



THE RELATIONSHIP BETWEEN HEALTH LITERACY WITH CONFIDENCE AND SELF-EFFICACY IN ARV TREATMENT IN PEOPLE WITH HIV/AIDS IN HOSPITAL

Asroful Hulam Zamroni¹*, Nursalam Nursalam², Candra Panji Asmoro³

^{1,2,3}Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

asrofulzamroni@gmail.com

Abstrak

Adherence to antiretroviral (ARV) treatment in people with HIV/AIDS (ODHA) is shaped by the confidence and self-efficacy of ODHA in undergoing ARV therapy, which ultimately affects treatment success. This study aimed to analyse the relationship between health literacy, health beliefs, and self-efficacy in ARV treatment in ODHA in hospitals. This quantitative study with a cross-sectional design involved a sample of 160 ODHA patients undergoing ARV therapy at Hospital X, selected using a purposive sampling technique. Data were collected using a structured questionnaire that was tested for validity and reliability. Bivariate analysis was conducted using the chi-square test to assess the relationship between health literacy, health confidence, and self-efficacy. The results showed a significant relationship between health literacy and health confidence ($p = 0.001$) and self-efficacy ($p = 0.002$). Respondents with high health literacy mostly had health confidence and self-efficacy in the medium to high categories, while respondents with low health literacy tended to be in the low confidence and self-efficacy categories. Health literacy was significantly related to the confidence and self-efficacy of ODHA undergoing ARV treatment. Increasing health literacy, which is integrated with strengthening confidence and self-efficacy, is needed to support treatment adherence and improve the quality of life of ODHA.

Kata Kunci: HIV/AIDS; Health Literacy; Confidence; ARV compliance; Self-Efficacy.

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* Corresponding author :

Address : Kampus C UNAIR, Mulyorejo, Surabaya

Email : asrofulzamroni@gmail.com

Phone : +62 813-7577-0720

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a chronic disease that requires lifelong antiretroviral therapy (ART) to control viral replication and prevent disease progression (Chawla et al., 2018; Heath et al., 2021). The worldwide distribution of ART is widespread, but non-compliance with People with HIV/AIDS (ODHA) is still high, with low self-efficacy (Nursalam et al., 2024; Suryana et al., 2019; Tiffany & Yuniartika, 2023). ODHA who are treated in hospitals face many challenges, such as limited time and information received that is not optimal in education and counselling (Fazeli et al., 2020; Jadgal et al., 2022). Limited education and counseling cause the ODHA process to access information, understand, assess, and apply it in the treatment process (Poojar et al., 2023). Therefore, it is necessary to analyse the relationship between health literacy, confidence, and self-efficacy in ART treatment.

The prevalence of HIV/AIDS remains a global health problem, with 39.9 million cases at the end of 2023 (WHO, 2024). Approximately 4 million people are infected with HIV, but only 66% receive ARV therapy in Southeast Asia (Ministry of Health of the Republic of Indonesia, 2023). Studies in Iran showed that patients with high self-efficacy had a 72% ARV compliance rate compared to 45% in patients with low self-efficacy (Seif et al., 2025). The number of ODHA is estimated to reach 503,261 by 2024, but only 62% undergo ARV therapy in Indonesia (Ministry of Health of Indonesia, 2024). East Java data reported that 29,467 ODHA accessed ARV, only 51% complied, while 54% were lost to follow-up (East Java Provincial Health Office, 2024).

Low self-efficacy in ODHA is a major obstacle to successful ARV therapy (Huang et al., 2024; Traynor et al., 2021). Low self-efficacy in ODHA impacts non-compliant behaviours, such as skipping doses, temporarily stopping treatment, and discontinuing treatment (Ashaba et al., 2023; Mohamud et al., 2025). ODHA who do not have confidence in their ability to manage treatment tend to be inconsistent in taking medication and are prone to risky behaviours that worsen their health conditions (Jadgal et al., 2022; Jiang et al., 2021; Min et al., 2024). Non-adherence to ARV treatment leads to a decrease in the effectiveness of therapy, increases the risk of drug resistance, and accelerates damage to the body's immune system (Arrieta-Martínez et al., 2022; Martawinarti et al., 2020). In addition, patients are more prone to opportunistic infections, complications, and increased mortality rates (Misutarno et al., 2024; Tariku et al., 2023).

Non-adherence to ARV treatment in ODHA generally occurs most frequently in the first 3 to 6 months after diagnosis and initiation of

therapy, as patients are still adapting to the side effects of medication, establishing medication routines, and dealing with the psychological pressures of a new diagnosis (Molla et al., 2018). This study analysed health literacy based on the health belief theory. Health literacy provides basic knowledge and skills, whereas health beliefs motivate an individual's attitudes and actions. Both synergistically form self-efficacy in carrying out HIV therapy, which ultimately encourages adherence to ARV treatment. Therefore, this study aimed to analyse the relationship between health literacy, belief, and self-efficacy in the treatment of ODHA in hospitals.

METHOD

This study used a quantitative design with a cross-sectional approach. The study population included all ODHA who underwent ARV treatment at Hospital X, with a purposive sampling technique, so that 160 respondents were obtained. The research variables included health literacy as an independent variable and confidence and self-efficacy in ARV treatment as the dependent variables. Data were collected using a structured questionnaire that was tested for validity and reliability. Data analysis was carried out using the chi-square test to analyse the relationship between variables simultaneously. This study was approved by the Hospital Health Research Ethics Commission (approval number: 400.14.15/31.886/102.9/2025), and all respondents provided written consent before the study.

RESULTS AND DISCUSSION

Univariate analysis showed that most of the respondents were in the late adult age group (36–45 years) at 41.3%, followed by the early elderly group (46–55 years) at 28.8%. There were slightly more male respondents than female respondents, 52.5%. Regarding the level of education, the majority of respondents had a high school education (72.5 %), while those who pursued a college education were 15.0%. Based on occupation, most respondents were private employees (36.3%), followed by housewives (28.8%). Most of the respondents were married (45.6%), while the rest were unmarried, divorced, or their spouse died (Table 1).

The bivariate analysis showed a significant relationship between health literacy and health confidence (χ^2 , $p = 0.001$). Respondents with high health literacy were mostly in the medium-to high-confidence category, namely 48.1% and 45.6%, respectively, while respondents with health literacy were more or less in the low- and medium-confidence categories. These findings show that the better the level of

health literacy, the higher the respondents' confidence in their health management (Table 2). As shown in Table 3, there was a significant relationship between health literacy and self-efficacy (χ^2 , $p = 0.002$). The majority of respondents with high health literacy were in the medium and high self-efficacy categories, 46.8% and 44.3%, respectively, while respondents with low health literacy were more or less in the low and medium self-efficacy categories. These results indicate that health literacy plays an important role in shaping the commitment and confidence of ODHA in undergoing ARV treatment.

Discussion

Health literacy was significantly related to the confidence of ODHA in carrying out ARV treatment. Health literacy includes access to information, understanding, assessment, and application of health knowledge. The results of the analysis showed that most ODHA have sufficient literacy, are able to obtain and understand information from various sources, evaluate the relevance of information, and apply it in their daily behaviour, although it is not completely consistent. Increased literacy capacity is still needed to support adherence to ARV therapy and to improve quality of life. ODHA health literacy is relatively adequate; however, capacity building in understanding, assessing, and applying information is still needed to support adherence to ARV therapy and improve the overall quality of life (Sianturi et al., 2021).

According to the Health Belief Model (HBM) framework Glanz et al. (2002) in Yirsaw et al. (2024), health literacy is the basis for the formation of confidence and motivation of people with disabilities in carrying out ARV treatment. Health literacy allows people with HIV to assess the risks and consequences of HIV appropriately, increasing perceived susceptibility and perceived severity, so that they are aware of the potential for worsening of the condition and serious consequences if therapy is neglected (Yali et al., 2025; Yendriwati et al., 2024). A good understanding also strengthens perceived benefits, that is, the belief that adherence to ARV therapy provides real benefits for virus control and improved quality of life (Adioso et al., 2023). In addition, health literacy helps to recognise perceived barriers, such as limited access to services and drug side effects, and develop strategies to overcome them (Eka Sari et al., 2023). Health literacy supports health motivation, which is an internal drive to maintain health, and strengthens the ability and willingness of ODHA to consistently comply with ARV treatment (Seif et al., 2025).

The results of this study confirmed the existence of a meaningful relationship between health literacy and self-efficacy in people with

HIV/AIDS (ODHA). Health literacy plays an important role in helping ODHA understand antiretroviral therapy (ARV), follow treatment recommendations, and optimally use health services. However, health literacy alone is not always sufficient to guarantee medication adherence. Self-efficacy is a key factor that mediates this relationship because ODHA with a high level of self-efficacy tend to be better able to maintain adherence to treatment despite facing limited understanding or psychological barriers (Lelutiu-Weinberger et al., 2024). In addition, HIV-related neurocognitive disorders, such as HIV-associated neurocognitive disorders (HAND), and psychological factors, such as apathy and emotional stress, can decrease self-efficacy and negatively impact the sustainability of treatment (Sayegh et al., 2018).

Health literacy plays an important role in shaping ODHA's confidence of HIV-positive children in HIV management and adherence to ARV therapy. A sufficient understanding of HIV and the mechanism of action of antiretroviral drugs allows ODHA to assess the importance of adherence to the treatment regimen, thereby increasing their confidence in consistently following the therapy (da Silva et al., 2022). High health literacy also helps reduce self-stigma, increase self-efficacy, and strengthen internal motivation to take care of one's health, all of which contribute to medication adherence (Mgbako et al., 2022). Effective health education strengthens this literacy by providing accurate and relevant information so that people with disabilities can understand the risks, treatment benefits, and appropriate preventive measures (Wilandika et al., 2024). Health literacy not only facilitates the understanding and application of medical information but also forms beliefs that support compliance behaviour and the overall quality of life of ODHA.

Health literacy, beliefs, and self-efficacy are important determinants of the success of ARV treatment in ODHA. Efforts to improve health outcomes require a comprehensive approach that focuses not only on providing information but also on strengthening confidence, motivation, and the ability to manage treatment independently (Lutfian et al., 2025). Multifaceted interventions, including health education tailored to literacy levels and psychosocial and behavioural support, are needed to improve treatment adherence and quality of life for ODHA.

Table 1 Univariate analysis

Personal Factor	Indicator	Frequency (f)	Percent age (%)
Age	Late teens (18-25 years)	12	7,5
	Early adults (26-35 years)	36	22,5
	Late adults (36-45 years)	66	41,3
	Early Elderly (46-55 years)	46	28,8
	Total	160	100
Gender	Male	84	52,5
	Women	76	47,5
	Total	160	100
Education	No School	0	0
	SD	2	1,3
	Junior High School	18	11,3
	High School	116	72,5
	College	24	85,0
	Total	160	100
Jobs	Not Working	7	4,4
	IRT	46	28,8
	Civil	17	10,6
	Servant/P3K/BLUD/TNI/POLRI		
	Private Employees	58	36,3
	Labor	10	6,3
	Self-employed	18	11,3
	Farmer/Fisherman/Breeder	2	1,3
	Student/Student	2	1,3
	Others	0	0
	Total	160	100
Marital Status	Married	73	45,6
	Unmarried	46	28,8
	Divorce/Spouse Died	41	25,6
	Total	160	100

Table 2 The Relationship between Health Literacy and Health Beliefs

Variable	Health Confidence						C hi-Sq	Re mar		
	Low		Med ium		Heig ht					
	n	f	n	f	n	f				
Health	2	3	2	4	1	1	5	1		
literacy	0	5	7	7	0	7	7	0		
Beliefs	,	,	,	,	,	,	0	0		
Health	1	4	5							
literacy	8	3	1	4	6	2	2	1		
Beliefs	3	0	1		5	4	0			
Health	,	,	,	,	,	,	0			
literacy	3	4	0							
Beliefs	5	6	3	4	3	4	7	1		
Health	,	8	8	6	5	9	0			
literacy	3	,	,	,	,	0				
Beliefs	1	6								

Table 3 The Relationship between Health Literacy and Self-Efficacy

Variable	Self-Efficacy						C hi-Sq	Re mar		
	Low		Med ium		Heig ht					
	n	f	n	f	n	f				
Health	2	3	2	4	1	1	5	1		
literacy	0	5	7	7	0	7	7	0		
Beliefs	,	,	,	,	,	,	0	0		
Health	1	4	5							
literacy	8	3	1	4	6	2	2	1		
Beliefs	3	0	1		5	4	0			
Health	,	,	,	,	,	,	0			
literacy	3	4	0							
Beliefs	5	6	3	4	3	4	7	1		
Health	,	8	8	6	5	9	0			
literacy	3	,	,	,	,	0				
Beliefs	1	6								

		n	f	n	f	n	f	n	f	ua	re
Health	less	2	3	2	4	1	1	5	1	0,0	Sig
literacy	ss	0	5	7	7	0	7	7	0	01	nifi
Beliefs	h	,	,	,	,	,	,	,	,	0	cant
Health	era	1	4	5							
literacy	cy	8	3	1	4	6	2	2	1		
Beliefs	ou	3	0	1		5	4	0			
Health	gh	,	,	,	,	,	,	,	0		
literacy	igh	3	4	0							
Beliefs	t	5	6	3	4	3	4	7	1		
Health		,	8	8	6	5	9	0			
literacy		3	,	,	,	,	0				
Beliefs		1	6								

CONCLUSION

This study shows a significant relationship between health literacy, health beliefs, and self-efficacy in ARV treatment in patients with ODHA in hospitals. ODHA with higher health literacy levels tend to have better health confidence and self-efficacy in undergoing ARV therapy. Health literacy plays an important role as a foundation in shaping the understanding, perception of risks and benefits, and internal motivation of ODHA, which further strengthens their confidence and commitment to medication adherence. These findings confirm that increasing the success of ARV therapy depends not only on the availability of drugs but also on strengthening health literacy integrated with efforts to increase confidence and self-efficacy. Therefore, comprehensive, sustainable, and tailored educational and psychosocial interventions are needed to optimally improve treatment adherence and quality of life.

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