

THE EFFECTIVENESS OF THE PLHIV LOOK AND LISTEN CAMPAIGN ON THE LEVEL OF KNOWLEDGE OF HIV/AIDS AMONG YOUNG PEOPLE

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ABSTRACT

A surge in new HIV/AIDS cases occurred in several parts of Indonesia during the COVID-19 pandemic. The main trigger for the spike in HIV/AIDS cases in Indonesia, which tends to increase, is the lack of knowledge among teenagers about HIV/AIDS, which amounted to 11.4%, so intervention is needed to increase HIV/AIDS knowledge in adolescents to overcome HIV. The intervention was in the form of a PLHIV Look and Listen Campaign on HIV/AIDS using audiovisual media. The purpose of the study was to assess the effectiveness of the PLHIV Look and Listen Campaign on the level of HIV/AIDS knowledge through WhatsApp among young people in Surakarta. The intervention of the study was the PLHIV Look and Listen Campaign used WhatsApp social media with a mechanism used personal chat and custom WhatsApp stories addressed only to intervention group respondents. The research design was the experimental approach, The Randomized Controlled Trial method (Pretest-Posttest Control Group with randomization design) was conducted in two steps of research which were the screening phase and intervention phase. The inclusion criteria were 15-24 years old who lived in Manahan, Setabelan, Sumber (Surakarta City), were active WhatsApp users, and were willing to become respondents. Intervention and data collection were conducted online. Data analysis used the T-Test test with a significance level of 95%. The results showed that the mean knowledge score after the intervention period was significantly (p -value $0.001 < 0.05$) higher in the intervention group (8.67 ± 1.24) than the mean of the control group (5.33 ± 1.68). The treatment in the form of the PLHIV Look and Listen Campaign was effective in increasing HIV/AIDS knowledge among adolescents after the intervention period. HIV program managers should replicate this campaign to increase HIV knowledge among young people

Keywords: Knowledge; HIV; PLHIV Look-Listen Campaign; RCT

INTRODUCTION

HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immune Deficiency Syndrome) are diseases that have become a global problem (WHO, 2020). Based on a summary of HIV global epidemic data, 38.4 million people in the world are living with HIV (WHO, 2021). The HIV/AIDS and PIMS development

report in Indonesia in the period July - September 2021 showed that the percentage of people living with HIV/AIDS (PLWHA) found was 0.83% of the number of people tested for HIV. Central Java Province ranked 1st in the number of AIDS case findings, with a percentage of 25% (Direktorat Jenderal P2P, 2021). Surakarta is a city located in

Central Java with a total of 345 new HIV/AIDS cases in 2021 (Dinas Kesehatan Kota Surakarta, 2022). Banjarsari sub-district has the highest number of new HIV/AIDS cases in Surakarta City, with 67 new HIV/AIDS cases in 2019, increasing to 71 new HIV/AIDS cases in 2020 (Dinas Kesehatan Kota Surakarta, 2021).

One of the triggers for the increasing number of HIV/AIDS cases in Indonesia is the lack of knowledge and misunderstanding of adolescents about the process of HIV transmission (*United Nations Children's Fund*, 2020). According to the integrated biological and behavioral survey (IBBS), adolescent knowledge related to the correct understanding of HIV prevention declined from 22.30% in 2011 to 18.74% in 2015 (Kemenkes RI, 2015). *United Nations Programme on HIV/AIDS* HIV/AIDS in 2017 recorded adolescents with comprehensive HIV prevention knowledge at 11.4% (UNAIDS, 2017). As for Indonesia, there is an increase in the number of HIV/AIDS cases every year. Namely, the cumulative number of HIV cases reported until June 2020 was 478,784, where 20% of adolescents aged 15-24 years are infected with HIV. (Kemenkes RI, 2022).

HIV/AIDS is vulnerable to young people because of the tendency of adolescents to have great curiosity and dare to take risks without being preceded by careful consideration (Kemenkes RI, 2017). This causes adolescents to be easily influenced to engage in free sexual behavior, abuse Narcotics, Psychotropic and other Additive Substances (NAPZA), thus contracting HIV/AIDS (Sabilla & Ariasih, 2019). Good knowledge can prevent adolescents from engaging in risky sexual behavior (Afrityeni et al., 2018). The level of knowledge is the domain in which someone takes action (Rahayu & Rismawanti, 2017). In addition, good knowledge about HIV can reduce youth stigma and discrimination against PLHIV

(Utami et al., 2023). Based on this, it is crucial to increase HIV/AIDS knowledge in adolescents. Government efforts to prevent the increase in HIV prevalence have taken the approach of educating risk groups, providing HIV testing facilities, and increasing case-finding and screening interventions (Ditjen Pencegahan dan Pengendalian Penyakit, 2020).

Knowledge-enhancing innovations targeting adolescents are commonly conducted using social media. An online randomized controlled trial study using a website among adolescent boys in the United States was effective in increasing HIV/IMA knowledge (Nelson, 2022). Another experimental study about Clean and Healthy Living Behavior called Perilaku Hidup Bersih dan Sehat (PHBS) education through WhatsApp for adolescents during the COVID-19 pandemic also found increased knowledge about PHBS from 61.5% to 76.9%. (Indriani, 2020). In addition, research with audiovisual media interventions as a means of adolescent reproductive health education shows that videos are more effective in increasing knowledge scores than booklets (Wahyuni & Arisani, 2022). The results of the systematic review explain that various intervention models that utilize digital technology affect HIV/AIDS prevention. Interventions targeting young people based on social media are still rare (Carsita & Windiramadhan, 2020). Global Social Media Statistics data showed that there are 5.07 billion social media users worldwide, equivalent to 62.6 percent of the total global population. The number of social media users has also continued to increase over the past 12 months (Global Digital Insight, 2024). WhatsApp is one of the social media platforms that have biggest number of users in Indonesia which was 98.07% (APJII, 2022). The many feature updates WhatsApp provides and the ease of access to the service make many people use this social media (Rahman & Maududi, 2020). The conclusions based on this data



show the opportunity to utilize WhatsApp social media as a tool for health campaigns.

There is a campaign movement conducted by previous researchers by the PKM RSH team of Universitas Muhammadiyah Surakarta, namely the PLHIV Look and Listen Campaign, to reduce HIV stigma through Instagram targeting young people in Pati. The campaign activities combine exposure to PLHIV social contacts and education focusing on prevention and treatment using Instagram social media. The strength of this research was used social contact intervention implemented through the Look-Listen PLHIV campaign using social media Instagram has a good impact on the youth of Pati, resulting in a decrease in HIV stigma (Aji et al., 2022).

The study showed that the Look and Listen PLHIV Campaign was effective in reducing HIV stigma among young people in Pati. Still, there was no significant difference in stigma levels between the intervention and control groups. The Look and Listen PLHIV campaign has the potential to have an effect in increasing knowledge about HIV. Limitations of this study include the relatively low level of respondent compliance with the research protocol in intervention groups. The results show that the majority of respondents did not adhere to the research protocol and viewed all of the videos submitted by the researcher. Considering the limitation of the study, replication of the Look and Listen PLHIV campaign using other social media, in other settings, and a larger scale is needed with cautious monitoring of contamination of the intervention and the adherence to the study protocol in both groups to strengthen evidence of the campaign's effectiveness in HIV/AIDS prevention.

The selection of intervention sites was based on a preliminary study conducted by the researchers, which showed that efforts to increase knowledge about HIV had been carried out in

Surakarta through the existence of Citizens Concerned about AIDS called "Warga Peduli AIDS (WPA)," which plays a role in mobilizing the community to participate in HIV/AIDS prevention and control efforts. In the Banjarsari sub-district, there were three villages with inactive WPAs and no support from stakeholders to carry out socialization activities for the community, namely Manahan, Sumber, and Setabelan villages (Komisi Penanggulangan AIDS, 2022). Therefore, the research was conducted at that location. Thus, the researcher is interested in replicating the Look and Listen PLHIV campaign in another region, namely Surakarta, to assess the effectiveness of the Look and Listen PLHIV campaign with an intervention in the form of social contact video education through WhatsApp on the level of HIV/AIDS knowledge among young people in Surakarta.

METHODS

Types and Research Design

This type of research is experimental with a randomized controlled trial approach, Pretest-Posttest Control Group, with a randomization design. The study was conducted from January to April 2023 in Surakarta. The Health Research Ethics Committee (KEPK) of the Faculty of Medicine, Universitas Muhammadiyah Surakarta (UMS) approved the research, 4764/B.1/KEPK-FKUMS/III/2023.

Population and Sample

The study population was 15-24 years old from Manahan, Sumber, and Setabelan Villages in Banjarsari District, Surakarta City, with a total of 5,334 people aged 15-24 years based on the 1st Semester Net Consolidation Data of Surakarta City in 2022. The inclusion criteria for sample selection are that the sample is a teenager in Manahan, Sumber, and Setabelan Villages aged 15-24 years, actively using WhatsApp, and willing to become a respondent.



Sampling Mechanism

This study was conducted through 2 stages, where I screened the level of knowledge of HIV/AIDS adolescents using nonprobability sampling techniques, namely quota sampling, by considering the desired number of respondents. The sample was obtained from 200 respondents. Knowledge data during the screening stage is data on knowledge about HIV at baseline. Phase II tested the effectiveness of the PLHIV Look and Listen Campaign intervention's effectiveness on the control and intervention groups. Phase II research samples were respondents who had low HIV knowledge scores and were willing to become respondents. The minimum sample size was calculated using the continuous response variable formula, and 20% of the sample was added to anticipate dropout. The total number of both groups was 60 respondents (30 for the intervention group and 30 for the control group). The technique of allocating samples for this study using the block randomization technique was carried out using the Sealed Envelope website by entering the number of research samples along with a block size of 4 blocks and giving code A to the intervention group and code B to the control group.

Treatment PLHIV Look and Listen Campaign

Treatment in the intervention group used personal chat and a custom WhatsApp story addressed only to intervention group respondents. To monitor the implementation of the intervention, see two blue ticks as a sign that the message has been read and know the name of the respondent who has seen the story uploaded by the researcher as an intervention. The intervention is a series of PLHIV Look and Listen Campaign activities. The first week's topics were the presentation of a video on social contact with PLHIV; week II was a change in the

perception of HIV/AIDS as not a deadly disease and support education for PLHIV; and week III was an intervention in the form of HIV/AIDS transmission myths and fulfillment of human rights for PLHIV. The intervention media used amounted to 36 interventions in the form of educational videos with a duration of 1 minute, totaling 26 short videos and 10 posters. The intervention was given for three weeks, with the implementation four times in a week; each time, there were three educational posts with a combination of video and poster. In the control group, no treatment was given. At the end of the research phase, a posttest was conducted on the level of knowledge and evaluation in both groups.

Research Instrument

The questionnaire used consisted of the topics of changing perceptions about HIV/AIDS not being a deadly disease and HIV/AIDS transmission myths with 'true' and 'false' options. The questionnaire consisted of 20 questions, with correct answers given a value of 1 and wrong answers given 0. The questionnaire was tested for validity and reliability on 30 subjects with characteristics similar to those of the research respondents in Banyuanyar Village. The test results showed 12 valid questions and a reliability value of Cronbach's Alpha = 0.735.

Data Analysis

Research data was obtained using a questionnaire accessed through Google Forms. The questionnaire was distributed with the help of stakeholders in 3 urban villages. The analysis was carried out by conducting a data normality test. The data results show that the data is normally distributed. A dependent T-test statistical test was performed to compare pretest and post-test scores in the control and intervention groups. An Independent T-test test was conducted to compare post-test values between control and intervention groups. The interpretation of



the statistical test results was carried out at a level of significance of 95%.

RESULTS AND DISCUSSION

Characteristic of the Respondents

Table 1. Characteristic Respondents

Characteristic	Intervention Group	Control Group
	n (%)	n (%)
Age		
15-18	8 (26.7)	7 (23.3)
19-21	9 (30)	13 (43.3)
22-24	13 (43.3)	10 (33.4)
Gender		
Male	6 (20)	10 (33.3)
Female	24 (80)	20 (66.7)
Education Level		
JHS	4 (13.3)	5 (16.7)
SHS	20 (66.7)	19 (63.3)
Bachelor's Degree	6 (20)	6 (20)

Based on Table 1, this study was attended mainly by the 22-24 age group, with the percentages in the control and intervention groups amounting to 33.4% and 43.3%. Based on gender characteristics, the proportion of respondents of female gender was higher than that of males in both groups. The proportion of the last education level of SHS/equivalent dominated in both groups, with a percentage of 66.7% in the intervention group and 63.3% in the control group.

HIV Information Seeking

Table 2 shows that the search for information about HIV before the intervention period in both the control and intervention groups was quite good, and there was no significant difference between the two groups. Sources of information about HIV in both groups were mainly obtained from TikTok and Instagram.

Table 2. HIV Information Seeking

HIV Information Seeking	Intervention n (%)	Control n (%)
Access to HIV information before intervention		
Yes	18 (60)	20 (66.6)
No	12 (40)	10 (33.4)
Access to HIV information during the intervention		
Yes	3 (10)	5 (16.7)
No	27 (90)	25 (83.3)
Other sources of information on HIV were accessed before the intervention.		
TikTok	33.3	57.1
Instagram	56.6	47.6
Twitter	20	28.5
Facebook	6.6	14.2
WhatsApp	16.6	9.5

Comparison of Pretest and Posttest Knowledge Levels of Control and Intervention Groups

Table 3. Comparison of Pretest and Posttest Knowledge Levels of Control and Intervention Groups

	Intervention		Control	
	Pre-test	Post-test	Pre-test	Post-test
Median	5.00	8.50	5.19	5.00
Mean	4.83	8.67	5.03	5.33
SD	1.20	1.24	1.066	1.68
Min	2	7	2	3
Max	6	11	6	10
p-value	<0.001		0.428	

Based on the information in Table 2, the research findings show that the PLHIV Look and Listen Campaign has been proven to increase the level of HIV/AIDS knowledge among adolescents in Surakarta. The mean score of knowledge level after the intervention increased by 3.86. It was concluded that there was a significant increase in the level of HIV



knowledge in the intervention group after the intervention through WhatsApp. Meanwhile, in the control group, the increase in score was only 0.3, so there was no significant difference in the average pre and post-intervention knowledge score.

The findings of this study indicate that the Look and Listen PLHIV Campaign through WhatsApp can increase HIV/AIDS knowledge among adolescents in Surakarta. This is in line with the research by Manalu et al. (2020), which shows that using WhatsApp applications can increase adolescents' knowledge. In addition, this research aligns with the study (2018), which found a statistically significant increase in diabetes knowledge and self-efficacy in the intervention group after the intervention with the WhatsApp application.

The PLHIV Look and Listen Campaign through WhatsApp uses personal chat and custom WhatsApp stories aimed only at intervention group respondents. To monitor the implementation of the intervention, see the two blue ticks as a sign that the message has been read and know the name of the respondent who has seen the story that the researcher has uploaded as an intervention to ensure that the intervention has been delivered to the intervention group. The use of personal chat has a better response than the use of WhatsApp groups. Research conducted by Habibi (2020) shows that online learning using WhatsApp groups is less responsive, with only one-way alignment and unlimited time, and the material is less maximally conveyed, so there is no feedback from students.

Interventions using personal chat and custom WhatsApp stories aimed only at intervention group respondents have the advantage of being easy to access information and practical, and information is obtained quickly because most individuals open WhatsApp daily. RCT research conducted in Saudi Arabia using WhatsApp showed easy access to

information and cost-effectiveness, which can be an acceptable approach to improve knowledge and disease management in type 2 diabetes patients in the study area (Alanzi et al., 2016).

Comparison of Posttest Scores of Control Group and Intervention Group

Table 4. Comparison of Posttest Scores of Control Group and Intervention Group

Groups	Variable				
	n	Mean	SD	Diff of Mean	p-value
Intervention	30	8.67	1.24	3.34	0.001
Control	30	5.33	1.68		

Table 3 compares the effectiveness of the PLHIV Look and Listen Campaign in both groups. The mean knowledge score after the intervention period was 8.67, higher than the control group's of 5.33, with a mean difference of 3.34 and statistically significant (p-value $0.001 < 0.05$). This indicates that the intervention of the PLHIV Look and Listen Campaign through the WhatsApp social networking application is effective in increasing HIV/AIDS knowledge among adolescents compared to the control group.

Research Implementation Mechanisms and Research Advantages

The research intervention was given for three weeks, with implementation four times in 1 week. Each intervention had three educational posts with video and poster media. The effectiveness of the PLHIV Look and Listen Campaign in increasing knowledge may be obtained based on two advantages of this campaign, namely, the educational intervention carried out is structured education carried out over a long period and the use of a combination of educational media.

Research shows that structured education over several sessions improves



knowledge more than one-time education. This is in line with the research of Hamdi et al., 2016 The control group had a comparison in the provision of interventions. Namely, the single group received intervention for one session in 1 day, the multiple groups received intervention for three sessions in 3 days with a distance of 1 week, and the control group was not given intervention. The results obtained after the intervention in the single group amounted to 2.53, the multiple group to 3.92, and the control group to 2.09. Significant changes occurred in the numerous groups with several sessions. The longer total duration in multiple sessions allows the information delivered to cover more topics and in-depth and detailed interaction than in a single session.

Another advantage is that combining audiovisual media with poster media proved more effective in increasing HIV knowledge than only providing interventions through one media alone. This is in line with research by Sabarudin et al. (2020), which stated that education through videos accompanied by leaflets on the application proved to be more effective than using only one of the leaflets or videos alone. Another study found that a combination of audio, visual, and individual media affected respondents' degree of oral hygiene (Claudia et al., 2017). Another study showed that using video media and pamphlets was effective in significantly increasing the average knowledge score of adolescents ($p < 0.000$) to prevent anemia compared to traditional education. (Nurhayani et al., 2019, Firmansyah et al., 2022).

One of the components of the PLHIV Look and Listen Campaign is social contact. The occurrence of social contact with PLHIV between individuals or groups directly or indirectly will trigger social interactions that can influence each other so that it will produce helping mutualism. Social contact has several benefits in health education efforts,

including influencing each other, where the influence can develop individual or group knowledge (Suparti et al., 2023).

Research Limitations

The results of this study need to be interpreted with some limitations, namely the level of respondent compliance with the research protocol for accessing materials in the intervention group, which was not 100%. 89% of the intervention group accessed the material on social contact video exposure to PLHIV (first week). The compliance rate for accessing materials in the second week, namely materials on the perception of HIV/AIDS as not a deadly disease and support education for PLHIV, was 65.2%. Meanwhile, the percentage of respondents who accessed the material (fulfillment of human rights towards PLHIV) was 84.4%. This data shows that most respondents did not comply with the research protocol when listening to all videos delivered by the researcher. Therefore, the results of this study are more indicative of the level of effectiveness, not efficacy.

Interesting Research Findings

Another interesting finding is that respondents accessed the most material on video exposure of social contact with PLHIV, with a mean of 26.7 (89%). This shows that respondents preferred the PLHIV social contact session that featured PLHIV in the video compared to other materials. The researcher also conducted a survey on the materials that the respondents found interesting. The results showed that the material considered attractive by the respondents was the productive activities and achievements of PLHIV, with as many as 20 respondents (66.6%). This is possible because respondents initially had the assumption that PLHIV would have difficulties in realizing their life goals and would die shortly (Uyun & Siddik, 2017). However, this assumption is not valid with the intervention that PLHIV can lead an everyday, healthy life and can achieve. In



addition, the material that the respondents also favored was the material about the myths of HIV transmission in the community; as many as 21 respondents (70%) chose this topic. Misinformation and myths about HIV/AIDS transmission are still circulating in the community (Simangunsong, dkk, 2021). The media intervention explained some of the myths surrounding HIV/AIDS that are often circulated in the community, such as the myth that HIV is a curse from God (shaking hands, swimming together, being bitten by the same insect, using the same eating and drinking utensils, living in the same house with PLHIV) can contract HIV. Some respondents were intrigued that these things were just myths, and finally, most were interested in this material. The two materials that were interesting for the respondents were the increase in the comparison of the pre-test and post-test results of knowledge on the respondents where the most increase in correct answers included the item about the myth of HIV / AIDS transmission, namely "Drinking from a glass that HIV-infected people have used can contract HIV" with a percentage increase in score of 46.6% after the posttest. Other correct answers were found in the question item "Hugging with PLHIV can contract HIV" (percentage 43.3%). "sharing cutlery with HIV-infected people can transmit HIV" by 40%. It is possible that respondents are more interested because of their lack of knowledge about it. Based on research by Ayuningtias & Solehati (2018), Of the 350 respondents studied, 157 people (44.9%) had good knowledge and understanding of objects that could potentially transmit HIV/AIDS. However, there were 91 respondents (26%) who still had insufficient expertise because, in the indicator question about objects that could potentially transmit HIV/AIDS, there were still some respondents who answered that HIV was transmitted through cough splashes or saliva of HIV-infected people, through the urine of people with

HIV/AIDS, through mucus or nasal discharge of HIV-infected people.

This research is a replication of the PLHIV Look and Listen Campaign by Aji et al. (2022) by changing the research area and variable of interest, namely HIV knowledge. The replication of the PLHIV Hearing View Campaign conducted among young people in Surakarta was undertaken to strengthen the evidence of the effectiveness of the PLHIV Hearing View Campaign in HIV/AIDS prevention, both to increase HIV knowledge and reduce stigma. Stakeholders and HIV program managers can implement the PLHIV Look and Listen Campaign using social media such as WhatsApp to increase HIV knowledge among the community, especially young people. Educational institutions can replicate the Look and Listen PLHIV Campaign media that can be used as additional teaching materials to be applied at the junior high school, high school, and college education levels because this campaign has the potential to have a positive effect on adolescents to increase knowledge about HIV/AIDS. Replication of the study to test the effectiveness of this campaign on targets other than young people and using different social media can be done to strengthen the evidence of the effectiveness of this campaign. Improvements to increase respondent compliance and the study's scope are needed in the next replication of this campaign.

CONCLUSION

The PLHIV Look and Listen Campaign is effective in increasing HIV/AIDS knowledge among adolescents in Surakarta. There was a statistically significant difference between the intervention and control groups, with a mean difference of 3.34 after the PLHIV Hearing View Campaign treatment in the intervention group and no treatment in the control group.



Based on the effectiveness of this campaign in increasing HIV/AIDS knowledge, relevant stakeholders in HIV/AIDS prevention efforts can replicate this campaign with modifications tailored to the characteristics of the target community as an effort to increase HIV/AIDS knowledge in the community. The educational institutions can replicate the PLHIV Look and Listen Campaign media, which can be an additional teaching material to be applied at the junior high, high school, and college education levels because this campaign has the potential to have a positive effect on adolescents to increase knowledge about HIV/AIDS.

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