
**FACTORS ASSOCIATED WITH HIV ADHERENCE IN
ANTIRETROVIRAL THERAPY:
LITERATURE REVIEW**

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ABSTRACT

HIV/AIDS is still a global health problem, especially in Africa, Southeast Asia, and the Americas. In Indonesia, this problem is increasing from year to year. The success of HIV/AIDS treatment depends largely on the level of compliance of PLHIV in undergoing Antiretroviral (ARV) therapy. Such adherence includes taking medication according to the dosage, the right time, and without breaking. The purpose of this article is to identify factors related to the compliance of People with HIV/AIDS (ODHA) in undergoing Antiretroviral therapy (ARV), with a literature review method that searches for international and national articles through search engines such as Google Scholar, PubMed, and BMC. From 9 articles reviewed, it was found that the factors associated with the compliance of PLHIV in undergoing antiretroviral therapy varied greatly. However, the factor of knowledge and family support is the most dominant factor. Therefore, it is necessary to emphasize the importance of education and socialization related to HIV / AIDS and ARV therapy. In addition, support from the family is also needed to create a supportive environment for PLHIV in undergoing ARV therapy.

Keywords: HIV/AIDS; PLHIV; Factors; Therapy; Antiretroviral

INTRODUCTION

Human Immunodeficiency Virus (HIV) or often called HIV is a type of virus that attacks the human immune system. This virus belongs to the retrovirus group and can be found in body fluids such as blood, sperm, vaginal fluids, and breast milk (Firmansyah & Erawati, 2020). Meanwhile, *Acquired Immune Deficiency Syndrome (AIDS)* is a set of symptoms of the disease that appears when immune function decreases. HIV-infected individuals require treatment with Antiretroviral (ARV) therapy to reduce the amount of HIV virus in the body, as well as

prevent progression to the AIDS stage (Kadar et al., 2021).

Until now, HIV is still an issue in global health. Africa recorded the largest number of HIV infections, followed by Southeast Asia (3.8 million) and the Americas (3.5 million). Meanwhile, the lowest number is in the Western Pacific, with 1.9 million people infected (Indriani, 2023). The high number of people living with HIV in Southeast Asia emphasizes the need to increase vigilance against the spread and transmission of this virus. In Indonesia alone,

the problem of HIV / AIDS continues to increase every year.

More than 260 million people live in 514 regencies/cities in Indonesia, and about 90% of these regions have reported cases of HIV and AIDS, creating challenges in efforts to contain these diseases. In 2020, it is estimated that there are around 543,100 people living with HIV and AIDS (PLHIV). Data until the end of 2019 shows that 377,564 PLHIV know that they are infected with HIV, and of these, around 23.5% or 127,613 PLHIV are undergoing treatment using antiretroviral (ARV) (Ministry of Health of the Republic of Indonesia, 2020).

The success or failure of HIV / AIDS treatment management is determined by adherence to taking ARV drugs. Taking medication at the right time, without dropping out, and without forgetting is an illustration of the expected level of adherence. (Hardani et al., 2023). ARV therapy is organized in the long term, it is considered the most optimal treatment when the adherence rate reaches more than 95%. Patients undergoing such treatment are expected to adhere to the consumption of ARV drugs throughout life, with punctuality and discipline. (Hidayat & Nurani, 2022). Conversely, non-adherence to treatment becomes the main cause of therapy failure.

From various research literature, there are still problems in the level of adherence to ARV therapy. The results of research by Maulida et al., (2022), showed that HIV/AIDS patients at RSUD dr. Agoesdjam Ketapang were divided into high medication adherence rates (38%), medium adherence (33%), and low adherence (29%) in undergoing antiretroviral treatment. Although there are some patients who are compliant, there are still several patients who do not comply with treatment. This is illustrated from the results of research

conducted by Jaemi et al., (2020) showing 79 respondents (44.1%) showed a level of adherence, while 100 respondents (55.9%) did not comply with treatment rules. Then, the results of Suryanto & Nurjanah's research, (2021) showed that 61 respondents (53%) did not adhere to taking medicine, while 54 respondents (47%) adhered to the schedule of taking medicine. The varying adherence rates of HIV/AIDS patients show that there are many factors that influence how adherence they are to ARV treatment both internally and externally.

So, based on the previous description, the following research question can be formulated: "What are the factors that correlate with the level of compliance of PLHIV in undergoing Antiretroviral (ARV) therapy?".

RESEARCH METHODS

In this study, the method applied is literature review, where international and national article searches are carried out through search engines such as Google Scholar, PubMed, and BMC. The keywords used in the search were "HIV/AIDS ARV Adherence Factors", "Antiretroviral Treatment Therapy Success Factors", "PLHIV Adherence Factors", "HIV Adherence Factors", and "ARV Therapy Success Factors" The search yielded 66,680 articles, obtained 25 articles then filtered the articles found to produce 7 articles. The article consists of 3 international articles & 4 national articles with quantitative research methods. All articles use a cross-sectional research design with a minimum sample of 30. The main finding of the article is to analyze what factors are associated with the adherence of PLHIV in undergoing ARV therapy. The literature to be analyzed is literature that meets the inclusion criteria, namely journal articles published within the



last 5 years with a range of 2019-2023, focusing on research related to PLHIV adherence factors to ARV therapy, while the exclusion criteria are literature that discusses PLHIV compliance factors with ARV therapy that cannot be accessed or paid.

RESULTS AND DISCUSSION

RESULT

After collecting and selecting articles, the next stage is to review these articles. 7 research articles were obtained. Below is a table of journal exposure results that have been reviewed by the author:

Table 1. Results of Literature Review Articles

No.	Author Name Year	Article Title	Research Methods & Samples	Instruments	Result
1.	(Muchtar dkk., 2023)	Faktor– Faktor Yang Berhubungan Dengan Kepatuhan Minum Obat ARV Pada Pasien HIV/AIDS di Puskesmas Lubuk Baja	Quantitative descriptive research design with <i>cross sectional approach</i> . The sample amounted to 33 respondents who underwent ARV therapy.	Questionnaire	The bivariate results showed that <i>p-value</i> 0.000 (knowledge) < <i>alpha</i> 0.05, <i>p-value</i> 0.023 (motivation), <i>p-value</i> 0.002 (attitude of health workers). Thus, there is a relationship between the knowledge, motivation and attitude of health workers with adherence to taking ARV drugs in HIV/AIDS patients at the Lubuk Baja Health Center.
2.	(Isnaini S.A dkk., 2023)	Faktor Yang Berhubungan Dengan Kepatuhan Minum Obat ARV Pasien HIV Rawat Jalan	Using a type of analytical research with a <i>cross-sectional design</i> , there were 139 samples selected by random sampling technique.	Interviews and questionnaires	The results of the statistical test showed that <i>p-value</i> 0.001 < <i>alpha</i> 0.05 (family support) OR 4.05, <i>p-value</i> 0.007 (motivation) OR 3.1, Knowledge with OR value 3.6, and Attitude with OR value 4.5. Therefore, there is a relationship of knowledge, attitude, family support, motivation with adherence to taking ARV drugs for outpatient HIV patients at Dr. H Abdul Moeloek Hospital, Lampung Province.
3.	(Astuti dkk., 2022)	<i>Factors Affecting Anti Retroviral Therapy (ARV) People</i>	In a correlational study with a <i>cross-sectional design</i> ,	Questionnaire	There is a correlation between knowledge (<i>p-value</i> 0.001) < <i>a</i> 0.05 and attitude (<i>p-value</i> 0.003) with the level of adherence to taking ARV



No.	Author Name Year	Article Title	Research Methods & Samples	Instruments	Result
		<i>with HIV/AIDS (ODHA)</i>	involving 80 respondents.		drugs for PLHIV at the Halmahera Health Center in Semarang City. However, no correlation was found between variable access distance and adherence to taking ARV drugs.
4.	(Asaolu & Agbede, 2022)	<i>Factors Influencing Medication Adherence Among Young People Living with HIV In Niger State, Nigeria</i>	The study was a <i>cross-sectional survey</i> with a sample of 208 adolescents living with HIV.	Questionnaire	In the bivariate analysis, factors related to adherence to taking ART medication included education ($p\text{-value} < 0.0001$) a: 0.05, religion ($p\text{-value} < 0.038$) and knowledge ($p\text{-value} < 0.0001$) of medication adherence practices. Respondents with a minimum higher education of secondary school are significantly more likely to comply with ART than people with less education.
5.	(Nabunya et al., 2020)	<i>The role of family factors in antiretroviral therapy (ART) adherence self-efficacy among HIV-infected adolescents in southern Uganda</i>	Type of quantitative research, <i>Crossectional</i> research design. With a sample of 702 HIV-positive adolescents (306 boys and 396 girls).	Surveys and Interviews	The findings suggest the association of family cohesion ($p\text{-value} 0.000 < 0.05$) and communication within the family ($p\text{-value} 0.026$) may help improve self-efficacy of adherence among adolescents living with HIV.
6.	(Sari dkk., 2019)	Analisis Faktor Yang Mempengaruhi Kepatuhan Pasien HIV-AIDS Dalam Terapi	This study is an analytical observational study with a <i>cross sectional</i> approach with a sample of 30	Questionnaire	There is a relationship between family support ($p\text{-value} 0.004 < 0.05$), age ($p\text{-value} 0.034$), education level ($p\text{-value} 0.000$), income ($p\text{-value} 0.000$) and length of time in the ARV program and



No.	Author Name Year	Article Title	Research Methods & Samples	Instruments	Result
		Antiteroviral (ARV)	respondents. The sampling method used is <i>purposive sampling</i> .		compliance (<i>p-value 0.042</i>). While gender has no relationship with obedience.
7.	(Debby dkk., 2019)	Faktor-faktor Yang Berhubungan Dengan Kepatuhan Minum Obat ARV Pada Pasien Hiv di RSCM Jakarta	This study used a correlational descriptive approach with a <i>cross-sectional</i> design, and a sample of 198 patients was selected through <i>purposive sampling techniques</i> .	Questionnaire	There is a relationship between medication adherence and gender (<i>p-value 0.04</i>) < <i>0.05</i> , medication knowledge (<i>p-value 0.010</i>), family support (<i>p-value 0.034</i>), and health insurance (<i>p-value 0.03</i>). However, there was no association between medication adherence to age, education, and therapy regimen.

From the results of the 7 articles above, the factors related to PLHIV compliance in following ART vary greatly. Includes, factors of knowledge, motivation, attitudes of health workers, attitudes of family support, education, age, income, length of time of therapy, gender, and health insurance. Of the 7 articles, there are 5 articles that state that there is a relationship between family support (family communication), in influencing PLHIV compliance. In addition, 5 out of 7 articles also state that knowledge is a factor that can influence PLHIV in undergoing ART therapy. So, it can be concluded from the literature above that knowledge and family support factors have a more dominant role in influencing PLHIV compliance than other factors.

DISCUSSION



Based on the results of the review of articles that have been conducted, knowledge factors and family support factors are the factors that are most closely related to the level of compliance of PLHIV in undergoing antiretroviral therapy.

Knowledge Factor

From the results of the analysis of the articles above, knowledge factors play an important role in influencing the level of compliance of PLHIV in following Antiretroviral therapy (ARV). The knowledge possessed by PLHIV related to their disease, the drugs used, and the benefits of ARV therapy can influence their decision to comply with treatment (Daramatasia & Wulandari, 2023). Research conducted by Waskito et al., (2023), shows a correlation between understanding and the level of

compliance of PLHIV in following ARV therapy, where those who have good knowledge have a 4.9 times higher likelihood of compliance than those with less knowledge.

Adequate knowledge is the basis of information needed to make the right decisions regarding HIV/AIDS conditions and their treatment (Maydianasari et al., 2023). With adequate knowledge, people living with HIV can identify consequences of non-compliance, such as increased disease progressivity, potential HIV transmission, and risk of resistance to ARV therapy. In addition, good knowledge also allows PLHIV to be more actively involved in their personal care. People living with HIV can ask health care professionals, understand treatment instructions, and better manage medication side effects. Thus, adequate knowledge not only creates a better understanding of ARV therapy, but also empowers PLHIV to play an active role in maintaining personal health. Therefore, it is necessary to emphasize the importance of education and socialization related to HIV/AIDS and ARV therapy to increase knowledge of PLHIV and simultaneously increase the level of adherence to treatment.

Family Support Factors

In addition to knowledge, family support has also emerged as a dominant factor in influencing PLHIV compliance. Family support can be defined as concrete verbal or nonverbal information, advice, assistance, or behavior provided by individuals who have a close relationship with the subject in their environment (Ramadani et al., 2022). Family support also includes presence and other elements that can provide emotional benefits and influence the behavior of the recipient. The results of the study obtained by Suntara et al., (2022),

prove that there is a correlation between family support and adherence to taking ARV drugs in PLHIV at the Hospital Voluntary Counseling and Testing Clinic. Saint Elisabeth. That is, 59.5% of respondents received support from family with adherence to therapy more than 59.5%.

Emotional, social, and practical support from family can create a supportive environment for PLHIV to undergo ARV therapy (Loka et al., 2020).

a. Emotional Support

Emotional support involves aspects of attention, understanding, and emotional warmth from the family towards PLHIV. Provide psychological support and mental encouragement that builds the mental resilience of people living with HIV. Thus, PLHIV can overcome stress, anxiety, and negative feelings related to their health conditions (Safitri, 2020).

b. Social Support

This social support involves positive interaction and social involvement from family or surrounding circles. Such as, support from friends, family members, or a support community. When undergoing ARV therapy, PLHIV really needs social support so that PLHIV does not feel excluded, or shunned. In addition, with social support, PLHIV can be more enthusiastic in undergoing ARV therapy.

c. Practical Support

Practical support from family is tangible help in the form of physical or in-kind assistance. For example, the family can help in arranging medicine, accompany to the place of treatment, or aid in practical matters related to treatment. This practical support greatly helps people living with HIV to follow treatment plans, address problems,

and ensure that they adhere to a predetermined treatment schedule more easily.

CONCLUSION

There are many factors associated with the adherence of PLHIV in undergoing Antiretroviral (ARV) treatment. Of the 9 articles reviewed, the factors involved included knowledge, motivation, attitudes of health workers, family support, education, religion, age, income, length of therapy, gender, health insurance, and drug side effects. However, family knowledge and support factors are the most dominant factors in influencing PLHIV compliance. Adequate knowledge provides an informed basis for informed decision-making regarding HIV/AIDS conditions and ARV treatment. With an adequate level of knowledge, people living with HIV can be more actively involved in their personal care and have a better understanding of ARV therapy. The need to foster open communication with family members about HIV status can create a supportive environment. Seek emotional support and communicate treatment needs. In addition, educate the public about HIV to dispel myths and reduce stigma, and foster family dynamics that are more supportive and understanding.

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