



Exhaustive Analysis of the Study of Antiretroviral Adherence Factor From HIV/AIDS Patients

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Abstract

Adherence of HIV/AIDS patients in ARV therapy is an important factor in the success of HIV/AIDS treatment because continuous ARVs can suppress the development of the virus, reduce viral resistance, improve the HIV/AIDS patient's quality of life, and improve their health in general. This study aimed to review the literature that has researched factors related to the non-adherence of HIV/AIDS patients in taking ARV therapy. The research conducted an empirical analysis related to the aspects of adherence of HIV/AIDS patients to antiretroviral therapy (ART). A total of 71 kinds of literature discusses the adherence of patients with HIV/AIDS to treatment with ARVs. Literature was obtained based on searches on the Scopus website for the year 2019-2023. The literature is dominant in 2019 and has decreased over time. The publication is predominantly in Q1-indexed journals, with the first author coming from the USA. General factors that become ART adherence based on the literature include finance, mental health, alcohol consumption, drug abuse, belief, self-efficacy, knowledge, homeless, support, and tobacco/smoking. The most commonly encountered factors are support and mental health. The further suggestions for medical personnel or patients with HIV/AIDS and their families to be more synergistic in carrying out medical therapy.

Introduction

HIV/AIDS is still a serious threat in many countries (Conroy *et al.*, 2022; Nakimuli-Mpungu *et al.*, 2022; Parro-Torres *et al.*, 2022; Toska *et al.*, 2023). HIV/AIDS is considered dangerous because it attacks the human immune system (Kemigisha, *et al.*, 2019). In the case of HIV AIDS, no medicine can cure it, so the consumption of antiretroviral (ARV) drugs plays an important role in the condition of HIV/AIDS patients because it can suppress the amount of virus present. Monitoring viral load and monitoring CD4 counts can provide information that can be used to significantly increase the life expectancy of patients living with HIV (Shoko & Chikobvu, 2019).

ARVs are declared useful for AIDS therapy and are given in the form of antiretroviral therapy (ART). ART significantly improves immune health and survival rates in HIV, but these results are dependent on near-perfect adherence (Harrison *et al.*, 2021). According to the 2012 universal ART guidelines, as part of "treatment as prevention" (TasP), all people living with HIV (PLWHA) should immediately start antiretroviral therapy post-diagnosis to facilitate viral suppression (Paschen-Wolffa *et al.*, 2020). ARV drugs must be consumed throughout the life of HIV/AIDS patients, so adherence to drug consumption is important so that resistance does not occur, which leads to therapy failure. The benefits of ARVs include

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reducing the death rate for patients with HIV/AIDS infection, reducing the number of hospitalizations, reducing the amount of the HIV/AIDS virus in the blood, and restoring decreased immunity (Kamal *et al.*, 2021).

Adherence of HIV/AIDS patients in ARV therapy is an important factor in the success of HIV/AIDS treatment because continuous ARVs can suppress the development of the virus, reduce viral resistance, improve the HIV/AIDS patient's quality of life, and improve their health in general. Conversely, patient non-adherence can be a cause of the failure of ARV therapy. Besides causing drug resistance, patients will need second or third-line ARVs at great expense due to their limitations. The complexity of the treatment procedure determines the degree of non-adherence, the degree of lifestyle changes required, the length of time for which the patient has to comply with the advice, whether the disease is diseased, whether the treatment appears to have the potential to save a life, and the severity of the disease as perceived by the patient rather than a healthcare professional (Mi *et al.*, 2020; Saravolatz *et al.*, 2019; Wen *et al.*, 2020). Patient adherence to HIV/AIDS can occur by involving social support, family, and other support systems to prevent wider transmission of HIV/AIDS. The more people who are treated, the more lives will be saved, and the transmission of HIV will decrease.

ARV therapy can be carried out properly and correctly, so social and community support is needed so that HIV/AIDS patients can reduce the negative impact of infection with this disease. Social support is one of the factors that influence adherence to care. Social support can be provided through family, or the closest person can provide information to patients or as a provider of funds for patients (Bradley *et al.*, 2019). Support can also take the form of providing a safe and peaceful place to rest. Theoretically, it is said that family support can influence patients' attitudes and behavior in following the treatment process. Subsequent support from the environment around patients with HIV/AIDS is in the form of emotional support, such as appreciation, love and affection, trust, concern, and a willingness to hear about any problems related to patients (Dinaj-Koci *et al.*, 2019). It can also be in the

form of motivation so that the patient can still adapt to changes in his lifestyle.

It is a challenge for health services to know the factors that influence and increase patient adherence to HIV/AIDS in carrying out ARV therapy. Many things sometimes cause non-adherence in patients with HIV/AIDS. Several psychosocial barriers, such as depression and mental disorders, low knowledge about health, low social support, and even the patient's age, can affect adherence (Mesic *et al.*, 2019). Patient non-adherence can be influenced by age, education, economic problems, fear of side effects, lack of knowledge about the disease, ease of access to services, family support, and medical personnel (Burger *et al.*, 2023). The lack of research that examines in detail the study of factors that contribute to patient non-adherence, including the trend of its publications over the last five years, caught the attention of these researchers. This study aimed to review the literature that has researched factors related to the non-adherence of HIV/AIDS patients in taking ARV therapy. The author conducted an empirical study related to the factors of adherence of HIV/AIDS patients to antiretroviral therapy (ART). This study is a valuable discourse for medical personnel in providing HIV/AIDS ART based on conditions that can affect their adherence to therapy. The results are a valuable consideration for medical staff, nurses, and counselors in carrying out their obligations to support and treat patients with HIV/AIDS.

Method

The author examined in-depth empirical literature studies from Scopus-indexed journals. The systematic literature review consists of formulating problems, collecting literature, evaluating literature, and analyzing and interpreting the findings. The five stages are the process of finding answers to research questions. The research questions were structured to facilitate the literature review. The following is research on this literature review: What are the general characteristics of the literature, what factors influence the adherence of HIV/AIDS patients taking ART, based on the current research, and what are the recommendations for future research?

The authors compiled the literature included in this review from two primary sources. First, the first author did a manual search of articles published between 2019 and 2023 by searching metadata on the Scopus website with the keywords “HIV/AIDS,” “ART,” and “adherence.” The search includes criteria for journal articles that specifically address the psychology of HIV/AIDS patients. Second, the list of identified study references is valid. Hundreds of documents were found. However, only 71 articles met the criteria, as explained in the following section. Authors sift through hundreds of search results to find potentially relevant studies by reading their titles and abstracts. After that, several studies examined the entire content for its application. Two

of our main criteria in selecting articles for review were studies of HIV/AIDS patients who demonstrated a response to ART adherence. As a result, only 71 studies were selected as data for review. Information extracted from the literature was organized to identify characteristics, including information on the author of each literature, year of publication, journal name, author’s region, specific patient characteristics, and factors for adherence to ART.

Result And Discussion

Studies on the use of ARVs in treating patients with HIV/AIDS and the factors influencing patient adherence to ART have been published in health journals and health

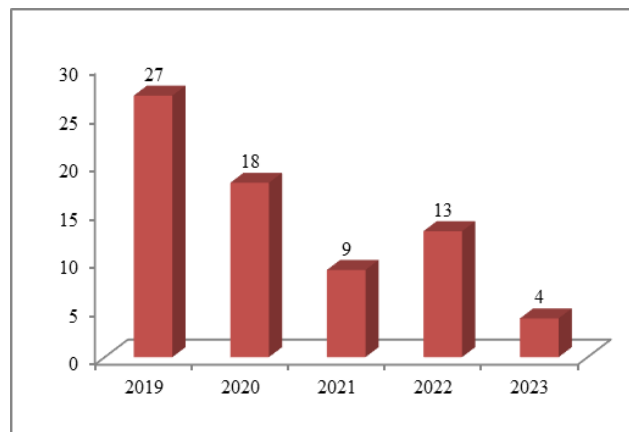


FIGURE 1. Number of Publications per Year

TABLE 1. The Distribution of Research on HIV/AIDS Adherence with ART

Country	f	First Author
India	1	Subramanian (2020)
Africa	1	Nakimuli-Mpungu (2022)
Brazil	1	Costa (2022)
Canada	3	Barker (2019), Ickowicz (2020), Erickson (2022)
China	5	Hana (2020), Mi (2020), Wen (2021), Jiang (2019), Peng (2021)
Israel	1	Chemtob (2022)
Japan	1	Nguyen (2020)
Korea	1	Lee (2020)
Nigeria	1	Onu (2021)
South Africa	8	Knettela (2019), Toska (2023), Jeffrey (2019), Sileo, (2019), Umar (2019), Kemigisha (2019), Minja (2019), Okonji (2023)
Spain	2	Parro-Torres (2022), Valencia (2022)

Country	f	First Author
Switzerland	1	Kamal (2020)
Ukraina	1	Harrison (2021)

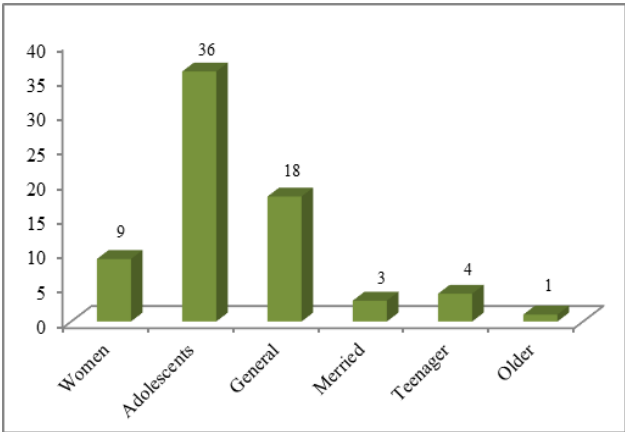


FIGURE 2. The Specific Respondent

psychology journals for a long time. This research review activity was carried out for one month, from mid-June to mid-July 2023. Patients with HIV/AIDS have generally dominated the design of the conceptual change study through surveys and interviews. The findings presented below support the statements made above. To find out what factors influence the adherence of HIV/AIDS patients during ART, researchers used NVivo software to map the relationship between the literature and factors influencing ARV adherence. Literature is labeled with the year, type of respondent, and number sequence.

The research selected for review spanned from 2019 to 2023 (as shown in **FIGURE 1**). Most of the research was conducted in the USA, South Africa, and China. **TABLE 1** shows the entire data set. Most research is published in leading medical and scientific journals such as AIDS and Behavior (see **TABLE 2**). Health psychology journals have also published research on adherence of PLWHA to ART. The number of publications has fluctuated over the last five years, as shown in **FIGURE 1**. The highest number of publications appeared in 2019 and decreased gradually going forward. As

a result of the COVID-19 pandemic, academics and researchers have faced unexpected and ongoing disruptions in research activities on the adherence of PLHIV to ART. Medical personnel and patients face several obstacles in the treatment process, especially during the social distancing period during the COVID-19 pandemic. Therefore, this study contributes to future studies of treating patients with HIV/AIDS on ART.

The distribution of participants is shown in Figure 2. Most studies were conducted on patients with HIV/AIDS without age or gender disaggregation. Furthermore, some studies have specific respondent criteria, including female gender, adolescent, and older.

Adherence means orderly self-administered ART medication (Holstad *et al.*, 2019). Figure 2 shows that researchers in ARV adherence studies take more samples from adults because adults tend to have more complex problems that cause non-adherence, likewise, in exceptional cases that are simultaneously experienced by patients with the female gender or in married couples. Specific factors in women patients are during

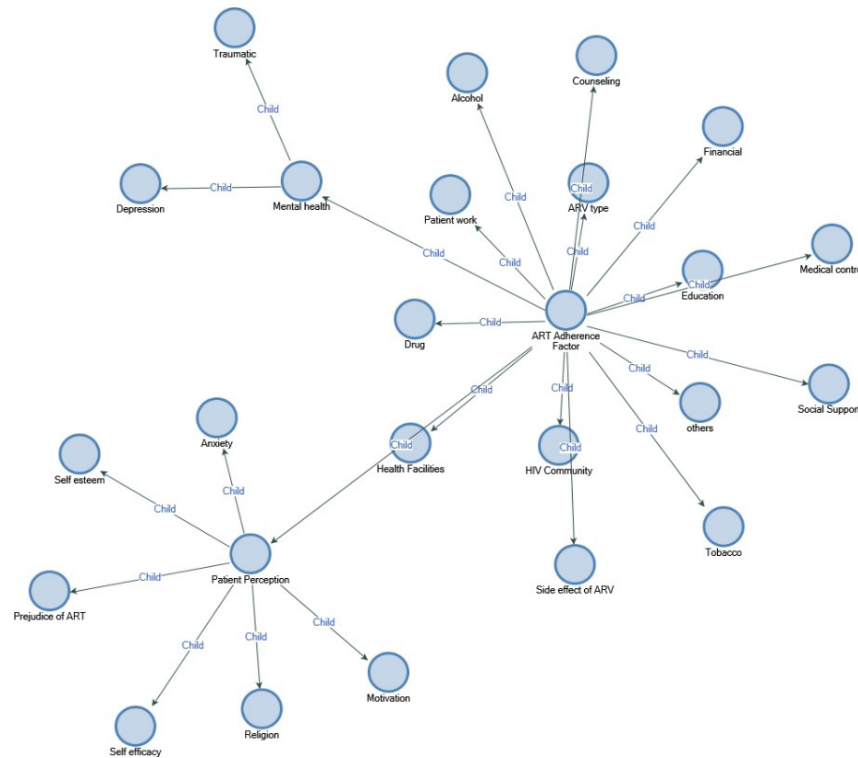


FIGURE 3. The Factor of ART Adherence

pregnancy and the postpartum period needed to prevent vertical transmission of HIV and to secure the long-term health of a woman living with HIV/AIDS (Minja *et al.*, 2019). Counseling interventions are needed to help HIV-infected women accept their status and reduce feelings of embarrassment. Another solution is the Long-acting injectable (LAI) treatment process, providing ease of treatment for patients with conditions of youth and women with child-rearing responsibilities (Philbin *et al.*, 2022).

Stigma related to HIV/AIDS and stressful life events are directly related to depression, and depression is directly related to health. Although antiretroviral treatment (ART) is a potent treatment for HIV, it makes it a chronic nonterminal disease. However, it is still not optimal if the patient has life pressures that can affect the functional health of PLHIV (Glynn *et al.*, 2019). The most dominant factor in patient compliance with HIV/AIDS is support from family or closest people, followed by mental health. Factors that should also be considered are the patient's condition, who constantly consumes alcohol, and knowledge about patients with HIV/AIDS (see **FIGURE 3**). A small amount of literature also considers

economic conditions, including living and financial conditions, as a factor of compliance.

Patients with HIV/AIDS are more non-adherent to combination antiretroviral therapy (ART) and experience worse HIV treatment outcomes when accompanied by injecting drug use (Ickowicz *et al.*, 2020). One solution is given Maximally-assisted therapy (MAT). The MAT is an interdisciplinary treatment intervention that includes the dispensation of ART to support individuals with a history of addiction. MAT-based programs can become part of a new evidence base for increasing rates of morbidity, mortality, and transmission of viruses related to HIV/AIDS (Barker *et al.*, 2019). Compliance in patients with drug use disorders can be supported by motivational reinforcement, as evidenced through interviews. Research findings support MI as the behavioral therapy for broad dissemination to HIV care settings to increase ART adherence in patients with drug use disorders (Hartzler *et al.*, 2019). Furthermore, the co-location of drug therapy and HIV services can improve the optimization of patient care (Paschen-Wolff *et al.*, 2022).

This research will broaden our knowledge of risk factors for disease development beyond

ART adherence, which is essential as a follow-up can provide additional interventions, especially as treatment means that people living with HIV/AIDS have markedly increased life expectancy. The author provides further suggestions for medical personnel or patients with HIV/AIDS and their families to be more synergistic in carrying out medical therapy. For medical personnel to optimize patients' needs or complaints, this also includes knowledge, availability of clinics, and technology that can support patients to communicate or consult more easily (Padilla *et al.*, 2021; Sullivan *et al.*, 2021). Ultimately, patients and their families can support each other to plan and anticipate the future (Davis *et al.*, 2019; Takada *et al.*, 2021).

Conclusion

A total of 71 kinds of literature discusses the adherence of patients with HIV/AIDS to therapy with ARVs. Literature was obtained based on searches on the Scopus website for the year 2019-2023. The literature is dominant in 2019 and has decreased over time. The publication is predominantly in Q1-indexed journals, with the first author from the USA. General factors that become ART adherence based on the literature include finance, mental health, alcohol consumption, drug abuse, belief, self-efficacy, knowledge, homeless, support, and tobacco/smoking. The most commonly encountered factors are support and mental health. The further suggestions for medical personnel or patients with HIV/AIDS and their families to be more synergistic in carrying out medical therapy. For medical personnel to optimize the needs or complaints that patients feel, this also includes knowledge, availability of clinics, and technology that can support patients to communicate or consult more efficiently, and both patients and their families can support each other to plan and anticipate the future.

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consent was obtained from all participants through ethical research practices.

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