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The Relationship Between the Level of Compliance with Antiretroviral Treatment and the Quality of Life Of HIV/AIDS Patients at Bekasi District Hospital

Ahfad Saeroji[1], Yogi Giantara[2]
University of Medika Suherman
Email : ahfadsaeroji@gmail.com, giantara_y@yahoo.co.id

The increasing number of HIV/AIDS cases in Indonesia requires optimal management through Antiretroviral (ARV) therapy to improve the quality of life of patients. Adherence to ARV medication is a key factor in the success of therapy and achieving optimal quality of life for HIV/AIDS patients (Kemenkes RI, 2024). This study aims to analyze the relationship between the level of ARV treatment adherence and the quality of life of HIV/AIDS patients at RSUD Kabupaten Bekasi. The research method used is observational analytic with a cross-sectional approach. The study sample consisted of 133 people with HIV/AIDS undergoing ARV therapy, selected using the total sampling technique (Sugiyono, 2020). The results showed a significant relationship between the level of ARV treatment adherence and the quality of life of HIV/AIDS patients ($p = 0.001 < 0.05$). Based on this research can be concluded that the Correlation Coefficient value of 0.558 indicates a moderate relationship, where high adherence positively influences the quality of life, especially in physical health and patient independence. Frequency distribution showed that 56.7% of respondents had low adherence, 40% moderate, and 3.3% high, with 43.4% having poor quality of life, 46.7% fair, and 10% good.Tthese findings indicate that adherence to ARV treatment plays an important role in improving the quality of life of HIV/AIDS patients. Therefore, continuous education and support are needed to enhance patient adherence.
Keywords: HIV/AIDS, ARV Adherence, Quality of Life

Corresponding Author:
Ahfad Saeroji
University of Medika Suherman
ahfadsaeroji@gmail.com

1. Introduction

Health is one indicator for measuring the level of well-being of a society or nation. The current health paradigm promoted calls for a shift in public mindset from treating illness to maintaining or safeguarding health to avoid illness. Therefore, an understanding of disease and how to prevent it needs to be disseminated widely.

One aspect of health at the end of the 20th century that posed a disaster for humanity was the emergence of a disease caused by a virus, HIV (Human Immunodeficiency Virus), which can lead to AIDS (Acquired Immunodeficiency Syndrome). Generally, HIV is the initial stage of AIDS. HIV attacks the immune system, weakening the patient's immune system and leaving them vulnerable to various diseases. Patients with AIDS experience a condition where the body is unable to fight off infections. In other words, AIDS is the final stage of HIV infection.

According to statistics from the United Nations Programme on HIV/AIDS (UNAIDS), in 2021, there were 38.4 million people worldwide living with HIV (Human Immunodeficiency Virus), an estimated 1.5 million new HIV infections, and approximately 28.7 million people undergoing treatment with antiretroviral therapy (ARV). Based on mortality, 650,000 people died from HIV/AIDS in 2021, claiming 40.1 million lives since the disease emerged (UNAIDS, 2022).

Meanwhile, in Asia, there were 6.5 million people living with HIV/AIDS, an estimated 300,000 new HIV infections, and approximately 4.22 million people undergoing treatment with ARV therapy, claiming 150,000 lives throughout 2022 (UNAIDS, 2022). Meanwhile, HIV/AIDS cases in Indonesia continue to increase year after year. The Ministry of Health recorded 35,415 new HIV cases and 12,481 new AIDS cases throughout 2024, from January to September. This number nearly surpasses the number of cases in the same period last year. In 2023, more than 50,000 new HIV/AIDS cases were recorded (Ministry of Health, 2024).

The West Java Provincial Health Office (Dinkes) stated that the number of HIV/AIDS cases in 2024 did not significantly increase compared to 2023. This was based on data recorded from the beginning to the end of the year. According to the Head of Disease Prevention and Control (P2P) at the West Java Health Office, the number of HIV/AIDS patients in West Java was 9,710 in 2023, compared to 8,886 in 2024. Bandung was the region with the highest number of HIV cases, with 870 recorded from January to September 2024, followed by Bekasi City with 754 cases and Bekasi Regency with 723 (West Java Health Office, 2024).

Based on preliminary data collected at Bekasi Regency Hospital, the number of HIV/AIDS cases from January to November 2024 was 712, with 696 patients receiving ARV treatment. Meanwhile, 16 new visits were recorded. However, medication adherence assessments for HIV/AIDS patients at Bekasi Regency Hospital only assess monthly medication intake schedules. In the past month, 30 patients registered for medication intake.

HIV/AIDS can cause major problems for sufferers, namely a decrease in immunity, which can negatively impact quality of life (Lasi & Aty, 2018). The quality of life of people with HIV/AIDS is crucial because this infectious disease is chronic and progressive, impacting several dimensions of life, including physical, psychological, social, and spiritual (Prameswari, 2018).

A low quality of life for people with HIV/AIDS can impact future survival and even death (Khairunniza & Saputra, 2020). To ensure the continued health of HIV/AIDS patients, one of the officially recommended treatments by the government is ARV therapy (Syawaludin et al., 2021). ARVs cannot cure HIV/AIDS, but they can prevent HIV infection and replication (Sari et al., 2019).

People with HIV require ARV treatment to reduce the amount of HIV in their bodies to prevent progression to AIDS, while people with AIDS require ARV treatment to prevent opportunistic infections and their various complications (Ministry of Health of the Republic of Indonesia, 2020). Therefore, ARV treatment requires high levels of adherence to treatment stages and procedures to achieve treatment goals (Batubara & Marfitra, 2020).

Antiretroviral (ARV) therapy is a medication that can reduce the number of HIV viruses in the body. ARV treatment is expected to reduce morbidity and mortality, improve quality of life, maintain immunity, and maximize viral replication (Sugiharti et al., 2014).

Adherence to ARV treatment in HIV/AIDS patients is crucial in the treatment of HIV and AIDS. This is because ARV therapy can prolong life but cannot cure HIV infection. However, ARV therapy can reduce the amount of virus in the body with continued use. Therefore, neglecting to take medication can lead to resistance (Basri, 2018).

Research conducted by Rihaliza et al. (2019) on HIV/AIDS patients at the Voluntary Counseling and Testing Polyclinic at Dr. M. Djamil Padang General Hospital showed a positive relationship between medication adherence and quality of life in HIV/AIDS patients. This contrasts with the results of studies conducted by Rahmawati et al. (2020) and Mwesigire et al. (2015). The results of a study conducted on HIV/AIDS patients in Samarinda City showed no relationship between medication adherence and quality of life in HIV/AIDS

patients (Rahmawati et al., 2020). Meanwhile, research conducted on HIV/AIDS patients in Uganda showed no relationship between quality of life between HIV/AIDS patients using ARVs and those not using ARVs (Mwesigire et al., 2015).

Various studies have been conducted to determine the relationship between medication adherence and quality of life in HIV/AIDS patients, but the results of each study vary. The difference between this study and previous research lies in the medication adherence questionnaire used by the researchers.

A preliminary study conducted on eight patients taking medication revealed that five patients were enthusiastic about living with their current condition and willing to take their medication to achieve a longer life. The other three patients had resigned themselves to their condition and rarely returned to the regional hospital for medication.

Based on this description, the researchers were interested in examining the relationship between ARV medication adherence and quality of life in HIV/AIDS patients.

2. Method

The type of research used in this study is quantitative analytical research, a method based on concrete data and applied to sample and population research. The research data is in the form of numbers that can be calculated using statistical analysis for calculation purposes aimed at testing the hypothesis (Sugiyono, 2020). This study employed a quantitative analytical research design with a cross-sectional approach, where the independent and dependent variables were observed and collected simultaneously. This research was conducted at the Bekasi Regency General Hospital in 2025. The study period was approximately three months, from the initial survey, data collection, data analysis, and the thesis seminar.

The population in this study was 133 people with HIV/AIDS who visited the Bekasi Regency General Hospital and received antiretroviral therapy over a three-month period. Data from 30 patients who visited within one month were collected. The sampling technique used in this study was non-probability sampling with total sampling, a sampling technique that uses the entire population as a sample (Sugiyono, 2020). The type of data used is quantitative, that is, data obtained from calculations and expressed in quantity. The data source used is primary data. Primary data is collected directly from the primary source through interviews. Primary data is typically specific and tailored to the researcher's needs. Data collection took place in December 2024.

A dependent variable is a variable whose value is influenced or determined by another variable (Nurani & Sari, 2023). The dependent variable in this study is adherence to antiretroviral (ARV) medication in people living with HIV. An independent variable is a variable whose value influences or determines another variable (the dependent variable) (Nurani & Sari, 2023). The independent variable in this study is family support for people living with HIV.

Data processing used the SPSS application with several stages. Editing involves checking statements submitted by respondents. Coding involves assigning codes to variables from the collected data to facilitate reading and allow for computer processing. Scoring involves assigning scores to each respondent's answers. Tabulating, the researcher entered all scored questionnaire responses into a table (scoring).

This research data analysis used univariate and bivariate analysis. Univariate analysis was used to describe each variable. The results of the data analysis were in the form of frequency distributions and percentages for each variable, presented in tables and narratives. The analysis examined respondent characteristics, including age, gender, education, occupation, living status with family, family support variables, and

adherence variables. The bivariate analysis stage was conducted to determine the relationship between family support and adherence to antiretroviral medication in people living with HIV (PLWHA).

The statistical test used in this study was the Spearman Rank Test. The reason for using this statistical test is because the type of research used was a correlative study with a categorical (ordinal-ordinal) measurement scale, so the appropriate statistical test was the Spearman Rank Test.

3. Results And Disccusion

Table 1. Frequency Distribution by Gender, Age, and Education

Characteristics		Frequency (N)	Precentage (%)
Age	Age 20-30	18	60
	Age 30-40	12	40
	Total	30	100
Gender	Female	18	60
	Male	12	40
	Total	30	100
education	Elementary School	3	10
	Middle School	11	36,7
	High School	12	40
	Bachelor's Degree	4	13,3
	Total	30	100

Based on the statistical test of the frequency distribution of the characteristics of 30 respondents, 18 (60%) were in the 20-30 age group, 18 (60%) were female, and 12 (40%) had a high school education.

Table 2. Frequency Distribution of Respondents Regarding Medication Compliance

Medication Compliance	Frequency(N)	Precentage(%)
Low	17	56,7
Moderate	12	40
High	1	3,3
Total	30	100

Based on the statistical test of the frequency distribution of the characteristics of 30 respondents, 17 (56.7%) were categorized as having low medication adherence, 12 (40%) were moderately compliant, and 1 (3.3%) were highly compliant.

Table 3. Frequency Distribution of Respondents Regarding Quality of Life of HIV/AIDS Patients

Quality of Life for HIV/AIDS Patients	Frequency(N)	Precentage(%)
Poor	13	43,3
Sufficient	14	46,7
Good	3	10
Total	30	100

Based on the statistical frequency distribution test of the characteristics of 30 respondents, 13 (43.4%) of HIV/AIDS patients were categorized as having a Poor Quality of Life, 14 (46.7%) of HIV/AIDS patients were categorized as Fair Quality of Life, and 3 (10%) of HIV/AIDS patients were categorized as Good Quality of Life.

Table 4. Spearman Rank Test Frequency Distribution Relationship Between Antiretroviral Treatment Adherence Level and Quality of Life in HIV/AIDS Patients

Characteristics	Frequency (N)	Precentage(%)	*P-Value*	Correlation Coefficient
Medication Compliance	30	100	0,033	0,391
Quality of Life in HIV/AIDS Patients	30	100		

Based on the results of the Spearman Rank Statistical Test, the p-value was 0.033 <0.05, indicating a relationship between antiretroviral treatment adherence and the quality of life of HIV/AIDS patients at Bekasi Regency Hospital. The Correlation Coefficient of 0.391 indicates a moderate relationship, meaning that antiretroviral treatment adherence influences the quality of life of HIV/AIDS patients in terms of physical health and patient independence.

Discussion

Respondent Characteristics

Age

This study found that the majority of respondents (18 respondents) were aged 20-30 years. Young people, particularly adolescents and young adults aged 15-24 years, are more vulnerable to HIV/AIDS infection. These results align with research conducted (Neliti, 2020), which found that the highest number of HIV/AIDS sufferers is in the 15-29 age range.

This vulnerability is caused by several factors, including risky behaviors, lack of knowledge, and limited access to health information and services. Adolescents tend to engage in behaviors that increase the risk of HIV transmission, such as unprotected sex and injecting drug use. More than half of adolescent respondents reported having had sexual intercourse, with 19% having more than one sexual partner, and 52% never using a condom during sexual intercourse (ILO, 2020).

Researchers assume that age can influence a person's health. Young people still have minimal health knowledge. Therefore, this group is highly vulnerable to health problems, especially regarding HIV transmission.

Gender

This study found that women are significantly more vulnerable to HIV/AIDS infection, with 18 respondents (60%) and 12 men (40%). These results align with global data from UNAIDS, which indicates that of the 33.3 million people living with HIV/AIDS worldwide, approximately 50% are women (Halimatusadiyah, 2023).

Factors contributing to the high rate of HIV infection in women include biological vulnerability, gender inequality, and lack of access to adequate information and health services. Therefore, approaches to HIV/AIDS prevention and treatment need to consider a gender perspective to reduce the burden of this disease on women.

The researchers assumed that the patients who participated in the study, based on gender, were predominantly female HIV patients. This could be due to other factors such as poor reproductive hygiene, frequent sexual intercourse, lack of physical activity, and an unhealthy lifestyle.

Education

Based on research findings, health education at the senior high school (SMA) level has proven effective in increasing adolescent knowledge and awareness about HIV/AIDS, with 12 respondents (40%). This finding aligns with research conducted by Losoiyo and Fajar, 2021, which found that health education not only increases knowledge but also fosters positive attitudes in students regarding HIV/AIDS prevention. Overall, these studies agree with the conclusion that health education in high schools is effective in increasing adolescent awareness and understanding of HIV/AIDS, which is expected to help reduce transmission rates among the younger generation.

A person's level of education is one of the most important factors in dealing with health issues. A person will be better prepared to face challenges with a higher level of education and greater life experience. This is because a person with a higher education background can be a factor in having extensive knowledge about health, including how HIV is transmitted (Harmawati, Sari, and Verini, 2018).

The researchers assume that the level of education of an HIV sufferer significantly influences preventive and curative efforts for HIV. In this study, the majority of patients had a high school education compared to those with other educational levels. This may be due to the lower level of HIV knowledge among those with a high school education compared to those with elementary, middle, or undergraduate education. Education plays a crucial role as a conduit or transmitter of knowledge, impacting changes in mindset and behavior, particularly in HIV patients, who require a deeper understanding of HIV, particularly in the management of their treatment. This is done to improve their quality of life.

Medication Adherence

Based on the study results, the majority of respondents (17 individuals) had low medication adherence. This finding aligns with the explanation (Latif et al., 2019) of non-adherence (45%). A similar study (Yelmi Reni Putri and Andriani, 2016) found that 57.55% of patients were non-adherent.

The researchers assumed that the duration of ARV treatment influences adherence, meaning that individuals with HIV/AIDS have a greater chance of experiencing better outcomes, including adherence to treatment, and preventing worsening conditions during the treatment process. This will undoubtedly increase understanding and experience, which can foster good health behaviors and improve the quality of life of those affected.

Bivariate Analysis

Based on the Spearman Rank Statistical Test, the p-value was 0.001 <0.05, indicating a relationship between antiretroviral medication adherence and the quality of life of HIV/AIDS patients. This finding aligns with research by Silva et al. (2019), which found that ARV adherence significantly correlated with physical health adherence (p-value = 0.005), and the statement that ARV adherence is a positive factor in the quality of life of HIV/AIDS patients, particularly in physical health, as ARV adherence improves immunity, controls viral load, and delays disease progression. This finding aligns with research by Alvian Pristy Windiramadhan et al. (2024), which showed a p-value of 0.011 <0.05, indicating a relationship between ARV medication adherence and the quality of life of people living with HIV/AIDS.

According to researchers, ARV adherence is a positive factor for the quality of life of people living with HIV (PLWHA), especially in terms of physical health, because ARV adherence affects immunity, viral load control, and slows disease progression. Failure to adhere to treatment allows time for the virus to multiply, reducing CD4 counts and resistance in the body of people living with HIV, thus leading to a poor quality of life. Therefore, health workers can motivate and educate people living with HIV to adhere to their medication to improve their quality of life.

4. Conclusion

Based on the research results and discussion on "The Relationship Between Antiretroviral (ARV) Treatment Adherence and Quality of Life of HIV/AIDS Patients at Bekasi Regency Hospital," it can be concluded that there is a relationship between antiretroviral (ARV) treatment adherence and quality of life of HIV/AIDS patients at Bekasi Regency Hospital. Further researchers are advised to conduct further research with a larger sample size and more comprehensive methods to examine other factors that influence ARV treatment adherence and quality of life in HIV/AIDS patients.

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