

## **INTERNAL FACTORS AFFECTING THE ADHERENCE OF ANTIRETROVIRAL (ARV) THERAPY OF PATIENTS WITH HIV/AIDS IN RSUD KOTA BOGOR**

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### **ABSTRAK**

Antiretroviral (ARV) sebagai tatalaksana utama, berperan penting bagi penderita HIV/AIDS untuk mencegah risiko terjadinya infeksi oportunistik sehingga kualitas hidup penderita meningkat. Keberhasilan program pengobatan ARV sangat dipengaruhi oleh perilaku kesehatan pasien, yaitu kepatuhan pasien HIV dalam mengkonsumsi ARV setiap harinya. Penelitian ini bertujuan untuk mendapatkan gambaran kepatuhan pasien dalam mengkonsumsi ARV berdasarkan faktor internal. Penelitian ini adalah penelitian deskriptif. Penelitian dilakukan di RSUD Kota Bogor, terhadap 94 pasien HIV/AIDS. Sampel kasus diklasifikasikan berdasarkan variable penelitian, yaitu usia, jenis kelamin, tingkat pendidikan, riwayat bekerja dan tingkat kepatuhan konsumsi ARV. Selanjutnya dilakukan analisis untuk mengetahui faktor risiko yang mempengaruhi tingkat kepatuhan pasien. Hasil penelitian menunjukkan bahwa terdapat 19 orang *loss to follow up*, 84.2% (16 orang) diantaranya jenis kelamin laki – laki, 68.4% (13 orang) berusia  $\geq 25$  tahun, 73.7% (14 orang) berpendidikan SMA kebawah dan 57.9% (11 orang) tidak bekerja. Kesimpulan penelitian menunjukkan bahwa pasien laki – laki, berusia  $\geq 25$  tahun dengan pendidikan SMA kebawah dan tidak bekerja memiliki proporsi *loss to follow up* (ketidakepatuhan) yang lebih tinggi dibandingkan kelompok lainnya. Perlu upaya monitoring kepatuhan ARV dengan memperhatikan jenis kelamin, usia, pendidikan dan status pekerjaan.

**Kata Kunci:** kepatuhan, ARV, HIV AIDS, *loss to follow up*

### **ABSTRACT**

Antiretroviral (ARV), as the primary therapy, plays an essential role in preventing the risk of opportunistic infections and increasing the quality of life patients with HIV. The main purpose of the ARV program treatment affected the patient's health behavior, namely the adherence to consuming ARV daily. This study tries to elaborate on some internal factors that can affect patient compliances to finishing ARV. The study was conducted at RSUD Kota Bogor on 94 patients. The variables were classified based on age group, gender, level of education, work history, and compliance status. Furthermore, an analysis was carried out to determine the factors affecting ARV compliance. The study showed that there were 84.2% (16) males, 68.4% (13) aged  $> 25$  y.o, 73.7% (14) with low education, and 57.9% (11) jobless patients with a low level of adherence. In summary, this study showed that internal factors, such as age, gender, education, and occupation, are descriptively related to the level of compliance as advice analytical study with other factors was needed.

**Keywords:** adherence, antiretroviral, ARV, HIV AIDS, *loss to follow-up*

### **INTRODUCTION**

Human Immunodeficiency Virus (HIV) is an RNA virus that infects CD4 lymphocyte cells (cluster differentiation 4), causing CD4 imbalance, which affects human immunity (Seitz 2016; Vijayan et al. 2017). Acquired Immune Deficiency Syndrome (AIDS) is a set of symptoms that arise due to decreasing in human immunity caused by HIV infection. Both are a series of diseases that go global with complex problems.

The United Nations Program on HIV and AIDS (UNAIDS 2019) reports that HIV continues to be a world health threat. It is reported that the population with the largest HIV in the world is the African continent (25.7 million people), then Southeast Asia (3.8 million), and the Americas (3.5 million). At the same time, the lowest population is found in western Pacific countries (1.9 million). It is estimated that in 2007 HIV could infect about 30 to 36 million people (WHO 2020; infodatin-2020-HIV). The number of HIV/AIDS cases in Indonesia tends to fluctuate, with a tendency to increase yearly. In 2019, the number of HIV/AIDS cases in Indonesia recorded about 50,282 HIV cases and 7,036 AIDS cases. Meanwhile, the number of deaths caused by HIV / AIDS in Indonesia tends to decrease yearly (infodatin-2020-HIV).

Antiretroviral drugs (ARVs) aim to reduce the level of the viral load until it is not detected (undetectable) accompanied by an increase in CD4. These two things cause a decrease in the risk of opportunistic infections and increase the patient's quality of life. Quite a few sufferers can return to work and be productive. Therefore, adherence in taking ARVs is very important to successfully manage HIV / AIDS patients and prevents resistance that leads to the failure of therapy. (Pedoman Nasional Pelayanan Kedokteran Tata Laksana Hiv, 2019)

Adherence of ARV administration is defined as the patient's accuracy in consuming the ARV in terms of time, quantity and dosage, as well as the way the patient can take his personal medication. Adherence as a health behavior is influenced by internal factors, namely age, gender, and level of education, while external factors consist of environmental, social, and cultural. Debby et al. reported that the observance of ARV administration in HIV patients at the UPT HIV CIPTO Mangunkusumo Hospital was only 67.7%. Some factors that affect medication adherence include 1. Individual factors (age, gender, level of education, and knowledge of medicine, 2. Family support factors, 3. Aspects of the therapeutic regimen, and 4. Supporting elements which are health insurance. (Debby et al., 2019) Meanwhile, Lasti et al. in their study, assessed the adherence to taking ARVs in the LSL (Male sex with men) communities of ODHA in South Sulawesi, reporting that ODHA LSL has an optimal level of adherence to taking medications (>95%) (Hidayat lasti et al. [no date]).

RSUD Kota Bogor, one of the government hospitals in West Java province, through the Klinik Anggrek, has an active role in handling HIV / AIDS within the Bogor City government. Klinik Anggrek is currently has 158 HIV/AIDS patients with various characteristics and levels of ARV administration adherence. Specific studies on adherence to consuming ARVs at the Klinik Anggrek and RSUD Kota Bogor have not been done before. However, the interviews conducted on several patients showed that some patients still have an un-adherence attitude toward ARVs administration, and most of the reason is caused by work factors.

This study aims to get an overview of the ARV adherence administration in HIV / AIDS patients at RSUD Kota Bogor based on internal factors (age, gender, education level, and occupation).

## METHOD

A descriptive study, conducted at the Klinik Anggrek, RSUD Kota Bogor, carried out for 1 month (June 2022). Entire HIV patients registered at the Klinik Anggrek, RSUD Kota Bogor for 5 years (2017 – 2022) will be the affordable population. The data collected based on the patient's medical record, including the adherence status, age, gender, education level and employment status. The data processed and descriptively analyzed

## RESULTS AND DISCUSSION

Compliance with ARV administration is usually called adherence, a patient's state of being obedient and continuous in taking drugs with an emphasis on the role and awareness of patients assisted by doctors or health workers, companions, and drug availability. In addition, adherence to taking medications can also be interpreted as a condition of the patient who can undergo treatment according to the instructions for the use of the drug, including the dosage, time, and how to consume the drug appropriately. A questionnaire method that has been widely used to assess adherence is the Morisky 8-item Medication Adherence Questionnaire (MMS-8). This measurement aims to find things related to adherence to chronic disease drug consumption. In this study, the adherence status was assessed based on the loss to follow-up (de las Cuevas and Peñate 2015).

Some factors affecting adherence to ARV administration around ODHA are internal factors such as age, gender, level of education, and knowledge of treatment and external factors such as family support, therapeutic regimen, and support, namely health insurance (Galistiani and Mulyaningsih 2013; Debby et al. 2019; Pontiki et al. 2022).

In this study, we found 157 patients of HIV / AIDS at the Klinik Anggrek from 2017 to 2022. After sorting based on inclusion and exclusion criteria, it was found that 19 patients passed away, and 44 patients had been referred to other hospitals, resulting in 94 active patients. The characteristic distribution of respondents can be seen in table 1.

**Table 1. Respondent Characteristic Distribution**

Variable	Category	Sum (patient)	Percentage (%)
Gender	Male	68	72.3
	Female	26	27.7
Age group	≥ 25 year-old	76	80.9
	< 25 year-old	18	19.1
Education level	High	21	22.3
	Low	73	77.7
Work Status	Work	44	46.8
	Unemployment	50	53.2

Based on respondent characteristic distribution, gender group dominated by male, 72.3% (68 patients), instead of female 27.7% (26 patients). The age group is dominated by the ≥25 age-year-old group, which is 80.9% (76 patients), compared to the <25 age-year-old group 19.1% (18 patients). Level of education dominated by the low level education group, 77.7% (73 patients), while high education

about 22.3% (21 patients). The work status group is dominated by the unemployment group, which is about 53.2% (50 patients) compared with 46.8% (44 patients) of an employee. In conclusion, this study sample was dominated by male patients aged  $\geq 25$  years old, with high school education and unemployment. The results of this finding are similar to the essential characteristics of the study conducted by Suryanto et al. on 115 patients, which is dominated by males (61.7% (71 patients) men and 38.3% (44 people) women), low education, which is 68.7% (79 people), compared to universities only about 5.2% (6 people). In addition, it is also known that 73.9% (85 people) have jobs, while 26.1% of them are unemployed (Suryanto et al. 2021).

The descriptive analysis of the study compares internal factors (age, years, education, and occupation) and the degree of patient compliance. Assessment of patient non-compliance was assessed based on patient data that was lost to follow-up. It is known that 19 people failed to follow up, 84.2% (16 people) of them are male, 68.4% (13 people) are  $\geq 25$  years old, 73.7% (14 people) with high school education and below, and 57.9% (11 people) are not working.

There are 19 patients who lost to follow-up, 84.2% (16 patients) of them are male, 68.4% (13 people),  $\geq 25$  years old, 73.7% (14 people) with low-level education, and 57.9% (11 people) are un-employee. Descriptively conclude that male patients aged  $> 25$  years, with low education and no working status, have a more significant proportion of non-compliance with ARV administration. Comparative distribution of internal factors and level of adherence can be seen in table 2.

**Table 2. Comparative distribution of internal factors and adherence level**

Variable	Category	Loss to follow-up (patient)	Percentage (%)
Gender	Male	16	84.2
	Female	3	15.
Age Group	$\geq 25$ year-old	13	68.4
	$< 25$ year-old	6	31.6
Education level	High	5	26.6
	Low	14	73.4
Work Status	Work	8	42.1
	Unemployment	11	57.9

Gidha et al., in their study, also found a similar result. Gidha et al. reported that 62% of ODHA with low-level education have poor compliance. Gidha et al. also say some factors affected the ODHA's adherence to admitting ARV, such as patient knowledge, ARV side effect, and level of education (Galistiani and Mulyaningsih 2013).

In contrast with Sugiharti et al., Sugiharti et al. reported that patient compliance with ARVs was increased by supporting family, friends, WPA forums (AIDS-caring citizens), and internal factors within themselves. Meanwhile, boredom, side effects of drugs, community stigma, and treatment costs inhibit ODHA's compliance in consuming ARVs (Sugiharti et al., 2014).

## CONCLUSIONS AND SUGGESTIONS

This study shows that male patients  $\geq 25$  years old, with low-level education and unemployed status, have a higher proportion of follow-up loss (non-adherence) than other groups.

As a suggestion, efforts are needed to monitor ARV compliance by observing factors such as gender, age, education, and employment status. In addition, further analytical research on internal and external factors is needed to determine the ODHA's adherence level.

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