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PSYCHOLOGICAL BURDENS AND INTERVENTION STRATEGIES FOR PEOPLE LIVING WITH HIV/AIDS: A LITERATURE REVIEW

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Abstract

Background: While advances in antiretroviral therapy (ART) have transformed HIV/AIDS from a fatal disease into a manageable condition, people living with HIV/AIDS (PLWH) continue to face significant psychological burdens. These include stigma, depression, anxiety, and difficulties in treatment adherence, all of which severely compromise quality of life.

Objective: This study aims to systematically review recent literature to explore the psychological burdens associated with HIV/AIDS, identify the psychosocial factors affecting mental health, and evaluate the effectiveness of psychological interventions designed to support PLWH.

Methods: A systematic literature review was conducted using academic databases including PubMed, Scopus, and Google Scholar, covering studies published between 2015 and 2024. Inclusion criteria fo-

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Key words: HIV/AIDS, psychological burden, stigma, depression, psychological intervention, resilience, mental health, cognitive behavioral therapy, mindfulness.

cused on peer-reviewed studies addressing psychological outcomes among PLWH. Data were analyzed using thematic content analysis and grouped into key categories.

Results: The findings highlight three major themes: (1) the nonlinear psychological adjustment process of PLWH, which often involves phases of denial, anxiety, depression, and eventual acceptance; (2) the pervasive influence of stigma—particularly internalized stigma—on mental health and treatment outcomes; and (3) the demonstrated effectiveness of multi-level psychological interventions, including Cognitive Behavioral Therapy (CBT), Mindfulness-Based Interventions (MBIs), and resilience-focused approaches, in improving mental health and adherence to ART.

Conclusions: Addressing the psychological burden of HIV/AIDS requires an integrated and culturally sensitive approach that includes routine mental health screening, stage-specific psychological care, stigma reduction strategies, and family and community support. Future research should prioritize longitudinal, technology-driven, and cross-cultural studies to enhance the effectiveness and accessibility of psychosocial interventions.

I. Introduction

In the context of rapid global development, the world is currently facing new and complex challenges related to human health. Among these, HIV/AIDS remains one of the most significant and persistent public health concerns. As of 2023, approximately 1.3 million individuals globally were living with HIV, including 120,000 children and 1.2 million adults. Alarmingly, during the same year, global data indicated that HIV/AIDS was responsible for approximately 630,000 deaths (Global HIV Programme, n.d.). Given these figures, HIV/AIDS is regarded as a life-threatening condition with severe implications for those affected.

Physiologically, HIV/AIDS compromises the immune system by destroying CD4+ T-cells—an essential component of the immune defense—thereby increasing vulnerability to opportunistic infections (caused by bacteria, viruses, fungi, or parasites) and various forms of cancer. Moreover, the virus can directly damage critical organs such as the intestines, brain, and lungs through systemic inflammation and mononuclear cell activation (Lucas & Nelson, 2015). In addition to these physiological effects, psychosocial and external factors associated with HIV/AIDS have been found to significantly contribute to the development of mental health symptoms, particularly depression (Medeiros et al., 2020).

Accordingly, identifying the psychological burdens of people living with HIV/AIDS (PLWH) and implementing targeted support strategies play an essential role in mitigating the overall impact of the syndrome on both individual well-being and public health. This study, titled "The Psychological Burden of Living with HIV/AIDS", seeks to examine key psychological dimensions such as stigma, social isolation, anxiety, and depression. Specifically, it aims to identify mental health stressors, explore factors influencing physical and psychological well-being, and evaluate the effectiveness of current psychological interventions. The chosen methodology is a literature review, with the purpose of synthesizing and evaluating existing research to offer a comprehensive and practical understanding of the issue.

Historically, the first official report concerning the HIV/AIDS epidemic was published in June 1981 by the U.S. Centers for Disease Control and Prevention (CDC). The report described five cases of Pneumocystis pneumonia—a serious fungal infection caused by Pneumocystis jirovecii, often affecting individuals with weakened immune systems, particularly homosexual men. This report marked the beginning of the HIV/AIDS epidemic, which has since resulted in over 75 million infections and 32 million deaths. In 1983, researchers at the Pasteur Institute in France identified the causative virus, later named Human Immunodeficiency Virus (HIV). By 1986, HIV was officially recognized as the cause of Acquired Immunodeficiency Syndrome (AIDS). During the 1990s, intensive research efforts led to the development of antiretroviral therapies (ART), which significantly improved patient outcomes. By the early 2000s, perceptions shifted from viewing HIV/AIDS as a fatal illness to a manageable chronic condition, thanks to advancements in treatment options (De Cock et al., 2021).

Biologically, HIV is a retrovirus that impairs the immune system by targeting and destroying CD4+ T-cells. Without treatment, the virus progresses through three clinical stages: an acute infection phase with flu-like symptoms occurring 2–4 weeks after exposure; a chronic asymptomatic phase that can last for several years; and the AIDS stage, marked by a CD4 count below 200 cells/mm^3 or the appearance of opportunistic infections (e.g., Pneumocystis jirovecii pneumonia, tuberculosis, candidiasis) and AIDS-related cancers such as Kaposi's sarcoma, non-Hodgkin lymphoma, and invasive cervical cancer (Fauci et al., 2018).

Antiretroviral therapy (ART) remains the cornerstone of HIV/AIDS treatment. The primary goal of ART is to suppress viral replication to undetectable levels, preventing progression to AIDS, reducing the risk of transmission, prolonging survival, and improving quality of life. In the early years (1980–1995), monotherapy with AZT—the first antiretroviral drug—was quickly followed by widespread drug resistance. A major breakthrough came in 1996 with the introduction of Highly Active Antiretroviral Therapy (HAART), which combines at least three drugs from different classes (NRTIs, NNRTIs, PIs, and INSTIs), thereby improving viral suppression and minimizing resistance.

HAART dramatically reduced AIDS-related mortality and increased life expectancy for individuals with HIV to near-normal levels when initiated early.

Since 2010, ART regimens have become increasingly simplified, often requiring just one pill per day, with fewer long-term side effects and improved adherence. Newer drugs such as Dolutegravir have further enhanced treatment safety and efficacy. The U=U (Undetectable = Untransmittable) campaign emphasizes that individuals with undetectable viral loads through consistent ART cannot transmit HIV to others (Alford et al., 2023).

Before the HAART era, HIV/AIDS was widely considered a death sentence, with exceptionally high mortality rates. However, the widespread rollout of HAART—especially in low- and middle-income countries through global health initiatives—has saved millions of lives. Beyond its medical significance, HAART has become a vital tool in HIV/AIDS prevention and epidemic control.

II. Research Method

This study employed a systematic literature review approach to explore and synthesize existing scholarly evidence regarding the psychological burden experienced by people living with HIV/AIDS (PLWH). The review aimed to identify recurring psychological themes, evaluate the effectiveness of psychological interventions, and provide practical recommendations for mental health support.

1. Search Strategy and Data Sources

The literature search was conducted using three major academic databases: PubMed, Scopus, and Google Scholar, which are widely recognized for their comprehensive coverage of medical, psychological, and interdisciplinary health research. The search was restricted to studies published between January 2015 and March 2024, in order to ensure relevance and alignment with the most current evidence-based practices and global health contexts. The following search terms were used in various combinations with Boolean operators (“AND”, “OR”):

- “HIV/AIDS AND psychological burden”
- “HIV/AIDS AND stigma”
- “HIV/AIDS AND depression”
- “HIV/AIDS AND cognitive behavioral therapy (CBT)”
- “HIV/AIDS AND mindfulness”
- “HIV/AIDS AND resilience intervention”

Search filters were applied to limit results to peer-reviewed journal articles published in English or Vietnamese, focusing on studies involving human participants.

2. Inclusion and Exclusion Criteria

To ensure the quality and relevance of the data, the following inclusion criteria were applied:

- The study population included individuals living with HIV/AIDS.
- The study focused on at least one psychological or mental health dimension, such as depression, anxiety, stigma, social isolation, or intervention efficacy.
- The research employed qualitative, quantitative, or mixed-method designs that presented clear findings and analysis.
- The full text was accessible and available for comprehensive review.

Exclusion criteria included:

- Studies focusing exclusively on biomedical or pharmacological outcomes without psychological analysis.
- Articles not available in full text.
- Non-peer-reviewed sources such as conference abstracts, opinion pieces, or grey literature.

3. Data Extraction and Analysis

After removing duplicates, each article was screened based on its title and abstract. Eligible studies were then subjected to full-text review. A data extraction matrix was created to systematically record essential information from each study, including:

- Author(s), year, and country of publication
- Study design and sample characteristics
- Psychological outcomes measured
- Type of intervention (if applicable)
- Key findings and implications

Thematic content analysis was applied to identify recurring psychological themes and intervention strategies. Studies were categorized into thematic clusters such as “stigma and discrimination,” “depression and anxiety,” “intervention outcomes,” and “psychosocial support systems.”

4. Quality Assessment

To ensure methodological rigor, each selected study was evaluated using appropriate quality appraisal tools. Quantitative studies were assessed using the Joanna Briggs Institute (JBI) checklist, while qualitative studies were evaluated using the Critical Appraisal Skills Programme (CASP) criteria. Studies were not excluded based on quality score alone, but lower-quality studies were interpreted with caution and weighed accordingly during analysis.

5. Ethical Considerations

As this is a literature-based study, no ethical approval was required. However, ethical considerations from the original studies—particularly regarding participant confidentiality and informed consent—were taken into account during analysis and reporting.

III. Results

1.Psychological Trajectory of People Living with HIV/AIDS

Individuals living with HIV/AIDS often undergo a multifaceted psychological adjustment process following diagnosis. Upon learning of their HIV-positive status, many experience acute psychological shock, often accompanied by denial—a defense mechanism intended to mitigate immediate emotional distress. Some individuals question the accuracy of their diagnosis or attribute it to medical error. According to Alford et al. (2023), approximately 26.2% of patients report difficulty accepting their HIV status, a factor that negatively affects emotional well-being, quality of life, treatment adherence, and psychological adjustment. According to Alford et al. (2023), approximately 26.2% of patients report difficulty accepting their HIV status, a factor that negatively affects emotional well-being, quality of life, treatment adherence, and psychological adjustment (Alford et al., 2023).

Following the initial phase of denial, many patients begin to confront the reality of their condition and experience heightened anxiety concerning long-term health outcomes, the risk of transmission to loved ones, and the stigma associated with the disease. Prolonged anxiety may manifest as sleep disturbances, chronic stress, and cognitive impairment. A study conducted by Hong et al. (2023) during the COVID-19 pandemic found that 46.7% of PLWH reported elevated levels of anxiety, particularly during lockdown periods, underscoring the exacerbating effect of social and environmental stressors on mental health (Hong et al., 2023).

Depression is also one of the most prevalent mental health conditions affecting this population, often resulting from feelings of helplessness, diminished self-worth, social rejection, and emotional isolation. A study by Small et al. (2022) revealed that up to 68% of young people living with HIV in South Africa exhibited symptoms of depression (Small et al., 2022). The study further emphasized a strong association between depressive symptoms and internalized stigma, in which patients perceive themselves as unworthy or morally inferior. Despite these challenges, some individuals manage to navigate the emotional burden and achieve acceptance, often by adopting positive coping strategies and seeking support from family, friends, or peer-support networks. Notably, higher levels of acceptance are linked to improved psychological stability and better overall quality of life (Alford et al., 2023).

In summary, the psychological trajectory of PLWH is complex and non-linear, requiring not only individual resilience but also sustained support from families, communities, and healthcare systems to promote mental wellness and optimize life outcomes.

2. Social Stigma and Its Psychological Impact

HIV/AIDS is not solely a medical issue; it is also a deeply rooted social challenge, with stigma emerging as a major psychological and structural barrier. Stigma associated with HIV/AIDS manifests in three primary forms: internalized stigma, community-based stigma, and healthcare-related stigma.

Internalized stigma refers to the process whereby PLWH internalize negative societal beliefs, resulting in self-blame, shame, and lowered self-esteem. This form of stigma typically progresses through three stages: recognition of societal prejudice, acceptance of that prejudice, and application of it to one's own identity. Hall et al. (2024), in a study conducted in Zambia and South Africa, found that approximately 14% of individuals with HIV/AIDS reported experiencing internalized stigma, which was associated with a marked decline in quality of life (Hall et al., 2024). Similarly, research by Thapinta et al. (2022) demonstrated a positive correlation between levels of internalized stigma and the prevalence of depression among PLWH, emphasizing that greater internalized stigma significantly increases the risk of mental health disorders (Thapinta et al., 2022).

Community stigma, on the other hand, involves discriminatory or exclusionary behaviors directed at PLWH within public, familial, or social environments. This stigma may stem from family members, friends, or the broader community and serves as a substantial barrier to treatment access and social integration. Soumya Sahoo et al. (2020) found that 60% of male and 40.5% of female participants experienced community-level stigma, which had a profound negative impact on their psychological well-being, often resulting in anxiety, depression, and social withdrawal (Sahoo et al., 2020)(Hall et al., 2024).

Healthcare stigma refers to discriminatory practices by healthcare providers toward individuals with HIV/AIDS. This type of stigma is particularly damaging, as it undermines patients' trust in the healthcare system, reduces their willingness to seek care, and exacerbates disease progression due to delayed treatment. According to Srithanaviboonchai et al. (2017), healthcare stigma contributes to the continued spread of HIV, as affected individuals avoid health education, prevention programs, and treatment services due to fear of judgment and maltreatment (Srithanaviboonchai et al., 2017).

Zhang et al. (2023) reported that around 40% of PLWH in China experienced high levels of anxiety, particularly when subjected to stigma, mainly due to fears of social exposure and persecution. Moreover, stigmatized individuals were 1.61 times more likely to develop depression and 1.83 times more likely to have suicidal ideation compared to non-stigmatized individuals (Armoon et al., 2022; Rzeszutek et al., 2021). In addition to psychological consequences, stigma significantly impairs health-related quality of life, including physical mobility, chronic pain, and persistent psychological distress such as generalized anxiety and clinical depression (Hall et al., 2024; Rayanakorn et al., 2022).

3. Psychological Interventions

PLWH not only endure physical health challenges but also face substantial psychological stressors, including depression, anxiety, social stigma, and diminished quality of life. Numerous studies have validated the efficacy of psychological interventions in enhancing mental health, improving ART adherence, and promoting overall well-being among this population. One of the most widely supported approaches is Cognitive Behavioral Therapy (CBT), which has been shown to reduce depression, anxiety, and stigma while improving ART adherence. Short term CBT (B-CBT) has demonstrated significant improvements across multiple domains, including depression ($\eta^2 = 0.599$) overall quality of life ($\eta^2 = 0.837$), and perceived social support ($\eta^2 = 0.606$) (Abbas et al., 2023). Safren et al. (2016) also found that combining CBT with counseling sessions enhanced adherence by reshaping maladaptive thoughts and equipping patients with effective coping strategies (Abbas et al., 2023)(Safren et al., 2016).

Mindfulness-Based Interventions (MBIs)—such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT)—have also been implemented to reduce stress and foster emotional regulation. These interventions, typically delivered over 8-week programs, have been found to decrease depressive symptoms (d+ = 0.37), reduce anxiety, and enhance overall well-being, though they may not significantly affect immunological markers such as CD4 counts (Scott-Sheldon et al., 2019).

Psychosocial interventions, including support groups, health education programs, and stress management training, have also shown promise. A Cochrane Review indicated that group-based CBT can reduce depressive symptoms (SMD = -0.26) and enhance coping capacity (van der Heijden et al., 2017). For adolescents, such interventions have been especially effective in promoting ART adherence and reducing risk behaviors (Laurenzi et al., 2021).

Another emerging approach involves resilience-focused interventions, which aim to enhance the individual's capacity to adapt positively in the face of adversity. These interventions typically operate at multiple levels—individual, social, and ecological—emphasizing social connectedness and psychological strength. Brown et al. (2021) highlighted the success of resilience-based HIV care models in fostering treatment engagement and mitigating the psychological impacts of hardship during the COVID-19 pandemic (Brown et al., 2021). Collectively, these psychological interventions not only improve mental health outcomes but also play a pivotal role in optimizing the quality of life for PLWH, particularly in the face of growing social and health-related challenges.

IV. Discussion

1. Interpretation of Key Findings

This systematic review yields several important insights into the psychological burden experienced by people living with HIV/AIDS (PLWH), reaffirming and extending existing literature in the field.

First, regarding social stigma, our findings are consistent with prior research in underscoring its detrimental effects on the mental health of PLWH. However, this review further highlights that internalized stigma—the internal assimilation of negative societal perceptions—may have even more damaging psychological consequences than external stigma. Internalized stigma often leads to self-blame, chronic shame, and emotional withdrawal, making it a particularly insidious factor in the mental health trajectory of HIV-positive individuals (Ameh et al., 2020; Armoon et al., 2022; Hall et al., 2024; Hojilla et al., 2021). These findings suggest that intervention strategies must address not only external discriminatory attitudes but also help individuals rebuild self-worth and resilience from within.

Second, in relation to the psychological trajectory, whereas many studies focus on discrete stages such as depression or denial, our review contributes a more integrated perspective on the emotional journey of PLWH. From the initial shock and denial to anxiety, depression, and eventual acceptance, PLWH experience a dynamic and non-linear psychological adjustment process. Understanding this full spectrum of emotional transitions allows clinicians and mental health professionals to deliver more tailored interventions that align with each phase of adaptation (Alford et al., 2023; Small et al., 2022; Yu et al., 2022).

Third, in evaluating psychological interventions, this review affirms the effectiveness of multi-dimensional approaches—especially those combining cognitive - behavioral therapy (CBT) with psychosocial support. This finding is consistent with recent trends advocating for comprehensive mental health care for PLWH that integrates individual therapy with peer support, family engagement, and community-based resources. Notably, our synthesis emphasizes the critical role of family and community involvement—an often under explored component in earlier research—as a protective factor in long-term psychological adjustment (Abbas et al., 2023; Brown et al., 2021; Han et al., 2020; Remien et al., 2019; H. Zhang et al., 2025).

2. Clinical Implications

The insights derived from this review have significant implications for clinical practice in the care and support of PLWH:

- Integration of psychological screening should become a routine component of comprehensive HIV care. Screening tools must be sensitive not only to overt symptoms such as depression or anxiety but also to more nuanced indicators of internalized stigma and difficulties in disease acceptance.
- Development of tailored interventions is essential. Psychological support programs should be designed with the flexibility to respond to different psychological stages. For example, early-stage interventions may prioritize emotional stabilization and health education, while later-stage support can focus on building coping strategies and strengthening self-efficacy.
- Family-centered care should be emphasized. Our review indicates that family plays a pivotal role in buffering psychological distress. Structured psychoeducational programs and counseling for family members can enhance their capacity to support PLWH while addressing their own emotional challenges as caregivers.

3. Limitations and Potential Biases

Despite its strengths, this review has several limitations that must be acknowledged:

- Sampling limitations: While efforts were made to include diverse populations, many included studies originated from urban or resource-rich settings, potentially under representing rural populations or those with limited access to healthcare services.
- Methodological limitations: As this review primarily relied on secondary data, certain experiential or contextual aspects may have been overlooked - particularly those best captured through direct field research or qualitative inquiry. Moreover, publication bias is a concern, as studies reporting positive outcomes are more likely to be published.
- Cultural variability: The psychological impact of HIV/AIDS and the effectiveness of interventions may vary considerably across cultural, religious, or socioeconomic contexts. Therefore, findings should be interpreted with caution when generalizing to all global populations.

V. Conclusion

1. Summary of Key Findings

This review provides a comprehensive understanding of the multifaceted psychological burden faced by people living with HIV/AIDS (PLWH). Three core findings have emerged from the synthesis of current evidence:

1. **The complexity of psychological adjustment:** The psychological experience of PLWH is not a linear or uniform process but a multidimensional journey characterized by distinct emotional phases—from initial shock and denial to anxiety, depression, and eventual acceptance. Each stage poses unique psychological challenges, necessitating stage-specific support and interventions.

2. **The profound impact of stigma:** Both external (community and healthcare-related) and internalized stigma significantly influence the mental health of PLWH. Importantly, internalized stigma often inflicts deeper psychological harm than external stigma, highlighting the need for interventions that empower individuals to reconstruct self-worth and dismantle self-blame.

3. **The critical role of integrated psychological interventions:** Effective support for PLWH requires multi-level interventions that combine individual therapy, family and peer support, and community-based care. Cognitive Behavioral Therapy (CBT), Mindfulness-Based Interventions (MBIs), and resilience-focused approaches have demonstrated efficacy in alleviating symptoms of depression and anxiety, improving adherence to treatment, and enhancing overall quality of life.

2. Recommendations for Future Research

Based on the findings and limitations of the current review, several key areas for future research are proposed:

- **Longitudinal studies:** There is a pressing need for long-term, longitudinal research to trace the psychological adaptation of PLWH over time. Such studies could offer deeper insight into the timing, duration, and persistence of psychological challenges, as well as the long-term effectiveness of interventions.

- **Evaluation of innovative, technology-based interventions:** Given the global trend toward digital healthcare, future research should explore the utility of mobile health applications, teletherapy, and online peer-support platforms as scalable tools for delivering mental health support to PLWH—especially in remote or underserved areas.

- **Cross-cultural studies:** Comparative studies across different cultural, religious, and social contexts are essential to understand how sociocultural factors shape psychological experiences and response to intervention among PLWH. Such research would facilitate the development of culturally sensitive mental health programs.

- **Exploration of resilience mechanisms:** Further studies should focus on identifying and enhancing protective psychological and social factors—such as optimism, social connectedness, and coping self-efficacy—that foster resilience among PLWH and mitigate the impact of psychological stressors.

3. Final Remarks

This study reaffirms that the psychological burden of living with HIV/AIDS is a complex and pressing public health issue. Understanding and addressing the mental health needs of PLWH is not only a matter of individual well-being but also a critical component of effective HIV care. Comprehensive and inclusive interventions—especially those involving psychological screening, individualized therapy, stigma reduction, and family engagement—are essential to improving mental health outcomes and enhancing quality of life for this vulnerable population.

The findings from this review may serve as a foundation for the development of more effective psychosocial programs and policy frameworks aimed at supporting PLWH. Real progress, however, will require sustained collaboration among healthcare professionals, researchers, policymakers, families, and communities.

References

[1] Abbas, Q., Nisa, M., Khan, M. U., Anwar, N., Aljhani, S., Ramzan, Z., & Shahzadi, M. (2023), *Brief cognitive behavior therapy for stigmatization, depression, quality of life, social support and adherence to treatment among patients with HIV/AIDS: A randomized control trial,* BMC Psychiatry, 23(1), 539. https://doi.org/10.1186/s12888-023-05013-2

[2] Alford, K., Banerjee, S., Daley, S., Hamlyn, E., Trotman, D., & Vera, J. H. (2023). *Health-Related Quality of Life in People Living With HIV With Cognitive Symptoms: Assessing Relevant Domains and Associations.* Journal of the International Association of Providers of AIDS Care, 22, 23259582231164241. https://doi.org/10.1177/23259582231164241

[3] Ameh, S., D'Ambruoso, L., Gómez-Olivé, F. X., Kahn, K., Tollman, S. M.,& Klipstein-Grobusch, K. (2020), *Paradox of HIV stigma in an integrated chronic disease care in rural South Africa: Viewpoints of service users and providers,* PloS One, 15(7), e0236270. https://doi.org/10.1371/journal.pone.0236270

[4] Armoon, B., Fleury, M.-J., Bayat, A.-H., Fakhri, Y., Higgs, P., Moghaddam, L. F., & Gonabadi-Nezhad, L. (2022), *HIV related stigma associated with social support, alcohol use disorders, depression, anxiety, and suicidal ideation among people living with HIV: A systematic review and meta-analysis,* International Journal of Mental Health Systems, 16(1), 17. https://doi.org/10.1186/s13033-022-00527-w

[5] Brown, L. L., Martin, E. G., Knudsen, H. K., Gotham, H. J., & Garner, B. R. (2021). *Resilience-Focused HIV Care to Promote Psychological Well-Being During COVID-19 and Other Catastrophes,* Frontiers in Public Health, 9, 705573. https://doi.org/10.3389/fpubh.2021.705573

[6] De Cock, K. M., Jaffe, H. W., & Curran, J. W. (2021), *Reflections on 40 Years of AIDS,* Emerging Infectious Diseases, 27(6), 1553–1560. https://doi.org/10.3201/eid2706.210284

[7] Fauci, A. S., Folkers, G. K., & Lane, H. C. (2018), *Human Immunodeficiency Virus Disease: AIDS and Related Disorders,* In J. L. Jameson, A. S. Fauci, D. L. Kasper, S. L. Hauser, D. L. Longo, & J. Loscalzo (Eds.), Harrison's Principles of Internal Medicine (20th ed.). McGraw-Hill Education. accessmedicine.mhmedical.com/content.aspx?aid=1159622505

[8] Global HIV Programme. (n.d.) *Retrieved January 15, 2025,* from https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/hiv/strategic-information/hiv-data-and-statistics

[9] Hall, E., Davis, K., Ohrnberger, J., Pickles, M., Gregson, S., Thomas, R., Hargreaves, J. R., Pliakas, T., Bwalya, J., Dunbar, R., Mainga, T., Shanaube, K., Hoddinott, G., Bond, V., Bock, P., Ayles, H., Stangl, A. L., Donnell, D., Hayes, R., … HPTN 071 (PopART) study team. (2024), *Associations between HIV stigma and health-related quality-of-life among people living with HIV: Cross-sectional analysis of data from HPTN 071 (PopART),* Scientific Reports, 14(1), 12835. https://doi.org/10.1038/s41598-024-63216-3

[10] Han, S., Hu, Y., Lu, H., Zhang, L., Zhu, Z., Luo, J., Relf, M. V., Mulawa, M. I., Pei, Y., & Wu, B. (2020) *Cognitive behavioral therapy for persons living with HIV in China: A randomized pilot trial,* Journal of Affective Disorders, 277, 640–648. https://doi.org/10.1016/j.jad.2020.08.085

[11] Hojilla, J. C., Santiago-Rodriguez, E. I., Sterling, S., Williams, E. C., Leyden, W., Hare, C. B., Silverberg, M. J., & Satre, D. D. (2021), *HIV stigma and its associations with longitudinal health outcomes among persons living with HIV with a history of unhealthy alcohol use,* AIDS and Behavior, 25(1), 215–224. https://doi.org/10.1007/s10461-020-02963-6

[12] Hong, C., Queiroz, A., & Hoskin, J. (2023), *The impact of the COVID-19 pandemic on mental health, associated factors and coping strategies in people living with HIV: A scoping review,* Journal of the International AIDS Society, 26(3), e26060. https://doi.org/10.1002/jia2.26060

[13] Lucas, S., & Nelson, A. M. (2015), *HIV and the spectrum of human disease,* The Journal of Pathology, 235(2), 229–241. https://doi.org/10.1002/path.4449

[14] Medeiros, G. C., Smith, F. A., Trivedi, M. H., & Beach, S. R. (2020), *Depressive Disorders in HIV/AIDS: A Clinically Focused Narrative Review,* Harvard Review of Psychiatry, 28(3), 146–158. https://doi.org/10.1097/HRP.0000000000000252

[15] Rayanakorn, A., Ong-Artborirak, P., Ademi, Z., & Chariyalertsak, S. (2022), *Predictors of Stigma and Health-Related Quality of Life Among People Living with HIV in Northern Thailand,* AIDS Patient Care and STDs, 36(5), 186–193. https://doi.org/10.1089/apc.2022.0035

[16] Remien, R. H., Stirratt, M. J., Nguyen, N., Robbins, R. N., Pala, A. N., & Mellins, C. A. (2019), *Mental health and HIV/AIDS: The need for an integrated response,* AIDS (London, England), 33(9), 1411–1420. https://doi.org/10.1097/QAD.0000000000002227

[17] Rzeszutek, M., Gruszczynska, E., Pieta, M., & Malinowska, P. (2021), *HIV/AIDS stigma and psychological well-being after 40 years of HIV/AIDS: A systematic review and meta-analysis,* European Journal of Psychotraumatology, 12(1), 1990527. https://doi.org/10.1080/20008198.2021.1990527

[18] Safren, S. A., Bedoya, C. A., O'Cleirigh, C., Biello, K. B., Pinkston, M. M., Stein, M. D., Traeger, L., Kojic, E., Robbins, G. K., Lerner, J. A., Herman, D. S., Mimiaga, M. J., & Mayer, K. H. (2016), *Cognitive behavioural therapy for adherence and depression in patients with HIV: A three-arm randomised controlled trial,* The Lancet. HIV, 3(11), e529–e538. https://doi.org/10.1016/S2352-3018(16)30053-4

[19] Sahoo, S. S., Khanna, P., Verma, R., Verma, M., Mahapatra, S., Parija, P. P., & Panda, U. K. (2020) *Social stigma and its determinants among people living with HIV/AIDS: A cross-sectional study at ART center in North India,* Journal of Family Medicine and Primary Care, 9(11), 5646–5651. https://doi.org/10.4103/jfmpc.jfmpc_981_20

[20] Scott-Sheldon, L. A. J., Balletto, B. L., Donahue, M. L., Feulner, M. M., Cruess, D. G., Salmoirago-Blotcher, E., Wing, R. R., & Carey, M. P. (2019), *Mindfulness-Based Interventions for Adults Living with HIV/AIDS: A Systematic Review and Meta-Analysis,* AIDS and Behavior, 23(1), 60–75. https://doi.org/10.1007/s10461-018-2236-9

[21] Small, L. A., Huynh, A. K., & Parchment, T. M. (2022), *The association between self-Esteem, stigma, and mental health among South African youth living with HIV: The need for integrated HIV care services,* AIDS Care, 34(1), 86–94. https://doi.org/10.1080/09540121.2021.2002253

[22] Srithanaviboonchai, K., Stockton, M., Pudpong, N., Chariyalertsak, S., Prakongsai, P., Chariyalertsak, C., Smutraprapoot, P., & Nyblade, L. (2017), *Building the evidence base for stigma and discrimination-reduction programming in Thailand: Development of tools to measure healthcare stigma and discrimination,* BMC Public Health, 17(1), 245. https://doi.org/10.1186/s12889-017-4172-4

[23] Thapinta, D., Srithanaviboonchai, K., Uthis, P., Suktrakul, S., Wiwatwongnawa, R., Tangmunkongvorakul, A., Wannachaiyakul, S., & Sripan, P. (2022), *Association between Internalized Stigma and Depression among People Living with HIV in Thailand,* International Journal of Environmental Research and Public Health, 19(8), 4471. https://doi.org/10.3390/ijerph19084471

[24] van der Heijden, I., Abrahams, N., & Sinclair, D. (2017), *Psychosocial group interventions to improve psychological well-being in adults living with HIV,* The Cochrane Database of Systematic Reviews, 2017(3), CD010806. https://doi.org/10.1002/14651858.CD010806.pub2

[25] Yu, Y., Wang, X., Wu, Y., Weng, W., Zhang, M., Li, J., Huang, X., & Gao, Y. (2022), *The benefits of psychosocial interventions for mental health in men who have sex with men living with HIV: A systematic review and meta-analysis,* BMC Psychiatry, 22(1), 440. https://doi.org/10.1186/s12888-022-04072-1

[26] Zhang, H., Han, J., Su, Y., Zhao, H., & Zhang, F. (2025), *Virtual Reality-Based Psychological Intervention for Young Adults Living With HIV: Protocol for a Randomized Controlled Trial,* JMIR Research Protocols, 14, e55633. https://doi.org/10.2196/55633

[27] Zhang, Y., Chai, C., Xiong, J., Zhang, L., Zheng, J., Ning, Z., & Wang, Y. (2023), *The impact of anxiety, depression, and social support on the relationship between HIV-related stigma and mental health-related quality of life among Chinese patients: A cross-sectional, moderate-mediation study,* BMC Psychiatry, 23(1), 818. https://doi.org/10.1186/s12888-023-05103-1