

The Effectiveness of Video and Leaflet Media in Increasing Self-Efficacy and Knowledge about HIV/AIDS Prevention

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ABSTRACT

HIV/AIDS remains a health problem for adolescents who are vulnerable to risky behaviors due to lack of knowledge and low self-efficacy. This study analyzed the effectiveness of video and leaflet media in improving adolescent self-efficacy and knowledge using a quasi-experimental design with a sample of 254 adolescents divided into two groups. The results showed that both media significantly increased self-efficacy ($p=0.000$) and knowledge ($p=0.000$), with the video group showing a greater increase than the leaflet group. Overall, although both videos and leaflets were equally effective, videos proved superior in improving adolescent understanding and confidence regarding HIV/AIDS prevention.

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INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) remain global public health issues requiring intensive attention. The UNAIDS 2024 report estimates that 40.8 million people are living with HIV globally, with approximately 1.3 million new infections and 630,000 AIDS-related deaths each year (1). Although various prevention and treatment programs have been implemented, the high rate of new infections indicates that education and behavioral changes in prevention have not achieved optimal results. Adolescents are a particularly vulnerable group to HIV transmission because they are at a developmental stage characterized by high curiosity, strong peer influence, and limited knowledge and confidence in avoiding risky behaviors. Therefore, increasing knowledge and self-efficacy through health promotion activities is a crucial step in shaping more effective HIV/AIDS prevention behaviors among adolescents.

In Indonesia, HIV/AIDS remains a public health issue requiring serious attention. Data from the Central Statistics Agency (BPS) in 2026 recorded 63,297 new cases of HIV/AIDS throughout 2025 (2). This high figure indicates that HIV/AIDS prevention and control efforts still need to be strengthened. Adolescents are a group that is vulnerable to HIV transmission, primarily due to limited knowledge about HIV/AIDS and

low self-efficacy in avoiding risky behaviors. This situation emphasizes the need for effective health education to increase adolescents' knowledge and self-efficacy in implementing HIV/AIDS prevention behaviors.

Gorontalo Province still faces serious challenges related to HIV/AIDS. Data from the Gorontalo Province Central Statistics Agency (BPS) in 2025 showed 264 new cases spread across various districts/cities (BPS). Meanwhile, a report from the Gorontalo Provincial Health Office noted that between November 2025 and March 2026, there were 83 new cases, consisting of 63 HIV cases and 20 AIDS cases. Of these, the 15–24 age group accounted for 34 cases, confirming that adolescents and young adults are vulnerable to HIV/AIDS transmission. Overall, from 2001 to March 2026, the number of HIV/AIDS cases in the region reached 1,538 (3). This situation highlights the importance of strengthening HIV/AIDS prevention efforts among adolescents through health education that can increase knowledge and self-efficacy in implementing preventive behaviors.

Based on observations and interviews with high school students in Gorontalo Regency, it was found that students still have low self-efficacy in preventing risky behavior that can lead to HIV/AIDS transmission. Of the 20 students interviewed, 13 of them had not mastered basic knowledge about HIV/AIDS. In addition, guidance and counseling teachers explained that schools do not yet have special facilities such as the Youth Information and Counseling Center (PIK-R), which serves as a place for education, counseling, and guidance on reproductive health and the prevention of risky behavior. The lack of education about HIV/AIDS in schools' results in students not receiving sufficient information about preventive measures.

An interview with a teacher also revealed that student behavior is influenced by various factors, including lack of parental supervision, promiscuity outside the home, and environmental and peer influences. These factors can increase the risk of risky behavior in adolescents. Therefore, effective health promotion efforts are needed to increase students' knowledge and self-efficacy in implementing HIV/AIDS prevention behaviors.

Adequate knowledge about HIV/AIDS plays a crucial role in helping adolescents understand the modes of transmission, risk factors, impacts, and preventive measures, thereby reducing the likelihood of engaging in risky behaviors. Clear, easy-to-understand information also increases adolescents' awareness of the importance of maintaining their health (4). Furthermore, self-efficacy, the belief in one's ability to take appropriate action, also influences preventive behavior. Adolescents with high self-efficacy are better able to control themselves, resist negative influences, and maintain healthy behaviors. Therefore, increasing knowledge and self-efficacy is a crucial aspect in encouraging HIV/AIDS prevention behaviors in adolescents (5).

One way to increase adolescents' knowledge and self-efficacy regarding HIV/AIDS prevention is through health promotion using educational media tailored to their characteristics. Videos have the advantage of presenting information in an audiovisual format, making it more engaging, easier to understand, and memorable. Meanwhile, leaflets, as printed media, provide concise, structured information that can be read repeatedly. The use of these two media is expected to strengthen the effectiveness of delivering health information, including HIV/AIDS prevention, to adolescents (6).

Various studies have shown that health education media play a crucial role in improving adolescents' knowledge and behavior regarding HIV/AIDS prevention. Another study demonstrated that knowledge and the need for information about HIV/AIDS are crucial factors in HIV/AIDS prevention efforts among adolescents (3). The results of this study confirm that providing accurate information can improve adolescents' understanding of transmission methods, risk factors, and HIV/AIDS prevention efforts. Furthermore, another study found that video and leaflet media were effective in increasing knowledge about HIV/AIDS, with leaflets showing a higher increase in knowledge than video media (7). Similar results were also reported (8), who showed that education through video and leaflet media significantly increased adolescents' knowledge about HIV/AIDS in Muaragembong District.

Although various studies have demonstrated the effectiveness of video and leaflet media in increasing knowledge about HIV/AIDS, most of these studies have focused on the knowledge aspect and have not examined the influence of these two media on adolescents' self-efficacy in implementing HIV/AIDS prevention behaviors. Furthermore, research directly comparing the effectiveness of video and leaflet media on increasing self-efficacy and knowledge about HIV/AIDS prevention behaviors among high school students is still limited, particularly in Gorontalo Province. Based on this description, this study aims to analyze the effectiveness of video and leaflet media in increasing self-efficacy and knowledge about HIV/AIDS prevention behaviors among high school students in Gorontalo.

RESEARCH METHODS

This study uses a quantitative design with an analytical observational method through a quasi-experimental approach, with a non-equivalent pretest-posttest group design. In this design, respondents were divided into two experimental groups, each of which was given a pre-test, then given education about HIV AIDS using video media and leaflet media. The research sample was taken as many as 254 students using a simple random

sampling technique, namely random sampling by giving each member of the population an equal opportunity to be selected as a respondent. The data obtained were analyzed using the Paired T-Test test, and to determine the difference between the video media and leaflet media groups using the Independent T-Test with a significance level of $\alpha = 0.05$.

RESULT

Table 1. Respondent Characteristics Based on Gender and Age

Repondent Characteristics	Grade X		Grade XI		Total	
	N	%	N	%	N=254	%
Gender						
Male	54	21,3	60	23,6	114	44,9
Female	67	26,4	73	28,7	140	55,1
Age						
15	14	5,5	18	7,1	32	12,6
16	67	26,4	72	28,3	139	54,7
17	40	15,7	43	17	83	32,7

Source: primary data, 2023

Table 1 shows that of the 254 respondents, 55.1% were female (n=140), while 44.9% were male (n=114). Based on age, the sample age range was 15-17 years, with the largest age group being 16 years old, with 139 students (54.7%).

Table 2. Self-efficacy before and after treatment

Category	Pre-test		Post-test	
	n = 127	%	n = 127	%
Video				
High	24	18,9%	127	100%
Medium	103	81,1%	0	0%
Leaflet				
High	19	14,9%	100	78,7%
Medium	108	85,1%	27	21,3%

Source: primary data, 2023

Table 2 shows a striking change in self-efficacy between respondents before and after the intervention. Before the intervention, most respondents were in the moderate category (103), while only 24 respondents were in the high category. However, after the intervention, all respondents showed improvement and moved into the high category. Table 2 shows that before the intervention, most respondents had moderate self-efficacy (85.1%), while only 14.9% were in the high category. However, after receiving the leaflet, self-efficacy increased to 78.7% in the high category.

Table 2. Knowledge before and after treatment

Category	Sebelum		Sesudah	
	n = 127	%	n = 127	%
Video				
Great	9	7%	127	100%
Poor	118	93%	0	0%
Leaflet				
Great	13	10,2%	97	76,3%
Poor	114	89,7%	30	23,6%

Source: primary data, 2023

Table 3 shows that before being given the educational video treatment, 118 respondents (93%) had insufficient knowledge. However, after being given the educational video treatment, all respondents had good

knowledge. Meanwhile, for the leaflet treatment, most respondents (89.7%) had insufficient knowledge before being given the leaflet. However, after being given the educational leaflet treatment, 97 respondents had high knowledge about HIV/AIDS.

Table 4. Increased of Self Efficacy & Knowledge Before and After Giving Video and Leaflet Treatment

Self-Efficacy		Mean $\pm$ SD	<i>p-value</i>
Video	<i>Pre-test</i>	28,51 $\pm$ 1,495	0,000
	<i>Post-test</i>	35,91 $\pm$ 1,759	
Leaflet	<i>Pre-test</i>	28,36 $\pm$ 1,412	0,000
	<i>Post-test</i>	34,35 $\pm$ 2,087	
Knowledge		Mean $\pm$ SD	<i>p-value</i>
Video	<i>Pre-test</i>	10,06 $\pm$ 1,675	0,000
	<i>Post-test</i>	14,11 $\pm$ 1,726	
Leaflet	<i>Pre-test</i>	9,76 $\pm$ 1,776	0,000
	<i>Post-test</i>	12,11 $\pm$ 1,524	

Source: primary data, 2023

Table 4 presents a comparison of the Mean $\pm$ SD values before and after the intervention in the Video and Leaflet groups. In the Video group, there was a significant increase in the average score from 28.51 $\pm$ 1.495 to 35.91 $\pm$ 1.759 with a *p-value* = 0.000. A significant increase was also found in the Leaflet group, where the average score increased from 28.36 $\pm$ 1.412 to 34.35 $\pm$ 2.087 (*p* = 0.000). Descriptively, the Video group showed a slightly higher final post-test score than the Leaflet group. In the Video group, there was a significant increase in knowledge, where the average score changed from 10.06 $\pm$ 1.675 to 14.11 $\pm$ 1.726 (*p* = 0.000). A significant increase in knowledge was also seen in the Leaflet group, with the average score increasing from 9.76 $\pm$ 1.776 to 12.11 $\pm$ 1.524 (*p* = 0.000). Descriptively, the Video group showed a higher increase in knowledge scores than the Leaflet group.

Table 5. Differences in Self-Efficacy and Knowledge Improvement Using Videos and Leaflets

Self-Efficacy	Mean	<i>p-value</i>
Video	89,26	0,000
Leaflet	85,66	
Knowledge	Mean	<i>p-value</i>
Video	93,97	0,000
Leaflet	80,97	

Source: primary data, 2023

In table 5, based on the Independent T-test (*p* < 0.05) to determine the difference in the increase in respondents' self-efficacy through video and leaflet media, it can be seen that the highest average score for increasing self-efficacy was in the video group and the lowest score was in the leaflet group. Meanwhile, for Knowledge, the highest average score for increasing knowledge was in the video group and the lowest score was in the leaflet group. It can be seen that the *p-value* is 0.000, thus there is a significant difference (*p* > 0.05) between the video and leaflet groups.

DISCUSSION

The results of this study indicate a significant increase in self-efficacy and knowledge after health education using video media. This is evident from the increase in the average self-efficacy and knowledge scores in the video group after the intervention compared to before the intervention. These results align with research by (9), which showed that animated videos were more effective than print media in increasing adolescents' knowledge about HIV/AIDS. A better understanding leads to increased confidence (self-efficacy) in implementing preventive behaviors. These findings are also supported by research by (10), which demonstrated that video media is effective in increasing adolescents' knowledge about HIV/AIDS. Therefore,

video media can be used as a health promotion medium to increase adolescents' knowledge about HIV/AIDS prevention.

The results of this study indicate an increase in adolescents' self-efficacy and knowledge after health education using leaflets. These findings align with research conducted by (11), which found that reproductive health education for adolescents can increase self-efficacy in preventing HIV-related risk. Therefore, the results of this study indicate that leaflets are an effective health education tool for increasing adolescent self-efficacy, as they can strengthen knowledge and foster self-confidence in implementing appropriate and sustainable HIV/AIDS prevention efforts (12). These findings are also supported by research by (13), who found that providing education through e-leaflets significantly increased adolescent knowledge about HIV/AIDS.

The results indicate a difference in effectiveness between video and leaflets in increasing adolescent self-efficacy and knowledge about HIV/AIDS prevention. This difference in effectiveness may be influenced by the characteristics of each medium in conveying information about HIV/AIDS. Video media can present information audiovisually through a combination of moving images, sound, and illustrations, making it more engaging for adolescents and facilitating their understanding of HIV/AIDS transmission and prevention. Both video and leaflets are effective in HIV/AIDS health education. However, based on the results of this study, leaflets demonstrated greater effectiveness in increasing adolescents' self-efficacy and knowledge about HIV/AIDS prevention.

CONCLUSION

This study shows that health education using video and leaflet media is effective in increasing adolescents' self-efficacy and knowledge about HIV/AIDS prevention. In the video group, the average self-efficacy increased from 28.51 to 35.91 and knowledge increased from 10.06 to 14.11. Meanwhile, in the leaflet group, the average self-efficacy increased from 28.36 to 34.35 and knowledge increased from 9.76 to 12.11. The results of statistical tests showed that both media had a significant effect on increasing adolescents' self-efficacy and knowledge ($p < 0.05$). However, video media provided a higher increase than leaflet media. Thus, it can be concluded that video media is more effective than leaflet media in increasing adolescents' self-efficacy and knowledge about HIV/AIDS prevention.

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