people), the West Pacific (2.2 million people), Southeast Asia (3.9 million), with a total of 39.0 million cases globallu, and Indonesia is ranked 5th (five) in the world for HIV cases.

According Ministry of Health of the Republic of Indonesia (2020), the prevalence HIV cases in Indonesia reached 36,665 people. WHO (2023), reported an increase in the number of new HIV cases by 8.20% in 2023, with a total of 57,299 positive cases. Globally, approximately 40.8 million people living with HIV/AIDS in 2024, and around 630,000 new cases were reported worldwide HIV/AIDS (UNAIDS, 2025). In Indonesia, the total number of PLHIV (HIV) cases reported until June 2024 was 598,271 people, while the total number of AIDS cases reported until June 2024 was

168,263 people. The discovery of HIV cases increased to 31,564 from January to June 2024, and AIDS cases increased to 9,133 (Ministry of Health of the Republic of Indonesia, 2024). The incidence of HIV infection among adolescents has increased over the past five years, with a prevalence rate of 35% or approximately 480,000 cases among individuals aged 10–24 years, and 140,000 cases among those aged 10–19 years (UNAIDS, 2025). In Sorong City, there were 4,016 reported HIV/AIDS cases from 2004 to December 2024, with the highest number of cases in Sorong Manoi District, comprising, with 1,210 cases in males and 1,715 cases in females.

HIV and AIDS can be transmitted through several bodily fluids, including blood, semen, pre-ejaculatory fluid, vaginal secretion, anal secretion, and breast milk (Rudgard et al., 2023; Sinulingga & Waluyo, 2021). Adolescents are particularly vulnerable to risk behaviors such as unsafe sexual activity, drug use, and limited access to health information (RisKesdas, 2018). Based on preliminary interviews at SMK Negeri 5 Sorong City, most students lacked understanding of the definition, modes of transmission, and prevention of HIV/AIDS. This situation is compounded by the limited provision of health education in schools.

Therefore, engaging and comprehensible educational methods are required to ensure that health messages are effectively conveyed to adolescents. One method proven effective in improving knowledge is health counseling using audio-visual media. Previous studies have shown that audio-visual methods can significantly enhance adolescent understanding because they combine auditory and visual stimuli, which facilitate better comprehension (Mayasari Putri et al., 2024; Rochadi & Lubis, 2019). This study aimed to determine the effect of audio-visual based health on adolescent knowledge about HIV/AIDS at SMK Negeri 5 Sorong City, as part of effort to support the prevention of infectious diseases among the younger generation.

METHOD

This study employed a quantitative approach using a pre-experimental design with a one-group pretest–posttest model to examine the effect of audio-visual-based health education on adolescents' knowledge about HIV/AIDS at SMK Negeri 5 Sorong City. The study population consisted of 54 grade XI students, all of whom were included as the study sample using a total sampling technique. The research instrument was an HIV/AIDS knowledge questionnaire adapted from Setiyorini (2019). The instrument's validity and reliability were tested, yielding a Cronbach's alpha coefficient of 0.955, indicating excellent reliability. Data were collected through pretests and posttests, following the delivery of health education using audio-visual media. Data analysis was performed using univariate analysis to describe respondents' characteristics and bivariate analysis using the Wilcoxon signed-rank test to determine the effect of the intervention on improving adolescents' knowledge about HIV/AIDS.

RESULT

Table 1, it was found that among the 54 respondents at SMK Negeri 5 Sorong City, the majority were male (30 respondents, 55.6%), while female respondents totaled 24 (44.4%). In terms of age distribution, most respondents were 17 years old (24 respondents, 44.4%), followed by 16 years old (22 respondents, 40.7%), 15 years old (6 respondents, 11.1%), and the smallest group was 19 years old (2 respondents, 3.7%). The level of adolescent knowledge before the intervention (pretest) showed that most respondents had poor knowledge (28 respondents, 51.9%), followed by moderate knowledge (23 respondents, 42.6%), and only 3 respondents (5.6%) demonstrated good knowledge. After the audio-visual-based health education (posttest), a significant improvement was observed: good knowledge increased to 48 respondents (88.9%), moderate knowledge was reported in 6 respondents (11.1%), and no respondents (0%) remained in the poor knowledge category.

Table 1.
Frequency Distribution of Respondent Characteristics

Characteristics	f	%
Gender		
Male	30	55.6
Women	24	44.4
Age		
15 Years	6	11.1
16 Years	22	40.7
17 Years	24	44.4
19 Years	2	3.7
Pretest Knowledge		
Lack of Knowledge	28	51.9
Sufficient Knowledge	23	42.6
Good Knowledge	3	5.6
Posttest Knowledge		
Lack of Knowledge	0	0
Sufficient Knowledge	6	11.1
Good Knowledge	48	88.9

Table 2.
Data Normality Test Based on Before and After Health Education

Knowledge	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.183	54	.000	.830	54	.000
Posttest	.176	54	.000	.916	54	.001

Based on Table 2, the results of the normality test show that the p -values were 0.000 and 0.001, both of which are less than the significance level ($\alpha < 0.05$). This indicates that the data were not normally distributed. Therefore, the researchers used a nonparametric test, specifically the Wilcoxon Signed-Ranks Test, to test the hypothesis.

Table 3.
The Effect of Audio-Visual Health Education on Adolescents' Knowledge of HIV/AIDS

Knowledge	N	Mean Rank	Sum of Ranks	Sig.
Posttest	0 ^a	.00	.00	
Pretest	54 ^b	27.50	1485.00	0,001
Ties	0 ^c			

Table 3, it can be seen that after the implementation of health education using audio-visual media, there was an increase in knowledge among all 54 respondents. None of the respondents experienced a decrease or no change in knowledge. The results of the nonparametric statistical analysis using the Wilcoxon Signed-Ranks Test showed a significance value ($p = 0.001$; $< \alpha = 0.05$), indicating that alternative hypothesis is accepted and null hypothesis is rejected. There is a significant effect of health education using audio-visual methods on adolescents' knowledge about HIV/AIDS at SMK Negeri 5 Sorong City in 2025.

DISCUSSION

Based on the results of the Wilcoxon signed-rank test, there was a significant effect of audio-visual media health education on adolescent knowledge about HIV/AIDS at SMK Negeri 5 Sorong City with a p -value of 0.00 (< 0.05), among the 54 respondents, an overall increase in knowledge was observed across the categories of poor and moderate knowledge. The findings indicated that 88.9% of adolescent achieved a good level of knowledge after the intervention, demonstrating that the audio-visual method in improving adolescents about HIV/AIDS.

This study is consistent with the findings of Ratnawati et al., (2024), who reported that audio-visual interventions (educational videos/animations/guided narratives) were effective in enhancing adolescents' knowledge regarding the definition, transmission methods, prevention, and common misconceptions about HIV/AIDS. This result are further supported by Putri et al., (2024), whose research findings explain the influence of audio-visual interventions on adolescents' knowledge. Moreover, health promotion delivered through brochures and audio-visual media is very effective in improving knowledge and attitudes towards the dangers of HIV/AIDS among adolescents.

Delivering information through dual channels (visual and auditory) facilitates the formation of mutually reinforcing verbal and pictorial representations, thereby enhancing comprehension and retention. Good audiovisual design (clear structure, appropriate duration, contextual language, and focused messaging) maximizes the process of selecting, organizing, and integrating information, making it easier for adolescent participants to grasp concepts related to HIV/AIDS (Mayer, 2024).

Adolescents' knowledge about HIV/AIDS has often been limited due to widespread myths and social stigma. After providing education using audiovisual media in the form of educational videos, animations, and narratives, knowledge scores significantly increased (Ratnawati et al., 2024). Similarly a literature review conducted by Amaugo et al. (2014), reported that sexual health education programs aimed at HIV/AIDS led to significant improvements in adolescents knowledge and attitudes toward HIV/AIDS.

Effective HIV/AIDS prevention requires educational interventions within school settings to enhance adolescents' knowledge and awareness. School-based education programs addressing sexually transmitted infections (STIs), HIV, and early pregnancy prevention have been shown to significantly improve students' knowledge levels (Fauk et al., 2017; Mumtaz et al., 2020). Furthermore Rahman et al. (2022), emphasized that to strengthen adolescents' knowledge and attitudes regarding HIV/AIDS prevention, transmission, and treatment, continuous health education initiatives within the adolescent environment are essential.

CONCLUSION

Based on the research findings, it was revealed that before receiving audio-visual-based health education, most adolescents at SMK Negeri 5 Sorong City had insufficient to moderate knowledge about HIV/AIDS. After the intervention using audio-visual media, the level of adolescents' knowledge increased to the good and moderate categories, indicating that this medium was effective in delivering health information. The study demonstrated a significant effect of audio-visual-based health education on adolescents' knowledge about HIV/AIDS.

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