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THE EFFICACY OF MINDFULNESS-BASED COGNITIVE THERAPY IN REDUCING DEPRESSION AND ANXIETY AMONG ADOLESCENTS LIVING WITH HIV/AIDS: IMPLICATIONS FOR CLINICAL PRACTICE AND MENTAL HEALTH INTEGRATION

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ABSTRACT

Purpose of the Study: This study evaluated the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) in reducing depression and anxiety among adolescents living with HIV/AIDS (ALHIV) receiving care in Nairobi, Kenya. It examined the potential of MBCT to improve psychological well-being and emotional resilience.

Statement of the Problem: Adolescents living with HIV/AIDS experience depression and anxiety associated with chronic illness, HIV-related stigma, fear of disclosure, social isolation, and uncertainty about the future. Despite increasing recognition of these challenges, access to evidence-based psychological interventions remains limited in many HIV care programmes in sub-Saharan Africa. Evidence regarding the effectiveness of MBCT among adolescents living with HIV/AIDS also remains scarce.

Methodology: The study adopted a quasi-experimental pre-test and post-test design involving adolescents receiving HIV care in Nairobi, Kenya. Participants completed an eight-week MBCT intervention incorporating mindfulness meditation, breathing exercises, cognitive restructuring, guided reflection, and group discussions. Standardised depression and anxiety measures were administered before and after the intervention. Quantitative data were analysed using descriptive and inferential statistics, while qualitative feedback captured participants' experiences.

Results of the Study: The findings revealed a significant reduction in mean anxiety scores from 32.91 at baseline to 18.48 after the intervention. Mean depression scores also decreased from 12.98 to 10.94. Participants reported improved emotional regulation, self-awareness, acceptance of their HIV status, and coping abilities. Qualitative findings further indicated reduced negative thinking, stress, and rumination, alongside improved psychological resilience.

Conclusion: The study concluded that MBCT effectively reduced anxiety symptoms and improved depressive symptoms among adolescents living with HIV/AIDS. The intervention also enhanced emotional regulation, self-compassion, and psychological resilience.

Recommendation: The study recommends integrating MBCT into routine adolescent HIV care, strengthening mental health screening, and training healthcare providers in mindfulness-based interventions to improve adolescents' psychological well-being.

Keywords: *Efficacy, Mindfulness-Based, Cognitive Therapy, Depression and Anxiety, Adolescents Living, Clinical Practice, Mental Health Integration*

INTRODUCTION

Despite significant advances in antiretroviral therapy (ART), mental health disorders remain a major public health concern among adolescents living with HIV/AIDS (ALHIV). Globally, approximately 40.8 million people were living with HIV in 2024, with adolescents and young people accounting for a substantial proportion of those affected. Sub-Saharan Africa continues to bear the greatest burden of the epidemic. Mental health challenges among ALHIV are compounded by HIV-related stigma, lifelong treatment demands, concerns about disclosure, social exclusion, and uncertainty regarding future educational, social, and economic opportunities.[1]

Recent evidence indicates that depression and anxiety are among the most common mental health conditions affecting young people living with HIV. A systematic review and meta-analysis of 60 studies reported that 24.6% of young people living with HIV experienced depression, while 17.0% experienced anxiety, with prevalence rates exceeding those observed in the general adolescent population. These conditions are associated with poor medication adherence, reduced viral suppression, diminished quality of life, increased treatment interruptions, and adverse psychosocial outcomes. Therefore, integrating evidence-based mental health interventions into HIV care is essential for improving psychological well-being and treatment outcomes.

Mindfulness-Based Cognitive Therapy (MBCT) is an evidence-based psychological intervention that combines cognitive behavioural therapy with mindfulness practices to promote present-moment awareness, reduce maladaptive thinking patterns, and strengthen emotional regulation. Originally developed by Segal, Williams, and Teasdale to prevent depressive relapse, MBCT has demonstrated effectiveness in reducing depression, anxiety, stress, and psychological distress across diverse clinical populations. By encouraging individuals to observe their thoughts and emotions without judgment or automatic reactions, MBCT enhances psychological flexibility, resilience, and adaptive coping mechanisms.

Despite growing international evidence supporting mindfulness-based interventions, research on the effectiveness of MBCT among adolescents living with HIV in sub-Saharan Africa remains limited. The high burden of psychological distress and inadequate access to mental health services within HIV care settings underscore the need for culturally appropriate and scalable psychological interventions. Accordingly, this study evaluated the efficacy of MBCT

in reducing depression and anxiety symptoms among adolescents living with HIV/AIDS in Kenya and examined its potential contribution to integrated HIV and mental health care programmes.

STATEMENT OF THE PROBLEM

Depression and anxiety are among the most prevalent mental health disorders affecting adolescents living with HIV (ALHIV), with global prevalence rates of 24.6% and 17.0%, respectively, among young people living with HIV. These conditions are associated with poor adherence to antiretroviral therapy (ART), reduced quality of life, and adverse health outcomes. In Kenya, adolescents constitute a significant proportion of people living with HIV and face numerous psychosocial challenges, including HIV-related stigma, social exclusion, difficulties with disclosure, and the burden of lifelong treatment. These challenges increase their vulnerability to psychological distress and may adversely affect engagement in care and treatment outcomes. Furthermore, mental health services remain inadequately integrated into adolescent HIV care programmes, despite growing evidence linking psychological well-being to successful HIV management.

Although Mindfulness-Based Cognitive Therapy (MBCT), developed by Segal, Williams, and Teasdale, has demonstrated effectiveness in reducing depression and anxiety across diverse populations, empirical evidence regarding its efficacy among adolescents living with HIV in Kenya remains limited. This knowledge gap hinders the adoption of evidence-based psychological interventions within HIV care settings. Therefore, this study sought to evaluate the efficacy of MBCT in reducing depressive and anxiety symptoms among adolescents living with HIV/AIDS in Kenya and assess its potential integration into comprehensive adolescent HIV care services.

RESEARCH OBJECTIVES

i. To determine the baseline levels of depression and anxiety symptoms among adolescents living with HIV prior to participation in mindful based cognitive therapy

ii. To examine whether demographic characteristics influence baseline depression and anxiety symptoms among adolescents with HIV participating in envy city

iii. To assess the effect of NBCT on depressive and anxiety symptoms among adolescents living with HIV

iv. To explore adolescents experiences and perceptions of participating in mindfulness based cognitive therapy and disease

RESEARCH QUESTIONS

i. What are the baseline levels of depression and anxiety symptoms among adolescents living with HIV prior to participation in Mindfulness-Based Cognitive Therapy (MBCT)?

ii. To what extent do demographic characteristics (e.g., age, gender, education level, and duration since HIV diagnosis) influence baseline depression and anxiety symptoms among adolescents living with HIV?

iii. What is the effect of Mindfulness-Based Cognitive Therapy (MBCT) on depressive and anxiety symptoms among adolescents living with HIV?

iv. What are the experiences and perceptions of adolescents living with HIV regarding participation in Mindfulness-Based Cognitive Therapy (MBCT)?

THEORITICAL REVIEW/ FRAMEWORK

This study is grounded in three complementary theoretical perspectives: the Cognitive Theory of Depression, the Cognitive Theory of Anxiety, and the Mindfulness-to-Meaning Theory (MMT). Collectively, these theories provide a robust framework for understanding the development of depressive and anxiety symptoms among adolescents living with HIV (ALHIV) and explain the mechanisms through which Mindfulness-Based Cognitive Therapy (MBCT) facilitates psychological change. The integration of these theories is particularly relevant in the context of HIV care, where cognitive, emotional, and psychosocial challenges significantly influence mental health outcomes.

Cognitive Theory of Depression

The Cognitive Theory of Depression, developed by Aaron T. Beck, posits that depression results from maladaptive cognitive schemas that shape individuals' perceptions of themselves,

their environment, and their future (Beck, 1976). Central to this theory is the concept of the cognitive triad, which comprises negative views of the self, the world, and the future. Individuals experiencing depression often engage in distorted patterns of thinking that reinforce feelings of hopelessness, worthlessness, and self-blame.

The relevance of this theory to adolescents living with HIV is substantial. HIV-related stigma, discrimination, social exclusion, treatment burden, and fear of disclosure may activate negative cognitive schemas, predisposing adolescents to depressive symptomatology. Persistent exposure to these psychosocial stressors may reinforce dysfunctional beliefs regarding self-worth and future prospects, thereby increasing vulnerability to depression.

MBCT draws significantly from Beck's cognitive framework by promoting awareness of maladaptive thought patterns and reducing automatic cognitive reactivity. Rather than challenging cognitions directly, MBCT teaches individuals to observe thoughts as transient mental events rather than objective truths. This shift in cognitive processing enables adolescents to disengage from rumination and negative self-evaluations, thereby reducing depressive symptoms and enhancing psychological well-being (Beck, 1976; Segal et al., 2018).

Cognitive Theory of Anxiety

The Cognitive Theory of Anxiety, advanced by Beck and Clark, suggests that anxiety arises from distorted information-processing patterns characterized by exaggerated perceptions of threat and an underestimation of one's ability to cope with challenges (Beck & Clark, 1997). Individuals experiencing anxiety tend to interpret ambiguous situations as threatening, resulting in excessive worry, fear, and heightened physiological arousal.

Among adolescents living with HIV, anxiety may be triggered by concerns regarding disease progression, medication adherence, anticipated stigma, social rejection, and disclosure of HIV status. These perceived threats may contribute to chronic worry and emotional distress, ultimately compromising mental health and overall quality of life.

MBCT addresses anxiety by cultivating present-moment awareness and encouraging participants to observe anxious thoughts without becoming emotionally entangled in them. Through mindfulness practices, adolescents learn to acknowledge distressing thoughts and bodily sensations with acceptance rather than avoidance or reactivity. This process disrupts

cycles of catastrophic thinking and excessive worry, thereby strengthening emotional regulation and reducing anxiety symptom severity (Beck & Clark, 1997).

Mindfulness-to-Meaning Theory

The Mindfulness-to-Meaning Theory (MMT), proposed by Garland and colleagues, provides an explanatory framework for understanding how mindfulness contributes to psychological resilience and well-being (Garland et al., 2015). The theory posits that mindfulness broadens attentional awareness, enabling individuals to reappraise stressful experiences and derive adaptive meaning from adversity. Through this process, mindfulness enhances positive emotional functioning, self-regulation, resilience, and psychological growth.

Within the context of HIV care, MMT offers a valuable perspective for understanding how MBCT may improve mental health outcomes among adolescents living with HIV. By fostering non-judgmental awareness and acceptance, mindfulness facilitates positive cognitive reappraisal of HIV-related experiences, including stigma, discrimination, and chronic illness management. As adolescents develop greater self-compassion and acceptance of their condition, they become better equipped to cope with emotional challenges and maintain psychological well-being.

Further, MMT suggests that mindfulness not only reduces psychological distress but also promotes positive adaptation through meaning-making processes. Consequently, adolescents are able to transform adverse experiences into opportunities for personal growth, resilience, and empowerment, thereby supporting long-term mental health outcomes (Garland et al., 2015).

Synthesis of the Theoretical Framework

The integration of the Cognitive Theory of Depression, the Cognitive Theory of Anxiety, and the Mindfulness-to-Meaning Theory provides a comprehensive framework for understanding the mechanisms through which MBCT influences mental health outcomes among adolescents living with HIV. While the cognitive theories explain how dysfunctional cognitions contribute to depression and anxiety, the Mindfulness-to-Meaning Theory elucidates the pathways through which mindfulness promotes cognitive flexibility, emotional regulation, and psychological resilience.

Accordingly, the present study posits that participation in MBCT enables adolescents living with HIV to develop greater awareness of maladaptive cognitive patterns, reduce rumination and catastrophic thinking, strengthen emotional regulation capacities, and cultivate adaptive coping strategies. These mechanisms are expected to contribute to significant reductions in depressive and anxiety symptoms while enhancing resilience and overall psychological well-being. Consequently, MBCT is conceptualized as an evidence-based intervention capable of addressing the complex mental health needs of adolescents living with HIV within integrated HIV care settings.

EMPIRICAL REVIEW

Mental health disorders remain a significant yet inadequately addressed concern among adolescents living with HIV (ALHIV). Globally, these adolescents experience higher levels of psychological distress than their HIV-negative peers due to chronic disease management, HIV-related stigma, discrimination, social exclusion, and developmental challenges. A meta-analysis of 60 studies reported pooled prevalence rates of 24.6% for depression and 17.0% for anxiety among young people living with HIV. In sub-Saharan Africa, limited access to mental health services further compounds these challenges. Poku et al. (2023) established that depression and anxiety affect adolescents throughout the HIV care continuum, undermining treatment adherence, retention in care, viral suppression, and overall well-being. These findings underscore the need for accessible, evidence-based psychological interventions within adolescent HIV care services.

Mindfulness-Based Cognitive Therapy (MBCT) has demonstrated effectiveness in reducing depressive symptoms by addressing maladaptive cognitive patterns and improving emotional regulation. Drawing on cognitive-behavioural principles and mindfulness practices, MBCT reduces cognitive reactivity and interrupts negative automatic thinking associated with depression (Segal et al., 2018). Kuyken et al. (2016), through an individual participant data meta-analysis, established that MBCT significantly reduced depressive relapse among individuals with recurrent depression, with outcomes comparable to maintenance antidepressant treatment. Similarly, Goldberg et al. (2018) reported consistent reductions in depressive symptoms across diverse clinical populations, attributing these improvements to enhanced attentional regulation, emotional awareness, and reduced rumination. These findings suggest that MBCT may benefit adolescents living with HIV who experience depression

associated with internalised stigma, disclosure concerns, social rejection, and uncertainty about their future.

Empirical evidence also supports the effectiveness of mindfulness-based interventions in managing anxiety. Beck and Clark (1997) explained that anxiety is maintained through distorted threat appraisals and exaggerated perceptions of risk, which may be intensified among adolescents living with HIV due to concerns about disease progression, disclosure, and social acceptance. Hofmann et al. (2010), in a systematic review, found that mindfulness-based interventions produced moderate to large reductions in anxiety symptoms across clinical populations. Similarly, Khoury et al. (2013) reported significant improvements in anxiety management, emotional acceptance, and psychological flexibility among participants receiving mindfulness-based interventions. Through practices such as mindful breathing, meditation, and body awareness, MBCT may help adolescents living with HIV manage uncertainty, reduce emotional reactivity, and develop adaptive coping mechanisms.

Existing literature further indicates that demographic and psychosocial factors influence depression and anxiety among adolescents living with HIV. Age, gender, educational attainment, socioeconomic status, family support, and duration since HIV diagnosis are important contextual determinants of psychological well-being. Female adolescents generally experience greater psychological distress due to gender-related vulnerabilities, while older adolescents may encounter additional pressures associated with identity development, disclosure, and the transition to adulthood. Supportive family relationships, peer connections, and positive healthcare interactions can reduce psychological distress, whereas social isolation and perceived stigma may increase vulnerability to depression and anxiety. Poku et al. (2023) emphasised the importance of psychosocial determinants throughout the HIV care continuum, suggesting that these factors should be considered when evaluating psychological interventions and differences in treatment responsiveness.

Emerging qualitative evidence suggests that mindfulness-based interventions may improve self-awareness, emotional regulation, stress management, self-acceptance, and interpersonal functioning among adolescents. These outcomes are consistent with the Mindfulness-to-Meaning Theory, which explains how mindfulness promotes positive cognitive reappraisal and adaptive meaning-making in response to stressful experiences (Garland et al., 2015). Within adolescent HIV care, mindfulness practices may therefore help individuals manage internalised

stigma, accept their HIV status, cope with disclosure-related concerns, and strengthen psychological resilience. Although existing studies support the effectiveness of mindfulness-based interventions across diverse populations, evidence specifically examining MBCT among adolescents living with HIV in Kenya remains limited. This gap highlights the need to evaluate its efficacy in reducing depression and anxiety within adolescent HIV care settings.

CONCEPTUAL FRAMEWORK

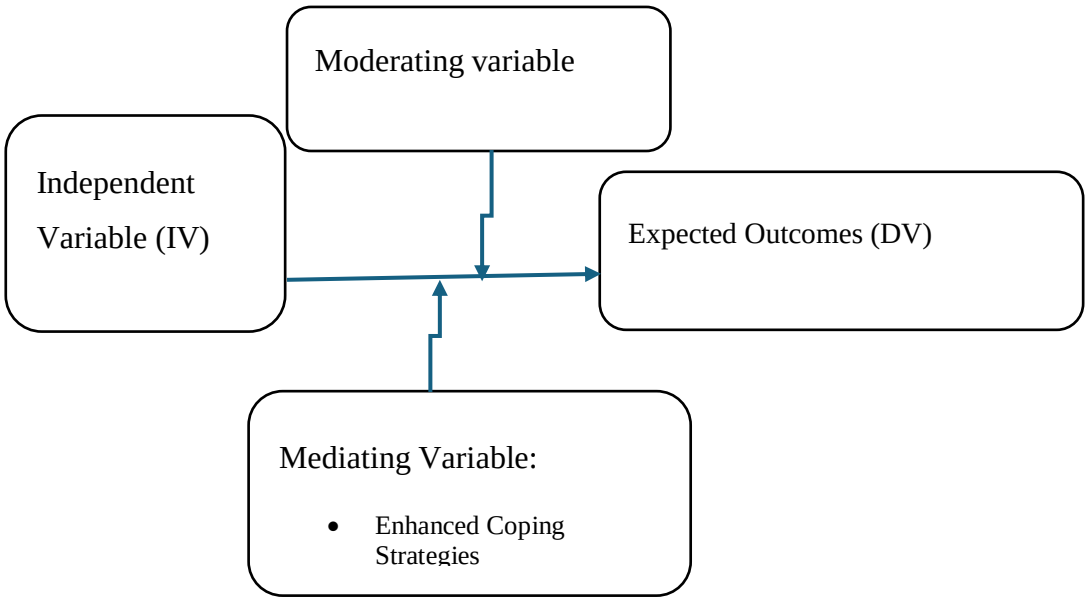

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

The study adopted a pragmatic research paradigm and a quasi-experimental mixed-methods design to evaluate the efficacy of Mindfulness-Based Cognitive Therapy (MBCT) in reducing depression and anxiety among adolescents living with HIV (ALHIV) in Nairobi, Kenya. The approach integrated quantitative and qualitative methods to assess psychological outcomes and participants' experiences (Creswell & Plano Clark, 2018). The study was conducted at Mama Lucy Kibaki Hospital's Comprehensive Care Centre, targeting adolescents aged 13–19 years. Of the approximately 214 adolescent clients attending the facility monthly, 123 met the eligibility criteria, from whom 54 participants were recruited through purposive sampling. The sample size was determined using Kelsey et al.'s (1996) finite population formula at a 95% confidence level and 10% margin of error. Data were collected using the Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI), socio-demographic questionnaires, and structured interviews.

Participants underwent an eight-week MBCT programme comprising weekly two-hour sessions involving mindfulness meditation, breathing exercises, cognitive restructuring, guided reflection, and group discussions. Depression and anxiety were assessed before and after the intervention, while interviews explored participants' experiences and perceived benefits. Quantitative data were analysed using SPSS through descriptive statistics, paired-samples t-tests, and analysis of variance (ANOVA), while qualitative data were analysed thematically. A pilot study at Mbagathi District Hospital informed instrument refinement. Ethical approval was obtained from Daystar University's Institutional Ethics Review Committee, with research authorisation from NACOSTI and relevant authorities. Parental consent, adolescent assent, confidentiality, and voluntary participation were maintained throughout the study.

RESULTS AND DISCUSSIONS

The intervention yielded statistically significant improvements in psychological outcomes. Anxiety symptoms demonstrated the greatest reduction, with mean scores declining from 32.91 at baseline to 18.48 at end-line assessment.. Depressive symptoms also declined from a mean score of 12.98 at baseline to 10.94 following the intervention, indicating meaningful improvement in participants' emotional well-being.

Further analysis revealed that demographic characteristics such as age, gender, education level, and duration since HIV diagnosis exhibited varying influences on baseline depression and anxiety scores. Adolescents reporting stronger family support and positive social networks generally demonstrated lower levels of psychological distress than those reporting limited psychosocial support. Qualitative findings complemented the quantitative results. Participants described increased emotional awareness, enhanced self-regulation, improved coping skills, and greater acceptance of their HIV status following participation in MBCT. Many adolescents reported that mindfulness exercises helped them manage intrusive thoughts, reduce worry, cope with stigma, and improve interpersonal relationships. Participants further indicated that MBCT provided practical skills for handling daily stressors and strengthened their confidence in managing emotional challenges.

The findings provide compelling evidence that Mindfulness-Based Cognitive Therapy is an effective intervention for reducing anxiety and depressive symptoms among adolescents living with HIV. The substantial reduction in anxiety scores observed in this study supports existing literature suggesting that mindfulness-based interventions improve emotional regulation and

decrease maladaptive cognitive processes associated with chronic stress and worry. The observed improvement in depressive symptoms is consistent with Beck's Cognitive Theory of Depression, which suggests that depression is maintained by negative cognitive schemas and automatic dysfunctional thoughts. Through mindfulness practices and cognitive awareness exercises, participants developed the ability to observe thoughts without judgment, thereby reducing rumination and cognitive reactivity. These findings are also consistent with previous studies demonstrating the effectiveness of MBCT in reducing depressive symptoms and preventing relapse among vulnerable populations.

The qualitative findings provide additional support for the intervention's effectiveness. Participants described improvements in self-awareness, resilience, emotional balance, and psychological flexibility. These outcomes align with the Mindfulness-to-Meaning Theory, which proposes that mindfulness facilitates adaptive cognitive reappraisal and promotes positive psychological adjustment in the face of adversity. The study further demonstrates the importance of integrating mental health interventions into HIV care. The coexistence of HIV-related challenges, stigma, social isolation, and developmental stressors places adolescents at elevated risk of psychological distress. Consequently, interventions such as MBCT offer a practical and evidence-based approach for addressing mental health needs while supporting overall HIV treatment outcomes and quality of life.

CONCLUSIONS

The study concludes that adolescents living with HIV experience substantial levels of depression and anxiety that warrant targeted mental health interventions. The findings demonstrate that Mindfulness-Based Cognitive Therapy is effective in reducing psychological distress among this population, particularly anxiety symptoms, while also contributing to improvements in depressive symptoms, emotional regulation, self-awareness, resilience, and coping capacity. The study further establishes that mindfulness-based interventions can be successfully implemented within adolescent HIV care settings and can complement existing medical and psychosocial services. The integration of MBCT into HIV care provides a holistic approach to addressing both the psychological and physical dimensions of adolescent health.

RECOMMENDATIONS

Policy Recommendations: The Ministry of Health, through the National AIDS and STI Control Programme (NASCOP), should integrate routine mental health screening and mindfulness-based interventions into adolescent HIV care. County governments should allocate adequate resources to strengthen psychosocial support services and improve access to mental health care.

Clinical Practice Recommendations: Healthcare providers should receive training in Mindfulness-Based Cognitive Therapy (MBCT) and incorporate structured mindfulness sessions and regular mental health assessments into adolescent HIV care to facilitate early identification and management of depression and anxiety.

Practice Recommendations for Adolescents and Caregivers: Adolescents should be encouraged to practise mindfulness regularly to strengthen emotional regulation and coping skills. Families and caregivers should provide psychosocial support, while peer-support programmes should be strengthened to promote resilience and treatment adherence.

Recommendations for Future Research: Future studies should employ randomized controlled trials and longitudinal designs to establish the long-term effectiveness of MBCT. Further research should examine digital delivery approaches and the influence of demographic and psychosocial factors on treatment outcomes.

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