

# Karakteristik Demografi, Klinis, dan Regimen Pengobatan Antiretroviral Penderita HIV/AIDS di RSUD Wilayah Papua Tengah

## Demographic, Clinical, and Antiretroviral Regimen Treatment Characteristics of HIV/AIDS Patients at the Regional General Hospital of Central Papua

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### Abstrak

Provinsi Papua merupakan salah satu provinsi dengan jumlah angka penderita HIV/AIDS yang tinggi di Indonesia. Kasus infeksi HIV di Papua saat ini masih terus meningkat hal ini dikarenakan akses pengobatan antiretroviral dan dukungan serta penanganan yang masih terbatas. Selain itu, pemahaman masyarakat setempat tentang infeksi HIV/AIDS yang diberikan oleh tenaga medis di wilayah pedalaman atau pegunungan juga masih kurang. Sampai saat ini data penelitian tentang karakteristik demografi, karakteristik klinis, pengobatan pasien HIV/AIDS di wilayah pedalaman Papua masih sangat terbatas. Data tersebut diperlukan untuk merancang strategi yang meningkatkan pelayanan kesehatan kepada pasien yang mengidap infeksi HIV/AIDS. Oleh karena itu, penelitian ini bertujuan untuk memahami karakteristik demografi, karakteristik klinis, dan pengobatan pasien HIV/AIDS di Rumah Sakit Umum Daerah Wilayah Papua Tengah. Jenis penelitian ini adalah penelitian deskriptif observasional menggunakan data rekam medik penderita HIV/AIDS yang melakukan kunjungan bulan Juni 2023 di Rumah Sakit pemerintah wilayah Papua Tengah. Hasil penelitian menunjukkan bahwa berdasarkan data karakteristik demografi mayoritas berusia rata-rata  $\leq 25$  tahun (60,8%), berjenis kelamin laki-laki (52,5%), mempunyai status telah menikah (56,7%), lulusan tingkat pendidikan menengah menyumbang kasus HIV/AIDS tertinggi (40,8%). Status pekerjaan sebanyak (67,5%) dengan penghasilan di bawah  $\leq$  UMR sebanyak (69,2%). Karakteristik perilaku faktor risiko semua pasien heteroseksual dengan persentase (100,0%) dengan penyakit penyerta hipertensi sebanyak (4,2%). Infeksi Opurtunistik yang paling banyak ditemukan adalah Tuberkulosis (17,5%). Proporsi terbanyak penderita HIV/AIDS pada stadium II (66,7%). Regimen pengobatan ARV yang digunakan terbanyak yakni kombinasi dosis tetap (FDC) yang mengandung Tenofovir 300mg, Lamivudin 300mg, dan Efavirenz 600mg. Lama pemakaian terapi ARV pada penderita HIV/AIDS paling banyak selama 1 bulan.

**Kata Kunci:** Karakteristik Demografi, Karakteristik klinis, Pengobatan, HIV/AIDS

### Abstract

*The incidence of HIV infections in Papua is currently on the rise, primarily due to restricted access to antiretroviral treatment and insufficient support and care. Additionally, there is a lack of awareness among residents in rural or mountainous areas about HIV/AIDS infection, as provided by healthcare professionals. Until now, research data have been scarce on the demographic characteristics, clinical features, and treatment approaches for HIV/AIDS patients in the interior regions of Papua. This data is crucial for devising strategies aimed at enhancing healthcare services for individuals affected by HIV/AIDS.*

*Consequently, this study endeavors to gain insights into the demographic characteristics, clinical features, and treatment modalities for HIV/AIDS patients at the Regional General Hospital of the Central Papua Region. It employs an observational descriptive approach, utilizing medical records of HIV/AIDS patients who visited the Central Papua Regional Government Hospital in June 2023. The findings indicate that, based on demographic data, the majority of patients were, on average,  $\leq 25$  years old (60.8%), male (52.5%), married (56.7%), and the highest number of HIV/AIDS cases were among secondary education graduates (40.8%). The majority were employed (67.5%) with incomes below the minimum wage threshold (69.2%). All heterosexual patients exhibited behavioral risk factors, and 4.2% had comorbidities such as hypertension. Tuberculosis was the most common opportunistic infection (17.5%). The highest proportion of individuals with HIV/AIDS were in stage II (66.7%). The predominant antiretroviral treatment regimen was a fixed-dose*

combination (FDC) containing Tenofovir 300mg, Lamivudine 300mg, and Efavirenz 600mg. The duration of use of ARV therapy in people with HIV / AIDS is at most 1 month.

**Keywords:** Demographic Characteristics, Clinical characteristics, Treatment, HIV/AIDS

## INTRODUCTION

As per information from the World Health Organization (WHO) in 2020, there were 37.7 million people worldwide who have HIV, of which 680,000 people died from HIV, and 73% of people who have HIV received therapy with antiretrovirals (WHO, 2020). Thirty-four provinces in Indonesia have reported the latest data until March 2022. The number of HIV infection cases found in the January-March 2022 period was 10,525 people out of 941,973 people tested for HIV, and as many as 8,784 people received ARV treatment (83.4%) (Dirjen PP&PL, 2022).

The health challenge faced by Indonesia, as well as other nations globally, revolves around the emergence and progression of epidemics triggered by the Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV / AIDS). HIV and AIDS are two different but interconnected terms. HIV is the virus responsible for AIDS. The 'AIDS stage' refers to a condition in which an individual's immune system is significantly compromised, and they have contracted additional illnesses, commonly referred to as opportunistic infections (Rum, 2017). The five provinces with the most reported AIDS cases are Central Java, Bali, Papua, East Java, and South Sulawesi (Dirjen PP&PL, 2022).

The province of Papua is among the regions in Indonesia with a substantial population affected by HIV/AIDS. This is attributed to the widespread transmission of HIV/AIDS within the broader community. The prevalence of HIV/AIDS infection cases in Papua as of June 30, 2020 was 44,664 cases. A total of 17,538 people had HIV, and as many as 27,126 people had AIDS. Based on gender, men with HIV have as many as 7,545 people, and AIDS sufferers as many as 13,443 people. Meanwhile, in the female sex, people living with HIV as many as 9,931 people and AIDS sufferers as many as 13,648 people. The

most risk factors are heterosexual, with 43,392 people with details, 17,020 people with HIV, and 26,372 people with AIDS (Kemenkes RI, 2021).

HIV-AIDS disease in Papua is increasingly concerning because the number of HIV-AIDS sufferers from year to year continues to increase. The cultural circumstances of the Papuan population, coupled with lower educational levels, contribute to the increased risk of HIV/AIDS in Papua. Residents in lowland areas exhibit a higher level of comprehensive knowledge compared to those in mountainous regions (Kemenkes RI, 2021). The consistent occurrence of positive HIV infection cases each year remains an unresolved health issue in Indonesia. The cause of HIV infection cases in Papua is still high because access to ARV treatment and support is still limited. Furthermore, misinformation regarding HIV infection persists in rural or mountainous areas (Dirjen PP&PL, 2022). Another challenge in the prevention and management of HIV/AIDS in Indonesia is the prevalence of negative attitudes and discrimination towards individuals living with HIV/AIDS (PLHIV). This leads to PLHIV having to conceal their health status, significantly affecting their quality of life and the overall control of HIV/AIDS. Several factors, including patient-specific attributes like demographic features, clinical traits, and treatment approaches for HIV/AIDS patients, contribute to these obstacles in prevention and control. Hence, the objective of this study is to scrutinize the demographic characteristics, clinical features, and treatment modalities employed for HIV/AIDS patients at the Central Papua Regional Government Hospital.

## RESEARCH METHODOLOGY

This research has received permission from the medical committee of Dr Moewardi Surakarta Hospital No. 609/IV/HREC/2023.

The research employed an observational descriptive design at the Central Papua Regional Government Hospital in the year 2023.

### Equipment and Materials

Data in this study were collected from medical records that met the inclusion criteria, namely, medical records from adult patients registered at the integrated poly of the Central Papua Regional Government Hospital who were diagnosed with HIV/AIDS infection and received antiretroviral therapy in 2023. Data was collected using data collection instruments compiled by researchers.

### Data analysis

The data underwent univariate analysis using a computer equipped with the *Microsoft Excel* program, and the pertinent information was presented in the form of percentages and frequencies.

## RESULTS AND DISCUSSION

The results of research at the integrated poly of the Central Papua Regional Government Hospital in 2023 showed that as many as 120 respondents met the inclusion criteria. The univariate analysis results using the *Microsoft Excel* program, as presented in (Table 1) yielded sociodemographic characteristic data. The predominant age group in this study was  $\leq 25$  years (60.8%). The findings regarding the age demographics of respondents closely align with the information from Dirjen PP&PL in 2022: indicating the highest cumulative percentage of AIDS cases in the age groups of 25-49 years (67.9%), 20-24 years (17.7%), and  $\geq 50$  years (9.5%). Research from Ramadani et al, in 2015, conducted at SMK Koperasi Yogyakarta, also showed that PLHIV were most in the age category of 20-29 years (37.2%). Furthermore, a study conducted by Yunior in 2018 indicated that individuals aged  $\leq 40$  years faced a 7,252 times higher risk of contracting HIV/AIDS compared to those aged  $\geq 40$  years.

The sex characteristics of most people with HIV / AIDS in this study were men (52.5%). This is to the report of the Dirjen PP&PL in 2022, which states that most people with HIV/AIDS are in the male gender category at 71%. A study conducted by Amalia in 2020, at Dr. Moewardi Hospital revealed that the incidence of HIV cases is higher in men. This is linked to sexual behavior, serving as a precursor for transmission between commercial sex workers and men who have sex with men. Men reported engaging in this behavior more frequently than women.

The results stated that the majority of PLHIV have married marital status (56.7%). This is by the results of research from Anwar in 2018, conducted at RSPI. Prof. Dr. Sulianti Saroso said 76% of respondents at high risk of HIV/AIDS were married. Being married heightens the risk of transmitting HIV infection through sexual contact. Moreover, within a marriage, there is the potential for the transmission of HIV from a mother to her child, increasing the risk to the offspring. In addition, the results of this study have a similar description to Faramita's research in 2023: Men tend to have casual sex, whereas when having casual sex, they do not use safety. Unlike women, even though they have free sex, women are more careful by using safety or reminding their partners to use security. In addition, many cases occur in the workplace of women who satisfy male lust, which can be the place of most transmission of HIV for men.

The education level of respondents in this study found that graduates of secondary education (SMA) accounted for the highest number of HIV/AIDS cases (40.8%). Consistent with earlier research, the findings indicate that participants generally possessed formal education, with the majority having completed their last educational level at the high school level (Latif et al., 2014; Pessiwarissa et al., 2019; Rachmawati et al., 2023).

From the results of the analysis, it was found that the results of employment status were as much as (67.5%) with income below the threshold of minimum wage as much as (69.2%). Prawira's research in 2020 said that work is closely related to the transmission of HIV / AIDS. Someone who has a job with high busyness, job stress factors, and sufficient income can trigger deviant sexual behavior and is at risk of HIV / AIDS infection.

**Table 1. Demographic characteristics of HIV/AIDS patients in Central Papua Regional hospitals (n = 120)**

Sociodemographic Characteristics	Freq., Percentage (%)
Age (years)	≤25 years 73(60.8%)
	≥25 years 47(39.2%)
Gender	Male 63(52.5%)
	Female 57(47.5%)
Status	Married 68(56.7%)
	Unmarried 43(35.8%)
	Divorced 6(5.0%)
	Widowed 3(2.5%)
Education	No School 12(10.0%)
	Primary Education 36(30.0%)
	Secondary Education 49(40.8%)
Working status	Higher Education 23(19.2%)
	Jobless 39(32.5%)
Income	Working 81(67.5%)
	≤ The threshold of minimum wage 83(69.2%)
	≥ The threshold of minimum wage 37(30.8%)

Based on behavioral characteristics of HIV/AIDS patients in (Table 2) all heterosexual patients with a percentage (100.0%). Respondents with hypertension comorbidities are as many as (4.2%). The most common Opportunistic infection is Tuberculosis (17.5%). It was found that the highest proportion of patients were already in stage II (66.7%), followed by stage III (33.3%).

According to Syafirah's research in 2020, the predominant mode of HIV transmission is among same-sex couples or individuals engaged in homosexual

relationships, particularly men who have sex with men (40.3%). Unhealthy sexual behavior constitutes a notable factor in the transmission of HIV, and this behavior is more commonly observed among men, leading to an escalation in male-to-male sexual activity (Yuliandra et al., 2017). However, men who have sex with men are the most significant and most common risk factor, but not in the data obtained by researchers. The findings of this research indicated that none of the patients engaged in sexual activity with other men (MSM); all patients were heterosexual (100.0%). The outcomes of this study align with the information on DinkesProv Papua, 2023. Head of the Papua Provincial Health Office, Robby Kayame, said, from the data collected, it was revealed that the transmission of AIDS cases in the Land of Papua was primarily due to changing partners (heterosexual). Additionally, based on Nurhayati's research in 2018 at Anutapura General Hospital Palu, individuals identifying as heterosexual had a 2.23 times greater likelihood of acquiring HIV/AIDS.

**Table 2. Clinical Characteristics of HIV/AIDS patients in Central Papua Regional Hospital (n=120)**

Clinical Character	Freq., Percentage (%)
Risk Factors	Heterosexual 120(100.0%)
	Diabetes 3(2.5%)
Comorbid	Dyslipidemia 2(1.7%)
	Hypertension 5(4.2%)
	No comorbidities 110(91.7%)
Opportunistic infections	Candidiasis 8(6.7%)
	Pneumonia 7(5.8%)
	Current TB 21(17.5%)
Stadium	No opportunistic infections 84(70.0%)
	II 80(66.7%)
	III 40(33.3%)

In this study, the most common comorbidities were hypertension (4.2%). This discovery corresponds with the findings of a

study carried out by Hattoh in 2022, where around (9.2%) of respondents suffered from hypertension comorbidities. Mulugeta's research in 2021 stated that controlling blood pressure in HIV-infected patients accompanied by hypertension is very important to prevent organ damage.

According to the *Centers for Disease Control and Prevention (CDC)*, opportunistic infections (OI) are more common. They can become more severe in anyone with a weakened immune system, such as in patients with HIV/AIDS. The results showed that more opportunistic infections in patients were tuberculosis infections, with a percentage of 17.5% (21 patients). The results of this study are similar to Kridaningsih (2021) and Yuniarti (2020), which showed that the most comorbidities experienced by tuberculosis HIV/AIDS patients. In addition, Anggriani's research in 2019 also stated that tuberculosis infection (55.6%) was influenced by the level of immunosuppression caused by HIV infection. In patients with HIV/AIDS infection, defective macrophages can increase susceptibility to TB disease.

The results of this study showed that the highest proportion of patients were already in stage II (66.7%), followed by the group with stage III (33.3%). This result is similar to Prawira's research in 2020, which stated that of the 29 samples of people living with HIV/AIDS, most patients were in stage II groups (79.31%). The clinical stage of people with HIV / AIDS will show typical symptoms accompanied by a decrease in body immunity, which results in the body's vulnerability to infection. Many factors affect the stage of the patient's disease, including late diagnosis, social stigma, and discrimination that make patients hide their disease and not take treatment (Saki et al., 2015).

Research conducted by Tatiparthi (2015) and Safitri (2019), the examination of antiretroviral combinations among HIV/AIDS patients revealed that the most frequently employed combination was TDF

(300) + 3TC (300) + EFV (600). Based on the analysis of treatment characteristics presented in **Table 3**, the most commonly prescribed ARV treatment regimen at the Central Papua government hospitals is a *fixed-dose combination (FDC)* comprising Tenofovir 300mg, Lamivudine 300mg, and Efavirenz 600mg. This specific drug combination represents the primary choice established by the government for HIV/AIDS patients, aligning with the recommendations of WHO and Depkes RI in 2006 the current first-line ARV regimen adheres to the combination of two classes of *Nucleoside Reverse Transcriptase Inhibitor (NRTI)* and one *Non-Nucleoside Reverse Transcriptase Inhibitor (NNRTI)*, which is the *fixed-dose combination (FDC)* conveniently provided in a single antiretroviral tablet.

**Table III. Treatment Characteristics of HIV/AIDS patients in Central Papua Regional Hospital (n = 120)**

Treatment characteristics		Freq., Percentage (%)
Regiment	FDC TLE*	76(63.3%)
	TLE*	44(36.7%)
First Line ARV	1 Months	25(20.8%)
	2 Months	17(14.2%)
	3 Months	11(9.2%)
	4 Months	43(35.8%)
	5 Months	3(2.5%)
	6 Months	3(2.5%)
	7 Months	14(11.7%)
	8 Months	3(2.5%)
	9 Months	1(0.8%)

**Information:**

FDC TLE = fixed dose combination Tenofovir 300mg, Lamivudine 300mg, Efavirenz 600mg  
 TLE = Tenofovir 300mg, Lamivudine 150mg, Efavirenz 600mg

*Nucleoside Reverse Transcriptase Inhibitor (NRTI)* works by inhibiting *reverse transcriptase* (an HIV enzyme) by inserting fake nucleic acid into new DNA (Clinical Info HIV, 2021). The mechanism of NNRTI class drugs works by binding and blocking HIV *reverse transcriptase* (an HIV enzyme) to convert RNA into DNA to prevent HIV replication (Clinical Info HIV, 2021). A

single antiretroviral tablet (ARV), namely FDC TLE, includes Tenofovir 300 mg, Lamivudine 300 mg, and Efavirenz 600 mg (Depkes RI, 2006).

The results of this study showed that the duration of use of ARV therapy in patients with HIV / AIDS was at most for 1 month, as much as 20,8%, while patients with a duration of use of 2 months were as much as 14%. The duration of use of ARV therapy can affect the occurrence of side effects (toxicity). Generally, at the beginning of using ARV, symptoms of nausea, vomiting, diarrhea, and even anemia will appear (Prawira et al., 2020).

## CONCLUSION

The majority of respondents, demographic-wise, fall within the age group of  $\leq 25$  years (60.8%), male (52.5%), married (56.7%), and secondary education graduates (40.8%). The employment status of the HIV/AIDS patients (67.5%) was those with income below the threshold of minimum

wage (69.2%). All patients with HIV/AIDS were heterosexual with hypertensive comorbidities (4.2%). The most common Opportunistic infection is Tuberculosis (17.5%). The highest proportion of individuals with HIV/AIDS were in stage II (66.7%). The predominant antiretroviral treatment regimen was a fixed-dose combination (FDC) containing Tenofovir 300mg, Lamivudine 300mg, and Efavirenz 600mg. The duration of use of ARV therapy in people with HIV / AIDS is at most 1 month.

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