

Characteristic Overview of HIV Patients Receiving Antiretroviral Therapy

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Abstract--- *This study aims to describe the characteristics of patients with HIV who are undergoing antiretroviral therapy. The study is a quantitative descriptive study carried out in a community health center in Surabaya, East Java province, in February 2020. The population was HIV patients who had received antiretroviral therapy for more than one month. A sample of 35 respondents was recruited using purposive sampling. Data were collected using a questionnaire that had been tested for validity and reliability. Data were analyzed descriptively. The frequency distribution of 35 respondents was obtained, with respondents aged 26-35 years at 31.4%, male sex at 48.6%, married at 45.7%, high school education at 31.4%, employment at 65.7%, income less than 500,000 per month at 62.9%, ARV consumption for more than one year at 80% and 60% receiving a fixed-dose combination therapy, 77.1% having a good knowledge level and 71.4% showing good adherence and 57.1% demonstrating fewer methods in providing health education. Characteristics of HIV patients receiving antiretroviral therapy generally include low levels of education and income, but the level of knowledge about HIV disease and respondent adherence to ARVs was good. Low income does not reduce the patient's desire to continue treatment. Support from health workers in providing health education with appropriate methods is expected to increase patient knowledge so that they can commit to adherence with ARV medications.*

Keywords--- *Antiretroviral (ARV) Therapy; HIV; Adherence; Knowledge; Health Education*

I. INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immuno-Deficiency Syndrome (AIDS) remain top priority health fields in HIV endemic countries regardless of the 30-year trajectory of this disease. AIDS has not been cured yet, but this infection can be controlled with antiretroviral treatment [1]. Antiretroviral therapy (ART) plays a role in producing an extraordinary reduction in AIDS-related deaths among people infected with HIV in the world. ART therapy improves health and longevity and prevents transmission of the virus, but the lack of adherence to ART therapy regimens has become a persistent problem so support is needed to improve patient compliance in taking antiretroviral drugs. One intervention that can be done is to increase knowledge about the importance of compliance with clients with HIV AIDS by providing health education [2].

Since the start of the epidemic, an estimated 74.9 million people have become infected with HIV and 32 million people have died of AIDS-related illnesses. In 2018, 770,000 people died of AIDS-related illnesses. This number has reduced by

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more than 55% since the peak of 1.7 million in 2004 and 1.4 million in 2010. HIV continues to be a major global public health issue. In 2018, an estimated 37.9 million people were living with HIV (including 1.7 million children), with a global HIV prevalence of 0.8% among adults. Around 21% of these same people do not know that they have the virus [3].

The vast majority of people living with HIV are located in low- and middle-income countries, with an estimated 68% living in sub-Saharan Africa. Among this group 20.6 million are living in East and Southern Africa which saw 800,000 new HIV infections in 2018. As of June 30, 2019, Indonesia had recorded 115,750 people living with HIV receiving ARVs, with 46,000 new infections or around 0.3 HIV incidents per 1000 population [3]. The cumulative number of HIV infections reported up to June 2018 was 301,959 people (47% of the estimated OSHA number of people with HIV AIDS in 2018 were 640,443 people) and it was most prevalent in the 25-49 year and 20-24 year age groups. The provinces with the highest number of HIV infections were DKI Jakarta (55,099), followed by East Java (43,399), West Java (31,293), Papua (30,699), and Central Java (24,757).[4]. Several factors can cause the number of HIV sufferers to continue to increase. Some of them are knowledgeable and compliant about taking ARV medication. However, adherence to ARV treatment and knowledge about HIV are still low. There are still patients who qualify for various reasons, such as financial reasons [5].

Anti-retroviral therapy (ART) suppresses HIV replication and by doing so, it has transformed HIV infection from a deadly disease into a manageable chronic illness [6]. The recent HPTN052 clinical trial has shown that viral suppression due to ART can reduce HIV transmission by up to 96% [7]. In order to maximise the benefits of ART globally, the second and third targets of the Joint United Nations Programme for HIV/AIDS (UNAIDS) 90-90-90 target call on at least 90% of PLHIV to be on ART and 90% of those on ART to have viral suppression by 2020 [8].

Several studies have shown the characteristics of HIV patients and their level of adherence to ART. Knowledge enhancement can be achieved by providing health education and health counseling. The clinical characteristic independently associated with a higher probability of suppression of viral load is having undergone three sessions of enhanced adherence counseling (EAC) [9]. Of the 275 women in Nigeria who self-reported taking ART doses in the past 96 hours, there were positive associations between an increased education level and disclosure of HIV status and medication adherence [10]. One study about antiretroviral therapy adherence included PLHIV who ages varied between 30 and 49 years. More than half of the participants were females. Among the PLHIV, four were living with HIV and six living with AIDS. Information is one of the underlying principles of ART adherence in PLHIV. The participants' experience with medicinal information have been discussed in three subcategories according to the type of information (taking ART regularly, drug interactions and drug side effects and management). Taking ART regularly, in addition to having a good effect on the disease, reduces the problem of recall of ART, but the PLHIV did not give enough information about the benefits of taking the drugs at a specified time [11].

In another study, the 166 participants were from 11 different areas of the Zhaotong prefecture. Among the HIV-positive and healthy HIV-negative groups, the ratio of male to female participants was 77:44 in the HIV-positive group and 20:25 in the control group. The mean age of the participants was 42 ± 14.0 years in the HIV group and 40 ± 12.2 years in the control group. The majority of the subjects were in the age range 31 to 40 with some over 41 years of age, with a distribution of 38% and 46.3% in the HIV group, and 37.8% and 26.7% in the control group. The majority of the subjects were married, accounting for 73.6% in the HIV group and 66.7% in the control group, followed by unmarried (12.4% vs 28.9%), divorced (7.4% vs 2.2%), widowed (5.8% vs 2.2%), and other/unknown (0.8% vs 0.0%). No significant differences among demographic characteristics were observed between either groups. Sexual transmission was the main HIV infection route and several were infected by sharing drug needles [12]. The next research in this study involved descriptive analytic research

with cross sectional studies. The study population was all Indonesian workers who had been infected with HIV AIDS in East Java in 2016. The study sample was all Indonesian workers who had been infected with HIV AIDS in Tulungagung District and Surabaya City (who had medical treatment at Dr. Soetomo Hospital Surabaya), recruited through purposive sampling, which is in the criteria for inclusive and exclusive in 2017. The criteria for an inclusive sample for research were Indonesian workers or former Indonesian workers, adults (21-45 years old), HIV positive and/or AIDS. The studies showed the characteristics of HIV sufferers who were still actively working. The results of this study found that most HIV sufferers in the productive age of 22-55 years had the highest number of case presentations at 95%, 70% were married, 45% had a senior high school education [13].

Surabaya city has 63 health centers that provide services and are registered in the Surabaya City Health Office, 10 of which can provide ARV services and HIV testing, namely Dupak, Putat, Sememi, Perak Timur, Kedurus, Jagir, Kedungdoro, Keputih, Kali Rungkut, and Tanah Kali Kedinding [14]. The upcoming part of this study summarizes and reviews studies and literature that emphasize an overview of the health education system, knowledge and adherence to taking ARV drugs around the world between men and women. The research is aimed at providing an overview of patient demographics, health education systems that have been carried out, levels of adherence and knowledge of HIV patients in Surabaya community health centers in 2020. This study has a positive impact on patients undergoing antiretroviral therapy. The results obtained are expected to be beneficial for special health workers who can provide educational assistance in accordance with the patient's ability to increase knowledge and assistance in terms of taking antiretroviral drugs.

II. METHODS

This research is a quantitative descriptive study carried out in a community health center in Surabaya, East Java province, in February 2020. Thirty-five participants in this study were included with a purposive sampling technique. Patients were eligible if they were receiving ART and had been for at least one month or more, were aged 18 years or above and able to speak Indonesian. Exclusion criteria included patients with cognitive impairment, severe illness and decreased consciousness.

Data were collected using a questionnaire that had been tested for validity and reliability. The test of the validity of this questionnaire was conducted by comparing the value of r arithmetic and r tables in this study which is 0.514 (significance 0.05) with $N = 15$. The question item was declared valid if the r count $>$ r table. The calculated r value obtained was in the range of 0.610-0.981. Measurement of reliability in research using Cronbach's Alpha values and questionnaire items are considered reliable if the measure of alpha stability is $>$ 0.6. The results of the Cronbach's Alpha measurement were health education variables 0.981, adherence variables 0.981 and knowledge variables 0.983. The number of each item of health education variable questions was 26 items consisting of methods, media, time, content and health education providers; adherence included as many as 12 items and knowledge variables as many as 15 items.

Respondents in this study were HIV patients who had received antiretroviral therapy for more than one month. Data were analyzed descriptively. The data obtained included age, sex, marital status, education level, employment status, income per month, duration of illness, duration of taking antiretrovirals and types of drugs consumed.

This research has been declared ethical by the Health Research Ethics Committee (KEPK) of RSUD Dr. Soetomo Surabaya, with the Research Ethics number: 1857 / KEPK / III / 2020 dated March 3, 2020.

III. RESULTS

The frequency distribution of 35 respondents obtained the characteristics of respondents as follow: 26-35 years 31.4%, male gender 48.6%, married 45.7%, high school education 31.4%, working 65.7%, income less than 500,000

per month 62.9%, ARV consumption for more than one year, 80%, with 60% on fixed-dose combination therapy, 77.1% with a good knowledge level, 71.4% with good adherence and 57.1% with less methods of providing health education.

Table 1 below summarizes the percentage of the frequency distribution of demographic data from 35 HIV patients who are outpatients at the Surabaya public health center.

No	Variable	(n)	(%)
1	Gender		
	a. Male	17	48.6
	b. Female	18	51.4
	Total	35	100
2	Age		
	a. 17-25 years old	2	5.7
	b. 26-35 years old	11	31.4
	c. 36-45 years old	11	31.4
	d. 46-55 years old	6	17.1
	e. 56-65 years old	5	14.3
	Total	35	100
3	Marital Status		
	a. Single	13	37.1
	b. Married	16	45.7
	c. Divorced	6	17.1
	Total	35	100
4	Education		
	a. No school	5	14.3
	b. Elementary School	10	28.6
	c. Junior High School	7	20.0
	d. Senior High School	11	31.4
	e. College	2	5.7
	Total	35	100
5	Job Status		
	a. Does not work	12	34.5
	b. Work	23	65.7
	Total	35	100
6	Total income per month		
	< IDR 500,000	22	62.9
	IDR 500,000-IDR .3,000,000	12	34.3
	>IDR 3,000,000	1	2.9
	Total	35	100
7	How long suffered from HIV		
	a. < 1 tahun	6	17.1
	b. 1 tahun ke atas	29	82.9
	Total	35	100
8	Duration of taking ARV		
	a. < 1 tahun	7	20.0
	b. 1 tahun ke atas	28	80.0
	Total	35	100
9	Type of medicine (ARV)		
	a. Fix Dose Combination (FDC)	21	60.0
	b. Duviral+Neviral/Nefiravine/Efav irenz	14	40.0
	Total	35	100

Table 1 above presents the percentage of demographic data distribution of HIV patients treated at the Surabaya City Health Center, totaling 35 respondents. The next part of this study presents an overview of the health education system, knowledge and adherence to taking ARV drugs.

Table 2 An overview of the health education system, knowledge and adherence to antiretroviral medication in a public health center, Surabaya East Java.

No	Variable	Parameter	n	%
1	Knowledge	Good	27	77.1
		Enough	3	8.6
		Poorly	5	14.3
		Total	35	100
2	Adherence to ARV medication	Good	54	22.5
		Poorly	189	77.5
		Total	35	100
3	Health education	Good	15	42.9
		Poorly	20	57.1
		Total	35	100

IV. DISCUSSION

The study results showed that the gender distribution of HIV sufferers between men and women was quite balanced and almost the same. Some respondents were married couples. Most respondents were aged 26-45 years and of productive age and still able to work. The results showed that for the knowledge variable, about the questions which were most poorly answered related to the type of antiretroviral drug and the dose given. Patients generally only knew the type of drug they take, and there were some respondents who did not know the name of the ARV drug they were taking. For the medication adherence variable, the question that got the lowest score was question No.12 about the habit of getting a CD4 check every 6 months. Respondents said they did not have the money to have a CD4 or viral load test. Some respondents did not even know about CD4 or viral load. Good adherence was defined as following the recommendations given by the treatment provider in terms of timing, dosage and frequency of medication taking [15].

Although multiple methods to measure adherence are available (self-report, pharmacy refills, electronic device monitors, drug concentrations), there is currently no 'gold standard' adherence measure or sufficient evidence to suggest a preferred method in older patients. Recently, studies evaluating antiretroviral concentrations in hair and dried blood spots in older patients identified no major differences when compared with younger individuals [16]. The major limitation of our study is that we used a small sample because respondents were active workers with low incomes so they did not have much time to routinely visit public health centers every month and this will take a very long time to complete the study.

V. CONCLUSION

The characteristics of HIV patients receiving antiretroviral therapy generally showed that they had a low level of education and income, but the level of knowledge about HIV disease and respondent adherence to ARV was good. Low income does not reduce the patient's desire to remain compliant with taking medicine. Support from health workers in providing health education using appropriate methods is expected to be able to increase patient knowledge so that they are able to commit to complying with ARV medication.

CONFLICT OF INTEREST

No conflicts of interest have been declared.

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