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Coping with ARV Treatment Adherence to Medication Adherence A Hospital based Study in Indonesia

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Introduction: Antiretroviral medication (ARV) is an important therapy in the management of HIV infection. Compliance with taking ARV medication is a major factor in achieving succesful HIV/AIDS treatment. Low adherence rates are a major problem in HIV treatment. Factors that affect adherence to taking ARV medication include coping used in dealing with challenges and stress related to HIV treatment.

Objectives: This study aims to analyze the relationship between coping with ARV medication adherence and medication adherence.

Methods: The study population was HIV/AIDS patients who visited the Voluntary Counseling and Test (VCT) Polyclinic at RSUP Dr. M. Djamil Padang. The inclusion criteria were HIV/AIDS patients who had taken ARV drugs and excluded with the following sample size based on 84 respondents using a purposive random sampling technique. Inclusion Criteria HIV/AIDS patients who have been taking ARV drugs for more than 6 months and have CD4 and Viral load checks. Unvariabel analysis was performed to see the frequency distribution of each variable. The chi square test was used to determine the relationship between coping compliance with antiretroviral drug (ARV) adherence in HIV/AIDS patients. $P < 0.05$ is significant, and the data were analyzed using SPSS version 21.0.

Results: The results of the analysis of the relationship between coping and adherence to taking medication showed that there were 42 people (68.9%) respondents whose coping was ineffective, not adhering to taking medication. Meanwhile, among the respondents whose coping was adaptive, there were 9 people (39.1%) who did not adhere to taking medication. Statistical test results obtained P value = 0.013.

Conclusions: Based on the results of data analysis, it showed that there was a significant relationship between coping with adherence to taking ARV medication and adherence to taking medication.

Keywords: ARV; Coping; HIV/AIDS.

1. Introduction

HIV/AIDS has become one of the deadliest disease outbreaks in human history (Mudgal & Tiwari, 2015). Because the impact of this disease is not only on the health side but also has social, economic, ethnic, religious and legal implications, sooner or later it will even touch almost all aspects of human life. The spread of HIV/AIDS throughout the world including Indonesia is growing very rapidly. In 2017, the number of people living with HIV reached 35.1 million adults and 1.8 million were children aged less than 15 years (Johnson et al., 2017; Kurniyanti & Daramatasia, 2021).

The management of HIV/AIDS has undergone significant developments over the last few decades (Areri et al., 2020; Remien et al., 2019). One of the breakthroughs in HIV treatment is the introduction of antiretroviral drugs (ARVs). (Areri et al., 2020). Data from WHO shows that in 2017 there were 21.7 million people living with HIV

receiving ARV therapy. ARV drugs have an important role in controlling and reducing the burden of the HIV virus in the body, as well as improving the function of the immune system. Compliance with taking ARV medication is a critical factor in the success of HIV treatment and preventing the spread of infection (Iacob et al., 2017).

Although the importance of adherence to ARV medication is widely recognized, there are real challenges in maintaining high adherence rates in patients with HIV/AIDS (Adejumo et al., 2015). One of the factors that influence adherence is the individual's ability to overcome or deal with stress and challenges that arise during the treatment process. This process is known as coping (Fletcher et al., 2020; Kumar et al., 2015).

Coping refers to the efforts made by individuals to face, overcome, and adjust to stressful situations or pressure (Baqutayan, 2015). In the context of HIV treatment, coping includes strategies and mechanisms that individuals use to deal with challenges associated with ARV treatment (Ashaba et al., 2017; Mutumba et al., 2015). Some coping strategies that are commonly used include problem solving, seeking social support, emotional control, and cognitive restructuring (Granek et al., 2016).

Several previous studies have shown that individuals who have good coping skills tend to be more compliant in taking their ARV medication (Ironson et al., 2016). Effective coping strategies can help individuals overcome barriers and challenges that may arise in maintaining compliance (Haberer et al., 2017; Sabin et al., 2020).

The relationship between coping and adherence to taking ARV medication is an important aspect to study. Therefore, research on the relationship between coping with ARV medication adherence and PLHIV adherence was carried out with the aim of seeing the results of the analysis of this relationship.

2. Methods

The research design used in this study was a cross-sectional design. The study sample consisted of 84 PLHIV who exercised control at the Dr. RSUP Polyclinic. M. Djamil Padang. The study population was HIV/AIDS patients who visited the Voluntary Counseling and Test (VCT) Polyclinic at RSUP Dr. M. Djamil Padang. The inclusion criteria were HIV/AIDS patients who had taken ARV drugs and excluded with the following sample size based on 84 respondents using a purposive random sampling technique. Inclusion Criteria HIV/AIDS patients who have been taking ARV drugs for more than 6 months and have CD4 and Viral load checks. Univariate analysis was performed to see the frequency distribution of each variable. The chi square test was used to determine the relationship between coping compliance with antiretroviral drug (ARV) adherence in HIV/AIDS patients. $P < 0.05$ is significant, and the data were analyzed using SPSS version 21.0.

3. Results

There were 84 HIV/AIDS (ODHA) respondents at the voluntary counseling and testing polyclinic at RSUP Dr. M Djamil Padang with the characteristics can be seen in Table 1. Most of the respondents aged 18-40 years (64.28%) were male, half (15.48%) were female. The highest education was found in senior high school (57.14%) (almost all (84.52%). More than half of the respondents were homosexual (53.57%) and started taking medication more than one year (73.81%).

Table 1. Characteristics of respondents

Variables	Value
Age (Years)	
18 s/d 40 Years Old	54 (64,28)
41 s/d 60 Years Old	26 (30,95)
>60 Years Old	4 (4,76)
Sex	
Male	71 (84,52)
Female	13 (15,48)
Education	
Elementary School	4 (4,76)
Junior High School	6 (7,14)
Senior High School	48 (57,14)
College	26 (30,95)

Risk Factor	
Heterosexual	32 (38,10)
Homosexual	45 (53,57)
IDU	7 (8,33)
Start Taking ARV Medication	
Before 6 months	10 (11,90)
More than 6 months – 1 year	12 (14,29)
More than 1 year	62 (73,81)

Table 2. shows that of the 84 respondents who had passed taking medication there were 50 people (60%). Meanwhile, there were 34 people (40.48%) who had never passed taking medication.

Table 2. Overview of adherence to taking antiretroviral drugs (ARV)

Skip Taking Medicine	Frequency	Percent
Ever	50	60
Never	34	40,48
Total	84	100.0

Table 3. Shows that of the 84 respondents who experienced adaptive coping there were 25 people (27.38%). While those who experienced maladaptive coping were 61 people (73%).

Table 3. Description of coping with antiretroviral drug (ARV) adherence

Coping Category	Frequency	Percent
Adaptive	25	27,38
Maladaptive	61	73
Total	84	100.0

Table 4. showed that the results of the analysis of the relationship between coping and adherence to taking medication showed that there were 42 people (68.9%) respondents whose coping was ineffective, not adhering to taking medication. Meanwhile, among the respondents whose coping was adaptive, there were 9 people (39.1%) who did not adhere to taking medication. Statistical test results obtained P value = 0.013, which means there is a significant relationship between coping with adherence to taking medication.

Table 4. The relationship between coping with adherence to taking ARV medication and compliance with PLWHA at the Voluntary Counseling and Testing Polyclinic at RSUP Dr. M. Djamil Padang

Coping Mechanism	Obedience				Total		P value
	Obey		Not Obey				
	n	%	N	%	n	%	
Adaptive	14	60,9	9	39,1	23	100	0,013
Maladaptive	19	31,1	42	68,9	52	100	
Total	33	39,3	51	60,7	84	100	

The results showed that almost all (64.28%) of the respondents were in the early adult age range (18-40 years). The average age of the respondents was 35 years, with the youngest being 23 years and the oldest being 60 years. The results also showed that almost all (64.28%) of the respondents were male.

4. Discussion

Compliance is the extent to which patients follow clinical guidelines given by doctors in treating, which reflects the extent to which patient behavior is in accordance with instructions given by health professionals. Compliance involves using drugs correctly in accordance with established rules, namely taking the right drugs, at the right time, and in the right way to treat HIV/AIDS infection using ARV drugs. Although ARVs do not have the ability to eradicate the HIV/AIDS virus, these drugs can slow down the growth of the virus, which in turn slows down the development of HIV/AIDS itself(Becerra et al., 2016; Costa et al., 2015).

ARV therapy remains the mainstay of treatment for HIV and is recommended for all people living with HIV/AIDS (Günthard et al., 2014). The goals of ARV therapy are to reduce the number and spread of viruses, improve

immune system function, reduce morbidity and mortality, and improve quality of life. (Pau & George, 2014). Research shows that adherence to ARV therapy of 95% is the standard for achieving and maintaining a detectable viral load (Cruess et al., 2007; Tugenberg et al., 2006). This level of adherence can be challenging for PLWHA, and many barriers can negatively impact adherence. One in ten PLHIV who are actively taking ARV therapy has still not achieved viral suppression according to current national statistics on the continuum of HIV care, indicating that optimal levels of adherence are not being achieved for the majority of PLHIV.

The importance of adherence in this therapy is when patients follow their medication with self-awareness, not just because they were instructed by a doctor. To ensure good adherence to therapy, regular monitoring and evaluation should be carried out at every visit. Failure in ARV therapy often occurs due to patient non-compliance in following their ARV drug consumption schedule. Therefore, ARV therapy is needed (Abdulrahman et al., 2019).

In a review article by Wanda, (2022) on adherence to taking ARV medication in adolescents living with HIV/AIDS, ARV medication is influenced by supporting factors and inhibiting factors. Supporting factors that influence adherence include individual characteristics, level of self-disclosure, family or caregiver support, and quality of health services. On the other hand, inhibiting factors include individual characteristics, family influence or influential people, and quality of health services. Therefore, it is important to identify the supporting and inhibiting factors that exist in patients undergoing ARV treatment.

There are several ways to measure adherence to ARV therapy. Researchers have used methods such as self-reports, physician reports, pharmacy claims, plasma drug concentrations of ARVs, measurement of viral load, recalculation of returned pills, and electronic monitoring (Turner, 2002).

Coping of medication adherence in ARV medication adherence involves strategies and actions aimed at ensuring that a person adheres to their medication consistently and on a timely basis, including remembering and following a predetermined medication schedule, taking medication doses according to directions given by a doctor, and adhering to certain rules or restrictions related to food or drink that can affect the effectiveness of the drug.

Coping with medication adherence is an important aspect of managing chronic health conditions, because nonadherence can reduce the effectiveness of treatment and hinder recovery or control of the condition. By using effective medication adherence coping strategies, individuals can increase the likelihood of their treatment success, improve health outcomes, and improve quality of life.

Coping strategies for medication adherence can vary for each individual and can include using reminders or alarms to increase medication time, establishing regular routines to facilitate adherence, seeking social or professional support to motivate and remind individuals of the importance of medication adherence. All family environmental factors have a significant positive influence on coping skills (Lethika & AmudhaDevi, 2023). The most common coping mechanisms used by the respondents in dealing with stress are positive reframing – seeing something good in the situation, learning from the experience, actively managing – taking control over the situation, taking action to alleviate or assist the causes of stress, and engaging in prayer and meditation (Castor, 2023).

Research by Haruna & Ago, (2014) related to the investigation of gender roles in the choice of strategies for dealing with HIV/AIDS, the results of the study found that the use of coping strategies that focused on emotions affected gender differences, where women were more oriented towards emotional expression and coping strategies for HIV/AIDS, and increased treatment adherence rates in women. This is consistent with the research that has been done, where in Table 1 it can be seen that the characteristics of HIV/AIDS respondents who participated were more male (84.52%) than female respondents (15.48%), this shows the important role of doctors in assisting HIV/AIDS patients in developing healthy coping strategies, especially in male patients.

In Finkelstein-Fox et al., (2020), regarding the health benefits of coping – positive reappraisal among PLWHA, indicating that coping – positive reappraisal strategies are generally useful when dealing with the potentially traumatic impact of an HIV diagnosis on one's identity. PLWHA often experience high levels of stress because they face changes in identity and face obstacles in carrying out their daily health behaviors. To overcome this experience, many people use coping strategies – positive reappraisal such as seeking benefits and seeing self-development. It is important for PLWHA to have an effective coping strategy because stress reduction has a positive impact on various health indicators.

According to research by Alimah et al., (2017), about the relationship between the effects of antiretroviral (ARV) use and coping in HIV/AIDS patients at the Halmahera Health Center in Semarang. Based on the results of the research analysis, it was found that there was a significant relationship between ARV use and coping in HIV/AIDS patients, with a p-value of 0.001. This is in line with the research conducted, where based on the results of statistical tests, a P value of 0.013 was obtained, which means that there is a significant relationship between coping and medication adherence.

Research related to coping strategies by Brandão et al., (2020) related to coping strategies in overcoming seropositivity in the elderly. Elderly living with HIV adopts coping strategies that include strong involvement in aspects of religiosity and spirituality, adherence to treatment, getting support from media personnel and social networks such as family and friends, and maintaining the confidentiality of the diagnosis. The results obtained from this research are coping strategies that provide empowerment, hope, life opportunities and acceptance.

5. Conclusion

Based on the data analysis, there is a significant relationship between coping strategies and adherence to taking Arv medication. It was found that the majority of respondents who had ineffective coping strategies were also non-adherent to medication. These findings indicate that adaptive coping strategies have the potential to improve medication adherence. The result highlights the importance of employing appropriate approaches to assist individuals with HIV/AIDS in developing effective coping strategies to enchance medication adherence.

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