



Effectiveness of Audiovisual Media Intervention Aku Bangsa Aku Tahu on Knowledge in Practices in Prevention of Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome Transmission in Adolescents

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Abstract

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BACKGROUND: Educational media is a very important component as a means of interaction, one of which is audiovisual media. Health education through audiovisual media, I am proud I know (ABAT) is expected to be able to increase knowledge comprehensively about human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS).

AIM: This study aimed to determine the effect of ABAT audiovisual media on HIV and AIDS knowledge of school adolescents in Makassar City.

METHODS: The research design uses quasi experimental approach with the design of the nonequivalent control group design. Sampling using a random sampling technique, as many as 96 adolescents.

RESULTS: The results showed that the majority of respondents were in the age group of 17 years (49%), female sex (52%), and grade 12 level (51%). Based on the results of the Mann-Whitney U Test, there were differences in knowledge before and after the intervention of ABAT audiovisual media playback with a frequency of playback three times and once in the intervention group and the control group ($p = 0.001$).

CONCLUSION: There are significant differences in adolescent knowledge about HIV and AIDS before and after the intervention. ABAT audiovisual media with playback frequency 3 times are more effective than once. Some comparison of counseling media is needed in order to better know the effectiveness of a media. Based on the research that has been done, it can be concluded that the effectiveness of ABAT audiovisual media on the knowledge of school adolescents can significantly improve HIV and AIDS before and after the intervention is given three times and one in Makassar City.

Introduction

Human immunodeficiency virus (HIV) is a type of virus that attacks white blood cells so it causes the human immune system to decline. Acquired immune deficiency syndrome (AIDS) is a collection of symptoms that arise due to a decrease in a person's immune system due to being infected by HIV [1]. In mid-2017, around 20.9 million people received ART. However, antiretroviral therapy only reached 53% of people living with HIV at the end of 2016, and accelerated responses are needed to increase the scope of treatment, along with other interventions throughout the service chain, including prevention, diagnosis, and chronic care [2].

The situation of HIV cases in Makassar City according to age group in 2018, the number of HIV in the age group (<4–14 years) is 9 cases, (15–19 years) as many as 17 cases, (20–24 years) as many as 104 cases, (25–49 years) as many as 503 cases, and (>50 years) as many as 25 cases of HIV infection. Makassar City is a

district/city in South Sulawesi that has a high prevalence of HIV and AIDS. The approach to HIV and AIDS prevention programs that have not yet been fully accepted by community groups is a challenge in preventing HIV and AIDS prevention in the city of Makassar. Based on the results of key population mapping conducted by KPAP South Sulawesi in 2017 shows that the key population that is increasing every year is MSM (men who have sex with men) and it is estimated that the number of MSM in Makassar will continue to increase until 2025 [3].

Rates of HIV diagnosis associated with male sex have increased (1.37 times) in men born in Southeast Asia, (2.18 times) in men born in Northeast Asia, and (1.37 times) for men from America [4]. The higher the percentage of sexually active teens, the higher the risk they face, including from sexually transmitted diseases and pregnancy. Therefore, protective measures need to be taken to prevent it [5].

The WHO has launched the SDGs program, with one of them being combat HIV and AIDS. One

indicator used is the prevalence of population aged 15–24 years [6]. Some ways can be done to combat cases of HIV and AIDS, and sexually transmitted diseases in groups of adolescents are through health education with a variety of methods and media that are targeted to the target [7]. One government program that aims to increase good knowledge about HIV and AIDS in the 15–24 years age group is through the I'm Proud I Know (ABAT) program which is a campaign to prevent the spread of HIV and AIDS so that youth groups can protect themselves and not be infected.

Besides that, to support the achievement of good information, effective and efficient teaching media are also needed; one of them is audiovisual media. Salawati *et al.* [8] states that audiovisual media with a \pm 12 min VCD can help students absorb information on HIV and AIDS, and the results of studies conducted Handayani *et al.* [9] state that the results of group discussions guided by a facilitator is an effective method in increasing adolescent knowledge about reproductive health and HIV and AIDS.

Knowledge and behavior become one of the entrances to HIV and AIDS. According to Imron in Afritayeni *et al.* [10] adolescents who lack knowledge in reproductive health become complex problems along with the transition experienced by adolescents. Therefore, this study aims to determine the effectiveness of ABAT audiovisual media interventions on knowledge in the practice of preventing HIV and AIDS transmission in adolescents in the city of Makassar.

Materials and Methods

This research was conducted in four schools, namely, SMAN 3, SMAN 12, Bajiminasa SMAS, and YP PGRI 2 SMART Makassar City. This type of research is a quantitative study using quasi experimental design with the nonequivalent control group design. Three measurements were made, once before the intervention and twice after the intervention.

The population in this study was all students of grade 11 and 12 in SMAN 12, SMAN 3, Bajiminasa, and YP PGRI 2 Makassar City and was willing to participate in the study by signing informed consent. The sampling technique used is simple random sampling. Samples totaled 96 people.

Data collection was carried out three times using a questionnaire. Starting with the first pre-test, then ABAT audiovisual media intervention was carried out. After the intervention, the first post-test is given at a distance of 2 weeks after the intervention. Two weeks later, a second post-test was given. The ABAT audiovisual media intervention consisted of three sessions over 1 week for the intervention group. The

control group was given one session a week. Each meeting session discussed about reproductive health, drugs, lifestyle, HIV, and AIDS provided by the facilitator for 120 min each session and in the research process.

Data were analyzed using SPSS using paired t-test if the data were normally distributed and Wilcoxon test if the data were not normally distributed.

Results

The results of the study describe the characteristics of respondents consisting of age, gender, grade level, and majors. In Table 1, the characteristics of respondents by age in the intervention and control groups were at most age 17 years at 49% (47 people). Most were female (52%) with grade 12 (51%) and from the science major (86.4%). Table 2 shows that in the intervention group before being given the audiovisual

Table 1: Distribution of respondents based on characteristics in the intervention and control group in Makassar City in 2019

Characteristics	School teenagers				Total	
	Intervention		Control		n (96)	
	n (48)	%	n (48)	%	n	%
Age (year)						
16	22	45.8	24	50	46	48
17	25	52.0	22	45.8	47	49
18	1	2.0	2	4.16	3	3.1
Gender						
Men	25	52.0	21	43.7	46	48
Women	23	47.9	27	56.2	50	52
Class						
11	19	39.5	28	58.3	47	48.9
12	29	60.4	20	41.6	49	51.0
Majors						
IPA	38	79.1	45	93.7	83	86.4
IPS	10	20.8	3	6.2	13	13.5

Table 2: Distribution of respondents knowledge categories before and after ABAT interventions in Makassar City in 2019

Knowledge category	School teenagers			
	Intervention		Control	
	n	%	n	%
Pre-test				
Less (≤ 9)	7	14.5	0	0
Enough (10–18)	33	68.7	22	12.5
Well (≥ 19)	8	16.6	26	12.5
Post-test 1				
Less (≤ 9)	0	0	0	0
Enough (10–18)	6	12.5	8	16.6
Well (≥ 19)	42	87.5	40	83.3
Post-test 2				
Less (≤ 9)	0	0	0	0
Enough (10–18)	4	8.3	10	20.8
Well (≥ 19)	44	91.6	38	79.1

media intervention ABAT (pre-test) was in the moderate category of 68.7% (33 people) and at least in the less category that was 14.5% (7 people). After being given the audiovisual media intervention ABAT and carried out post 1, there was an increase to a good category by 87.5% (42 people) and a sufficient category of 12.5% (6 people). In post-test 2, there was a slight increase in the good category by 91.6% (44 people) while the category was sufficient by 8.3% (4 people).

Table 3 shows the increase in respondents' knowledge which is obtained a mean value of 15.75 in

Table 3: Distribution of differences in respondent knowledge before and after ABAT interventions three times in Makassar City in 2019

Test group	Knowledge	Min	Max	Mean ± SD	Nilai p
Pre-post 1 (O ₁ – O ₂)	Pre	7	21	15.75 ± 3.906	<0.000
	Post 1	14	24	21.50 ± 2.124	
Post 1 post 2 (O ₂ – O ₃)	Post 1	14	24	21.50 ± 2.124	0.953
	Post 2	12	24	21.27 ± 2.615	
Pre post 2 (O ₁ – O ₃)	Pre	7	21	15.75 ± 3.906	<0.000
	Post 2	12	24	21.27 ± 2.615	

the pre-test to 21.50 in the post-test 1. Based on the Wilcoxon test results, the significance value was 0.000 ($p < 0.05$) in the pre-test and post-test 1 then H₀ is rejected, which means there is a difference between the respondent's knowledge before and after the ABAT intervention 3 times in the pre-test and post-test.

Table 4 shows that there are differences in the knowledge of pre and post 1 with the Wilcoxon test analysis table obtained $p = 0.005 < 0.05$ in the pre-test and post-test 1 then H₀ is rejected, which means there is a difference between the knowledge of respondents before and after ABAT intervention as much as once in the pre-test and post-test 1. Although there is an increase in the value of min-max in post-test 1 and post-test 2 by (10–24) to (12–24), but statistically the results of the test analysis are obtained Wilcoxon value of $p = 0.897 > 0.05$, then H₀ is accepted. Since H₀ is accepted, it can be concluded that there is no significant difference in the knowledge of respondents at the time of post-test 1 with post-test 2.

Table 4: Distribution of differences in respondent knowledge before and after ABAT interventions, one time in Makassar City in 2019

Test group	Knowledge	Min	Max	Mean ± SD	Nilai p
Pre-Post 1 (O ₁ – O ₂)	Pre	11	22	17.90 ± 2.823	<0.005
	Post 1	10	24	19.52 ± 3.003	
Post 1 post 2 (O ₂ – O ₃)	Post 1	10	24	19.52 ± 3.003	0.897
	Post 2	12	24	19.54 ± 3.149	
Pre post 2 (O ₁ – O ₃)	Pre	11	22	17.90 ± 2.823	<0.003
	Post 2	12	24	19.54 ± 3.149	

The statistical test results in Table 5 using the Mann–Whitney U test show that there are significant differences in knowledge between the intervention group and the control group in the post-test 1 and post-test 2 obtained ($p < 0.05$) which indicates that there are significant differences on knowledge between the intervention group and the control group. While the Wilcoxon test results of the intervention group at post-test 2 obtained $p = 0.953$ and the control group obtained $p = 0.897$, this indicates that the value of $p > 0.005$ which means there is no significant difference in knowledge at

Table 5: Differences in respondent knowledge after ABAT intervention 3 times and one time in Makassar City in 2019

Knowledge	School teenagers		p-value
	Post-test 1	Post-test 2	
Intervention			0.953
Min	14	12	
Max	24	24	
Mean	21.50	21.27	
Standard deviation	± 2.124	± 2.615	
Control			0.897
Min	10	12	
Max	24	24	
Mean	19.52	19.54	
Standard deviation	± 3.003	± 3.149	
p-value	0.000	0.001	

post-test 2, but this is which is the hope of researchers that within 2 weeks of measurement after the post-test 1 adolescent knowledge did not decrease.

Discussion

The results of this study indicate that audiovisual media is more effective on knowledge with a frequency of playback 3 times compared to once as an effort to prevent the transmission of HIV and AIDS in adolescent groups in the city of Makassar.

Statistical test results obtained meaningful results on the knowledge of adolescents in both groups after the intervention. The results of this study are in line with research conducted by Ifroh and Ayubi [11] using audiovisual media can facilitate communicators to deliver health messages and overcome time constraints so that there are differences in the level of knowledge of adolescents after intervention.

The average age of respondents in both groups was 17 years (48.9%) so that it is classified as late adolescents. The majority of sexes in this study were women (52%) more than the male sex (48%), this tendency occurred because the number of female student council administrators was more than men. This study is in line with Rahayu *et al.* [12] which state that the number of female respondents is higher in each class compared to the number of male respondents. Then, the sample chosen is dominated by women.

Based on the results of the study, the majority of respondents had good knowledge about HIV and AIDS after being given the audiovisual media intervention. The factors that influence this knowledge at the time of the field are influenced by the mass media or information, because most respondents have gadgets that can certainly make it easy to access knowledge. Knowledge assessment is needed as a preventive measure to improve, strengthen, and avoid risky deviant behavior in adolescents [13].

This is supported by Manumpil *et al.* [14] that the use of gadgets can increase student knowledge. These results are also in line with Iskandar *et al.* [15] that through television, the internet and print media can increase one's knowledge because through high interest a person can search information independently. The results of the bivariate analysis showed that there were differences in knowledge about HIV and AIDS between the intervention and control groups. This means that audiovisual media interventions have a significant influence on increasing adolescent knowledge about HIV and AIDS. The results of this study are supported Asadi and Berimani [16] which states the achievement of foreign language students in the group of audiovisual

material which is significantly higher than the group of students without audiovisual.

The results of this study indicate that adolescent knowledge in the intervention group is higher than the control group. The occurrence of a large enough average difference is one of them supported by the use of audiovisual media that is as much as 3 times ABAT video playback accompanied by discussion. Audiovisual media is media used to convey learning material not only with the sense of sight but also the sense of hearing. This is consistent with research conducted by Handayani *et al.* [9] that the atmosphere of informal education conducted by group discussions also causes respondents or research subjects to be able to take part in education comfortably so that it is easier to receive material. Furthermore, in the group discussion method, each participant interacts and exchanges information and is assisted with media in the form of a VCD so that participants do not get bored easily [16], [17], [18].

Recommendation

Audiovisual media interventions with a frequency of playback 3 times are more effective than audiovisual media interventions as much as once in adolescent knowledge.

Conclusion

There are significant differences in adolescent knowledge about HIV and AIDS before and after the intervention. ABAT audiovisual media with playback frequency 3 times more effective than once. Some comparison of counseling media is needed in order to better know the effectiveness of a media. Based on the research that has been done, it can be concluded that the effectiveness of ABAT audiovisual media on the knowledge of school adolescents can significantly improve HIV and AIDS before and after the intervention is given three times and one in Makassar City.

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