

DIFFERENCES IN THE EFFECTIVENESS OF HEALTH PROMOTION MEDIA BETWEEN LEAFLET AND POWERPOINT ON THE LEVEL OF ADOLESCENTS' KNOWLEDGE ABOUT HIV/AIDS

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Article Information

Received:
February 05, 2025

Revised:
May 15, 2025

Accepted:
June 02, 2025

Abstract

The high number of HIV/AIDS infections that continue to increase, especially among young people or teenagers, makes this a serious problem. Therefore, efforts are needed to increase adolescent knowledge about HIV/AIDS, one of which is through health promotion. The purpose of this study was to determine the difference in the effectiveness of health promotion media between leaflets and powerpoint on the level of adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap. The research method used was pre-experimental with a two-group pre-test post-test design. Sampling with a total sampling of 116 respondents. Based on the results of the study, the average knowledge after being given health promotion about HIV/AIDS with leaflet media was 18.05 while with powerpoint media it was 18.60. The Mann Whitney test results obtained a p-value of 0.028 smaller than 0.05 ($0.028 < 0.05$) which means there is a difference in the effectiveness of health promotion media between leaflets and powerpoint. The use of powerpoint media is more effective than leaflet to increase adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap. It is hoped that health workers will contribute more to health promotion in schools so that they can reduce HIV/AIDS cases in Indonesia.

Keywords: Leaflet, Health promotion, HIV/AIDS, Powerpoint, Teenagers.

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1. Introduction

Human Immunodeficiency Virus (HIV) is a group of retroviruses, viruses that have enzymes (proteins) that can change Ribonucleic Acid (RNA), its genetic material into Deoxyribo Nucleic Acid (DNA). HIV causes disease primarily by damaging the human immune system. While Acquired Immune Deficiency Syndrome (AIDS) is a collection of symptoms of disease that attack the human body after the immune system is damaged by the HIV virus. HIV/AIDS has caused concern in various

parts of the world. HIV/AIDS is also an international problem because in a relatively short time there has been an increase in the number of patients and is increasingly affecting many countries. The high number of cases of HIV/AIDS infection that continues to increase, especially among young people or adolescents, makes this a serious problem. Therefore, efforts are needed to increase adolescent knowledge about HIV/AIDS correctly from an early age so that the number of HIV/AIDS sufferers in

adolescents does not continue to increase [1].

In response to this phenomenon, the government has participated by issuing the Indonesian Minister of Health Regulation Number 21 of 2013 in Article 10 paragraph 1 by means of health promotion to increase comprehensive knowledge regarding the prevention of HIV transmission and the Decree of the Indonesian Minister of Health Number HK.01.07/Menkes/90/2019 concerning the National Guidelines for HIV Management Medical Services. In addition, the Indonesian government is trying to achieve the third goal of the Sustainable Development Goals (SDGs), namely to achieve health and well-being for all people. To achieve this holistic goal, one of the targets is to end the AIDS epidemic as a threat to Indonesian public health in 2030 [2].

Providing education about HIV/AIDS to the general public is one solution to increase awareness, understanding and change attitudes regarding the prevention of HIV/AIDS transmission and encourage them to care more about their own health and the surrounding environment. This knowledge can strengthen their role as agents of change who are able to disseminate knowledge about HIV/AIDS to the surrounding community, especially among adolescents to their peers, so that it will have an impact on reducing the number of HIV/AIDS sufferers and creating a healthier and safer environment for future generations. Adolescents are the group that is most physically and psychologically vulnerable to HIV infection, so adolescents are the focus of all strategies to overcome the spread of the HIV/AIDS virus. In efforts to prevent and control HIV/AIDS, it is necessary to disseminate knowledge about HIV/AIDS, especially to adolescent groups in schools. Providing information or increasing knowledge can be done through health promotion because health promotion is essentially an activity to convey health messages to the community, groups or individuals [1].

Based on WHO data in 2021, 650,000 people died due to being infected with HIV and 1.5 million were infected with HIV/AIDS (World Health Organization, 2022). The largest population of HIV/AIDS infections in the world is the African continent 25.7 million, Southeast Asia 3.8 million, and America 3.5 million. The increasing population of HIV infections in Southeast Asia makes Indonesia more aware of the spread and transmission of HIV [3].

The number of HIV/AIDS cases in Indonesia fluctuates every year. The Indonesian Ministry of Health recorded 36,902 HIV cases in 2021, the majority of sufferers were of productive age. The most HIV sufferers came from the 25-49 age range at 69.7%, followed by the 20-24 age range at 16.9% and the 15-19 age range at 3.1%. The number of AIDS cases in Indonesia in 2021, the majority of sufferers were in the 30-39 age range [4]. Based on the Central Java Health Profile (2021), it shows that the number of HIV positive cases reported from year to year tends to increase but in 2021 it began to decline from 2,749 to 2,708 cases. Likewise, the number of new AIDS cases in 2021 was 835 cases, a decrease compared to the number of cases in 2020, which was 1,549 cases. The transmission of HIV/AIDS is increasingly widespread, including in Cilacap Regency. HIV cases in Cilacap Regency were recorded at 109 cases in 2021, a decrease from the previous 122 cases. While AIDS was 57 cases [5].

The results of a preliminary survey conducted on 15 teenagers at State Vocational School 1 found that the majority of teenagers did not understand about transmission and had incorrect assumptions about HIV/AIDS. [6].

In addition, a preliminary study was conducted on October 28, 2022 at the Kawunganten Health Center, Cilacap Regency, on 10 adolescents by conducting interviews showing the findings that 7 people did not know how to prevent HIV/AIDS transmission while 3 people knew about how to prevent HIV/AIDS transmission. Based on the

researcher's observations, adolescents in Kawunganten District, Cilacap Regency, at night are still often seen with their girlfriends riding together while hugging. This is very worrying because adolescents can be infected with HIV/AIDS because of their behavior [7]. As a step to prevent HIV/AIDS in adolescents, it is necessary to provide health information through health promotion. Researchers feel that HIV/AIDS health promotion in adolescents is an absolute must for adolescents today, so researchers are interested in providing health promotion about HIV/AIDS.

SMA YABAKII 2 Gandrungmangu is one of the schools located in Gandrungmangu District, Cilacap Regency, Central Java Province. Initial data obtained that the school has never been given health promotion about HIV/AIDS prevention from medical or non-medical personnel. The age range of high school teenagers is around 16-18 years where this age is very vulnerable and has a high potential for risky sexual behavior such as sexual intercourse, unwanted pregnancy and drug use which can result in the risk of HIV/AIDS.

In delivering HIV/AIDS health education, media is needed which is called health promotion media. One of the health promotion media is using leaflets. Leaflets are a form of delivering health information through folded sheets. The information content can be in the form of writing, pictures or a combination of both. Leaflets are easy to carry anywhere because of their small and light size. In addition, leaflets can also be stored for a long time, so that students can learn anytime and anywhere. Other health promotion media can be in the form of powerpoint. Powerpoint is already familiar in the teaching and learning process in the classroom which is one of the application programs containing slides that are specifically designed to be able to display multimedia programs attractively, easy to create and use and relatively cheap. The use of interactive powerpoint can help a teacher to present material to participants more easily so that

the transformation of knowledge can run better and smoother. Based on these problems, researchers are interested in conducting research on the differences in the effectiveness of health promotion media between leaflets and powerpoint in increasing adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap.

2. Methods

The design used in this study was pre-experimental with a two-group pretest-posttest, namely an experimental design conducted on two different groups that received different interventions. The data collection instrument in this study used a questionnaire. The questionnaire used in this study was a standard questionnaire adopted from the Nugrahawati (2018) research questionnaire which had passed the validity and reliability tests with the analysis results showing that all questions could be used because the r-count was greater than the r-table, which was 0.361 so that it could meet the validity requirements and the Alpha value was 0.831 (greater than 0.60) so that it met the reliability requirements.

This model uses an initial test (pre-test) then given an intervention and measurements (post-test) are taken to determine the effects of the intervention so that the magnitude of the effect of the experiment can be known with certainty. The first group of respondents received HIV/AIDS health promotion using leaflet media and the second group used powerpoint media. The results obtained were to identify the comparison of the effectiveness of using leaflet and powerpoint media in health promotion on the level of adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu, Cilacap Regency in 2023.

The sampling technique in this study was total sampling, namely sampling that included all members of the population of 116 students as respondents of HIV/AIDS health promotion divided into 2 groups. Group A consisted of 58

people using leaflet media and group B consisted of 58 people using powerpoint media.

The questionnaire filling procedure by respondents was carried out independently, where respondents answered true or false from 24 statement items provided. The first stage was a pre-test. The questionnaire was distributed to students to be answered shortly before the counseling began. Students were given 8 minutes to work on the pre-test questions. Then in the second stage, students were given an intervention in the form of health counseling on HIV/AIDS with a duration of 35 minutes. Then in the last stage, students were given post-test questions to measure adolescent knowledge about HIV/AIDS after being given an intervention with a duration of 7 minutes. Students in each leaflet media group and the powerpoint media group had the same number of 58 students.

Data processing was carried out manually by editing, coding, tabulating, processing, cleaning and analyzed univariately to determine the frequency distribution of each research variable, namely the age of respondents, gender and distribution of adolescent knowledge before and after being given health promotion using leaflet and powerpoint media and bivariate analysis with the Mann Whitney test.

3. Results and Discussion

The data collected from respondents is summarized as follows:

Table 1. Characteristics of Respondents

Characteristics	Leaflet		Powerpoint	
	f	%	F	%
Age				
15 year	26	44,8	14	24,1
16 year	27	46,6	36	62,1
17 year	5	8,6	8	13,8
Gender				
Man	20	34	23	40
Woman	38	66	35	60

Table 1 shows that the results of data analysis based on the age category of

the leaflet media group, most of the teenagers were 16 years old, as many as 27 people (46.6%). Likewise, in the power point media group, most of the teenagers were 16 years old, as many as 36 people (62.1%). The data shows that the sample in this study is a group of teenagers. The stages of adolescence are divided into 3, namely early adolescence (12-15 years), middle adolescence (15-18 years) and late adolescence (18-21 years) [8]. Age affects a person's ability to grasp and way of thinking. As an individual gets older, a person's ability to grasp and way of thinking will develop more, so that the knowledge gained will improve [9].

Based on the gender category, it shows that the leaflet media group is mostly female teenagers, as many as 38 respondents (66%). Likewise, in the powerpoint group, most of the teenagers are female, as many as 35 respondents (60%). According to a 2015 Tel Aviv University research study, women can absorb information five times faster than men. However, physically there is no difference between the brains of women and men. Other findings show that most respondents are female, but there is no significant relationship between female and male genders regarding knowledge about HIV/AIDS [10].

Table 2. Average Level of Knowledge of Leaflet Media Group Before and After Being Given Health Promotion About HIV/AIDS

Knowledge	N	Mean	Standard Deviation
Pre-test	58	15,17	2,062
Post-test	58	18,05	1,886

Based on table 2, it shows that in the leaflet group, the average pre-test results of adolescent knowledge about HIV/AIDS before being given health promotion were 15.17. Then, after being given health promotion, the average post-test results of adolescent knowledge increased to 18.05.

The results of this study show that there is an impact on increasing students' understanding of HIV/AIDS, how it is transmitted, and how to prevent it. With

increased knowledge of HIV/AIDS in schools, students can have the knowledge, awareness and skills needed to make informed decisions about their own health and avoid risky behaviors.

This is in line with research on increasing knowledge of HIV/AIDS in adolescents through the leaflet media "I'm proud I know". The results of the study showed that the application of leaflet media was effective in increasing adolescent knowledge about HIV/AIDS [11].

Similar research shows that the use of leaflet media and reproductive health education is effective in increasing knowledge in children, adolescents and adults [12]. Likewise, the results of the study showed that leaflet promotional media were effective in increasing the knowledge of pregnant women about preventing HIV transmission from mother to child [11], then reinforced by a study showing that counseling accompanied by leaflet media can increase individual knowledge and attitudes towards various health issues, including HIV [13].

Table 3. Average Level of Knowledge of the Powerpoint Media Group Before and After Being Given Health Promotion About HIV/AIDS

Media	n	Mean	Standard Deviation	p-value
Leaflet	58	18,05	2,991	
Ppt	58	18,60	2,478	0,028

Based on table 3, it shows that in the powerpoint group, the average pre-test results of adolescent knowledge about HIV/AIDS before being given health promotion were 15.00. Then, after being given health promotion, the average post-test results of adolescent knowledge increased to 18.60.

This is in line with research on the development of health promotion methods on HIV/AIDS knowledge for adolescents. The results of the study showed that health education with slide media (powerpoint) is effective in

increasing adolescent knowledge about HIV/AIDS [14].

Similar research shows results of increased knowledge of adolescents about Sexually Transmitted Diseases (STDs) after being given health promotion using PowerPoint media [15]. In addition, it is also supported by research results that show the effectiveness of providing health education using PowerPoint media on the knowledge of the elderly [16].

Table 4. Effectiveness of Health Promotion Media Between Leaflets and Powerpoint on the Level of Adolescent Knowledge About HIV/AIDS

Knowledge	N	Mean	Standard Deviation
Pre-test	58	15,00	2,991
Post-test	58	18,60	2,478

In table 4, the average knowledge of adolescents in the powerpoint group was 18.60, higher than the leaflet group which was only 18.05. Based on the results of the Mann Whitney test, a p-value of 0.028 was obtained. Because the value of 0.028 is smaller than 0.05 (0.028 < 0.05), it can be determined that "Ha is accepted" which means "there is a difference in the effectiveness of health promotion media between leaflets and powerpoint on the level of adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap".

The results of this study show that the powerpoint media group experienced a better increase in knowledge compared to leaflets. This can be seen from the change in the average value where the level of knowledge of the powerpoint media group after being given health promotion was 18.60 while the average value of the leaflet media group after being given was 18.05. So it can be concluded that health promotion using powerpoint media is more effective than health promotion using leaflet media.

This is in line with the study on the effectiveness of health education with LCD media (Powerpoint) and leaflets on increasing adolescent knowledge about HIV/AIDS at SMA Negeri 8 Makassar.

The results of the study showed that for the comparison of the two media seen from the change in mean value where the post-test in the LCD media group was greater, namely 58.11 while the leaflet was 51.16 so it can be concluded that LCD media is more effective than leaflets. This is because the delivery of messages with slide presentations that are delivered systematically will attract respondents so that they can remember the message conveyed about HIV/AIDS in health promotion media [14].

Based on the results of other studies, the results of the average statistical test of the questionnaire after (post-test) media intervention was given to the brochure media intervention group of 71.03, while the average results of the post-test questionnaire in the power point media intervention group had a result of 79.70. This figure shows that power point media has a higher average value compared to brochure media. This shows that power point media has a higher effectiveness that can be used in the learning and counseling process to a wider audience [17]. In addition, the findings in other studies have proven that power point media (slides) are more effective than leaflet media in increasing mothers' knowledge and attitudes about Measles Rubella immunization [18].

This study has limitations in its implementation process, including this study only using class X samples due to time constraints and strict licensing. It is possible that in exploring student knowledge there are other limitations such as lack of motivation in answering questions so that sometimes they answer carelessly. The number of samples that become respondents can be increased in further research so that it can increase the generalization of the results.

4. Conclusion

Based on the results of the study and discussion, it was concluded that there was a difference in the effectiveness of health promotion media between leaflets and power point on the level of adolescent knowledge about

HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap. The average level of adolescent knowledge about HIV/AIDS before being given health promotion with leaflet media was 15.17 and after being given intervention increased to 18.05. The average level of adolescent knowledge about HIV/AIDS before being given health promotion with power point media was 15.00 and after being given intervention increased to 18.60, thus indicating that the use of power point media is more effective than leaflet media to increase adolescent knowledge about HIV/AIDS at SMA YABAKII 2 Gandrungmangu Cilacap.

Although this health promotion has been conducted as a research, it is expected that health promotion, especially related to HIV/AIDS, can be a long-term health promotion in schools by involving teacher staff, UKS (School Health Unit) and resources available in schools to promote health so that it can increase understanding, student health awareness and promote healthy behavior. It is expected that for further research, longitudinal research can be conducted so that an understanding of changes and developments in existing phenomena can be obtained. For health workers, it is recommended to contribute more to health promotion in schools by using appropriate health promotion media that are easy to understand by the target so that it can increase knowledge and reduce HIV/AIDS cases in Indonesia.

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