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Mindfulness-Based Cognitive Therapy on a Postpartum Woman with HIV and Depression: A Case Report

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Abstract

Human Immunodeficiency Virus (HIV) infection remains a complex psychological and social challenge, particularly for women in the postpartum period. This case study aimed to illustrate the effectiveness of a mindfulness-based cognitive therapy (MBCT) within the biopsychosocial framework in reducing psychological distress in an HIV-positive housewife who had been diagnosed with a depressive episode. The research design was a single-case intervention study involving a 36-year-old woman who was undergoing both antiretroviral and psychiatric treatment. Data were gathered through in-depth interviews, clinical observation, and measurement using the Beck Depression Inventory. The intervention was delivered in eight sessions, focusing on mindfulness exercises, breathing awareness, cognitive restructuring, and reflective journaling. The results showed a reduction in depressive symptoms from moderate to mild, accompanied by improvements in emotional stability, self-awareness, and social functioning. The participant could resume daily activities, establish positive communication with her partner, and maintain treatment adherence. These findings suggest that mindfulness-based cognitive therapy delivered within a biopsychosocial framework can improve psychological well-being and interpersonal functioning in women living with HIV. A holistic and culturally sensitive approach is essential to support their recovery and mental resilience.

Keywords: biopsychosocial approach; depressive symptoms; HIV; mindfulness-based cognitive therapy; postpartum psychological distress

Human immunodeficiency virus (HIV) infection remains a major public health challenge in Indonesia. Over the past decade, the pattern of the HIV/AIDS epidemic has shifted from high-risk groups, such as sex workers and injection drug users, to women of reproductive age, housewives, and pregnant women (Rahmalia et al., 2022). Based on estimates derived from UNAIDS (2024), approximately 180,000 women are living with HIV in Indonesia, out of around 550,000 adults. In addition, the Indonesian Health Survey (SKI) 2023 highlighted the importance of maternal health screening, including HIV testing during pregnancy (Badan Kebijakan Pembangunan Kesehatan, 2023). The survey also showed that women are more vulnerable to depressive symptoms and that treatment seeking for depression remains limited. These conditions may increase the vulnerability of pregnant and postpartum women living with HIV and underscore the need for more integrated support.

The shift in the epidemic pattern indicates that women, particularly housewives, are now a vulnerable group to HIV. This vulnerability is not solely attributable to personal risk behavior but also to social and relational factors. A study by Najmah et al. (2025) identified the phenomenon of "marital deception," in which husbands' risky sexual behavior becomes the primary route of HIV transmission to wives who previously did not engage in risky behavior. In patriarchal societies, women's bargaining power in sexual relationships is limited, including in negotiating condom use or requesting HIV testing (Dewi et al., 2021). This shows how social and cultural structures exacerbate women's risk of infection.

Research in Makassar by Wulandari et al. (2020) also demonstrated that education is a key determinant of HIV/AIDS prevention. Mothers with low education are at greater risk of not receiving prevention of mother-to-child transmission (PMTCT) testing, despite having sufficient knowledge about HIV. These findings confirmed that barriers to HIV prevention are not only related to knowledge but also to broader social and structural factors. From a psychological perspective, women living with HIV (WLHIV), especially those who are pregnant or postpartum, face significant mental stress, including anxiety, guilt, and fear of social rejection (Rahmalia et al., 2022). The persistent stigma surrounding HIV causes many women to conceal their status, lose social support, and be at risk of postpartum depression (Dewi et al., 2021). These psychological conditions negatively impact treatment adherence and the well-being of both mother and child.

Social and cultural factors further exacerbate these issues. Patriarchal norms and taboos surrounding sexuality limit women's autonomy in reproductive decision-making. In many cases, consent to HIV testing during pregnancy still depends on the husband (Akinsolu et al., 2025). Furthermore, HIV education is often delivered in normative language without considering the socio-cultural context of women in the grassroots (Ogueji, 2021). This situation reinforces stigma and hinders early detection and treatment.

From a medical perspective, delays in antiretroviral (ARV) therapy remain a common problem. Although ARVs effectively suppress viral replication and prevent transmission, side effects and psychological stress often reduce treatment adherence (Lytvyn et al., 2017). This situation illustrates how HIV in women is a multidimensional issue involving biological, psychological, social, and cultural factors. Therefore, a holistic intervention approach is needed, e.g., the biopsychosocial model defined by Engel (1997), which views health as the result of interactions between biological, psychological, and social dimensions (Akinsolu et al., 2025; Lytvyn et al., 2017).

An applied form of the biopsychosocial approach's psychological dimension is mindfulness-based cognitive therapy (MBCT). MBCT, which combines Beck's cognitive therapy and Kabat-Zinn's mindfulness practice, helps individuals recognize negative thought patterns and develop self-acceptance (Segal et al., 2018). Several studies have demonstrated the effectiveness of MBCT in reducing depression and psychological distress among HIV patients (Creswell et al., 2009; Musanje et al., 2024; Ogueji, 2021; Scott-Sheldon et al., 2019; Yang et al., 2015). This approach is relevant for HIV patients experiencing multidimensional stress (biological, psychological, and social) and can improve emotion regulation and treatment adherence.

Based on the above discussion, there remains a research gap in addressing the needs of women living with HIV, particularly during the postpartum period. Most studies in Indonesia have focused primarily on medical aspects, such as the prevention of vertical transmission and adherence to ARV therapy, while comprehensive psychological approaches, especially those integrating mindfulness, are still limited. Emotional distress, social stigma, and lack of psychosocial support significantly affect the quality of life of women with HIV. To address this gap, this case report describes the application of a biopsychosocial approach, specifically MBCT, in a housewife living with HIV who experienced a postpartum depressive episode. This report aims to illustrate the dynamics of psychological distress within the Indonesian sociocultural context and to demonstrate how MBCT contributes to the development of holistic and culturally sensitive clinical psychology practices for women living with HIV in Indonesia.

1. Methods

The participant of this study was a 36-year-old woman, identified as D, who was in a polygamous marriage as the second wife. Case selection was conducted purposively, with the following inclusion criteria: a) being diagnosed with HIV who were receiving consistent medical treatment, b) demonstrating psychological distress, based on initial screening, and c) expressing willingness to participate in the entire assessment and intervention process.

D had completed elementary school education and was unemployed. She was diagnosed with the virus in 2024 and had given birth to her third child via cesarean section approximately eight months before. She became infected with the virus when she worked as a casual sex worker in 2023. At that time, her husband was in prison, and she had to find a way to support herself and her children. She said that the work felt relatively easy to do and allowed her to quickly earn money to meet her needs. At the time of assessment, D was undergoing regular ARV therapy and psychiatric treatment. She was diagnosed with a depressive episode (F32.9), as confirmed by a psychiatrist.

The research was conducted at the psychology clinic of Regional General Hospital X in collaboration with psychiatric and voluntary counseling and testing (VCT) clinics. Several sessions were also held at the client's home to enhance comfort and family participation. The overall assessment and intervention process took place between March and May 2025.

A comprehensive assessment strategy was implemented to ensure a thorough understanding of the client's psychological condition. Data were collected using several techniques, including unstructured interviews, participant observation, medical record reviews, and psychological testing. Interviews with the participant and her husband explored life history, stressors, and coping patterns. Clinical observation was used to document affective expression, behavior, and physiological reactions during sessions. Graphical tests, i.e., Draw-A-Person (DAP), BAUM, House-Tree-Person (HTP), and the WARTEGG test, were employed to explore personality and emotional characteristics. Depression symptoms were measured using the Beck Depression Inventory (BDI), which comprises 21 items that cover emotional, cognitive, motivational, and somatic aspects. This instrument has been widely validated for assessing depressive symptom severity, with internal consistency coefficients above 0.80.

The intervention was delivered over eight sessions, each lasting approximately 60 minutes, using the principles of MBCT adapted to a biopsychosocial framework. The sessions focused on: a) psychoeducation about the relationship between mind, body, and emotion; b) breathing awareness; c) observation of thoughts and bodily sensations; d) emotion regulation through grounding; e) the cultivation of self-acceptance and compassion; and f) reflection and maintenance planning. Considering the participant's limited literacy, instructions were simplified and contextualized using daily examples, such as awareness while cooking or cleaning. Collaboration with the medical team was maintained throughout the intervention. The biological aspect involved monitoring adherence to medication, while the social aspect emphasized family and spousal support to reinforce emotional and behavioral change.

Data analysis was performed through descriptive qualitative methods using a thematic approach to identify patterns of meaning across cognitive, affective, behavioral, and social domains. BDI was administered before and after the intervention to observe changes in depressive symptom levels. The participant's BDI score decreased from 23 (moderate) before the intervention to 7 (mild), indicating meaningful clinical improvement.

To ensure data credibility, method triangulation (interviews, observations, and psychological tests) and source triangulation (participant and spouse) were conducted. Regular peer discussions with clinical supervisors were carried out to validate data interpretation and maintain analytical consistency. Written informed consent was obtained from the participant, and confidentiality was maintained through the use of pseudonyms and the removal of identifying information.

This methodological structure provides sufficient detail to allow replication in similar clinical settings and demonstrates the systematic integration of mindfulness-based psychological intervention within a biopsychosocial approach.

2. Result

The intervention for D was carried out in eight structured sessions, considering the participant's physical and psychological condition. The primary objective was to reduce psychological distress through psychoeducation, mindfulness-based breathing exercises, emotional awareness, and reflective journaling.

At the baseline, the participant showed moderate depressive symptoms (BDI = 23), with dominant complaints of persistent anxiety, social withdrawal, fear of transmitting the virus to her husband, and reduced interest in household activities. One of her primary concerns was the possibility that her husband might already have been infected, as she herself was initially unaware of her HIV status and only discovered it approximately one year later, together with her husband. Emotional instability was frequently observed, as reflected in crying episodes and avoidance of social interaction. Following the intervention, the participant demonstrated visible behavioral and emotional improvement. She reported reduced fear of social interaction, resumption of daily routines (e.g., cleaning, cooking, and child care), and increased communication with her husband. She also began to re-engage in enjoyable activities, such as singing. These observable changes indicated improved emotion regulation, motivation, and self-efficacy.

A descriptive comparison of BDI scores pre- and post-intervention indicated a decrease from 23 (moderate) to 7 (mild), reflecting a clinically significant reduction in depressive symptoms. Evaluation across five domains of psychological distress revealed improvement in emotional stability, coping skills, somatic discomfort, emotional communication, and reduction of self-harm tendency. Improvement was observed in four of these domains, while emotional communication remained partially affected due to situational triggers. See Table 1

No indications of response bias were found during post-assessment. The participant's physical condition remained stable, minimizing confounding effects. Triangulation among clinical observation, self-report, and test results confirmed the reliability of the findings. The reduction in depressive symptoms was further supported by the psychiatrist's evaluation, who lowered the participant's medication dosage from daily to every other day, indicating enhanced emotional stability.

In addition to the quantitative improvement, qualitative findings from observational records and in-depth interviews also indicated meaningful positive changes. Interpersonally, the participant demonstrated improved social engagement, reflected in increased communication intensity with her husband and reduced avoidance of social interaction. In terms of daily functioning, she gradually resumed her household roles, including cleaning, cooking, and caring for her children, and also re-engaged in entertaining activities, such as singing, which she described as making her daily life feel more "alive." Furthermore, her coping capacity strengthened as she was able to apply mindfulness-based breathing, body awareness exercises, and journaling techniques to manage anxiety and regulate emotional responses when feeling overwhelmed. These descriptive behavioral indicators collectively showed that the intervention not only reduced psychological distress but also facilitated functional and relational recovery. Overall, these findings suggested meaningful improvement in the participant's psychological, functional, and interpersonal well-being.

However, the re-emergence of anxiety when encountering news of HIV-related deaths suggested that the recovery process is dynamic and requires ongoing maintenance sessions. These findings align with previous evidence that mindfulness-based interventions foster resilience but must be sustained to prevent symptom relapse.

Overall, the intervention's outcomes substantiate the clinical feasibility and psychological benefits of mindfulness-based approaches in managing emotional distress among postpartum women living with chronic illness.

3. Discussion

The findings of this study showed that the biopsychosocial intervention with an MBCT as its core component is effective in reducing psychological distress and enhancing emotional, cognitive, and social functioning in a postpartum woman living with HIV. The central question of this study, "how mindfulness-based psychological interventions can alleviate distress in HIV-positive patients postpartum through biopsychosocial mechanisms," was addressed quantitatively and qualitatively. The participant's depressive symptoms decreased significantly, reflected by a reduction in the BDI score from 23 (moderate) to 7 (mild), accompanied by enhanced daily functioning, improved spousal communication, and greater self-awareness.

The improvement observed in this study aligns with the theoretical foundation of MBCT, which integrates cognitive restructuring and mindfulness awareness to help individuals identify, observe, and disengage from maladaptive thought patterns (Segal et al., 2018). The participant's increased insight into her bodily reactions, e.g., recognizing that fatigue and shortness of breath were related not only to illness but also to psychological stress, illustrates an enhanced metacognitive capacity, a core target of mindfulness-based interventions (Creswell et al., 2009).

The behavioral recovery, including resumption of household activities and re-engagement with family members, supports the notion that mindfulness facilitates emotion regulation and behavioral activation. Similar results have been reported by (Yang et al., 2015), who found that HIV-positive women receiving eight sessions of MBCT reported reduced loneliness and improved quality of life. Likewise, Musanje et al. (2024) found that mindfulness training improved emotion regulation and resilience in people living with HIV (PLHIV).

This case's findings are consistent with several empirical studies showing that mindfulness-based interventions, including MBCT and mindfulness-based stress reduction (MBSR), significantly reduce depression and stress among PLHIV. Samhkaniyan et al. (2015) reported that MBSR increases CD4+ counts and improves both psychological and

Table 1
Summary of Psychological Assessment Result

Domain of Function	Pre-Intervention Condition	Post-Intervention Condition	Interpretation of Change
Emotional stability	Easily crying, anxious	Stable, less reactive	Significant improvement
Coping skills	Passive, avoidant	Active, mindful response	Major improvement
Somatic symptoms	Fatigue, palpitations	Reduced physical complaints	Major improvement
Emotional communication	Fear of rejection, withdrawn	More open communication	Partial improvement
Self-harm potential	Passive suicidal ideation	None reported	Full remission

physical symptoms in HIV-positive patients, while Scott-Sheldon et al. (2019) concluded in their meta-analysis that mindfulness interventions consistently produce small-to-moderate effect sizes in reducing depressive symptoms across chronically ill populations.

However, the current case also highlights contextual and methodological distinctions that contribute new insights. Unlike most previous studies that focused on general PLHIV populations, this study specifically addressed a postpartum woman with limited literacy who lived in a culturally constrained setting, an area rarely explored in mindfulness-based HIV intervention studies. Furthermore, the adaptation of intervention techniques, such as simplifying cognitive restructuring exercises into conversational formats, reflects cultural and cognitive tailoring necessary for clinical feasibility in resource-limited contexts.

These adaptations suggest a novel contribution to the literature: that MBCT can remain effective even when modified to suit sociocultural and cognitive limitations, provided the therapeutic principles of mindfulness and cognitive awareness are maintained. This aligns with recommendations by Ogueji (2021), who emphasized the need for contextual adaptation of mindfulness interventions in low-resource and high-stigma environments.

From a biopsychosocial perspective, the observed psychological improvements might result from reduced activation of the hypothalamic–pituitary–adrenal (HPA) axis and sympathetic nervous system through mindfulness practice, leading to lower physiological stress responses (Creswell et al., 2009). Although biological measures, such as CD4+ counts, were not recorded in this case, previous studies have linked mindfulness-induced stress reduction to improved immune parameters in HIV patients (Samhkaniyan et al., 2015; SeyedAlinaghi et al., 2012). Psychologically, mindfulness increases awareness and acceptance, promoting self-compassion and decreasing rumination, which are key mechanisms in reducing depressive symptoms and improving emotion regulation.

In this study, the therapeutic process of MBCT contributed directly to the reduction of depressive symptoms through several mechanisms observed throughout sessions. One central element was cognitive restructuring, in which the client's maladaptive belief that she would "soon die because of HIV" was explored and reframed. Through guided reflection, the client gradually learned to recognize these automatic negative thoughts as transient mental events rather than objective truths, thereby decreasing catastrophic thinking and existential fear. This finding aligns with Segal et al. (2018), who explained that mindfulness-based cognitive therapy helps individuals disengage from self-defeating beliefs by developing a decentered perspective. Similarly, Musanje et al. (2024) found that MBCT significantly reduced death-related anxiety and hopelessness among people living with HIV by promoting self-acceptance and reconstruction of meaning.

The postpartum context adds another layer to this mechanism. Postpartum women with HIV often face unique challenges, including hormonal changes, social stigma, and caregiving demands that exacerbate emotional distress (Rahmalia et al., 2022). In this study, these factors were clearly reflected in the client's initial condition; she reported feeling physically weak, anxious about infecting her baby, and ashamed to interact with neighbors due to fear of stigma. The intervention, family engagement, psychoeducation, and mindfulness-based breathing practices appeared to mitigate isolation and foster a sense of agency. Psychoeducation sessions were conducted not only with the client but also with her husband, focusing on the psychological effects of HIV, the importance of emotional support, and stress management techniques. This collaborative approach encouraged the husband to be more attentive and supportive, which lessened the client's perceived rejection and strengthened marital communication. The inclusion of mindfulness-based breathing exercises, which the client practiced with her husband and children at home, helped improve her daily routines and enhance family cohesion. These results are consistent with Dewi et al. (2021), who found that family support significantly enhances emotional adjustment and recovery among HIV-positive mothers. In this case, family involvement became a protective factor that accelerated the client's psychological improvement and facilitated her reintegration into family and social life.

Despite its limitations, this case provides a unique clinical contribution by demonstrating that mindfulness-based psychological interventions can be feasibly integrated into HIV care in Indonesia. It emphasizes the importance of flexibility in session structure, modality (e.g., hybrid online-home approach), and cultural adaptation. Moreover, it suggests that the psychosocial recovery of postpartum HIV-positive women cannot be dissociated from their relational and sociocultural environment, an insight that reinforces the use of the biopsychosocial model within culturally specific contexts.

Compared to prior studies on Western and African populations, the present case study contributes regionally specific evidence that can guide clinicians in Southeast Asian contexts, where stigma, religious norms, and limited mental health literacy often hinder psychological care (Najmah et al., 2025). The current findings thus elaborate on the applicability of MBCT as a culturally adaptable, cost-effective adjunct to conventional HIV treatment.

This study's limitations include its single-case design, the absence of a control group, and limited post-intervention measurement (only BDI scores and psychiatric medication adjustment). Biological outcomes, such as viral load or CD4+ levels, were not measured, and there was no long-term follow-up. Furthermore, logistical barriers, e.g., travel distance, session delays during holidays, and the client's literacy limitations, restricted the completeness of the intervention.

Future studies should employ quasi-experimental or randomized designs with larger postpartum HIV samples, longitudinal follow-ups, and inclusion of physiological measures. The development of simplified or multimedia-based mindfulness tools could enhance accessibility for participants with limited literacy. Collaboration between psychologists, psychiatrists, and HIV physicians should be strengthened to optimize the integration of psychological and biomedical care.

Overall, this study reinforces the effectiveness of mindfulness-based interventions within a biopsychosocial framework in addressing psychological distress among postpartum women living with HIV. Beyond symptom management, the intervention promotes emotional awareness, self-compassion, and relational harmony, which are key indicators of holistic recovery. These findings contribute to the growing evidence that integrating culturally-attuned mindfulness practices into HIV mental health services can significantly enhance patient well-being and resilience in resource-limited settings

3.1 Limitations

Although the intervention was completed, several implementation constraints might have influenced its delivery and evaluation. Some intervention sessions did not proceed fully as planned due to scheduling constraints, as the participant attended psychological consultations only once every two weeks, and the program was additionally interrupted by the Eid holiday period. Practical barriers, such as the considerable distance between the participant's residence and the practice setting, also limited the feasibility of conducting additional or extended sessions when needed. As a result, several sessions had to be shortened, and opportunities for reinforcement or supplementary intervention were restricted.

Furthermore, not all therapeutic components were implemented as originally intended. The cognitive restructuring session was conducted in a modified format, as the participant found written worksheets confusing and cognitively demanding. Consequently, this component was delivered through simplified verbal conversation instead. While this adaptation helped maintain participant engagement and understanding, it might have altered the intervention fidelity. In addition, the self-acceptance session was not conducted due to time constraints and the participant's difficulty engaging in lengthy written reflective tasks, indicating the need for more accessible therapeutic media tailored to participants with limited literacy skills.

4. Conclusion

This case study confirmed that a biopsychosocial intervention that centers on mindfulness-based cognitive therapy (MBCT) could effectively reduce psychological distress in a postpartum woman living with HIV by enhancing emotion regulation, self-awareness, and social functioning. The integration of mindfulness, psychoeducation, and reflective journaling enabled the participant to reconstruct maladaptive thoughts, develop adaptive coping strategies, and restore her engagement in daily life and relational domains. This finding substantiates the theoretical proposition that mindfulness facilitates metacognitive awareness and emotion regulation, which are critical mechanisms in the psychological adjustment of individuals with chronic illness. Beyond its clinical relevance, this study contributes novel empirical evidence to the field of psychology by demonstrating that MBCT, when adapted to low-resource (specifically literacy) and culture-specific contexts, remains an effective therapeutic modality. It advances the understanding that psychological interventions must be flexible and contextually grounded in the biopsychosocial framework to be impactful in real-world settings. While the generalizability is limited by its single-case design, this study offers an important foundation for developing culturally sensitive, mindfulness-based clinical models for HIV populations in Indonesia and similar sociocultural contexts.

4.1 Implication

The intervention applied in this study demonstrates both theoretical and practical implications. Theoretically, the findings enrich the body of knowledge in clinical psychology by providing additional evidence that mindfulness-based cognitive therapy within a biopsychosocial framework can serve as an effective alternative intervention for depressive disorders. This approach is not only relevant for depression in general but can potentially be applied to more specific cases involving comorbid conditions, e.g., depression in individuals living with HIV, as illustrated in this case. Practically, the results serve as a therapeutic reference that can be utilized by clinicians to manage emotional distress and depressive symptoms in populations with chronic medical conditions. Thus, this study supports the development of evidence-based practice in clinical psychology, particularly in the domain of depression and mindfulness-based interventions.

4.2 Recommendation

The case study offers valuable insights for clinical psychology practice, health policy, and future research addressing psychological distress among postpartum women living with HIV. Clinically, mindfulness-based interventions integrated within a biopsychosocial framework should be considered as a complementary therapeutic approach in hospital-based psychology and psychiatry services. Continuous mindfulness practice and reflective journaling can be promoted as self-regulation tools to enhance emotional stability, maintain daily functioning, and support long-term adherence to medical treatment. For psychologists and mental health practitioners, the results emphasize the importance of conducting structured maintenance sessions and developing comprehensive post-intervention assessments, including anxiety and stress monitoring, to ensure the sustainability of therapeutic outcomes.

From a policy perspective, there should be an institutionalized integration of psychosocial services within HIV care, through interprofessional collaboration between psychologists, psychiatrists, and medical teams, to promote holistic patient management. Family involvement also plays a critical role in maintaining behavioral changes, reinforcing self-acceptance, and reducing stigma within the home environment.

Future research should build upon these findings by employing larger sample sizes and experimental or longitudinal designs to explore the long-term efficacy and biological correlates of mindfulness-based interventions in HIV patients. Altogether, these recommendations underscore the significance of culturally sensitive, collaborative, and sustained psychological care in advancing both clinical practice and public health strategies for women affected by chronic illness.

5. Declarations

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5.3 Author's Contribution

FRH designed the study, collected and analyzed the data, and drafted the manuscript. SY provided supervision, methodological guidance, and substantive input during the research process, as well as approval for the study's conduct and the final manuscript.

5.4 Conflict of Interest

The authors declare that there are no potential conflicts of interest, whether financial or non-financial, that could have influenced the research, authorship, or publication of this article

5.5 Declaration of Generative AI in Scientific Writing

Artificial intelligence tools, specifically OpenAI's ChatGPT (GPT-5), were utilized to improve the clarity, structure, and English grammar of the manuscript. The authors confirm that AI assistance was limited to language refinement and formatting guidance, without generating or altering the study's original content, data interpretation, or conclusions. All study conceptualization, data analysis, and critical interpretation were conducted entirely by the authors, who remain fully responsible for the accuracy, originality, and integrity of the final work.

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