Anxiety in HIV Patients During Treatment: The Role of Mindfulness and Resilience

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Abstract

HIV remains a significant global health concern, often increasing the risk of psychological distress, including depression and anxiety. Anxiety, characterized by feelings of unease and excessive worry about future events, may be influenced by mindfulness and resilience. Mindfulness, which enhances present-moment awareness, has been shown to reduce anxiety, while resilience enables individuals to cope with stressors, facilitating better management of life and treatment. This quantitative correlational study involved 116 respondents, selected through saturated sampling. The study utilized Nevid et al.'s (2003) Anxiety Scale, Baer et al.'s (2006) Mindfulness Scale, and Reivich & Shatté's (2002) Resilience Scale. The results revealed a significant negative correlation between resilience, mindfulness, and anxiety ($F = 20.473$, $p < 0.05$), with these variables accounting for 26.6% of the variance in anxiety levels. Specifically, resilience negatively correlated with anxiety ($t = -2.267$, $p = 0.025$), as did mindfulness ($t = -3.068$, $p = 0.003$). These findings suggest that both resilience and mindfulness play a crucial role in reducing anxiety among HIV patients. Therefore, integrating mindfulness and resilience-based interventions into HIV care programs may be beneficial in alleviating anxiety in this population.

Keywords: Anxiety, mindfulness, resilience, PLWH.

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Introduction

The Human Immunodeficiency Virus (HIV) is currently the fourth deadliest disease globally and remains a key focus in global health research (Pramadhani & Allenidekania, 2022). According to the UNAIDS (2023) an estimated 39.9 million people worldwide are living with HIV, with 1.3 million new infections and 630,000 deaths attributed to Acquired Immune Deficiency Syndrome (AIDS). In Asia and the Pacific, approximately 290,000 adults over the age of 15 and 10,000 children are living with HIV. Among Asian countries, Indonesia is among the most affected, with 14,000 cases among men and 7,900 cases among women aged 15 and older (UNAIDS, 2022).

Recent data on Kemenkes (2023) about HIV, AIDS, and sexually transmitted infections (STIs) indicate that 13,279 new HIV cases were reported between January and March 2023. The highest prevalence was recorded in West Java, Central Java, East Java, Jakarta, and Banten. The majority of cases (65.5%) occurred among individuals aged 25–49, with 71% of total cases reported among men (Afriana et al., 2022). HIV is primarily transmitted through bodily fluids, including blood and breast milk (Kemenkes, 2016). Additionally, contaminated needles—particularly among injecting drug users—contribute significantly to transmission (Inggariwati & Ronoatmodjo, 2019; Sumini et al., 2017). Other risk factors include a history of STIs, unprotected sexual activity, and multiple sexual partners (Hasby & Korib, 2021; Murtono et al., 2018; Pasaribu et al., 2019; Sari, 2021).

Global health efforts are currently focused on reducing AIDS-related deaths, primarily by expanding access to Antiretroviral Therapy (ART), which enhances immune function and mitigates the risk of opportunistic infections (WHO, 2023). However, an HIV diagnosis is not only associated with physical symptoms but also with significant psychological challenges, including stress, depression, and anxiety (Maharani et al., 2021). The impact of HIV extends beyond physical health, affecting the emotional and social well-being of individuals. Many people living with HIV experience sleep disturbances, suicidal ideation, functional impairments, and increased psychological distress (Wilson et al., 2016).

In addition to health-related struggles, societal stigma further exacerbates the challenges faced by individuals living with HIV/AIDS. They are often ostracized and blamed for the transmission of the disease, leading to social isolation and discriminatory behavior. This stigma can result in anxiety, depression, and emotional distress, which, in turn, may lead to nonadherence to medication—particularly in public settings, where individuals fear disclosure of their HIV status (Moyo et al., 2023). Furthermore, stigma fosters feelings of inadequacy, stress, guilt, and fear, creating additional barriers to accessing healthcare services. This fear is considered a significant driver of continued HIV transmission, as individuals may avoid seeking treatment. Habibi et al (2020) found that many people living with HIV/AIDS refrain from taking their medication in front of others due to fear of being questioned about their health status, particularly in workplace settings.

To address these challenges, individuals must develop the ability to manage anxiety by adapting to their circumstances, thereby preventing the virus from replicating uncontrollably. A study by Rahakbauw (2016) revealed that people living with HIV/AIDS (PLWHA) often experience psychological distress, including fear, anxiety, shame, sadness, confusion, anger, loss of self-confidence, and despair upon receiving their diagnosis. Similarly, Trickey et al (2017) found that PLWHA undergoing treatment have a life expectancy nearly equivalent to that of uninfected individuals. However, they frequently experience prolonged symptoms associated with both the progression of the disease and its treatment (Langebeek et al., 2017). Given this extended life expectancy, the care and treatment of PLWHA should not only focus on advanced medical interventions but also prioritize improving their quality of life (Wilandika, 2018). According to Yatim & Atmosukarto (2022) upon being informed of their HIV/AIDS status, individuals often undergo psychological distress, including excessive anxiety, negative thinking, hopelessness, and, in some cases, suicidal ideation or resentment toward others.

Rahakbauw (2016) further emphasizes that the challenges faced by PLWHA extend beyond health concerns to include social problems that affect various aspects of their lives, such as adapting to a healthy lifestyle after being diagnosed with a life-threatening virus. Psychological challenges are particularly prevalent when individuals receive a positive HIV test result, often triggering shock, sadness, and anxiety (Nuwa et al. 2019). Another common issue among PLWHA is self-rejection, as many struggle to accept their diagnosis even when they appear physically healthy. This mental state frequently leads to feelings of worthlessness, a pessimistic outlook on the future, an inability to contribute to themselves or their families, and difficulty securing employment. Limited social interaction further exacerbates their situation, reducing their motivation to recover and adhere to regular treatment routines.

Anxiety is strongly associated with PLWHA, necessitating specialized care and targeted interventions to detect, treat, and prevent mental health issues while addressing harmful lifestyle factors to improve overall health outcomes (Rein et al., 2021). Anxiety poses a significant barrier to initiating and adhering to antiretroviral therapy (ART) among adults living with HIV in South Africa

(Andri et al., 2020; Truong et al., 2021). Yatim & Atmosukarto (2022) highlight that anxiety negatively impacts treatment adherence among HIV patients and increases their risk of suicide due to diminished hope and poor quality of life. This finding is supported by Putra et al (2019), who reported that 38.17% of PLWHA experienced thoughts of self-harm, which, in some cases, escalated to suicidal ideation. Suicide, therefore, represents one of the most severe psychological effects experienced by PLWHA.

Anxiety experienced by patients with HIV is attributed to decreased psychological well-being (Yudiati & Rahayu, 2017). Mindfulness is characterized by self-awareness and non-judgmental attention to one's experiences. Kabat-Zinn et al. (1992) explained that mindfulness arises when individuals purposefully focus on the present moment without judgment, as though their life depends on that very moment. This attention and awareness are inherent human capacities, collectively referred to as mindfulness. Through mindfulness, individuals are expected to develop a new perspective that facilitates adaptation and promotes more effective responses to various challenges. According to Niazi & Niazi (2011), mindfulness has been shown to improve the well-being of patients with chronic illnesses and assist them in managing various clinical issues.

Research by Ramadhani et al. (2021) demonstrated that mindfulness training positively impacts the quality of life of people living with HIV/AIDS (PLWHA). Similarly, Anggraini et al. (2024) found that mindfulness-based interventions effectively reduce anxiety among HIV patients while addressing their psychological and spiritual well-being during treatment. HIV is a lifelong condition for which no definitive cure has been identified. However, advancements in medical science have transformed its classification from a fatal disease to a manageable chronic condition. Early diagnosis and continuous antiretroviral treatment can encourage patients to maintain their health, adhere to routine medical care, and adjust to their environment. In addition to cultivating mindfulness, HIV patients must develop resilience to navigate social challenges and endure difficult circumstances. Resilience involves emotional regulation, impulse control, optimism, empathy, and problem-solving skills.

Kumboyono et al. (2018) emphasized the necessity of resilience in helping HIV patients cope with anxiety. Strong resilience reduces stressors, enabling patients to manage their lives and treatment more effectively. Resilient individuals generally strive to confront their problems and recover quickly from anxiety-inducing situations by drawing on their internal resources. Based on this rationale, this study aims to investigate the anxiety experienced by HIV patients undergoing treatment. The primary research question is whether mindfulness and resilience are associated with anxiety levels among HIV patients, analyzed through a quantitative approach.

Previous studies have highlighted the importance of mindfulness and resilience in reducing anxiety among patients with HIV/AIDS (Anggraini et al., 2024; Kabat-Zinn et al., 1992). Mindfulness has been shown to help HIV patients better accept their condition, reduce negative emotions, and enhance their quality of life (Germer & Neff, 2019; Sriati et al., 2022). Meanwhile, resilience is associated with an individual's ability to recover from adversity and maintain psychological stability during treatment (Cao et al., 2020; Diaz-Martinez et al., 2021). However, several limitations persist within existing research.

First, many studies examining the effects of mindfulness and resilience interventions on HIV patients have been conducted in limited settings, often within one or two healthcare facilities (Kumboyono et al., 2018; Ramadhani et al., 2021). This raises concerns about the generalizability of the findings

to broader populations, particularly in regions with diverse demographic characteristics and varying access to healthcare services.

Second, most studies have focused on assessing the individual effects of mindfulness or resilience on anxiety, without exploring their combined influence in the context of HIV treatment (Anggraini et al., 2024; Hughes et al., 2009). Investigating how these two factors simultaneously contribute to reducing anxiety could offer valuable insights for developing more integrated and effective interventions.

Third, other moderating or mediating variables, such as age, education level, and patients' knowledge about HIV, may also influence anxiety levels but have often been underexplored in previous research (Moyo et al., 2023; Wishnuningsih et al., 2022). This gap in knowledge limits our understanding of how demographic variables may shape the relationship between mindfulness, resilience, and anxiety in HIV patients.

Addressing these research gaps, this study seeks to expand the scope of existing investigations by examining the simultaneous relationship between mindfulness and resilience while incorporating demographic variables. The findings are expected to provide a more comprehensive understanding of anxiety reduction among HIV patients. This study contributes to clinical psychology by offering additional insights into the role of resilience and mindfulness in managing anxiety among people living with HIV/AIDS (PLWHA). Furthermore, the results may serve as a practical reference for designing interventions to alleviate anxiety during HIV treatment by leveraging mindfulness and resilience as supportive factors. Lastly, it is hoped that primary healthcare centers (Puskesmas) can integrate counseling facilities tailored for PLWHA to help them manage anxiety effectively.

Method

Participants

This study employed a quantitative correlational approach, involving 116 HIV patients as respondents who were registered at two public health centers, namely Putat Health Center in Surabaya and Betro Health Center in Sidoarjo. The sample was selected using the convenience sampling technique, which involves choosing participants based on their availability and willingness to participate in the study (Creswell, 2014). All respondents were provided with detailed information regarding the purpose of the study, the procedure for responding to questionnaire items, data confidentiality, and their rights as participants. After reading this explanation, respondents were asked to provide informed consent by marking the designated approval section before proceeding with the questionnaire. This process ensured that participation was entirely voluntary.

Measurement

This study utilized three measurement scales, namely the Anxiety Scale, Mindfulness Scale, and Resilience Scale. The Anxiety Scale consisted of 44 items and was developed based on the theoretical framework of Nevid et al. (2003). It used a five-point Likert scale with response options: strongly agree, agree, neutral, disagree, and strongly disagree. The reliability test indicated a Cronbach's Alpha coefficient of 0.963. Example items include: *"When imagining the HIV treatment process, I find it difficult to sleep," "After being diagnosed with HIV, I avoid meeting my family,"* and *"I remain calm despite undergoing difficult HIV treatment at present."*

The Mindfulness Scale consisted of 32 items, developed based on the theoretical framework of Baer et al. (2006). This scale also used a five-point Likert scale with the same response options as the Anxiety Scale. The reliability test showed a Cronbach's Alpha coefficient of 0.900. Example items

include: *"I enjoy sharing my experiences regarding the HIV treatment process I am undergoing," "Since starting HIV treatment, I can focus better on my activities,"* and *"I can multitask and complete routine tasks almost simultaneously."*

The Resilience Scale contained 32 items, developed based on the theoretical framework of Reivich & Shatté (2002). This scale also employed a five-point Likert scale. The reliability test demonstrated a Cronbach's Alpha coefficient of 0.913. Example items include: *"When facing unpleasant situations, I can control my emotions to avoid making irrational decisions," "I do not express anger impulsively, even when others around me do,"* and *"I believe that the difficult situations in my life will eventually pass."*

Data Collection Procedure

Data collection was conducted by distributing the research scales online via Google Forms to respondents who met the predetermined criteria. Prior to data collection, permission was obtained from relevant authorities. The process was preceded by a briefing session, during which health center coordinators provided instructions on how to complete the measurement instruments. The data collection process lasted for two weeks.

Data Analysis

The data were analyzed using multiple regression analysis, processed through IBM SPSS version 24 for Windows. This analysis aimed to examine the relationship between mindfulness and anxiety levels in HIV patients undergoing treatment, investigate the relationship between resilience and anxiety levels, and assess the combined effect of mindfulness and resilience on anxiety levels among HIV patients.

Result

The characteristics of respondents based on age distribution indicate that 20 respondents (17%) were between the ages of 18 and 25, 43 respondents (37%) were aged 26 to 30, and 53 respondents (46%) were aged 30 years and above. Regarding gender distribution, 72 respondents (62%) were male, while 44 respondents (38%) were female. Additionally, based on the respondents' highest level of education attained, 8 respondents (7%) had completed junior high school, 83 respondents (72%) had completed senior high school, and 25 respondents (21%) held a bachelor's degree (See table 1).

Table 1

Demographic Data of Respondents by Age, Gender, and Highest Educational Attainment

No	Age	Total	Percentage
1	18-25 tahun	20 respondents	17%
2	26-30 tahun	43 respondents	37%
3	30 tahun keatas	53 respondents	46%
No	Gender	Total	Percentage
1	Laki-laki	72 respondents	62%
2	Perempuan	44 respondents	38%
No	Education	Total	Percentage
1	SMP	8 respondents	7%
2	SMA	83 respondents	72%
3	S1	25 respondents	21%

Based on the descriptive data in table 2, it was found that 44.83% of respondents tended to experience moderate levels of anxiety, while 46.55% demonstrated a moderate level of mindfulness, and 34.48% exhibited a moderate level of resilience.

Table 2
Variable Categorization

Category	Percentage		
	Anxiety	*Mindfulness*	Resilience
Very Low	1,72%	1,72%	2,59%
Low	28,45%	23,28%	26,72%
Moderate	44,83%	46,55%	34,48%
High	22,41%	24,14%	33,62%
Very High	2,59%	4,31%	2,59%

The assumption tests, which are prerequisites and integral components preceding data analysis in research (Azwar, 2021), include tests for normality of distribution, linearity of relationships, multicollinearity, and heteroscedasticity. The normality test, conducted using the Kolmogorov-Smirnov technique, aims to assess the distribution of the anxiety variable as the dependent variable. The linearity test is used to determine whether there is a linear relationship between the independent and dependent variables. The multicollinearity test examines the presence of intercorrelations among independent variables, while the heteroscedasticity test assesses whether the regression model exhibits homoscedasticity. The results of the study indicate that, collectively, resilience and mindfulness serve as predictors of anxiety related to undergoing treatment, as evidenced by an F-coefficient value of 20.473 with a significance level of 0.000 ($p < 0.05$). Therefore, the first hypothesis in this study is supported.

Table 3
Results of Simultaneous Regression Analysis

F	R	R^2	df	SE	p
20,473	0,516	17989,592	2	0,266	0.000

Partially, the study results indicate that mindfulness is negatively correlated with anxiety during medical treatment, as evidenced by a t-value of -3.068 at a significance level of 0.003 ($p < 0.05$) with a standardized beta of -0.326. These findings suggest that higher levels of mindfulness are associated with lower levels of anxiety. Consequently, the second hypothesis of this study is supported.

Additionally, the results of partial regression analysis reveal that resilience is also negatively correlated with anxiety, as indicated by a t-value of -2.267 at a significance level of 0.025 ($p < 0.05$) with a standardized beta of -0.241. This implies that higher resilience is associated with a lower likelihood of experiencing anxiety. Based on these findings, the third hypothesis of this study is confirmed.

Table 4
Results of Partial Regression Analysis

Variable	**Standardized beta**	**t**	**p**
Mindfulness	-0,326	-3,068	0,003
Resiliensi	-0,241	-2,267	0,025

The Multiple Regression Analysis also revealed that, collectively, mindfulness and resilience contributed an effective variance of 26.6% to anxiety, with mindfulness having a greater contribution (15.7%) compared to resilience (10.9%). Furthermore, the analysis yielded a regression equation indicating that the constant value of anxiety was 181.526 when mindfulness and resilience were absent. This implies that for every one-unit increase in the regression coefficient of

mindfulness, anxiety decreases by -0.611. Similarly, for every one-unit increase in the regression coefficient of resilience, anxiety decreases by -0.359.

Table 5
Results of Effective Contribution Scores

Variables	Koefisien β	Cross Product	Regresi	SE Total
Mindfulness (X1)	-0,611	-17397,655	17989,59	0,266
Resiliensi (X2)	-0.359	-20509,534		

Discussion

The research findings indicate that mindfulness and resilience among HIV patients contribute effectively to anxiety levels during HIV treatment, accounting for 26.6% of the variance. Specifically, mindfulness has a greater influence on anxiety levels during treatment, with an effective contribution of 15.7%, compared to resilience, which contributes 10.9%. Additionally, 73.4% of other factors contributing to anxiety stem from patient age, educational status, and knowledge (Wishnuningsih et al., 2022). The study further demonstrates that the age of HIV patients influences their likelihood of experiencing anxiety during treatment. Age affects personality maturity, where individuals with a mature personality are less likely to experience stress-related disorders due to their higher adaptability to stressors. Moreover, knowledge about HIV treatment fosters positive attitudes, which manifest in behaviors that positively impact patients' health status.

The confirmation of the research hypothesis that mindfulness is negatively correlated with anxiety during HIV treatment suggests that higher levels of mindfulness correspond to lower anxiety levels in HIV patients. This finding aligns with the explanation provided by Sriati et al. (2022), which indicates that mindfulness can reduce anxiety and its symptoms in various chronic illnesses while enhancing the quality of life and spiritual well-being of HIV patients. Romadhani & Hadjam (2017) assert that individuals with mindfulness can mitigate anxiety, as mindfulness interventions reduce brain waves to alpha waves. Reaching the alpha wave state induces relaxation, as awareness in this state allows individuals to acknowledge their existence and regulate themselves, thereby reducing anxiety. This research finding is also consistent with the study by Anggraini et al. (2024), which demonstrates that mindfulness-based interventions effectively lower anxiety levels in HIV patients while addressing psychological and spiritual aspects during treatment. Similarly, Stinson et al. (2020) highlight that mindfulness serves as an intervention to alleviate psychological distress, including anxiety, among HIV patients. Putri & Gunatirin (2020) further explain that mindfulness-based cognitive therapy (MBCT) can reduce anxiety in individuals with chronic illnesses. Through MBCT interventions, mindfulness meditation is taught as a core therapeutic practice, incorporating cognitive techniques to target specific symptoms of psychological dysfunction.

Hughes et al. (2009) also assert that mindfulness-based approaches confirm the potential of mindfulness to positively impact well-being, reduce anxiety, alleviate negative effects, and lower stress levels. According to Anggraini et al. (2024),mindfulness helps HIV patients accept their condition and alleviate the anxiety they experience. Mindfulness reduces negative emotions in coping with daily stress and anxiety, as it is associated with more effective emotion regulation. Levitt et al. (2018) explain that individuals who practice mindfulness techniques develop a mindful disposition, which leads to changes in amygdala activity. Specifically, a mindful disposition is associated with reduced bilateral amygdala activation and increased prefrontal cortical activation, suggesting that mindful individuals may better regulate emotional responses through prefrontal cortical inhibition of the amygdala.

HIV patients with a high level of mindfulness are more attuned to changes occurring within themselves, such as shifts in thoughts, emotions, and sensations, and they perceive these changes as a means to enhance their quality of life (Treleaven, 2018). Mindfulness also enables individuals to develop skills in interpreting negative events or conditions, including unpleasant situations and anxiety (Germer & Neff, 2019). This aligns with the perspective of (Kabat-Zinn et al., 1992), who asserted that individuals with high mindfulness tend to have better physical and mental health, are less prone to anxiety and depression, maintain a more positive outlook on life, and foster positive relationships with others. The findings of this study indicate that HIV patients exhibit a high level of mindfulness, which significantly influences their anxiety levels during treatment. These findings are consistent with Baer et al. (2006), who explained that individuals tend to focus more on threatening or unpleasant events rather than on internal experiences or stimuli such as thoughts, emotions, and sensations, or external stimuli such as sights, sounds, and smells that are positive in nature, thereby increasing their sensitivity.

In addition to mindfulness, another factor influencing anxiety during HIV treatment is resilience, which refers to an individual's ability to recover from adversities and persist through stressful or unpleasant conditions (Andriyani, 2021). As noted by Diaz-Martinez et al. (2021), patients with strong resilience are better able to adapt positively, allowing them to become more accustomed to dealing with the disease and the effects of the HIV virus. HIV patients can lead their lives without excessive psychological distress and can continue engaging in daily activities, including social interactions. Kumboyono et al. (2018) emphasized that resilience is crucial for HIV patients in managing anxiety. A high level of resilience can help mitigate stressors, thereby enabling patients to undergo treatment and daily life more effectively. Resilience also impacts physical health by motivating individuals to maintain their well-being, helping them manage anxiety related to their physical condition, and promoting healthy behaviors (Babić et al., 2020). Furthermore, resilience influences psychological health when facing challenging situations. A higher level of resilience facilitates psychological adjustment to one's illness (Cao et al., 2020). Resilience also affects social well-being, as individuals with greater resilience tend to adapt more effectively to social interactions, their environment, and their sense of security (Wang et al., 2021). Chorwe-Sungani et al. (2015) demonstrated that HIV infection impacts an individual's quality of life. Quality of life is closely related to physical health, psychological conditions, independence, social relationships, and one's connection to their environment (WHO, 2023). It is crucial for patients to consider quality of life since HIV/AIDS is a chronic and progressive disease, significantly affecting multiple aspects of life, including physical, psychological, social, and spiritual dimensions (Simboh et al., 2015). HIV patients experience uncertainty regarding their health status, which may result in psychological distress, ultimately affecting their physical, social, spiritual, psychological, and economic aspects of daily life. Patients encounter various limitations in their social and cultural environment, often making these experiences stressful. Psychological challenges associated with chronic illnesses tend to compel individuals to engage in adaptive processes to cope with their condition. In this process, some individuals successfully recover from negative experiences such as rejection, anxiety, and depression, while others struggle due to difficulties in adjusting to changes.

The findings of this study highlight that resilience plays a significant role in the anxiety experienced by HIV patients during treatment. Resilient individuals tend to confront their problems and quickly recover from anxiety-inducing situations by utilizing their capabilities. Based on this discussion, the rationale behind this study was to investigate anxiety among HIV patients undergoing treatment. Resilience in individuals with HIV/AIDS is reflected in their ability to regulate emotions, empathize with others, and develop problem-solving skills. The dynamics of resilience in individuals with HIV/AIDS can be observed in the time required for them to recover from adversity.

Although this study successfully tested all research hypotheses, it has certain limitations. The study sample was obtained from only two primary healthcare centers. Additionally, the corrected item-total correlation threshold for validity testing of the research variable scales was set at 0.25. Furthermore, the demographic data collected were not sufficiently detailed, limiting the extent to which demographic information could be analyzed comprehensively.

Conclusion

This study aims to examine the negative correlation between resilience and mindfulness with anxiety among HIV patients undergoing treatment. The findings indicate a significant negative relationship between resilience and anxiety, suggesting that higher resilience in HIV patients is associated with lower levels of anxiety, and vice versa. Furthermore, a negative correlation was also observed between mindfulness and anxiety, indicating that greater mindfulness is linked to reduced anxiety levels in HIV patients undergoing treatment. Future researchers interested in this topic are encouraged to expand the study by including a larger sample size, collecting more comprehensive demographic data, and exploring additional related variables.

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Conflict of Interest
The researchers declare that this paper has no conflicts of interest.

Author Contribution
All authors have contributed equally to the study's conceptualization, interpreting data, reviewing, and editing the manuscript.

Data Availability
Data can be provided upon request to the author.

Declarations Ethical Statement
The study followed the guidelines of the Declaration of Helsinki.

Informed Consent Statement
Informed consent was obtained from all persons involved in the study.

References

Afriana, N., Luhukay, L., Mulyani, P. S., Irmawati, Romauli, Pratono, Dewi, S. D., Budiarty, T. I., Hasby, R., Trisari, R., Hermana, R., Anggiani, D. S., Asmi, A. L., Lamanepa, E., Elittasari, C., Muzdalifah, E., Praptoraharjo, I., Puspoarum, T., & Devika. (2022). *Laporan Tahunan HIV AIDS*.

Andri, J., Ramon, A., Padila, P., Sartika, A., & Putriana, E. (2020). Pengalaman pasien ODHA dalam adaptasi fisiologis. *Journal of Telenursing (JOTING)*, *2*(2), 127–141. https://doi.org/10.31539/joting.v2i2.1397

andriyani, j. (2021). resiliensi dan Kecemasan pada Keluarga di Era New Normal (Studi di Kota Banda Aceh). *At-Taujih*, *4*(1), 19–33. https://doi.org/http://dx.doi.org/10.22373/taujih.v4i1.10542

Anggraini, M., Prihatin, S., Basuki, H., & Setiyabudi, R. (2024). Efektifitas mindfulness based intervention (MBI): Doa penenang hati terhadap perubahan kecemasan pada pasien HIV/AIDS. *Jurnal Penelitian Perawat Profesional*, *6*(1), 383–393. https://doi.org/https://doi.org/10.37287/jppp.v6i1.2133

Azwar, S. (2021). *Penyusunan Skala Psikologi*. Pustaka Belajar.

Babić, R., Babić, M., Rastović, P., Ćulin, M., Šimić, J., Mandić, K., & Pavlović, K. (2020). Resilience in Health and Illnes. *Psychiatria Danubina*, *32*(2), 226–232.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27–45. https://doi.org/10.1177/1073191105283504

Cao, Q., Qian, Y., & Yang, C. (2020). Resilience and quality of life among empty nesters in china: the mediating role of the source of support. *Journal of General Psychology*, *147*(3), 261–276. https://doi.org/10.1080/00221309.2020.1718586

Chorwe-Sungani, G., Sefasi, A., & Pindani, M. (2015). Mental health problems affecting people who have HIV and AIDS in Malawi: A review. *Open Journal of Nursing*, *05*(3), 189–194. https://doi.org/10.4236/ojn.2015.53023

Creswell, J. W. (2014). *Research design qualitative, quantitavie, and mixed methods approaches*. Sage Publications.

Diaz-Martinez, J., Tamargo, J. A., Delgado-Enciso, I., Liu, Q., Acuña, L., Laverde, E., Barbieri, M. A., Trepka, M. J., Campa, A., Siminski, S., Gorbach, P. M., & Baum, M. K. (2021). Resilience, anxiety, stress, and substance use patterns during covid-19 pandemic in the miami adult studies on HIV (MASH) Cohort. *AIDS and Behavior*, *25*(11), 3658–3668. https://doi.org/10.1007/s10461-021-03292-y

Germer, C., & Neff, K. (2019). *Teaching the mindful self-compassion program: A guide for professionals*. The Guilford Press.

Habibi, S., Supodo, T., & Waluya Kendari, M. (2020). Public health, school of health sciences. *Jurnal Ilmiah Kebidanan (Scientific Journal of Midwifery)*, *6*(1), 10–15. https://journal.stikespemkabjombang.ac.id/index.php/jikeb/article/view/473

Hasby, R., & Korib, M. (2021). Faktor determinan kejadian HIV pada Lelaki Seks dengan Lelaki (LSL) di Indonesia Tahun 2018. *Promotif*, *1*, 1–9. https://jurnal.unismuhpalu.ac.id/index.php/PJKM/article/view/1511

Hughes, A., Williams, M., Bardacke, N., Duncan, L. G., Dimidjian, S., & Goodman, S. H. (2009). *Mindfulness approaches to childbirth and parenting*. *17*(10), 630–635. https://pmc.ncbi.nlm.nih.gov/articles/PMC3846392/pdf/nihms499150.pdf

Inggariwati, I., & Ronoatmodjo, S. (2019). Faktor risiko yang berhubungan dengan infeksi hiv pada pengguna napza suntik (Penasun) di DKI Jakarta Tahun 2013 - 2014. *Jurnal Epidemiologi Kesehatan Indonesia*, *2*(2), 35–42. https://doi.org/10.7454/epidkes.v2i2.3012

Kabat-Zinn, J., Kristeller, J., Gay Peterson, L., Fletcher, K. E., Pbert, L., Lenderking, W. R., & Santorelli, S. F. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. In *AmJPsychiatry* (Vol. 149, Issue 7).

Kemenkes. (2016). *Laporan eksekutif perkembangan HIV AIDS dan penyakit infeksi menular seksual (PIMS) Triwulan IV*.

Kemenkes. (2023). *Laporan eksekutif perkembangan HIV AIDS dan penyakit infeksi menular seksual (PIMS) Triwulan I*. https://hivaids-pimsindonesia.or.id/download?kategori=Laporan%20Triwulan

Kumboyono, Sukotjo, C. T., Lestari, Y. C., & Wijayanti, D. P. (2018). Resilience of people living with HIV/AIDS in Indonesia: a phenomenological study. *HIVNursing*, *18*(1). https://hivnursing.net/index.php/hiv/article/view/126/120

Langebeek, N., Kooij, K. W., Wit, F. W., Stolte, I. G., Sprangers, M. A. G., Reiss, P., Nieuwkerk, P. T., Van Der Valk, M., Schouten, J., Van Zoest, R. A., Verheij, E., Verboeket, S. O., Elsenga, B. C., Prins, M., Van Der Loeff, M. F. S., Berkel, J., Totté, M., Kruijer, T., Del Grande, L., … Mulder, W. M. C. (2017). Impact of comorbidity and ageing on health-related quality of life in HIV-positive and HIV-negative individuals. *AIDS*, *31*(10), 1471–1481. https://doi.org/10.1097/QAD.0000000000001511

Levitt, H. M., Bamberg, M., Creswell, J. W., Frost, D. M., Josselson, R., & Suárez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic,

and mixed methods research in psychology: The APA publications and communications board task force report. *American Psychologist*, *73*(1), 26–46. https://doi.org/10.1037/amp0000151

Maharani, D., Hardianti, R., Muhammad, W., Ikhsan, N., & Humaedi, S. (2021). Faktor yang mempengaruhi kualitas hidup orang dengan HIV/AIDS (Odha). *Focus: Jurnal Pekerjaan Sosial* e, *4*(2), 157–167.

Moyo, R. C., Sigwadhi, L. N., Carries, S., Mkhwanazi, Z., Bhana, A., Bruno, D., Davids, E. L., Van Hout, M. C., & Govindasamy, D. (2023). Health-related quality of life among people living with HIV in the era of universal test and treat: results from a cross-sectional study in KwaZulu-Natal, South Africa. *HIV Research and Clinical Practice*, *25*(1). https://doi.org/10.1080/25787489.2023.2298094

Murtono, D., Riyanto, P., & Shaluhiyah, Z. (2018). Influential host factors to the incidence of HIV/AIDS in key populations in Pati District. *Kesmas*, *13*(1), 17–22. https://doi.org/10.21109/kesmas.v13i1.1463

Nevid, J. S., Rathus, S. A., & Greene, B. (2003). *Abnormal psychology in a changing world*. Upper Saddle River. www.prenhall.com/nevid

Niazi, A. K., & Niazi, S. K. (2011). Mindfulness-based stress reduction: A non-pharmacological approach for chronic illnesses. *North American Journal of Medical Sciences*, *3*(1), 20–23. https://doi.org/10.4297/najms.2011.320

Nuwa, M. S., Kiik, S. M., & Vanchapo, A. R. (2019). Penanganan terhadap stigma masyarakat tentang orang dengan HIV/AIDS (ODHA) di komunitas. *Jurnal Penelitian Kesehatan Suara Forikes*, *10*(1), 49–54. http://forikes-ejournal.com/index.php/SF

Pasaribu, R. S., Asfriyati, & Andayani, L. S. (2019). Faktor-faktor yang berhubungan dengan kejadian HIV Pada WPS (Wanita Pekerja Seks) di klinik VCT (Voluntary Counseling And Testing) Wilayah Kerja Puskesmas Padang Bulan Kota Medan. *Jurnal Mutiara Ners Januari*, *2*(1), 168–177. http://e-journal.sari-mutiara.ac.id/index.php/NERS/article/view/598/544

Pramadhani, W., & Allenidekania. (2022). Efektivitas pemberian dukungan pada remaja ODHA terhadap dampak kualitas hidup: Systematic Review. *Jurnal Endurance*, *7*(2), 396–407. https://doi.org/10.22216/jen.v7i2.1046

Putra, I., Hakim, M. Z., & Heryana, W. (2019). Keinginan bunuh diri orang dengan HIV dan AIDS (ODHA) dampingan Yayasan PKBI DKI Jakarta. *Jurnal Ilmiah Rehabilitasi Sosial*, *1*(1), 93–110. https://jurnal.poltekesos.ac.id/index.php/rehsos/article/view/177/149

Putri, D. A., & Gunatirin, E. Y. (2020). Mindful-based cognitive therapy (MBCT) dan self-awareness untuk menurunkan kecemasan ibu hamil primipara. *Journal An-Nafs: Kajian Penelitian Psikologi*, *5*(1), 1–24. https://doi.org/10.33367/psi.v5i1.878

Rahakbauw, N. (2016). Dukungan keluarga terhadap kelangsungan hidup ODHA (Orang dengan HIV/AIDS). *Insani*, *3*(2), 64–82. https://www.jurnal.widuri.ac.id/index.php/insani/article/view/34

Ramadhani, R. P., Nashori, F., & Kumolohadi, R. (2021). Pelatihan mindfullness untuk meningkatkan kualitas hidup pada orang dengan HIV/AIDS (ODHA). *Jurnal Psikologi Islam*, *12*(1), 61–71. https://doi.org/10.15548/alqalb.v12i1.2444

Rein, S. M., Smith, C. J., Chaloner, C., Stafford, A., Rodger, A. J., Johnson, M. A., McDonnell, J., Burns, F., Madge, S., Miners, A., Sherr, L., Collins, S., Speakman, A., Phillips, A. N., & Lampe, F. C. (2021). Prospective association of social circumstance, socioeconomic, lifestyle and mental health factors with subsequent hospitalisation over 6–7 year follow up in people living with HIV. *E Clinical Medicine*, *31*. https://doi.org/10.1016/j.eclinm.2020.100665

Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 keys to finding your inner strength and overcoming life's hurdles*. Three Rivers Press.

Romadhani, R. K., & Hadjam, M. N. R. (2017). Intervensi berbasis mindfulness untuk menurunkan stres pada orang tua. *Gadjah Mada Journal of Professional Psychology*, *3*(1), 23–37. https://jurnal.ugm.ac.id/gamajpp/article/download/42777/23584

Sari, F. L. (2021). Analisis faktor yang berhubungan dengan status human immunodeficiency virus (HIV) pada kelompok LSL Di Kota Bandar Lampung. *Indonesian Journal of Health and Medical*, *1*(3), 393–403. https://ijohm.rcipublisher.org/index.php/ijohm/article/view/73/47

Simboh, F. K., Bidjuni, H., & Lolong, J. (2015). Hubungan dukungan keluarga bagi kualitas hidup orang dengan HIV/AIDS (ODHA) dl klinik VCT RSU Bethesda GMIM Tomohon. *EJournal Keperawatan*, *3*(2), 1–6.
https://ejournal.unsrat.ac.id/v3/index.php/jkp/article/view/8080/7641

Sriati, A., Hernawaty, T., Khaerera, A., Aulia, F., Yolanda, Rahmawati, S., & Yuda, N. P. (2022). Intervensi mindfulness untuk menurunkan kecemasan pada pasien kronis: Narrative review. *Cakrawala Ilmiah*, *2*(3), 953–962.
https://www.bajangjournal.com/index.php/JCI/article/view/4032/2914

Stinson, C., Curl, E. D., Hale, G., Knight, S., Pipkins, C., Hall, I., White, K., Thompson, N., & Wright, C. (2020). Mindfulness meditation and anxiety in nursing students. *Nursing Education Perspectives*, *41*(4), 244–245. https://doi.org/10.1097/01.NEP.0000000000000635

Sumini, S., Hadisaputro, S., Anies, A., Laksono, B., & Sofiro, M. A. (2017). Faktor risiko yang berpengaruh terhadap kejadian HIV/AIDS pada pengguna napza suntik (Studi epidemiologi di kota Pontianak). *JEKK Jurnal Epidemiologi Kesehatan Komunitas*, *2*(1), 36–45. https://ejournal2.undip.ac.id/index.php/jekk/article/view/3993

Treleaven, D. A. (2018). *Trauma - sensitive mindfulness: Practices for safe and transformative healing*. W.W Norton & Company.

Trickey, A., May, M. T., Vehreschild, J. J., Obel, N., Gill, M. J., Crane, H. M., Boesecke, C., Patterson, S., Grabar, S., Cazanave, C., Cavassini, M., Shepherd, L., Monforte, A. d. A., van Sighem, A., Saag, M., Lampe, F., Hernando, V., Montero, M., Zangerle, R., … Sterne, J. A. C. (2017). Survival of HIV-positive patients starting antiretroviral therapy between 1996 and 2013: a collaborative analysis of cohort studies. *The Lancet HIV*, *4*(8), e349–e356. https://doi.org/10.1016/S2352-3018(17)30066-8

Truong, M., Rane, M. S., Govere, S., Galagan, S. R., Moosa, M. Y., Stoep, A. Vander, Celum, C., & Drain, P. K. (2021). Depression and anxiety as barriers to art initiation, retention in care, and treatment outcomes in KwaZulu-Natal, South Africa. *E Clinical Medicine*, *31*. https://doi.org/10.1016/j.eclinm.2020.100621

UNAIDS. (2023). *UNAIDS Data 2023*.
https://www.unaids.org/en/resources/documents/2023/2023_unaids_data

UNAIDS. (2022). *United National Commitments and Policy Instrument 2022*. Laws and Policies Analytics. https://lawsandpolicies.unaids.org/

Wang, C., Zhang, B., Oláh, J., & Hasan, M. (2021). Factors influencing the quality of life of empty nesters: empirical evidence from Southwest China. *Sustainability*, *13*(5), 1–15. https://doi.org/10.3390/su13052662

WHO. (2023). *Treatment and care in children and adolescents*. WHO. https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/hiv/treatment/treatment-and-care-in-children-and-adolescents

Wilandika, A. (2018). Penggunaan highly active antiretroviral theraphy (HAART) terhadap health related quality of life (HRQOL) pada orang dengan HIV/AIDS. *Jurnal Pendidikan Keperawatan Indonesia*, *4*(2). https://doi.org/10.17509/jpki.v4i2.14093

Wilson, N. L., Azuero, A., Vance, D. E., Richman, J. S., Moneyham, L. D., Raper, J. L., Heath, S. L., & Kempf, M. C. (2016). Identifying symptom patterns in people living with HIV disease. *Journal of the Association of Nurses in AIDS Care*, *27*(2), 121–132. https://doi.org/10.1016/j.jana.2015.11.009

Wishnuningsih, A., Prihandhani, I. S., & Wirajaya, I. G. (2022). Hubungan tingkat pengetahuan tentang hiv/aids terhadap tingkat kecemasan penderita tuberculosis di rumah sakit X

Denpasar. *Journal Center of Research Publication in Midwifery and Nursing*, *6*(1). https://ejournal.binausadabali.ac.id/index.php/caring/issue/view/12

Yatim, D. I., & Atmosukarto, I. I. (2022). *HIV dan kesehatan mental*. PT Temprina Media Grafika. www.spiritia.or.id

Yudiati, E. A., & Rahayu, E. (2017). Coping stress dan kecemasan pada orang-orang pengidap hiv/aids yang menjalani tes darah dan VCT (Voluntary Counseling Testing). *ProsidingTemuIlmiahXIkatanPsikologiPerkembanganIndonesia*, *1*, 270–279. https://jurnal.unissula.ac.id/index.php/ippi/article/view/2199/1661