УДК 616.981.21/.958.7:616-08-07
http://dx.doi.org/10.22328/2077-9828-2025-17-1-45-51

HEALTH WORKER'S ATTITUDE, ACCESSIBILITY OF HEALTH SERVICES AND COMPLIANCE WITH ANTIRETROVIRAL THERAPY IN PATIENTS WITH HIV/AIDS: A CROSS-SECTIONAL STUDY

[1]W. Rahmadhani[*], [1]L. U. Na'mah, [1]U. L. Qomar, [2]P. Chamroen
[1]Departement of Midwifery, Faculty of Health Science, Universitas Muhammdiyah Gombong, Central Java, Indonesia
[2]Research Fellow Khana Center for Population Health Research, Phnom Penh, Cambodia

The key to success in HIV treatment is compliance with antiretroviral therapy (ART). This is because continuous AR therapy can suppress HIV to undetectable levels, reduce the risk of drug resistance, improve quality of life and survival, improve overall health, and reduce the risk of HIV transmission. On the other hand, non-compliance with treatment can be a major cause of therapy failure.

The aim: to identify factors influencing compliance with ART therapy in patients with HIV/AIDS

Material and Methods. This study used a cross-sectional method. It involved 289 respondents as samples. The sample size was based on HSIEH formula (1989). Univariate analysis used frequency distribution to describe the percentage. Bivariate Logistic regression analysis (Adjusted OR and 95% confident interval) and multivariate analysis used Multiple logistic regression with Adjusted OR, 95% Confident Interval (CI), and a significant value of <0.05.

Results and discussion. Some factors had a significant relationship to the outcome, namely age with a p-value of <0.001 (95% CI 4.15–134.09), Occupation with a p-value of 0.002 (95% CI 2.7–32.7), Knowledge with a p-value <0.001 (95% CI 6.15–43.8), attitude with a p-value of <0.001 (95% CI 3.37–43.8), accessibility of health services with a p-value of 0.004 (95% CI 1.5–9.4), and health worker's attitudes with a p-value <0.001 (95% CI 1.88–9.21).

Conclusion. Another factor is also important, namely a good patient-provider relationship. Increasing patient trust through non-judgmental and supportive care and using positive motivational strategies can affect treatment compliance. Considering each measure taken is important to achieve optimal clinical outcomes and realize public health with preventive treatment.

Keywords: antiretroviral, ART, compliance, HIV/AIDS

[*] Contact: *Wulan Rahmadhani, wulanrahmadhani@unimugo.ac.id*

ОТНОШЕНИЕ МЕДИЦИНСКИХ РАБОТНИКОВ, ДОСТУПНОСТЬ МЕДИЦИНСКИХ УСЛУГ И ПРИВЕРЖЕННОСТЬ К АНТИРЕТРОВИРУСНОЙ ТЕРАПИИ У ПАЦИЕНТОВ С ВИЧ/СПИД: КРОСС-СЕКЦИОННОЕ ИССЛЕДОВАНИЕ

[1]В. Рахмадхани[*], [1]Л. У. Намах, [1]У. Л. Комар, [2]П. Чамроен
[1]Университет Мухаммадия Гомбонг, Центральная Ява, Индонезия
[2]Центр исследований здоровья населения Хана, Пном Пен, Камбоджа

Ключом к успеху в лечении ВИЧ-инфекции является приверженность к антиретровирусной терапии (АРТ). Это связано с тем, что непрерывная АРТ подавляет ВИЧ до неопределяемого уровня, снижает риск развития лекарственной устойчивости, улучшает качество жизни, выживаемость пациентов и общее состояние здоровья, снижает риск передачи ВИЧ. Напротив, несоблюдение режима лечения может быть основной причиной неудачи терапии.

Цель исследования: выявить факторы, влияющие на соблюдение режима АРТ у пациентов с ВИЧ/СПИД.

Материалы и методы. В данном исследовании использовался метод поперечных срезов. Было задействовано 289 респондентов. Размер выборки был основан на формуле HSIEH (1989). В одномерном анализе использовалось распределение частот для процентных показателей. В двумерном регрессионном анализе и многомерном анализе использовалась множественная логистическая регрессия со скорректированным OR, 95% доверительным интервалом (CI) и значением p<0,05.

Результаты и их обсуждение. Некоторые факторы имели значимую связь с формированием приверженности к АРТ, а именно возраст [p<0,001 (95% ДИ 4,15–134,09)], профессия [p=0,002 (95% ДИ 2,7–32,7)], знания и информированность о заболевании и состоянии здоровья [p<0,001 (95% ДИ 6,15–43,8)], доступность медицинских услуг [p=0,004 (95% ДИ 1,5–9,4)] и отношение медицинских работников [p<0,001 (95% ДИ 1,88–9,21)].

Заключение. Доверительные взаимоотношения между пациентом и поставщиком медицинских услуг крайне важны Повышение доверия пациентов посредством непредвзятого и поддерживающего ухода и использование позитивных мотивационных стратегий может повлиять на соблюдение режима лечения. Рассмотрение каждой предпринятой меры важно для достижения оптимальных клинических результатов и реализации эффективной работы общественного здравоохранения в отношении лечения и профилактики ВИЧ-инфекции.

Ключевые слова: антиретровирусные препараты, антиретровирусная терапия (АРТ), приверженность, ВИЧ/СПИД

* Контакт: *Вулан Рахмадхани, wulanrahmadhani@unimugo.ac.id*

Conflict of interest: the authors stated that there is no potential conflict of interest.

For citation: Rahmadhani W., Na'mah L.U., Qomar U.L., Chamroen P. Health worker's attitude, accessibility of health services and compliance with antiretroviral therapy in patients with HIV/AIDS: a cross-sectional study // *HIV infection and immunosuppression*. 2025. Vol. 17, No. 1. P. 45–51, doi: http://dx.doi.org/10.22328/2077-9828-2025-17-1-45-51.

Конфликт интересов: авторы заявляют об отсутствии конфликта интересов.

Для цитирования: Рахмадхани В., Намах Л.У., Комар У.Л., Чамроен П. Отношение медицинских работников, доступность медицинских услуг и приверженность к антиретровирусной терапии у пациентов с ВИЧ/СПИД: кросс-секционное исследование // *ВИЧ-инфекция и иммуносупрессии*. 2025. Т. 17, № 1. С. 45–51, doi: http://dx.doi.org/10.22328/2077-9828-2025-17-1-45-51.

Introduction. Human Immunodeficiency Virus (HIV) is a type of virus that infects immunity and is classified as a retrovirus which is mainly found in body fluids such as blood, semen, vaginal discharge, and breast milk [1]. Acquired Immune Deficiency Syndrome (AIDS) is a retrovirus disease caused by HIV characterized by severe immunosuppression that causes opportunistic infections, secondary neoplasms, and neurological manifestations [2]. HIV has been determined as the causative agent of AIDS [3]. The only available therapy for HIV/AIDS is antiretroviral therapy (ART) to slow the growth rate of the virus [4]. ARVs do not kill the virus but they only slow or suppress the growth of the virus. ART works to reduce the amount of HIV in the blood to keep the sufferers healthy [5].

The World Health Organization (WHO) data show that the total number of people living with HIV reaches 37.7 million globally with a mortality rate of 680,000 [6]. The highest number of HIV cases is found in Africa country with 25.7 million cases followed by Southeast Asia with 3.8 million cases and America 3.5 million cases [6]. Meanwhile, the lowest cases are in Asia Pacific with 1.9 million cases. The global prevalence of HIV as reported by UNAIDS is 36.9 million people [7]. In Indonesia, the work team for HIV-AIDS & STI reported 14,640 people infected with HIV in Quarter IV (October-December) 2017. The reported cumulative number of HIV cases in Indonesia reached 280,623 people in 2005–2017 with the highest number of cases in DKI Jakarta (51,981 people) followed by East Java (39,633 people), Papua (29,083 people), West Java (28,964 people), and Central Java (22,292 people) [8].

ART can be an effective HIV management. Around 21.7 million people in the world received ART in December 2017 [9]. This shows an increase in ART access where it is only 2.3 million people received ART in 2016. Globally, the average coverage of ART increased from 7% in 2005 to 59% in 2017 [10]. In Indonesia, the number of People Living with HIV/AIDS (PLWHA) who receive ART has not reached 10% of the total 591,823 PLWHA in Indonesia, and only 39,418 PLWHA who have received the therapy (Ministry of Health, 2015). A previous study by Riyanti on PLWHA in Kelompok Dukungan Sebaya (KDS) Sehati Madiun showed that most PLWHA did not comply with the therapy (52%) due to the distance to access health services. Kebumen District has a free ART Health Service Unit (UPK) for PLWHA [11]. The number of active users for this service reaches 458 PLWHA and around 669 users are lost contact [12].

Individual compliance in managing ART is important because compliance with ART will reduce the impact of complications, control CD4, improve quality of life, and prevent resistance [13]. WHO (2017) explained that the 2017 National Study Team found that almost half (48%) of those who had received ART lost contact (loss to follow-up) which became the main factor of unable to maintain the treatment (46%) followed by death (32%), and the side effects of Efavirenz (10%) [10]. Studies revealed that missing one or two doses of ART in one week can have a major impact on HIV/AIDS treatment. Therefore, this study focuses on factors influencing PLWHA's compliance with ART.

Material and methods. *Ethical consideration.* The study protocol received approval from Health Research Ethics Committee Universitas Muhammadiyah Gombong with no protocol: 11125000002. The authorization number for the approval was No: 035.6/II.3.AU/F/KEPK/I/2024 date January 25, 2024.

Study design and sampling. This quantitative analytical study used a cross-sectional design. The population in this study were all patients infected with HIV/AIDS in Kebumen District, Central Java. The inclusion criteria were PLWHA aged >5 years, were at the research location at that time, and were willing to be involved in this study. The sample size was based on the HSIEH (1989) formula obtaining 289 respondents.

Data analysis. Univariate analysis for each variable (Dependent and Independent variables) used a frequency distribution to describe the percentage. Meanwhile, bivariate analysis was used to estimate the effect of each variable using Logistic regression (Adjusted OR and 95% confident interval) and compliance with the ART as the dependent variable. Variables with a p-value <0.25 were considered significant and could be entered into the next model. Multiple logistic regression was used to determine the variables that affect the independent variable (compliance with the ART). The multivariate analysis used the Adjusted OR, 95% Confident Interval (CI), and a significant value of <0.05.

Results and discussion. Table 1 shows that the respondent consists of 154 males (53.29%) and 135 females (46.71%). The majority of respondents, namely 143 respondents (49.48%) aged 19–34 years followed by ⩽18 years consisting of 132 respondents (45.67%), and ⩾35 years consisting of 14 respondents (4.84%). A total of 126 respondents (43.60%) have a high school education level and 156 respondents (53.98%) work as farmers. Around 168 respondents (58.13) have good knowledge and 179 respondents (61.94%) have positive attitudes. Concerning the availability of ART services, it reaches 100%. A total of 167 respondents (57.79%) face not-accessible distance to the ART services and 156 respondents (53.98%) consider the health worker to have a positive attitude.

Table 1

Characteristics of Respondents

Characteristics	Number	Percentage
Sex		
Female	135	46.71
Male	154	53.29
Age		
≤18 years old	132	45.67
19–34 years old	143	49.48
≥35 years old	14	4.84
Education		
University	10	3.46
Senior High School	126	43.60
Junior High School	109	37.72
Elementary School	44	15.22
Occupation		
Farmer	156	53.98
Private employee	71	24.57
Entrepreneur	41	14.19
Unemployed	21	7.27
Knowledge		
Good	168	58.13
Poor	121	41.87
Attitude		
Positive	179	61.94
Negative	110	38.06
Availability of ART Service		
Available	289	100.0
Not available	0	0
Accessibility of Health Service		
Accessible	122	42.21
Not accessible	167	57.79
Health worker's attitude		
Positive	156	53.98
Negative	133	46.02

Table 2 shows that gender, age, occupation, knowledge, attitude, accessibility of service, and attitude of health workers variables have a significant conclusive relationship with compliance with ART with a significant value of <0.05. It means that these variables will be used in the multivariate test.

Table 3 shows that the age, knowledge, attitude, attitude of health workers, occupation, and accessibility of service variables are the determinant factors that have a significant conclusive relationship with

the dependent variable (compliance with ART) with a p-value of <0.05.

The multivariate analysis shows some factors that have the potential for increasing compliance with ART, namely age, knowledge, attitude, attitude of health workers, occupation, and accessibility of health service. The results are in line with previous studies that age, knowledge, attitude, attitude of health worker, occupation, and accessibility of health service have a relationship with the ART compliance [14–17].

Table 2

Simple Logistic Regression Test

Independent Variable	Number	% non-compliance	Crude OR	95% CI	p-Value
Sex					0.020
Female	33	24.44	1		
Male	57	37.01	1.82	1.1–3.03	
Age					0.007
≤18 years old	29	21.97	1		
19–34 years old	55	38.46	2.22	1.3–3.8	
≥35 years old	6	42.86	2.66	0.9–8.3	
Education					0.71
University	3	30.00	1		
Senior High School	35	27.78	0.89	0.22–3.7	
Junior High School	38	34.86	1.25	0.31–5.11	
Elementary School	14	31.83	1.09	0.25–4.85	
Occupation					<0.001
Farmer	18	11.54	1		
Private employee	47	66.20	15.01	7.5–30.1	
Entrepreneur	14	34.15	3.98	1.8–8.95	
Unemployed	11	52.38	8.43	3.14–22.6	
Knowledge					<0.001
Good	25	14.88	1		
Poor	65	53.72	66.64	3.82–11.57	
Attitude					0.005
Positive	45	25.14	1		
Negative	45	40.91	2.06	1.24–3.43	
Accessibility of Health Service					<0.001
Accessible	17	13.93	1		
Not accessible	73	43.71	4.8	2.64–8.71	
Health worker's attitude					0.001
Positive	36	23.08	1		
Negative	54	40.60	2.28	1.37–3.79	

Age is a determinant of a person's behavior. The more mature a person is, the more experience they will have which can be used as considerations in taking action. Meanwhile, younger people have egos and arrogance and take something for granted without thinking about the possible impact in the future [18].

Knowledge becomes the basis for patients with HIV/AIDS in undergoing ART. Through knowledge, patients will know the risks or benefits of the therapy [19]. The better the knowledge of the patient, the better their chances to comply with the ART and vice versa [20]. The success of treatment can be a source of knowledge that creates a sense of compliance [21].

Attitudes are a reflection of a person's knowledge and behavior [22]. A good attitude will be an encouragement to behave positively, especially in terms of health. The better the person's attitude, the greater the opportunity to comply with the treatment [23]. The side effects of drugs provide new perceptions to patients which can cause negative attitudes and non-compliance with the treatment [24]. However, if the efficacy of the treatment is high, the patient will continue to undergo the treatment [25]. Negative responses from the community can cause negative attitudes and feelings of isolation for HIV/AIDS patients. Thus, social support from close relatives, peers, and family is needed to motivate them to comply with the treatment [26].

The health worker's attitude is important in patient satisfaction levels. Optimal and good service provides a sense of comfort and satisfaction to patients so that patients voluntarily undergo the treatment [27]. The

health workers must show polite, friendly, and non-discriminatory speech to make the patient feel comfortable [28]. The attitude of health workers is in the form of communication between health workers and patients that can stimulate patient's compliant behavior in undergoing treatment. Good service will increase the number of patients who want to undergo treatment [29].

Sometimes, work takes up a lot of a person's time due to the demands of the job, economic conditions, or workaholic conditions [30]. Thus, some prioritize work and leave little time for other activities. This time constraint can cause someone to not have time to do important things for themselves, especially for their health which causes the immune system to decrease [31].

Effort to increase patient compliance can be done by improving the ability of health workers to convey information clearly. Effective communication between healthcare professionals and patients is an important factor in achieving patient compliance with recommended medical care. Providing clear information to patients regarding the disease they suffer from, the recommended treatment, as well as its goals and benefits is very important. Health workers can help patients overcome barriers to following treatment through motivation, support and an empathetic approach.

Distance to health service facilities is one of the factors influencing medication compliance [32]. The closer the distance, the easier it is to access the health service and vice versa. Besides, the availability of transportation also influences the access to health services. The completeness of facilities, therapy guidelines, and the availability of counseling services also influence patient's willingness to visit a health service [33]. Other factors influencing patients' reluctance to visit to get treatment are economic conditions and health insurance [34]. The results of this study are in line with that the difficulty in accessing health services to obtain ARVs also affects compliance with ART with a p-value of 0.009 and OR values of 3.790 at 95% CI: 1.391–10.323. This means that HIV/AIDS patients who have difficulty accessing health services to obtain ARVs have a 3.79 times greater risk of being non-compliant with ART than those who have easy access to health services to obtain ARVs [35].

Table 3

Multiple Logistic Regression Test

Independent variable	Number	% non compliance	Crude OR	Adjusted OR	95% CI	p-Value
Age						<0.001
≤18 years old	29	21.97	1	1		
19–34 years old	55	38.46	2.22	25.7	8.1–81.95	
≥35 years old	6	42.86	2.66	23.6	4.15–134.09	
Occupation						0.002
Farmer	18	11.54	1	1		
Private employee	47	66.20	15.01	23.04	7.1–75.3	
Entrepreneur	14	34.15	3.98	7.8	2.1–89.9	
Unemployed	11	52.38	8.43	9.3	2.7–32.7	
Knowledge						<0.001
Good	25	14.88	1	1		
Poor	65	53.72	66.64	16.42	6.15–43.8	
Attitude						<0.001
Positive	45	25.14	1	1		
Negative	45	40.91	2.06	8.34	3.37–43.8	
Accessibility of Health Service						0.004
Accessible	17	13.93	1	1		
Not accessible	73	43.71	4.8	3.77	1.5–9.4	
Health worker's attitude						0.001
Positive	36	23.08	1	1		
Negative	54	40.60	2.28	4.16	1.88–9.21	

Conclusion. Based on the results of the study, age, knowledge, attitude, attitude of health workers, occupation, and accessibility of health services influence HIV/AIDS patient's compliance with ART. In terms of age, some adolescents and young HIV/AIDS patients are groups that have quite a big challenge in complying with ART. Besides, establishing a good relationship between patients and service providers is important by providing non-judgmental and supportive care as well as positive motivation that ultimately can influence compliance with the therapy. To achieve

optimal clinical outcomes and to realize public health with treatment as prevention, considering every treatment stage is important. Therefore, the service provider's skills and in volvement are needed to maintain and improve the patient's compliance with the therapy.

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Received by the Editor / Поступила в редакцию: *24.07.2024 г.*

Information about the authors:

Wulan Rahmadhani — Dr. of Public Health, Department of Midwifery, Faculty of Health Sciences, Universitas Muhammadiyah Gombong; Yos Sudarso Street no 461, Gombong, Kebumen, Central Java, Indonesia; e-mail: wulanrahmadhani@unimugo.ac.id;

Lutfia Uli Na'mah — Magister of Health, Faculty of Health Sciences, Universitas Muhammadiyah Gombong; Yos Sudarso Street no 461, Gombong, Kebumen, Central Java, Indonesia;

Umi Laelatul Qomar — Magister of Public Health, Faculty of Health Sciences, Universitas Muhammadiyah Gombong; Yos Sudarso Street no 461, Gombong, Kebumen, Central Java, Indonesia;

Pall Chamroen — Doctor of Public Health, Research Fellow Khana Center for Population Health Research; Phnom Penh, Cambodia.

Сведения об авторах:

Вулан Рахмадхани — доктор общественного здравоохранения, кафедра акушерства, факультет наук о здоровье, Университет Мухаммадия Гомбонг; ул. Йос Сударсо, д. 461, Гомбонг, Кебумен, Центральная Ява, Индонезия; e-mail: wulanrahmadhani@unimugo.ac.id;

Лутфия Ули Намах — магистр здравоохранения, факультет медицинских наук, Университет Мухаммадии Гомбонг; ул. Йос Сударсо, д. 461, Гомбонг, Кебумен, Центральная Ява, Индонезия;

Уми Лаелатул Комар — магистр общественного здравоохранения, факультет медицинских наук, Университет Мухаммадии Гомбонг; ул. Йос Сударсо № 461, Гомбонг, Кебумен, Центральная Ява, Индонезия;

Палл Чамроен — доктор общественного здравоохранения, научный сотрудник Ханского центра исследований здоровья населения; Пномпень, Камбоджа.