

THE LEVEL OF DEPRESSION AND QUALITY OF LIFE AMONG HIV/AIDS PATIENTS IN THE ERA OF PANDEMIC COVID-19

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Abstract. The COVID-19 pandemic is a source of mental health problems that affect various aspects of life and has an impact on human life, is the cause of a global public health crisis, triggers fatalities and economic losses, and has a substantial psychological impact, especially depression. PLHIV with depression can affect the quality of life (QoL) due to the influence of demographic factors and HIV/AIDS factors. The aim was to identify the level of depression and the quality of life of PLWHA and to analyze the relationship between the level of depression and the quality of life of PLWHA during the COVID-19 pandemic. Methods, the research method used a cross-sectional design with a simple random sampling method of 58 subjects. The collection of depression level data used the Beck Depression Inventory (BDI) II questionnaire and the quality of life instrument used the WHOQOL-BREF (World Health Organization Quality of Life-BREF) standardized questionnaire. Univariate analysis compares factors associated with depression and quality of life using the Chi-square test, and bivariate analysis using the Pearson correlation. Results, the results of the 58 HIV/AIDS patients were mostly women (62.1%), single with a CD4+ count of less than 400. There was a relationship between gender and quality of life and depression had a negative correlation with quality of life. In conclusion, there is a relationship between depression and the quality of life of PLWHA during the COVID-19 pandemic.

Keywords: Depression level, Quality of life, HIV/AIDS patients, COVID-19 pandemic.

INTRODUCTION

The COVID-19 pandemic is a source of mental health problems that affect various aspects of life and have an impact on human life. COVID-19 has become the cause of the global public health crisis in both the public and government circles, brought about a severe economic recession, and caused a large number of fatalities so that it had a substantial psychological impact (Mandal, et al., 2020). The pandemic also correlates with financial instability, social isolation, fear of contracting COVID-19, and worries about the future which have been shown to cause psychological stress, especially with chronic health problems (Selvi, & Veilatchi, 2021), (M. L. McGowan et al., 2020).

Studies in Europe report that the COVID-19 pandemic has caused the prevalence of mental health problems in the community to increase, such as anxiety and depression, followed by a low quality of life (Shah et al., 2020). In the United States, in December 2020 as many as 42% had signs and symptoms of anxiety or depression compared to 11% in the previous year (Javed et al., 2020). Facts report that COVID-19 triggers mental health disorders according to race or ethnicity and gender (States et al., 2021).

HIV/AIDS patients are a vulnerable population during the COVID-19 pandemic and are a major global health burden. HIV/AIDS patients around the world at the end of 2017 reached 36.9 million people with a total of 1.8 million new patient infection cases, 940,000 deaths, and 39% reported suffering from depression (Rashighi & Harris, 2017; Uthman et al., 2015). Depression is the most common comorbidity among HIV/AIDS patients with a prevalence of 20–40% (Pence et al., 2018). Depression in HIV/AIDS patients is 2-3 times higher than in HIV-negative patients. (Pence et al., 2018). In addition, PLWHA is correlated with the presence of stigma and discrimination, lack of social support, and low self-esteem (Brewer et al., 2020).

Depression is a medical condition characterized by prolonged feelings of sadness and loss of interest in activities that are usually carried out with pleasure, which negatively affect one's thoughts, actions, feelings, and mental health. This condition has implications for psychological problems and can trigger the idea of committing suicide (Yasamy, 2017). More

than 300 million people live with depression and 800,000 die each year due to suicide (Aderibigbe, 2018). Depression is the single largest contributor to the loss of psychological health.

HIV comorbidity with depression triggers disease progression to get worse. Previous studies have revealed that depression is correlated with increased HIV viral load and decreased CD4 count, thereby accelerating the progression of HIV to AIDS until death. (Abas et al., 2014), (Kingori et al., 2015). Depression also correlates with decreased adherence to antiretroviral therapy, weakening therapeutic and treatment effects. This condition has an impact on deteriorating physical function and the emergence of depressive behavior resulting in disturbances in establishing social relationships, thereby reducing the overall quality of life. (De Oliveira E, Silva et al., 2014). This condition has an impact on deteriorating physical function and the emergence of depressive behavior resulting in disturbances in establishing social relationships, thereby reducing the overall quality of life (Akena et al., 2010). Non-adherence to antiretroviral therapy had a threefold higher risk of moderate to severe depressive symptoms compared to adherent patients (Nel & Kagee, 2013).

PLHIV with problems that are so complex both physical, social, and psychological can affect the quality of life. Many studies have been conducted on the comorbidity of depression in PLHIV, but in Jepara Regency, Central Java, especially at the RA General Hospital. Kartini Jepara has never been done. The research objectives are; Identify the depression level of patients with HIV/AIDS during the COVID-19 pandemic; Identify the quality of life of patients with HIV/AIDS during the COVID-19 pandemic; and analyze the relationship between depression levels and the quality of life of patients with HIV/AIDS during the COVID -19 pandemic.

METHODS

This type of observational analytic research uses a cross-sectional approach. The target population includes all HIV/AIDS patients with an affordable population, namely HIV/AIDS patients who seek treatment at the HIV/VCT (voluntary counseling testing) service clinic at the Jepara Regency Hospital. While the sample in the study was a portion of HIV/AIDS patients who were treated at the HIV/VCT service clinic at the Jepara Regency Hospital based on the sample that met the specified inclusion requirements, namely all HIV/AIDS patients who received ARV therapy and were willing to sign informed consent, while the exclusion criteria were not willing to be a respondent and experience an emergency condition. The total number of samples is 58 subjects.

Collecting data in this research used a standardized questionnaire, namely the Beck Depression Inventory (BDI) II questionnaire. There are twenty-one statement numbers in the instrument. BDI II consists of twenty-one measures of depressive symptoms, and fifteen items measuring somatic symptoms. A score of zero to sixteen means not depressed and a score of seventeen to sixty-three means that the subjects are depressed with the total parameter score of 0-16 is not depressed or normal, 17-30 mild category depression, 31-45 moderate category depression, and 46 -63 severe category depression. The BDI overall score range was 0 to 63. The highest score for the negative self-attitude dimension was 33, for the reduced performance dimension was 21, and for somatic symptoms was 9.

The standard WHOQOL-BREF (World Health Organization Quality of Life–BREF) questionnaire in this research is used to measure quality of life. The measurement instrument consists of twenty-six items and is divided into five dimensions, namely physical health, spiritual health, community relations, environment, and quality in carrying out life activities. The scoring for each question is from one to five based on the response of the measurement scale. Quality of life and health status, in general, is questionnaire number one and two. Domain 1: Numbers three, four, ten, fifteen, sixteen, seventeen, and eighteen are examining the physical aspects. Domain 2: questions number five, six, seven, eleven, nineteen, and

twenty-six examine psychological aspects. Domain 3: Questions twenty, twenty-one, and twenty-two examine social relationships. Domain 4: Questions eight, nine, twelve, thirteen, fourteen, twenty-three, twenty-four, and twenty-five examine the environmental dimension. All items are in the form of positive questions except for questions number three, four, and twenty-six which are negative. The overall results of the WHOQOL-BREF questionnaire for each domain are scored so that a raw score is obtained, then a transformation is carried out based on the WHOQOL-BREF, namely a score of four to twenty and a score of zero to one hundred. The next step is to add up the modified scores for each domain and then divide by four to get a quality-of-life score. A score of zero to twenty means very poor quality of life; a score of twenty-one to forty means poor quality of life; a score of forty-one to sixty means quality in the moderate category in living his life; a score of sixty-one to eighty means quality with a good category; and a front score of twenty-one to one hundred means the quality of life with very good category. Furthermore, the results of the total score obtained are interpreted into 3 categories, namely: bad 21-40; good 41-80; and very good: 81-100.

The research was carried out in January 2021 at RA. Kartini Hospital Jepara Regency, Central Java Province, Indonesia. After the data is entered and verified with Microsoft Excel, it is then analyzed using SPSS version 16.0. Univariate analysis using the Chi-square test and bivariate analysis using Pearson correlation.

RESULTS AND DISCUSSION

Results

Table 1. Subject Characteristics

Characteristics	Total n=58
Sex n=%	
• Male	22 (37.9)
• Female	36 (62.1)
Marital status n=%	
• Single	26 (44.8)
• Married	24 (41.4)
• Widowed	8 (13.8)
CD4	
• < 400	38 (65.5)
• > 400	20 (34.5)

Based on Table 1, we found that of the 58 subjects, the demographic data of HIV/AIDS patients was dominated by 36 female patients (62.1%), 26 subjects (44.8%) were single, with a CD4 count <400 cells/mm³ of 65.5%.

Table 2. Frequency Distribution of Depression Levels in HIV/AIDS Patients

Variables (Total n=58)	Beck Depression Inventory (BDI-II)				P
	No Depression	Mild Depression	Moderate Depression	Severe Depression	
Sex					0.6
• Male	8 (13.8)	2 (3.4)	6 (10.3)	6 (10.3)	
• Female	12 (20.7)	8 (13.8)	4 (6.9)	12 (20.7)	
Marital Status					0.08
• Single	12 (20.7)	4 (6.9)	6 (10.3)	4 (6.9)	
• Married	6 (10.3)	6 (10.3)	0 (0)	12 (20.7)	
• Widowed	2 (3.4)	0 (0)	4 (6.9)	2 (3.4)	
CD4					0.6
• < 400	8 (13.8)	8 (13.8)	8 (13.8)	14 (24.2)	
• > 400	12 (20.7)	2 (3.4)	2 (3.4)	4 (6.9)	

Based on Table 2, we found that several factors correlated with depression, namely gender, marital status, and CD4 count, indicating that the prevalence of depression in HIV/AIDS patients was 79.3%.

Table 3. Frequency Distribution of Quality of Life in HIV/AIDS Patients

Variables (Total n=58)	Word Health Organization life (WHOQoL), n (%)			P
	Poor	Moderate	Well	
Sex				0.05
• Male	4 (6.9)	18 (31)	0 (0)	
• Female	2 (3.4)	24 (41.4)	10 (17.2)	
Marital Status				0.25
• Single	0 (0)	18 (31)	8 (13.8)	
• Married	4 (6.9)	18 (31)	2 (3.4)	
• Widowed	2 (3.4)	6 (10.3)	0 (0)	
CD4				0.09
• < 400	2 (3.5)	32 (55.2)	4 (6.9)	
• > 400	4 (6.9)	10 (17.2)	6 (10.3)	

Table 3, shows that only the gender variable is related to the quality of life of patients with HIV/AIDS, while other factors, namely marital status and CD4 count, are not related.

Table 4. Relationship between Depression Level and Quality of Life for HIV/AIDS Patients

Variables	Correlation coefficient	P - Value
Depression levels Quality of life	-0,619	0,00

Table 4, shows that there is a significant correlation between the level of depression and the quality of life of patients with HIV/AIDS, namely the more depressed the worse the quality of life.

Discussion

There is a significant correlation between the level of depression and the quality of life of HIV/AIDS patients during the COVID-19 pandemic. The prevalence of depression in PLHIV in this study was 79.3%. This prevalence is greater than the results of a study in New Delhi which was 58.75% (Bhatia, M.S., Munjal, S., 2014). These results are in line with the results of a study that reported that there was a significant increase in depressive symptoms during the COVID-19 pandemic which was associated with economic stressors and ART adherence (Wagner et al., 2022). The results of this research are also consistent with research in Uganda where depressive symptoms increased both quantitatively and qualitatively during the COVID-19 pandemic (Wagner et al., 2014), (Ngo et al., 2013). Although the results of research on depression experienced by PLWHA during the COVID-19 pandemic were few, they were sufficient to describe the mental health conditions of PLWHA during the pandemic.

The COVID-19 pandemic has increased panic and anxiety in society globally. These conditions have caused drastic changes in lifestyle and habits and affected all aspects of life. Unlike viruses such as influenza and other infections, the mass media is too emphasizes that COVID-19 is a dangerous and deadly virus, thus increasing fear, tension, and anxiety. These conditions can cause an inflammatory process in response to psychological stress or physical stress by releasing neuropeptides or other inflammatory mediators. There is a correlation between the central nervous system, endocrine system, and immune system (Qin et al., 2015).

Depression in PLWHA can occur due to HIV invasion into the central nervous system, which

results in neuropathological changes, especially in the basal ganglia, thalamus, and brainstem nuclei which affect dysfunctional mood and motivation disorders. Besides that, side effects of taking antiretroviral drugs, complications of opportunistic infections, and psychological effects that arise after a patient gets a positive HIV diagnosis, as well as social stigma and discrimination in the work environment, family, and society (Thai et al., 2017). During the COVID-19 pandemic, there has been an increase in depressive symptoms in women. This is in line with the results of studies in sub-Saharan Africa that women have a higher rate of depression than men (Meffert et al., 2019).

Patients with lower CD4 counts are at risk of developing depression than patients with CD4 counts ≥ 400 . This condition occurs because patients with high CD4 counts have a higher level of health status with better immunity so that it can inhibit the occurrence of HIV-related comorbidities, reduce mortality, and improve quality of life (Franco & Saag, 2013). In line with the results of research that reported that the level of depression was higher in HIV patients with symptoms compared to HIV patients without symptoms (Zimpel & Fleck, 2014). HIV patients with symptoms or patients who have entered the AIDS phase perceive pain as a symptom of depression. Facts report that patients with severe and progressive diseases are at high risk of experiencing depression. By the time they enter the symptomatic stage, patients must overcome opportunistic infections, decreased immunity, and side effects of HAART treatment (Tran et al., 2012).

As a result of our research, we found a negative correlation between depression and quality of life. This is consistent with the results of previous research that the more severe depressive symptoms, the lower the quality of life (Sun et al., 2020). The results of a six-month follow-up study illustrated that hopelessness is a major symptom of depression and has an impact on worsening quality of life. This is in line with the results of research in Denmark that there is a correlation between neurocognitive and quality of life, gender, level of depression, education and low body mass index can worsen the quality of life of HIV/AIDS patients (J. A. McGowan et al., 2017). Another study in Spain also found that psychological factors play a protective role in the physical and mental quality of life index of HIV patients (Ballester-Arnal et al., 2016).

When someone first receives an HIV diagnosis, PLHIV will experience various problems such as physical, social, and psychological problems. Physical problems experienced by PLWHA such as decreased immunity and opportunistic infections. In addition to physical problems, PLWHA also experience psychological and social problems such as stigma and discrimination which have a social impact and indirectly have an impact on psychological problems. Psychological impacts are felt, such as feelings of fear, regret, stress, and depression, so these problems will affect life activities and quality of life (Prathama Limalvin et al., 2020). Quality of life is an individual's appreciation in assessing his daily life covering all aspects of life whether physical, social, spiritual, or emotional in correlation with the goals to be achieved in life, intentions, and benchmarks for parameters in his life. There are four aspects of quality in life, namely wellness & well-being covering activities of daily living, attachment to medical treatment, indolence, mobility, pain, and anxiety. Psychological aspects include self-image and image, emotional feelings, self-rewards, inner mindset, and spiritual/religious aspects. Social aspects include personal relationships, community support, and sexual activity. Environmental aspects include sources of income, freedom, security, and physical comfort, obtaining information, living environment, freedom for recreation or activities at leisure, physical environment, and safe and comfortable transportation.

In addition to improving mental health to maximize the quality of life of PLHIV, HIV/AIDS patients need comprehensive support and support to control and overcome various triggers of anxiety, stress, and depression due to the COVID-19 pandemic. The strength of this research is that it is the first time investigating depressive symptoms and quality of life in HIV/AIDS patients during the COVID-19 pandemic in the Jepara district, Central Java, Indonesia by using objective measurement instruments. However, this study has limitations in terms of subject characteristics

which were not studied comprehensively, and did not assess whether subjects were infected with COVID-19 which could influence depression.

CONCLUSION

Depression in PLWHA is more common in women and the quality of life of PLHIV correlates with gender. There is a significant correlation between depression and the quality of life of PLHIV.

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