



The Effectiveness of Audiovisual Media on Increasing Knowledge about HIV-AIDS Housewives in Makassar City

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This study aims to develop HIV-AIDS educational media, to test the feasibility of HIV-AIDS educational media in increasing the knowledge and reducing the stigma of housewives against HIV-positive people and to find out the effectiveness of HIV-AIDS educational media interventions in increasing knowledge and reducing the stigma of housewives living with HIV after audio-visual media intervention. This research is a type of experimental research with a one group pre posttest design to test the effectiveness of audio-visual media in increasing the knowledge of housewives about HIV-AIDS. The results showed that knowledge obtained a significant value of $0.00 < \alpha = 0.05$ which means that there was a difference between before and after the audiovisual media intervention was carried out for housewives. So expected for the heads of related agencies, it is hoped that education to increase knowledge using audio visual can be a guideline for health workers and outreach workers in the implementation of providing education to the community.

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1. INTRODUCTION

Since *Acquired Immune Deficiency Syndrome* (AIDS) was first reported by Gottlieb and colleagues in Los Angeles on June 5, 1980, in the mid-1980s, AIDS cases increased rapidly and spread worldwide. UNAIDS (United et al. on HIV and AIDS) says that estimates of adults and children suffering from *Human Immunodeficiency Virus* (HIV) around 33.4 million people with a death rate of about 2 million. The African continent is the continent with the most HIV and AIDS sufferers (25.5 million cases), whereas North Africa is the country with the most HIV and AIDS (around 5 million cases). The Asian continent also shows a high prevalence of cases, where India ranks third with an estimated 2 million cases (UNAIDS, 2017). Vaccines have been found for various diseases in all parts of the world, such as the latest Covid-19, where a vaccine has been found. However, HIV has not yet been found worldwide, so the number of HIV cases worldwide is still experiencing an increase in cases and even deaths [1].

Various studies around the world have found that most of the younger generation do not understand how HIV and AIDS and other sexually transmitted diseases (STIs) are transmitted and how to protect themselves from these diseases. In countries with generalized HIV epidemics, such as Cameroon, Central African Republic, Guinea Equatorial, Lesotho, and Sierra Leone, more than 80 adolescents do not have sufficient knowledge about HIV, (UNAIDS, 2017). Public knowledge about HIV and AIDS does indeed have a role in breaking the chain of transmission of HIV and AIDS in all parts of the world, especially in vulnerable groups such as teenagers, where teenagers besides being a risk group also play an important role in reducing HIV cases in the world through virtual education or virtual worlds such as YouTube, Facebook, Instagram, and others [1].

The above conditions are, of course, concerning considering that the group of workers, prostitutes, transgender couples, and MSM dating partners are primarily men who already have regular partners, and this, of course, has the potential to have an impact on families who do not understand what HIV-AIDS is, plus husbands who have received information about HIV-AIDS do not dare and feel afraid to discuss HIV-AIDS issues with their partners because it will open their shame.

Data from the South Sulawesi provincial health office show that in 2017 there were 1560 new HIV cases, 722 new HIV cases in 2018, and as of June 2019, there were 336 new HIV cases. In addition, in Makassar City in the last three years, namely in 2019, there were 862 new cases of HIV, then in 2020, there was a decrease of 675 cases, and in 2021 until May, there were 272 new cases. Comparison of cases in the last three years has seen a decrease in cases, which is because the number of tests carried out is different each year, for 2019 as many as 50,211 people were tested for HIV, and in 2020 as many as 44,099 people took HIV tests, while from 2021 to May there were 20,253 people. It should be underlined that 2020 and 2021 are the Covid-19 pandemic, causing conditions in health services, especially HIV and AIDS, to experience problems and a decrease in visitors. (Sulsel Prov. Health Office, 2020). The trend of transmission of this condition is greatly influenced by the Covid-19 case in 2020, so people checking themselves in health services is also decreasing. The findings of HIV cases are also decreasing. However, the reality is that HIV cases still have the potential to be transmitted during a pandemic because there are more sexual transactions in cyberspace or social media. So, the educational methods to improve public knowledge must also be developed following the current trends [2].

The highest prevalence of HIV and AIDS was in the Men sex with Men group (MSM) group in Makassar city, in 1982 cases, then high-risk couples (sex workers, male sex partners/MSM, transgender people). Significantly, this was due to the number of transmissions through casual sex, which was increasingly difficult to suppress. These facts are evident in Makassar, which incessantly carries out the development process towards Eastern Indonesia's Center for Economic, Social, Cultural, and Political Development. Because the mode of transmission of HIV and AIDS is related to lifestyle, the assumption that is built is that the faster the development of an area, the more opportunities it provides for this virus to infect itself (To be modified) healthy people who are young and productive even to groups of housewives who are less exposed to HIV and AIDS information. Because sex worker customers, transgender customers, and male customers of male sex (to be modified) (MSM), some men already have regular partners (wives) (to be modified). Hence, the potential for transmission to housewives is

very high, especially those with husbands with high mobility [2].

HIV cases in Makassar City are the highest among other districts in South Sulawesi. This condition is, of course, because Makassar City has a dense population density and is supported by its status as the provincial capital and metropolitan city, so the economic turnover is speedy. Many nightlife venues are used as modes of sexual transactions, such as massage places, karaoke places, cafes, and other places. This situation causes Makassar City to have the highest HIV cases among other districts in South Sulawesi.

Incomplete knowledge will also cause other problems, such as the emergence of negative stigma towards people living with HIV, where the results of research that conducted in Makassar City show that inadequate knowledge possessed by the community is the driving force behind the occurrence of stigma in the community and family environment. Even the perpetrators of stigma are mainly carried out by their parents, so people with HIV choose another path by moving or leaving their environment and home.

The high HIV cases in Makassar City are also in line with the high cases of loss to follow-up or drug withdrawal drop-out from treatment; this is allegedly the result of stigma carried out by friends, the community, and families of people living with HIV, so they choose to go and leave the house, stigma against people living with HIV and AIDS in Makassar City still often occurs, as the results of research conducted by Umm Kalsum 2019 that the stigma that occurs in people with HIV and AIDS (ODHA) in Makassar City is in the form of expulsion by the family after they find out their HIV status, besides that PLWHA is separated or fostered by his friends [3].

The policies and responses of the Indonesian government in combating AIDS have brought about changes in implementation which are carried out at various levels, but their reach is still limited. One of the prevention programs being carried out is behavior change interventions, where in recent years communication, information and education programs have been carried out by civil society including PLHIV (People Living with HIV and AIDS) in several areas. The program is carried out in various forms and contributes to increasing knowledge

about the ways of HIV transmission and prevention in several high-risk populations [4].

The focus of prevention currently being carried out is more on increasing knowledge and reducing the stigma of at-risk groups such as Commercial Sex Workers (CSWs), truck drivers, injecting needle users and laborers. Apart from that, prevention efforts are also carried out through education and testing for groups of pregnant women who go to health centers or hospitals. However, it is still minimal in general public groups, such as groups of housewives. So far, they are still very little exposed to the information about HIV and AIDS, as they are also at risk of contracting it from husbands who have unhealthy behavior, so they also need attention to be educated. Housewives are also having a role for the cause of stigma. In families due to lack of knowledge, in Makassar City there are still parents who expel children or other family members who have HIV because they are considered a disgrace to the family.

The lack of public knowledge and the high stigma of people with HIV and AIDS (PLWHA) encourages education through one of the media (to be modified) because several studies have found that the media is a powerful weapon to fight HIV and AIDS, the media can disseminate information among the younger generation such as HIV prevention, besides that the media can also confront complex issues such as how to deal with unwanted sex.

One of the media that can attract the attention and interest of the public in receiving information is audio-visual media which is able to provide a wide range and interesting information besides that it can be used by other media such as leaflets and various entertainment media which are useful for breaking the silence around HIV and AIDS, the use of audio-visual based learning media can improve student learning outcomes [5]. The results of this study can be adopted into HIV-AIDS prevention and control programs in educating housewives who increasingly need more attention to increase knowledge and reduce stigma against people living with HIV.

Stereotypes that appear in the community, especially among homemakers, that living with HIV is a dangerous disease and must be avoided must be isolated, also ostracized because of the information obtained only from the mouths of neighbors or friends, so that when listening to and knowing that some neighbors/families have

HIV, what people think of are not actual, criminals, will soon die, will be sick and so on. In addition, housewives are not only victims of stigma but are also perpetrators of stigma in their own families and neighbors, so education needs to be developed so that housewives are able to know detailed information about HIV and AIDS as well as preventing stigma in people living with HIV. Based on this background, it is considered important to develop educational products for HIV and AIDS interventions for mothers in the city of Makassar.

1.1 Research Purposes

Knowing the effectiveness of audiovisual media to increase the knowledge of housewives about HIV and AIDS in Makassar City.

2. METHODOLOGY

2.1 Types of Research

The research conducted by the researcher was experimental research with a One – Group Pretest-Posttest Design to test the effectiveness of audiovisual media in increasing housewife knowledge about HIV and AIDS.

2.2 Processing and Analysis of Data

This data analysis was carried out with the aim of seeing the effectiveness of audio-visual on the knowledge of housewives about HIV and AIDS. Data were analyzed and interpreted by testing the hypothesis using paired t-test. interpretation of the t value, that is, if $t_{count} > t_{table}$ or at a significant value of $p < 0.05$, it can be interpreted that there is an audio-visual effect on the knowledge of housewives.

3. RESULTS

Table 1 below shows that the question items that experienced the most or the highest increase were the media question items and the principle of transmission and how to find out the status

The test results on the knowledge of housewives showed that there were 2 people who had a low increase in knowledge and 3 people with a moderate increase in knowledge, the rest had a high increase in knowledge.

3.1 The Effectiveness of Video on Increasing Knowledge

Prior to testing the effectiveness of the intervention, the Normality test of the Shapiro-Wilk data was first performed namely the test conducted to determine the distribution of random data for a small sample with a sample of data less than 50 samples $N < 50$. (Chen 1968).

In testing, a data is said to be normally distributed If mark a significance of more than 0.05 (sig. > 0.05). So, in this study the Shapiro-Wilk test was used because the sample was only 30 people. In this test the data is said to be normally distributed if the significance value is more than 0.05 (sig. > 0.05). The test results are as follows Table 3.

Based on the data above, it can be concluded that the data is normally distributed because the Shapiro Wilk sig value is 0.06 or > 0.05, so that it is continued in the pre-post test using the paired t-test as follows Table 4.

Table 1. The results of the analysis of questions about the knowledge of housewives in Makassar City

No	Knowledge Questions	Total score per item question		
		Before	After	Enhancement
1	Definition of HIV	5	29	24
2	AIDS is	0	24	24
3	How HIV and AIDS are transmitted	23	27	4
4	HIV and AIDS transmission media	0	27	27
5	What are the signs or symptoms of HIV	0	25	25
6	Symptoms of people suffering from AIDS	8	25	17
7	What is the principle of HIV transmission	1	27	26
8	HIV is not transmitted through	0	25	25
9	How to prevent HIV	9	26	17
10	How to find out HIV status	0	26	26

Table 2. Results of the pretest-posttest trial on the knowledge of housewives in Makassar City

ID	Knowledge-pre	Knowledge-post	Post-pre	Almost Max-Pro	N-Gain	Criteria
1	5	9	4	5	0.8	Height
2	2	10	8	8	1	Height
3	2	9	7	8	0.875	Height
4	0	5	5	10	0.5	Currently
5	1	9	8	9	0.89	Height
6	2	9	7	8	0.88	Height
7	1	8	7	9	0.78	Height
8	0	9	9	10	0.90	Height
9	3	7	4	7	0.57	Currently
10	1	9	8	9	0.89	Height
11	1	10	9	9	1.00	Height
12	4	7	3	6	0.50	Currently
13	0	3	3	10	0.30	Low
14	2	9	7	8	0.88	Height
15	3	8	5	7	0.71	Height
16	0	9	9	10	0.90	Height
17	2	4	2	8	0.25	Low
18	1	9	8	9	0.89	Height
19	4	9	5	6	0.83	Height
20	0	9	9	10	0.90	Height
21	2	10	8	8	1.00	Height
22	1	10	9	9	1.00	Height
23	3	10	7	7	1.00	Height
24	2	10	8	8	1.00	Height
25	2	10	8	8	1.00	Height
26	0	10	10	10	1.00	Height
27	1	10	9	9	1.00	Height
28	1	10	9	9	1.00	Height
29	0	10	10	10	1.00	Height
30	1	10	9	9	1.00	Height

Table 3. Knowledge data normality test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Total_Pre_Tahu	.198	30	.04	.895	30	.06

a. Lilliefors Significance Correction

Table 4. Knowledge paired t-test

Paired Samples Test										
		Paired Differences				t	df	Sig. (2-tailed)		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
						Lower	Upper			
Pair 1	Pre - Post	-7.13333	2.22421	.40608	-7.96387	-6.30280	-17.566	29	.000	

From the table above, it provides information that the output of the paired samples t test shows a mean posttest result score of 7.13 with a significant value of $0.00 < \alpha = 0.05$, which means that there is a difference between before and after the intervention using audiovisual.

4. DISCUSSION

The significance of knowledge in the context of acting and interacting with others, particularly within the realm of homemaking, is a matter that warrants attention and consideration. Through education about HIV-AIDS, housewives can gain knowledge that enables them to understand how to maintain and improve their health, which is the first step in health promotion. One of the main goals of providing information about HIV-AIDS is to start education from families, especially parents to their children, as well as the environment around them. This is because the family is the basic source of information about HIV and AIDS, although sometimes the information they have is incomplete and can even be wrong. This disease is often not fully understood by many people, so it is important to provide proper education.

In addition, educational videos about HIV and AIDS are an effective health promotion tool. This video can convey information and messages in an interesting way and show interactions between programs in the health sector, especially in terms of increasing knowledge and communication. By using video, messages about HIV and AIDS can be conveyed in a clearer and more attractive way, so that it is easier for the target audience, including housewives, to understand. Through this health promotion tool, it is hoped that knowledge about HIV and AIDS can be increased, and awareness about the importance of health and prevention efforts can increase among the community.

Animated videos can also display moving objects (images) with sound. Video itself is a type of audiovisual television which is a combination of audio and visual television. Health service providers via video do not always have to be speakers to teach to achieve goals, because the delivery of material can be supported by the media. Health education through videos can motivate housewives, make them happy and feel at home watching animated videos.

The knowledge of housewives is one of the things that influences their character, behavior

and perceptions which can lead to stigma, where the existence of stigma affects the response to people living with HIV and AIDS, meaning that people who are at risk of HIV and AIDS are afraid to get tested because there is still a high negative stigma. Lack of knowledge and social skills in efforts to prevent and control HIV and AIDS causes stigmatization. Stigmatization occurs because people do not understand or get correct information about HIV and AIDS, especially how HIV and AIDS is transmitted. The stigma against PLWHA not only violates human rights, but also complicates efforts to prevent and control HIV and AIDS.

Besides knowledge, another factor that causes stigma is attitude towards PLWHA. Wati et al's research shows that someone who has a positive attitude towards people with HIV and AIDS or who does not adhere to prejudice is less prejudiced against people living with HIV and AIDS than those who have HIV and AIDS or are not prejudiced. to support people living with HIV and AIDS.

The negative attitude of the people in Makassar City towards PLWHA still occurs due to a lack of knowledge about HIV and AIDS among the community. An evaluation of the research conducted by Dedi (2017) confirmed that knowledge about HIV and AIDS greatly influences people's attitudes towards PLHIV. With the existence of stigma and discrimination against PLWHA, changes in education can be influenced, and knowledge about HIV and AIDS also plays an important role in shaping individual attitudes towards PLWHA. If knowledge about HIV and AIDS is good, then people tend to promote positive thoughts and behaviors towards PLHIV, and vice versa [6].

More knowledge gained through processes involving knowledge-based behavior will be more sustainable than non-knowledge-based behavior. Efforts can be made to make the public aware through video which is a teaching method that has many advantages because the media is a source of information that can affect a person's level of knowledge and can repeat information provided via cell phones. The use of animation as a form of education has a significant impact on housewives in receiving information about HIV-AIDS. Animation is an effective educational method because it has various advantages, including increasing knowledge and reducing the stigma of housewives towards people with HIV-AIDS. Currently, housewives still have limitations

in obtaining complete and accurate information about HIV-AIDS. However, by using video as an educational tool, housewives can easily understand knowledge about HIV and AIDS. Audiovisual media in videos can present messages properly, systematically, and accurately, as well as affect the emotions of housewives. The use of video as a means of conveying information can also increase the interest of housewives in paying attention to the contents of the messages conveyed. Thus, video viewing is an effective way to disseminate information about HIV and AIDS to housewives so they can understand well about the disease.

Although the number of HIV cases in Makassar City has decreased since 2019, this decrease has occurred due to reduced visits for HIV checks during the COVID-19 pandemic. The government and NGOs work together to carry out prevention and case finding efforts to prevent new infections and reduce AIDS-related deaths. Death from AIDS is a significant issue for today's global society because it relates to present and future generations. Someone who is infected with HIV but does not know their status and does not receive medical intervention will have difficulty leading a productive life. If HIV infection has entered the AIDS phase, the body's immune system will decrease drastically, causing the person to spend a lot of time on medication, resting, and lying in bed. Therefore, efforts to prevent and treat HIV and AIDS are very important to ensure the health and productivity of individuals and communities.

The issue of population is intricately intertwined with the issue of HIV and AIDS, as an individual living with untreated HIV carries the risk of transmitting the virus to their spouse and, in more severe cases, to their offspring during pregnancy, childbirth, or breastfeeding. Consequently, this perpetuates a cycle wherein subsequent generations face compromised quality of life and pose a potential risk of transmission to others. Pregnant women presently constitute a significant demographic accounting for 16% of individuals living with HIV. However, it is important to note that this statistic is based solely on available data from individuals who have sought healthcare services, excluding pregnant women who have not visited such services. The condition is indeed a matter of great worry, given that Indonesia is currently in great need of highly skilled human capital to effectively pursue national and global objectives pertaining to health and welfare.

4.1 The Effectiveness of Audiovisual Media on the Knowledge of Housewives

The results of the research on the knowledge of housewives after the audiovisual media intervention showed that none of the participants experienced a decrease in knowledge and the majority experienced an increase in knowledge in the high category and the statistical test results also concluded that audiovisual media was effective in increasing the knowledge of housewives regarding HIV and AIDS information. Audiovisual media is currently easy to access for housewives and even the general public where currently in the millennial era, information quickly arrives through social media, the internet, YouTube and other media, so it is time for health workers and outreach workers to be more creative and innovative in utilizing technological sophistication. Audio-video visual media is considered by housewives as an excellent medium for conducting education because it can display information in a simple, easy-to-understand manner.

The characteristics of housewives may vary, and a needs analysis shows that many of them are not interested in reading habits. Instead, they are more likely to be interested watching videos or content on platforms like YouTube. This may be because many housewives feel less enthusiastic about reading, so audiovisual media, such as videos, are considered more suitable for educating them about HIV and AIDS. The results of this study are in line with the findings of Djannah (2020), which states that adolescent knowledge influences their understanding of issues related to sexual and reproductive health. Audiovisual media is recognized as a source of information favored by adolescents. The effect of the intervention was evaluated by comparing the data before and after the intervention using the Wilcoxon test. It was found that the mean score of the respondents increased significantly after the intervention. Therefore, audiovisual media is effective in increasing adolescent knowledge about sexual reproductive health [7]. Another study conducted by Shao (2016) which investigated the effect of video in raising awareness about HIV and AIDS and HIV testing among online audiences around the world also yielded similar results. After watching the videos, respondents who used the internet in English or Spanish showed increased knowledge about HIV and AIDS testing [8].

Increasing public knowledge, especially housewives, is highly dependent on the content, sound and animation in audiovisual media. In this study, it was proven that there was a significant increase in knowledge before and after the intervention using audiovisual media. The success of this media lies in its ability to present information in an easy-to-understand and interesting way, thereby attracting the attention and interest of the recipient of the information to continue studying the material presented. In addition, conventional counseling methods such as brochures are considered less relevant for today's society, especially for millennial housewives, due to the reading culture that is less attractive to this group. In addition, conventional counseling methods are also considered less effective because of the tendency of the community to prefer to discuss or talk about other matters during the extension session.

5. CONCLUSION

The statistical test results also show that knowledge gets a significant value of $0.00 < \alpha = 0.05$ which means that there is a difference between before and after the intervention using audiovisual, so expected for the heads of related agencies, it is hoped that the educational model for increasing knowledge by using audio visual can be a guideline for health workers and outreach workers in the implementation of providing education to the community.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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