

Research Article

Peer Support and Anti-retroviral (ARV) Medication Adherence Among People Living with HIV/AIDS: A Cross-Sectional Study

Edi Purwanto^{1*}, Isna Ratri Ramadhani²¹Department of Nursing, Faculty of Health Sciences University of Muhammadiyah Malang²Nursing student, Faculty of Health Sciences University of Muhammadiyah Malang**ORCID**Edi Purwanto: <https://orcid.org/0000-002-4548-5027>**Abstract.**

One of the supports that People Living with HIV/AIDS (PLWHA) can provide each other is the encouragement to take medicine. Medication adherence and not resisting therapy are very important for PLWHA to maintain their immune system, suppress viral replication, and improve quality of life. This study aimed to determine whether there was a relationship between peer support and anti-retroviral (ARV) medication adherence among people living with HIV/AIDS (PLWHA). . The study was conducted in August 2020. The research design used was a correlational study using a cross-sectional approach. The sampling technique used was total sampling. The respondents in this study were PLWHA who are at Cahaya Kasih Peduli AIDS Foundation, WPA Turen n = 45. The variables studied were peer support as the independent variable and medication adherence as the dependent variable. The data collection technique used was a questionnaire. The data analysis method used was the Spearman Rank correlation test using SPSS 25 with a significance of $p < 0.05$. From this study, it was found that 20 (44.4%) for good peer support, 25 (55.6%) for sufficient peer support 13 (28.9%) had high adherence to taking medication, 15 (33.3%) had moderate adherence, and 17 (37.8%) had low adherence. The results of statistical tests in this study showed no significant relationship between peer support and medication adherence to People Living with HIV/AIDS at Cahaya Kasih Peduli AIDS Foundation, WPA Turen, with a significance value of p -value = 0.313. It was found that there is no relation between peer support and medication adherence to PLWHA at the Cahaya Kasih Peduli AIDS Foundation, Turen. Respondents are always expected to pay attention to their medication schedule and be more active in socializing and providing mutual support to fellow PLWHA.

Keywords: *Peer Support, Medication Adherence, People Living with HIV / AIDS (PLWHA)*

Corresponding Author: Edi

Purwanto; email:

purwa_edi@umm.ac.id**Published** 23 June 2023Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the HSIC Conference Committee.

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1. INTRODUCTION

AIDS (Acquired Immuno Deficiency Syndrome), is a set of symptoms of a malignant disease due to the immune system being damaged or paralyzed, caused by infection with the HIV (Human Immunodeficiency Virus) which damages the human immune system, characterized by various clinical symptoms including severe immunodeficiency accompanied by opportunistic infections and malignancies and degeneration of the central nervous system [1]. The HIV virus attacks white blood cells called CD4; it damages the immune system in the human body [2]. CD4 is part of the immune cells in the human body (T lymphocytes, which are part of white blood cells). CD4 ranges between the numbers 450-1400 in normal people. In HIV-positive people, these CD4 values are below normal [3].

HIV/AIDS has become a global epidemic and spread to all parts of the world, including Indonesia. Based on WHO data regarding the global report on the AIDS epidemic in 2018, the number of people living with HIV was 37.9 million, and 23.3 million people received anti-retroviral treatment. Among them, 36.2 million are adults, and 1.7 million are children (<15 years) [4]. In Indonesia, in 1987, in Bali, the first time HIV and AIDS were discovered. From 2005 to 2019. The cumulative number of HIV-infected people reported as of June 2019 was 349,882 people (60.7% of the estimated number of people living with HIV and AIDS in 2016, as many as 640,443 people), and most were found in the 25-49-year-old and 20-year old group. -24 years old. DKI Jakarta is the first province with the highest number of infections, namely 60,501 people, followed by East Java (50,060), West Java (35,529), Papua (33,485), and Central Java (29,048).[5]. Based on the description of the data, cases of HIV/AIDS in Indonesia are worrying because of the relatively high number of PLWHA and the massive distribution of the disease. One of the areas in Indonesia that have relatively high cases of HIV/AIDS is East Java and the area that contributes to this figure is Malang.

The number of people living with HIV/AIDS in Malang is considered to have increased significantly. Based on records from the Malang City Health Office (Dinkes), from 2005-2019, found at least 4,300 cases of HIV/AIDS. Meanwhile, in 2018 alone, there were 508 cases of HIV/AIDS positive people. Malang City occupies the second position in East Java with the most sufferers. However, all these cases are not only among Malang people but people from various regions who happen to check themselves in Malang City [6]. According to data from the Malang Regency Health Office (Dinkes), the number of PLWHA in 2017 reached 2,247 people; in 2018, the number of PLWHA was 2,509. From 2019 until June, the number of PLWHA reached 2,649 people. Meanwhile, according

to the Ministry of Health of the Republic of Indonesia 2019, in Malang Regency, out of 437 people in the risk group who took an HIV test, ten people were HIV positive [5].

Until now, HIV/AIDS still cannot be cured, but HIV infection and replication can still be prevented. One of the objectives of the HIV/AIDS response strategy is to prevent transmission [7]. HIV/AIDS prevention efforts are emphasized through condoms, VCT services, and routine screening. Counseling in VCT services provides psychological support, information, and knowledge of HIV/AIDS, prevention of transmission, promotion of responsible behavior change, ARV treatment, and ensuring the solution of problems related to HIV/AIDS [8].

The discovery of anti-retroviral drugs (ARVs) in 1996 prompted a revolution in caring for people living with HIV. Anti-retroviral (ARV) is given to patients to stop viral activity, restore the immune system, reduce opportunistic infections, improve quality of life, and reduce disability [9]. According to the National AIDS Commission, ARV treatment in Indonesia began in 2005.

Director of Prevention and Control of Infectious Diseases of the Directorate General of P2P of the Ministry of Health Indonesia, Wiendra Waworuntu, said not all PLWHA have received ARV therapy, and only 33% are routinely receiving treatment. As of June 2019, as many as 115,750 PLWHA are undergoing treatment. As many as 23% of them have stopped or discontinued for various reasons.

The Indonesian Ministry of Health said that if within 5-10 years they do not take anti-retroviral drugs, patients who are positive for HIV infection will experience decreased immunity and develop AIDS [10]. Another possible impact is a decrease in immune status caused by higher viral replication. Not taking ARVs can also cause HIV-related morbidity and mortality to increase.

Compliance with taking medication is very important to prevent these possible effects. Adherence to therapy describes the patient's correct behavior in taking medication in terms of dose, frequency, and time. Compliance is a condition where the patient adheres to his treatment based on self-awareness [11].

Factors that support adherence to PLWHA in taking ARV are internal factors, family factors, friends, the WPA (Warga Peduli AIDS) forum or relationships with peer support groups [12]. These factors are interrelated with each other in influencing medication adherence in PLWHA. In line with the results of research conducted by Fauziah, Cahyo, & Husodo (2019), one factor that has the potential is peer support.

Peer support is the support provided by and for people with experience the same person or are experiencing a similar situation by sharing knowledge and experience for mutual benefit. In addition, sharing experiences can build social relationships and

reduce feelings of loneliness [14]; (Levy, Luong, Perrier, Bayley, & Munce, 2019). According to Runiari, Ruspawan, & Pratiwi (2018), Peer support is mental support from PLWHA to other PLWHA.

Peer support improves people's ability to manage their health [17]. This is support offered to others by experienced people. This support can provide motivational support, reduce stigma and discrimination and improve the quality of life for PLWHA[12]. According to [18], peer support can provide forms of support that include education about HIV, the viral life cycle, HIV care and treatment, navigating the service system to get the medical care and support needed, and emotional support and coaching/assistance to manage life with HIV.

According to [15] three forms of support can be provided in the group delivered face-to-face, by telephone, or via short messages (social media) by peers (fellow PLWHA) or individuals who have similar experiences in providing support to others.[19][20].Peer support involves informational support in the form of suggestions with alternative actions and objective feedback relevant to a particular topic. In addition to informational support, there is also emotional support that involves caring, empathy, and encouragement in positive ways. Appraisal/reward support involves the affirmation of feelings, thoughts, and behaviors that motivate and encourage individuals to continue problem-solving despite setbacks.

Based on the description above, researchers are interested in knowing the relationship between peer support and adherence to taking anti-retroviral (ARV) drugs in people with HIV/AIDS (PLWHA). This study aimed to determine whether there is a relationship between peer support and adherence to taking anti-retroviral (ARV) drugs in people with HIV/AIDS (PLWHA).

2. MATERIALS AND METHODS

The research design used in this research is correlational research using a cross-sectional approach. The population taken in this study was 45 people living with HIV in the Cahaya Kasih Peduli AIDS Foundation WPA Turen. The number of samples taken is 45. The sample criteria include inclusion and exclusion criteria, which determine whether or not the sample can be used. The inclusion and exclusion criteria are as follows: Inclusion criteria: PLWHA (People With HIV/AIDS); PLWHA who are willing to participate in the study by filling out informed consent; Not illiterate; whereas the exclusion criteria in this study are: PLWHA with decreased consciousness

The sampling technique used in this study is non-probability sampling, and the type of sampling used is purposive sampling. The independent variable in this study is peer support. Peer support or peer support (fellow PLWHA) is peer support that PLWHA carries out to other PLWHA. The dependent variable in this study was medication adherence. The patient's attitude to follow the instructions for using the drug. Compliance includes health-related habits regarding the use of prescription drugs. This research was conducted at the Cahaya Kasih Care Foundation for AIDS WPA Turen.

In this study, the peer support questionnaire was modified from research conducted by [22]. This measuring tool contains four domains: social acceptance, mutual support, personal growth and empowerment, and resistance and other challenges. Based on the validity test conducted by [23] The ARV medication adherence questionnaire using MMAS-8 found that all questions were valid with a Pearson Correlation value of 0.69-0.898. For the peer support questionnaire, the researcher tested the instrument and obtained the results that all statements were declared valid with a Pearson Correlation value of 0.358-0.796. Based on the reliability test [23], the Cronbach Alpha value for MMAS-8 is 0.876. And for the peer support questionnaire, the researcher tested the instrument and got a Cronbach's Alpha value of 0.813. The medication adherence questionnaire used in this study was the Morisky Medication Adherence Scale (MMAS-8). According to Lee, et al, 2012; Chua, et al, 2013 in[24], MMAS-8 has been validated.

In bivariate analysis, there are two variables: peer support as an independent variable and medication adherence as the dependent variable. The test used is the Spearman-rank correlation test. Ethical principles in research data collection can be divided into three parts: the principle of benefit, the principle of respecting the subject's rights, and the principle of justice. This study has obtained the respondents' consent, and the research place is Cahaya Kasih Foundation Cares AIDS WPA Turen.

3. RESULTS

Based on the results of the data analysis, there is a description of the characteristics of the respondents, which will be presented in table 3.1. Characteristics of respondents based on the age of the majority are adults aged > 19 years (100%), the gender are women (53.3%), the recent education is SMA/SMK (44.4%), work status is working (64.4%), the first time being diagnosed with HIV/AIDS was >5 years (46.7%). Based on the data presented in table 3.2, from 45 respondents, the majority of PLWHA respondents at the Cahaya Kasih Peduli AIDS Foundation WPA Turen received sufficient peer support, as many as 25 people (55.6%).

Judging from the data in table 3.3, adherence to medication in most PLWHA residing at the Cahaya Kasih Peduli AIDS Foundation in WPA Turen is relatively low, with as many as 17 out of 45 respondents (37.8%). In this study, bivariate data analysis was carried out using the Spearman Rank correlation test using the SPSS Statistic 25 application. The cross table of peer support with medication adherence results will be presented in table 3.4.

TABLE 1: Characteristics of respondents based on age, gender, last education, employment status, and first-time diagnosis with HIV/AIDS.

Characteristics of Respondents		Frequency	Percentage (%)
Age	<10 years (children)	0	0%
	10-19 years (teenagers)	0	0%
	>19 years old (adult)	45	100%
Gender	Male	21	46.7%
	Woman	24	53.3%
last education	SD Junior High School	9	20%
	SMA/SMK College	14	31.2%
		20	44.4%
		2	4.4%
Job status	Working	29	64.4%
	Doesn't work	16	35.6%
When first diagnosed with HIV/AIDS	<1 year	4	8.9%
	1-5 years	20	44.4%
	>5 years	21	46.7%

TABLE 2: Distribution by Peer Support for People Living with HIV/AIDS (PLWHA) at the Cahaya Kasih Peduli AIDS Foundation WPA Turen.

Peer support	Frequency	Percentage (%)
Well	20	44.4%
Enough	25	55.6%
Bad	0	0%

TABLE 3: Distribution based on adherence to taking anti-retroviral drugs (ARVs) among people living with HIV/AIDS (PLWHA) at the Cahaya Kasih Peduli AIDS Foundation WPA Turen.

Compliance with taking medication	Frequency	Percentage (%)
Tall	13	28.9%
Currently	15	33.3%
Low	17	37.8%

Based on the crosstabulation table above, it can be seen that as many as seven respondents with high drug adherence received good peer support. In comparison, the other six respondents received sufficient peer support. It can be stated that seven respondents with medication adherence are receiving good peer support, and eight others are receiving sufficient peer support. A total of 6 respondents with low compliance received good peer support, and 11 received sufficient peer support. None of the respondents received poor peer support in this study.

TABLE 4: Crosstabulation of peer support relationship with medication adherence.

		Compliance with taking medication			Total
		Tall	Currently	Low	
Peer support	Well	7	7	6	20
	Enough	6	8	11	25
	Bad	0	0	0	0
Total		13	15	17	45

TABLE 5: Relationship Peer Support with Compliance with Taking Anti-retroviral Drugs (ARV) for People With HIV/AIDS (PLWHA) At Cahaya Kasih Peduli AIDS Foundation WPA Turen.

		peer support	Compliance with taking medication
peer support	Correlation Coefficient Sig. (2-tailed) N	1,000 .45	.154 .313 45
Compliance with taking medication	Correlation Coefficient Sig. (2-tailed) N	.154 .313 45	1,000 .45

Based on the table above, it can be seen that the Spearman Rank correlation test results obtained a p-value = 0.313, which means it is greater than the value of (0.05). This means that there is no relationship between peer support with adherence to taking anti-retroviral (ARV) drugs in people with HIV/AIDS (PLWHA) at the Cahaya Kasih Peduli AIDS Foundation, WPA Turen.

4. DISCUSSION

This study categorizes peer support into three categories: good, sufficient, and bad. The majority of respondents, namely as many as 25 people (55.6%) respondents received sufficient peer support. Meanwhile, it can be concluded that as many as 20 respondents (44.4%) have received good peer support. The results showed that none of the respondents received poor peer support.

Respondents found similarities to the things they experienced with the people around them. Most respondents (88.89%) stated that they felt they were not alone in dealing with living conditions like PLWHA. The fact that the respondents faced the same thing caused them to consciously or unconsciously build a social community that exchanged stories.

Through communication media to share their experiences of living with HIV/AIDS, PLWHA can strengthen each other. The creation of interaction with frequent intensity, thanks to special meetings and conversations through chat groups on the Whatsapp

application provided by the foundation coordinator, allows respondents to meet other people in the same situation. In line with Anok, Aniroh, & Wahyuni[25] stated that one of the characteristics of the relationship between PLWHA is satisfaction and trust in PLWHA's friends. This is the essence of social acceptance in the concept of peer support.

The majority of respondents expressed positive responses to social acceptance items. As many as 25 people (55.56%) agreed, and ten (22.22%) strongly agreed. A total of 24 people (53.33%) agreed, and 16 (35.56%) strongly agreed with item 2. For item 3, as many as 27 people (60%) agreed, and 17 people (37.78%) stated strongly agreed.

The questionnaire contained a statement regarding the mutual support felt by PLWHA, including emotional support (57.78%). This can be seen in the tabulation table of answers per item of the peer support questionnaire. As stated by Mufarika, Fitriah, & Aisyah [26, fellow PLWHA can remind each other to take ARV drugs and share information about good nutrition for PLWHA to maintain health; thus PLWHA can work without worrying about their physical condition and become more productive. Productivity, which is supported by physical conditions, is important because as stated in table 5.1 for the work status section, 64.4% or 29 of the 45 respondents work.

Judging from the research findings, the majority of respondents have felt emotional support, social support, and information support from the community environment where this research is conducted. The gap between PLWHA and their partners, parents, or children in discussing matters related to HIV/AIDS can be resolved in this community. The research findings are presented in the table of answers tabulation per item of the peer support questionnaire in appendix 7 page 121, almost all respondents, namely 80% of respondents (36 people) admit and agree to this. Therefore, it is undeniable that social relations between respondents are also going well. The closeness between the respondents causes a reciprocal relationship from the information aspect.

Another impact that arises from peer support is that respondents become more empowered and confident about what they experience as PLWHA. This can be seen in the research findings attached to the tabulation table of answers per item of the peer support questionnaire in attachment 7 page 121, that 29 people (64.44%) agreed and 13 people (28.89%) strongly agreed to the item 9.

Respondents feel they have the right to speak about things they experience as PLWHA. It can be seen that as many as 28 people (62.22%) agreed, and 13 people (28.89%) strongly agreed to point 8. In addition, the self-confidence that grew in this community could bring the respondents into a different person from before, it means

from a closed person to be more open. An open person, as the researcher intended, has the confidence and trust to survive and carry out positive activities that benefit themselves and others.

Some respondents, namely as many as 16 people, still think that not everyone in the foundation can change just by accepting words. This can be caused by some people living with HIV who are still in the denial stage and there are still no words from others that can change them for the better. Another challenge faced by PLWHA is that there are times when they cannot help certain people, this is represented by item 12 in the questionnaire. In accordance with the tabulation table of answers per item of the peer support questionnaire in appendix 7 page 121, it was found that 23 people (51.11%) disagreed with point 12, which means that there are still many PLWHA who like to help others. However, 13 people (28.89%) agreed, and five people (11, 11%) agreed that there are times when they cannot help certain people. Judging from the research findings, the majority of respondents, as many as 86.67%, revealed that the loss of members in this group and the close relationship created between them made people living with HIV feel sad.

4.1. Anti-retroviral (ARV) Medication Compliance

From the research results obtained, the majority of respondents taking medication adherence in this study is relatively low. This is shown in the results of the study from 45 respondents as many as 17 people (37.8%) had low compliance, 15 people (33.3%) had moderate compliance, and 13 people (28.9%) had high compliance.

The researcher believes that this low adherence occurs because of several things, such as the statement in the item 1 questionnaire, "do you sometimes forget to take your ARV medication?" and item 4, "when you travel or leave the house, do you sometimes forget to bring your medicine?", according to the tabulation table of answers per item of the medication adherence questionnaire in appendix 7 on page 122 the average answer for the two statements is "yes" (14 people in item 1 and 15 people in item 4) which means that some respondents still don't take their medicine regularly. Jaemi, Waluyo, & Jumaiyah (2019) argue that adherence to medication in people with HIV/AIDS includes accuracy in timing, amount, dose, and how a person takes their medication.

The research findings show that a small proportion of respondents still did not take their medicine according to the required schedule in the last two weeks. This can be seen in the research findings presented in the tabulation table of answers per item of the medication adherence questionnaire; based on the respondents' answers to

questionnaire item 2, as many as six people (20%) answered "yes" and item 5 as many as six people. Answered "no" Different constraints can cause low medication adherence. Research conducted by [27] describes three obstacles, including the constraints of health services, the constraints of the patients themselves, and the constraints of drug side effects.

According to Debby (2016); Harison et al. (2020) argued that patients who use health insurance have a lower level of compliance due to the difficulties they face in extending temporary coverage and do not want to disclose their health status in other hospitals. Although the government has provided ARV drugs are free, the financial burden for treatment remains large. This burden is felt to be lighter if the government provides full funding for treatment and care or is handled with a social insurance scheme (Sugiharti, Yuniar, & Lestary, 2014).

Constraints that come from oneself can come from the patient's financial factors which require to pay for transportation and registration fees for those who do not use health insurance. In a study conducted by Sugiharti et al., (2014) it was found that the cost factor for treatment expressed by PLWHA in the form of transportation, administration and blood examination (CD4) costs is still relatively expensive. This financial problem can indirectly lead to low compliance of PLWHA in taking ARV drugs.

The side effects of drugs experienced by patients can be a medical reason to change drugs or even stop medication for a while. Respondents had to change the type of drug due to the side effects they felt. The effect of different drugs on each individual makes the patient feel his illness is getting worse or even feel healthy causing the respondent to stop taking the drug. As stated in items 3 & 6 in the questionnaire. In point 3 "have you ever reduced or stopped using medication or taking medication without telling your doctor because you felt your condition got worse when taking the drug?" as many as 6 of 45 people answered "yes" and as many as 2 of 45 people answered "yes" in point 6, according to the tabulation table of answers per item of the medication adherence questionnaire in appendix 7 on page 122. Respondents in the study Harison et al. (2020) revealed that the severe conditions felt after taking the drug were dizziness, itching, nausea and vomiting and taking medicine every day was unpleasant for many people because whatever happens the medicine must be taken so that the medicine continues to work optimally. This is in line with the results of research by Sugiharti, Yuniar, & Lestary (2014) which explains that boredom in taking drugs can be experienced by PLWHA because they have to take the same medicine every day and should not be missed for the rest of their life. Apart from the absolute schedule of taking medication, the side effects that arise can affect many aspects of daily life such as constrained work

(Puspasari, Wisaksana, & Rovina, 2018). Indirectly some people feel disturbed by this obligation. This is represented by item 7 in the questionnaire, namely 11 out of 45 people (24.44%) answered "yes" to this item. As presented in table 5.1 as many as 64.4% of respondents in this study work daily so this can trigger patients to be busy and forget to take their medicine on time. This is presented in the tabulation table of answers per item of the medication adherence questionnaire in appendix 7 on page 122. In line with the research conducted by Hasana et al. in Puspasari et al. (2018) reported that the main reason for non-compliance was being busy and forgetting to take medication. 4% of respondents in this study worked every day so this could trigger patients to be busy and forget to take their medication on time. This is presented in the tabulation table of answers per item of the medication adherence questionnaire in appendix 7 on page 122. In line with the research conducted by Hasana et al. in Puspasari et al. (2018) reported that the main reason for non-compliance was being busy and forgetting to take medication. 4% of respondents in this study worked every day so this could trigger patients to be busy and forget to take their medication on time. This is presented in the tabulation table of answers per item of the medication adherence questionnaire in appendix 7 on page 122. In line with the research conducted by Hasana et al. in Puspasari et al. (2018) reported that the main reason for non-compliance was being busy and forgetting to take medication.

For data analysis, researchers used the Spearman Rank correlation test with the condition that H1 was accepted if p value < (0.05). The results obtained are p value = 0.313, which means that there is no relationship between peer support and adherence to taking anti-retroviral (ARV) drugs in people with HIV/AIDS (PLWHA) at the Cahaya Kasih Peduli AIDS Foundation, WPA Turen. From 45 respondents, 7 respondents stated that peer support was good with high compliance, 7 others were moderate and 6 others were low. Meanwhile, 6 respondents with high compliance, 8 with moderate compliance and 11 with low compliance stated that peers support was sufficient. Based on the researcher's findings on the respondent's peer support questionnaire which can be seen in the tabulation table of answers per item of the peer support questionnaire in attachment 7 page 121 as many as 16 of 45 people still think that not everyone can change just by accepting words which can be caused by PLWHA who are still living with HIV. are in a denial stage in the face of the situation. In addition, some respondents, namely 40%, felt that there were times when they could not help certain people. This shows that there are still respondents who have not been maximized in getting support from peers or peer support. The results of this study are in line with Adiningsih's research

(2018) which shows that there is no significant relationship between peer support and adherence to ARV medication.

The results of research conducted by Anok et al., (2018b) shows that efforts to increase a person's compliance in undergoing therapy need the role of social support, both from family and other social support, one of which is peer support. According to the Ministry of Health (2012) in Anok et al., (2018b) In addition to the role of peer support groups, there are still several factors that can affect drug adherence in PLWHA, namely patient psychosocial factors consisting of family support, PLWHA knowledge about HIV/AIDS, knowledge about the therapy they are undergoing, and self-awareness of PLWHA themselves. This shows that there is a gap in the majority of peer support, there are still PLWHA whose medication adherence is low.

In research conducted by Fauziah et al., (2019b) explained that in addition to peer support or peer support (fellow PLWHA) social support that can affect adherence to taking ARV drugs in PLWHA is family support (especially parents), partner support, and support from health workers. Subjects whose family knew about their disease status continued to provide support and there was no different treatment. Support from partners that is obtained when PLWHA is open about their disease status in the form of direct delivery to health services and reminding the schedule for taking medication. The support provided by health workers is in the form of words of motivation to always take medicine when doing consultations so that PLWHA feel inspired in living life after consulting with health workers.

This research has limitations experienced by researchers so that this research is still far from perfect and there are still many things that need to be improved. The limitation of this study is that this research has not been able to reveal further the factors that cause the absence of a relationship between the two variables. As the research objective, this study only measures the presence or absence of a relationship between two variables. Another limitation in this study is that the data obtained are still at the surface stage of the problem. Data analysis has not been able to examine more deeply about the behavior, behavior, and forms of concrete peer support of the respondents in the field. This is due to the limitations of the questionnaire as a data collection tool.

5. CONCLUSION

Based on the results of the research that has been carried out, the conclusions that can be drawn are as follows: most of the respondents in the category of adequate peer support, the majority have low adherence and there is no relationship between peer

support and adherence to taking ARV drugs in PLWHA at the Cahaya Kasih Peduli AIDS Foundation WPA Turen.

Acknowledgments

The author would like to acknowledge the University of Muhammadiyah Malang for all the support in this research and the HSIC 2022 committee, which allowed the opportunity to publish this study.

References

- [1] Harti AS. Basic Immunology & Clinical Immunology. Yogyakarta: Graha Ilmu; 2013.
- [2] Hardiansah P. Dewi, Y. Peristiwati, and S. Imam, Diagnostic Immunology and Molecular Biology Techniques. Yogyakarta: Nuha Medika; 2014.
- [3] WANT TO Sofro and SA Sujatmoko. Healthy and Successful with HIV-AIDS. Jakarta: Elex Media Komputindo; 2015.
- [4] WHO. World Health Statistics Overview: Health Monitoring For The SDGs. 2019.
- [5] Ministry of Health of the Republic of Indonesia. Situation Report on the Development of HIV AIDS and PIMS in Indonesia. 2019;(January-March):2019.
- [6] SariHardiyanto. 14 years old, 4,300 HIV sufferers found in Malang. Jawa Pos, Surabaya. 2009. Available: <https://www.jawapos.com/jpg-today/06/02/2019/14-tahun-4300-pengidap-hiv-discovered-di-malang/>
- [7] S.Handayani, R. Mardhiati. The Continuing Role of Peer Support in the HIV Control System at the Provincial and City/Regency Levels of Indonesia. 2018.
- [8] Abrori and Qurbainah. Textbook of Sexually Transmitted Infections. Pontianak: UM Pontianak Press; 2017.
- [9] Nursalam and N. Kurniawati. Nursing Care for Patients Infected with HIV/AIDS. Jakarta: Salemba Medika; 2013.
- [10] Ministry of Health Republic of Indonesia. Basic Health Research. Jakarta; 2018.
- [11] Mufarika F, Aisyah S. The Relationship of the Role of Peer Support Groups with the Quality of Life of People with HIV/AIDS (PLWHA) at the VCT Poly Hospital Syarifah Ambami Rato Ebu Bangkalan. JKM. 2018;3(2).
- [12] MRAnok. U. Aniroh, and S. Wahyuni, "The Relationship of the Role of Peer Support Groups with Compliance with PLWHA in Taking ARVs at the VCT Clinic of RSUD Ambarawa,". Journal of Maternity Nursing. 2018;1(2).

- [13] S.Fauziah, K. Cahyo, BT Husodo. Identification of Factors Causing Drop-Out Arv in TB-HIV Patients in Arjuna's Peer Support Group Semarang. *Journal of Public Health (e-Journal)*. 2019;7(1):519–526.
- [14] Byrom N. An evaluation of a peer support intervention for student mental health. *J Ment Health*. 2018 Jun;27(3):240–6.
- [15] Levy BB, Luong D, Perrier L, Bayley MT, Munce SE. Peer support interventions for individuals with acquired brain injury, cerebral palsy, and spina bifida: a systematic review. *BMC Health Serv Res*. 2019 May;19(1):288.
- [16] Runiari N. ID mMde Ruspawan, and NMAL Pratiwi, "Peer Support With Self-Esteem for HIV-Infected Women of Childbearing Age,". *Journal of Gema Nursing*. 2018;11: <https://doi.org/10.1667/RR00DC.1>.
- [17] McLeish J, Redshaw M. Peer support during pregnancy and early parenthood: a qualitative study of models and perceptions. *BMC Pregnancy Childbirth*. 2015 Oct;15(1):257.
- [18] Cabral HJ, Davis-Plourde K, Sarango M, Fox J, Palmisano J, Rajabiun S. Peer Support and the HIV Continuum of Care: Results from a Multi-Site Randomized Clinical Trial in Three Urban Clinics in the United States. *AIDS Behav*. 2018 Aug;22(8):2627–39.
- [19] Munce SE, Shepherd J, Perrier L, Allin S, Sweet SN, Tomasone JR, et al.; SEPMunce et al. Online peer support interventions for chronic conditions: a scoping review protocol. *BMJ Open*. 2017 Sep;7(9):e017999.
- [20] Thomson G, Balaam MC. International insights into peer support in a neonatal context: A mixed-methods study. *PLoS One*. 2019 Jul;14(7):e0219743.
- [21] Nursalam, *Nursing Research Methodology: Practical Approach*. Jakarta: Salemba Medika; 2016.
- [22] Marino P, Simoni JM, Silverstein LB. Peer support to promote medication adherence among people living with HIV/AIDS: the benefits to peers. *Soc Work Health Care*. 2007;45(1):67–80.
- [23] RHSiahaan and S. Yona. Adherence in taking ARV drugs in HIV/AIDS patients through nuclear family support. University of Indonesia; 2015. pp. 1–6.
- [24] Rosyida L, Priyandani Y, Sulistyarini A, Nita Y. Patient Compliance with the Use of Antidiabetic Drugs Using the Pill-Count and Mmas-8 Methods at the Kedurus Health Center Surabaya. *Journal of Community Pharmacy*. 2015;2(2):36–41.
- [25] MRAnok. U. Aniroh, S. Wahyuni. The Relationship of the Role of Peer Support Groups with Compliance with PLWHA in Taking ARVs at the VCT Clinic of RSUD Ambarawa,". *Journal of Maternity Nursing*. 2018;1(2).

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- [26] Harison N, Waluyo A, Jumaiyah W. Understanding anti-retroviral treatment and barriers to adherence to anti-retroviral therapy in HIV/AIDS patients [Journal of Health Studies]. JHeS. 2020;4(1):87–95.
- [27] S.Fauziah, K. Cahyo, and BT Husodo. Identification of Factors Causing Drop-Out Arv in TB-HIV Patients in Arjuna's Peer Support Group Semarang. Journal of Public Health (e-Journal). 2019;7(1):519–526.