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Review Article

The Correlation Between Stigma and Mental Health Disorders in People Living with HIV/AIDS

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Abstract

Stigma remains a significant challenge for people living with HIV/AIDS (PLWHA) despite the advances that have been made in HIV care and treatment. It is known to affect health care outcomes including care seeking habits and medication adherence. In addition to contributing to poor health outcomes, stigma is known to increase the risk of developing mental health disorders. Various researchers have found a correlation between stigma and mental health disorders including depression, anxiety, mental distress, stress, post-traumatic stress disorder (PTSD), and suicidal ideation. The aim of this review is to explore the association between stigma and mental health disorders in PLWHA. It identifies common mental health disorders found in people living with HIV and how these disorders are linked to stigma. The review also identifies how stigma and mental health disorders affect healthcare outcomes of PLWHA. The review concludes by providing a number of measures that can help to end stigma and improve overall health outcomes of PLWHA.

Keywords: stigma, HIV-related stigma, HIV/AIDS, mental health disorders, people living with HIV/AIDS

Introduction

Despite the medical advances that have been achieved in the management of HIV/AIDS, stigma and discrimination remain a prevalent challenge. According to the Global Network of People Living with HIV/AIDS, stigma and discrimination remain a predominant challenge that affects how people living with HIV access treatment and care.¹ Although significant strides have been achieved in ending HIV-related stigma, about nine million people still do not have access to treatment and another 630,000 died from AIDS-related preventable causes because of stigma-related issues¹ To understand what stigma means, it is important to refer back to the work of Goffman.² Goffman defines stigma as 'a trait which is deeply discrediting'.² According to him, people who experience stigma find it difficult to conform to societal standards,² and as a result, they have difficulty getting social acceptance. In the context of HIV/AIDS, stigma refers to discrediting and discriminating against people that are perceived to have HIV.^{3,4} It stems from a number of sources including misconceptions, fear, and stereotypes.³ Stigma in people living with HIV can be experienced as internalised stigma, enacted stigma, and anticipated stigma. Internalized stigma refers to the negative views, feelings, and beliefs that people living with HIV/AIDS have towards themselves because of their HIV status.⁵ Enacted stigma is discrimination including acts of violence and marginalization that are perpetrated against people living with HIV.^{6,5} Enacted stigma has a negative impact on people living with HIV. Anticipated stigma refers to the expectations of discrimination,

prejudice, or stereotyping from other people in the future due to one's HIV status.⁷ Stigma has a negative effect on people living with HIV. In addition to affecting treatment, it contributes to prejudice, stereotyping, loss and social rejection.^{8,7}

Addressing HIV-related stigma is vital. In addition to being a major barrier to accessing prevention, care, and treatment, HIV-related stigma has been associated with mental health disorders. Various studies have linked HIV-related stigma to poor mental health outcomes including depression, emotional distress, anxiety, low self-esteem, stress, and suicidal ideation.^{9,4,10,6} A meta-analysis by Logie and Gadalla,¹¹ showed that stigma was associated with poor mental health outcomes. Another meta-analysis by Rueda et al.⁵ showed that HIV-related stigma was associated with increased depressive symptoms, anxiety, and emotional and mental distress. This review documents the current state of research relating to HIV-related stigma and mental health disorders in people living with HIV. It explores the implications of this on treatment and HIV care and provides recommendations on how HIV-related stigma can be addressed to ensure positive mental and health outcomes for PLWHA. The article is based on previously conducted studies and does not involve any new studies.

Conceptualizing HIV-Related Stigma

According to the HIV Stigma framework, there are three types of stigma mechanisms associated with people living with HIV/AIDS. They include internalized, anticipated, and enacted stigma.¹² According to Earnshaw and Chaudoir,¹² these

mechanisms represent the psychological responses that people living with HIV have to the knowledge they may have violated social customs and as a result may be subjected to negative treatment. These stigma mechanisms have a potential of impacting individuals behavioral, psychological, and health outcomes.⁷ Internalized stigma are the negative views, feelings, and beliefs that people living with HIV have towards themselves because of their HIV status.⁵ Lee et al.¹³ note that internalized stigma develops when people internalize negative views that the society has of them. Internalized stigma makes individuals more sensitive to actual and anticipated stigma by other people and has a negative effect on HIV care.¹⁴ Internalized HIV-related stigma is prevalent. According to Global Network of People Living with HIV/AIDS report, about 84.8% of respondents indicated that they had internalized stigma at one point or another in their lives.¹ For people living with HIV, internalized stigma has a negative impact on their lives. According to a meta-analysis on the effect of stigma on mental health, internalized stigma has been associated with feelings of helplessness and lower acceptance of one's status.¹⁵ Internalized stigma has also been associated with mental problems including psychological stress, depressive symptoms, and low self-esteem.⁷ For people living with HIV, compounding internalized stigma and mental health challenges affects health-seeking behavior including seeking HIV-related care and adherence to antiretroviral medications.

Enacted stigma is the external stigma and discrimination that is directed towards people living with HIV.^{6,7} Enacted stigma may include acts of violence, prejudice, discrimination and devaluation.^{5,4} Enacted stigma has a negative impact on people living with HIV because it is associated with physical indicators of health including poor physical health outcomes and well-being.⁷ It is a stressful experience that affects the ability of individuals to seek care and treatment because it is perpetrated by other people including health care providers.¹⁶ The recent Global Network of People Living with HIV/AIDS report is an indicator of this with 13% of respondents having faced discrimination from healthcare providers. Enacted stigma is also attributed to poor health outcomes and well-being because it is linked to social rejection, physical violence, and job loss.^{17,16} Over an extended period of time, enacted stigma may become a chronic stressor that may have negative impact on disease progression including lower CD4 count.⁷ It can also lead to internalized stigma and increased depressive symptoms because individuals tend to internalize the negative experiences they experience.

Anticipated stigma refers to the expectations of discrimination, prejudice, or stereotyping from other people in the future due to one's HIV status.⁷ Anticipated stigma may be shaped by one's past experiences and manifests itself as an external fear that affects social interactions.¹⁶ For instance, if an individual has experienced stigma in the past, then they are likely to have expectations of being stigmatized again.¹⁸ Anticipated stigma may emanate from a number of sources. People who are living with HIV and experience decreased social support are more likely to have anticipated stigma.¹⁸ Anticipated stigma has a negative impact on people living with HIV. According to Earnshaw et al.⁷ anticipated stigma is associated with poor physical and behavioral health indicators. For instance, people who experience anticipated stigma are more likely to have poor physical outcomes including reduced CD4 count, increased incidence of chronic illness comorbidity, behavioral challenges such poor adherence to medication and poor medical care seeking habits.^{16,7,4,18} Anticipated stigma is also associated with poorer mental health outcomes. According to Earnshaw et al.¹⁸ anticipated stigma was associated with higher levels of stress.

Common Mental Health Disorders Associated with HIV-related Stigma

A significant body of research has found that people living with HIV are at a significant risk of experiencing mental health issues.⁷ The risk in people living with HIV is higher because of a number of psychosocial and biological stressors.¹⁰ Some of the common mental health disorders experienced by people living with HIV include depression, anxiety, mental distress, emotional distress, stress, self-esteem issues, reduced psychological functioning, post-traumatic stress disorder (PTSD) among other factors.^{9,10,16,19,20}

Depression is the most common mental health disorder found in people living with HIV. According to a study done by Abebe et al.²¹ the prevalence of depressive symptoms among youths living with was significantly high at 35.5%. Another study by Bernard et al.¹⁹ confirms this with depression prevalence estimates ranging between 9% and 32%. Depression has a negative impact on people living with HIV. Research illustrates that depression is likely to contribute to riskier health behaviors including risky sexual behaviors, illicit drug use, alcohol abuse, and violence.²² These factors are likely to lead to worse disease outcomes including poor quality of life and accelerated disease progression.²³ Depression among people living with HIV can be attributed to a number of factors key among them being HIV-related stigma. A significant amount of research has shown a correlation between depression and experiences of HIV stigma.^{10,24,16} A study by Tian et al.¹⁶ examining the impact of internalized stigma in people living with HIV in Ontario established that internalized stigma was linked to adverse mental and psychological health outcomes, more so depression. Individuals who reported to have internalized stigma also reported experiencing feelings of depression which had a negative impact on their health and well-being. Similar findings were established by Casale et al.²⁴ who found stigma to be a risk factor for depression. Similarly, a study investigating the association between perceived stigma and HIV-related pain established that depression was a contributing factor to both stigma and increased pain intensity.²⁵ The association between depression and stigma may be attributed to a number of factors. Social isolation, psychosocial issues, and other stressors that people living with HIV experience are some of the factors that explain why depression is higher among this population than the general population. For instance, people who experience internalized stigma are more likely to experience feelings of helplessness.⁷ Increased feelings of helplessness are more likely to increase the likelihood of developing depressive symptoms.²⁶ With increased likelihood of social isolation and inadequate social support, people who experience helplessness are less likely to get support which may explain why depression rates are higher.

In addition to depression, people living with HIV were more likely to report experiencing anxiety symptoms. According to a meta-analysis by Rueda et al.⁵ anxiety was one of the mental health challenges experienced by people living with HIV. Similarly, a study by Ivanova et al.²⁷ established that the levels of anxiety were higher among women living with HIV than in the general population. The study was examining the levels of anxiety in women of reproductive age living with HIV. Several factors were found to contribute to these levels of anxiety including the desire to become pregnant, fear of being judged by family and friends for trying to conceive, the effect antiretroviral medications would have on pregnancy, and perceived HIV-related stigma.²⁷ The findings were similar to those by Wagner et al.²⁸ who established that the HIV-related stigma and anxiety were high in HIV positive women. In relation to anxiety and HIV-related stigma, the type of coping mechanism that an individual engaged in was also a

determining factor in whether they had higher levels of anxiety or not. Individuals who used disengagement coping when they experienced HIV-related stigma had higher levels of anxiety than those individuals who used engagement coping.^{29,30} Disengaging coping in this case means that individuals disengaged with the stigma stressor. Disengaging with the stigma stressor means that individuals experienced increases in felt stigma, which explains why they had higher levels of anxiety.²⁹

An additional mental health problem that is seen in people living with HIV is emotional and mental distress. Various studies have established that people living with HIV tend to experience higher levels of psychological distress which is mostly linked to HIV-related stigma.^{5,31,32} A cross-sectional survey administered to people living with HIV in Netherlands established a correlation between HIV-related stigma and psychological distress with being avoided, being treated with exaggerated kindness, awkward social interaction, and receiving advice to conceal one's status being attributed to be causative factors for psychological distress. Lack of social support is one of the factors that is associated with higher levels of psychological stress in people living with HIV. According to a study done by Kang et al.³¹ social rejection significantly predicted psychological stress with people who reported greater feeling of social rejection reporting higher levels of psychological distress. Similar findings were established by Tesfaye et al.³³ who established that lack of social support was associated with generalized psychological distress. Providing social support is instrumental for people living with HIV. Lack of social support increased feelings of rejection which may affect care-seeking habits, medication adherence, physical, and mental well-being.

Another mental health disorder that is associated with HIV-related stigma is stress. HIV-related stigma is characterized as a stressful experience which if enacted over a period of time can become a chronic stressor.⁷ Stress attributed to HIV-related stigma results from mainly results from experiences of discrimination, stereotyping, and prejudice.¹⁸ Perceived rejection and perceived discrimination from family, friends, colleagues and healthcare workers may also cause stress. Such experiences place a lot of demand on people living with HIV and lack of enough resources to deal with such demands results to stress. Various studies have found a correlation between HIV-related stigma and increased levels of stress.^{34,35,36} Anakwa et al.³⁴ established that individual who reported HIV-related stigma had higher levels of stress which also contributed to HIV disclosure concerns. Prolonged exposure to stress can lead to chronic stress and PTSD. PTSD has been reported in people living with HIV with some studies attributing it to stigma. A positive HIV diagnosis in itself is a traumatic event let alone the stigma.³⁷ Breet et al.³⁸ established that perceived HIV-related stigma was associated with increased symptoms of PTSD. Individuals who reported perceived stigma also reported decreased perceived level of social support which increased their symptoms of PTSD.³⁸ Exposure to stigma over prolonged periods increases the likelihood of developing PTSD.³⁹ Internalized stigma is also positively associated with increased severity of PTSD symptoms especially if an individual experiences the traumatic event.³⁷

One of the worst possible mental health outcomes that can occur as a result of HIV-related stigma is suicide or suicidal ideation. Suicide and suicide ideation in people living with HIV is mainly attributed to lack of social support, associated comorbidities, and stigma.⁴⁰ Stigma is a main stressor and as discussed previously, it is associated with higher levels of depression.⁵ Depression if left unchecked can increase the likelihood of developing suicidal thoughts.⁴¹ Various studies have found a correlation between stigma and suicidal ideation

in people living with HIV.⁴²⁻⁴⁶ Ferlatte et al.⁴² established that the prevalence of suicidal ideation was 1.55 times higher in HIV positive men than HIV negative men. The study established that the increased prevalence of suicidal ideation was attributed to social exclusion, sexual rejection, physical abuse, and social abuse. Wei et al.⁴³ also established that 31.6% of people living with HIV in China experienced suicidal ideation after positive HIV diagnosis. Depression and perceived stigma were found to be mediating factors for suicidal ideation.⁴³ The findings were similar to Fu et al.⁴⁴ who established HIV-related stigma and depression to be significant contributing factor to the likelihood of suicidal ideation.

Impact of Stigma-Related Mental Health Disorders on HIV Care and Treatment Adherence

Addressing mental health disorders attributed to HIV-related stigma is instrumental because they have a negative outcome on health. Poor mental health attributed to HIV-related stigma has been linked to poor health outcomes including poor quality of life. It can also affect treatment seeking habits and reduce adherence to antiretroviral medications.⁵ Various studies have shown that mental health disorders lead to poor health outcomes for individuals living with HIV.⁴⁷⁻⁴⁹ One of the most notable impacts of mental health disorders is its impact on antiretroviral adherence. Mental health disorders have been linked to poor medication adherence particularly antiretroviral therapy (ART).⁴⁷ Nel et al.⁵⁰ found that common mental health disorders such as depression, anxiety, and mental disorders linked to substance abuse led to poor antiretroviral therapy adherence. Adhering to ART therapy for individuals living with HIV. It is vital in relieving symptoms associated with HIV/AIDS which explains why poor adherence leads to poor health outcomes.⁵¹

Mental health disorders and stigma can also affect health care seeking habits for people living with HIV. Research has established that people who experience HIV-related stigma are less likely to seek care.⁵ They are also likely to have significant delays in seeking care. Anticipated stigma was one of the significant barriers that was established to affect care engagement for people living with HIV.⁵² Participants indicated that though they did not experience much enacted stigma or hostility, they felt that HIV was synonymous with infidelity and promiscuity which explains why they engaged less with healthcare facilities.⁵² Steward et al.⁵³ also established that enacted and internalized stigma may affect willingness to seek care which explains why there were significant delays in seeking care. Some of the factors that were attributed to the delays include fear of stigma and discrimination, fear of how healthcare staff would react, and fear of disclosure to others.⁵³ Perceived HIV stigma from healthcare providers was also associated with poor care seeking habits.⁵⁴ Individuals who perceive stigma tend to have feelings of shame, fear, and despair.⁷ When seeking care, such individuals may have fear to disclose the challenges they are experiencing to their healthcare providers which may affect the care they receive.

Reducing HIV-Related Stigma and the Associated Mental Health Disorders

Mental health disorders linked to HIV stigma can have a negative impact on people living with HIV. They can affect care seeking habits and reduce adherence to ART. Putting measures in place to address these disorders and the associated stigma is vital to improve health outcomes. Effective approaches to addressing HIV-related stigma remain scantily documented in literature. Although studies have been carried out on measures to address HIV-related stigma, few interventions on how to address stigma associated with mental health disorders are

documented. One of the interventions that is documented to address HIV-related mental health disorders is integrating mental health services into HIV care programs. Research has shown that integrating mental health care into HIV programs has positive effects on both HIV care and mental health because it improves diagnosis and timely intervention.^{55,56} Mental health disorders affect HIV seeking care and treatment adherence which is why integrating mental services to HIV programs can improve these outcomes. Integrating these services can also improve care outcomes because it helps care providers to understand the barriers that limit effective interventions and effective strategies to address these them.⁵⁷ Another study also showed positive outcomes when depression care was integrated into HIV programs.⁵⁸ Participants that participated in the study reported reductions in depression, HIV RNA, and an increase in CD4 count.⁵⁸ Integrating mental health services and HIV care also reduces perceived stigma.⁵⁹ The study participants reported reduced perceived stigma over time within the course of participation in the program.⁵⁹ However, it is important to note that though integrating mental care services into HIV programs has positive effects, it can have its challenges. Implementing these services can be costly especially in low- and medium-income countries where health care systems are already stretched.⁶⁰ Poor implementation can have negative impact on overall quality of care because of poor sustainability of the programs. It can also lead to fragmented care which may end up being more costly.

Other interventions that can be implemented to reduce HIV-related stigma are helping institutions to recognize stigma, structured approaches, addressing the needs of people affected by stigma, information-based approaches, providing universal access to care to people affected, mobilizing people living with HIV, and providing counselling, and support.⁶¹⁻⁶⁴ Helping healthcare institutions to recognize stigma is important in ensuring they put the right measures in place to deal with the stigma.⁶¹ Without recognizing stigma, it can be difficult to address it which means that it will be difficult to provide care. Structured approaches that aim at dealing with structural factors that influence stigma can also help to address HIV-related stigma.⁶² Such factors include laws that criminalize HIV, policies that enforce discrimination, inadequate resources that make it difficult to provide care, and hospital policies that make it difficult to deal with stigma.⁶² Putting structural approaches in place to deal with these issues can help to address stigma because they deal with underlying power structures make stigma possible. Examples are laws that criminalize stigmatization and punishment for those who perpetuate it.⁶⁵ Such approaches can help to address stigma in different settings including the workplace, hospitals, and government offices. Increasing awareness through information-based approaches can also help to address stigma and the associated mental health disorders.⁶⁴ Awareness can be directed to people living with HIV and those providing care.⁶⁶ For instance, providing awareness to people living with HIV on how to recognize stigma and to react when it is perpetrated against them can help to reduce incidences of stigma. Also, increasing awareness about stigma and how to avoid perpetrating it to health care providers can help to reduce the likelihood of stigmatization. Finally, it is important to provide counseling and support to people living with HIV to reduce the likelihood of internalized and anticipated stigma. Lack of support is one of the factors that is constantly mentioned when it comes to HIV-related stigma and mental health problems. Providing the needed support to people living with HIV going through stigma and mental health challenges can improve the overall health outcomes.

Findings from this review could be used to inform HIV-related care. It could help healthcare practitioners to establish how HIV-related stigma affects mental health outcomes including

the negative impacts it has on care. Finding on how HIV-related stigma is associated with mental health disorders could help to draw attention to the problem and lead to the development of appropriate interventions that could reduce the stigma and the related mental health problems. From the reviewed studies, there is a need to increase interventions that can address stigma and the associated mental disorders to improve HIV-related care and outcomes.

Although findings from this review could be instrumental in improving HIV-related care and outcomes, it is important to acknowledge some of its limitations. First, the review is limited by the lack of rigorous data extraction. The author only includes articles that they deem applicable to the research topic. Therefore, ensuring the data is accurate and consistent across the different sources included is difficult. It was also difficult to assess the quality of the studies included in the review because quality assessment was not done.

Conclusion

This review establishes a correlation between stigma and mental health disorders in people living with HIV. Mental health disorders such as depression, anxiety, psychological distress, stress, PTSD, and suicidal ideation were reported in people that reported HIV-related stigma. HIV-related stigma and mental health disorders were associated with poor health outcomes. Individuals who reported both HIV-related stigma and mental health disorders were less likely to adhere to antiretroviral therapy and seek HIV care. Putting interventions in place to address HIV-related stigma and the associated mental health disorders can improve overall health outcomes. One of the interventions that can be put in place is integrating mental health services into HIV care programs. Research shows that this is an intervention that can work in reducing stigma and the effect it has on mental health. Other interventions that can help are structural approaches to reduce stigma, provide counseling and support, mobilizing people living with HIV, and helping institutions to recognize stigma.

Abbreviations

HIV/AIDS: Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

PLWHA: People Living with HIV/AIDS

PTSD: Post-Traumatic Stress Disorder

CD4: Clusters of differentiation 4

ART: Antiretroviral Therapy

References

1. Global Network of People Living with HIV (GNP+). The People Living with HIV Stigma Index. Secondary The People Living with HIV Stigma Index. 2023. Accessed March 1 2024. <https://www.stigmaindex.org/wp-content/uploads/2023/11/PLHIV-Stigma-Index-Global-Report-2023-2.pdf>
2. Goffman E. Stigma: Notes on the Management of Spoiled Identity. Garden City, NY: Anchor Books; 1963.
3. Mahajan AP, Sayles JN, Patel VA, et al., Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward. *Aids*. 2008; 22:S67-79. <https://doi.org/10.1097/01.aids.0000327438.13291.62> PMID:18641472 PMCID:PMC2835402
4. Turan B, Budhwani H, Fazeli PL, et al. How does stigma affect people living with HIV? The mediating roles of internalized and anticipated HIV stigma in the effects of perceived community stigma on health and psychosocial outcomes. *AIDS and Behavior*. 2017;21:283-91. <https://doi.org/10.1007/s10461-016-1451-5> PMID:27272742 PMCID:PMC5143223

5. Rueda S, Mitra S, Chen S, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: a series of meta-analyses. *BMJ Open*. 2016;6(7):e011453. <https://doi.org/10.1136/bmjopen-2016-011453> PMID:27412106 PMCID:PMC4947735
6. Gray AJ. Stigma in psychiatry. *Journal of the Royal Society of Medicine*. 2002;95(2):72-6. <https://doi.org/10.1258/jrsm.95.2.72> PMID:11823548 PMCID:PMC1279314
7. Earnshaw VA, Smith LR, Chaudoir SR, Amico KR, Copenhaver MM. HIV stigma mechanisms and well-being among PLWH: a test of the HIV stigma framework. *AIDS and Behavior*. 2013; 17:1785-95. <https://doi.org/10.1007/s10461-013-0437-9> PMID:23456594 PMCID:PMC3664141
8. Fauk NK, Hawke K, Mwanri L, Ward PR. Stigma and discrimination towards people living with HIV in the context of families, communities, and healthcare settings: a qualitative study in Indonesia. *International Journal of Environmental Research and Public Health*. 2021;18(10):5424. <https://doi.org/10.3390/ijerph18105424> PMID:34069471 PMCID:PMC8159085
9. Yi S, Chhoun P, Suong S, Thin K, Brody C, Tuot S. AIDS-related stigma and mental disorders among people living with HIV: a cross-sectional study in Cambodia. *PloS one*. 2015;10(3):e0121461. <https://doi.org/10.1371/journal.pone.0121461> PMID:25806534 PMCID:PMC4373790
10. MacLean JR, Wetherall K. The association between HIV-stigma and depressive symptoms among people living with HIV/AIDS: A systematic review of studies conducted in South Africa. *Journal of Affective Disorders*. 2021;287:125-37. <https://doi.org/10.1016/j.jad.2021.03.027> PMID:33780828
11. Logie C, Gadalla TM. Meta-analysis of health and demographic correlates of stigma towards people living with HIV. *AIDS Care*. 2009;21(6):742-53. <https://doi.org/10.1080/09540120802511877> PMID:19806490
12. Earnshaw VA, Chaudoir SR. From conceptualizing to measuring HIV stigma: a review of HIV stigma mechanism measures. *AIDS and Behavior*. 2009;13:1160-77. <https://doi.org/10.1007/s10461-009-9593-3> PMID:19636699 PMCID:PMC4511707
13. Lee RS, Kochman A, Sikkema KJ. Internalized stigma among people living with HIV/AIDS. *AIDS and Behavior*. 2002;6:309-19. <https://doi.org/10.1023/A:1021144511957>
14. Valverde E, Rodriguez A, White B, Guo Y, Waldrop-Valverde D. Understanding the association of internalized HIV stigma with retention in HIV care. *Journal of HIV and AIDS*. 2018;4(3). <https://doi.org/10.16966/2380-5536.159> PMID:31341949 PMCID:PMC6656404
15. Mak WW, Poon CY, Pun LY, Cheung SF. Meta-analysis of stigma and mental health. *Social Science & Medicine*. 2007;65(2):245-61. <https://doi.org/10.1016/j.socscimed.2007.03.015> PMID:17462800
16. Lo Hog Tian JM, Watson JR, Ibáñez-Carrasco F, Tran B, Parsons JA, Maunder RG, Card KG, Baral S, Hui C, Boni AR, Ajiboye M. Impact of experienced HIV stigma on health is mediated by internalized stigma and depression: results from the people living with HIV stigma index in Ontario. *BMC Public Health*. 2021;21:1-0. <https://doi.org/10.1186/s12889-021-11596-w> PMID:34496825 PMCID:PMC8427956
17. Kimera E, Vindevogel S, Engelen AM, De Maeyer J, Reynaert D, Kintu MJ, Rubaihayo J, Bilsen J. HIV-related stigma among youth living with HIV in Western Uganda. *Qualitative Health Research*. 2021; 31(10):1937-50. <https://doi.org/10.1177/10497323211012347> PMID:33980098
18. Earnshaw VA, Quinn DM, Park CL. Anticipated stigma and quality of life among people living with chronic illnesses. *Chronic Illness*. 2012; 8(2):79-88. <https://doi.org/10.1177/1742395311429393> PMID:22080524 PMCID:PMC3644808
19. Bernard C, Dabis F, de Rekeneire N. Prevalence and factors associated with depression in people living with HIV in sub-Saharan Africa: a systematic review and meta-analysis. *PloS One*. 2017;12(8):e0181960. <https://doi.org/10.1371/journal.pone.0181960> PMID:28783739 PMCID:PMC5544236
20. Algarin AB, Sheehan DM, Varas-Diaz N, Fennie K, Zhou Z, Spencer EC, Cook CL, Cook RL, Ibanez GE. Enacted HIV-related stigma's association with anxiety & depression among people living with HIV (PLWH) in Florida. *AIDS and Behavior*. 2021;25(1):93-103. <https://doi.org/10.1007/s10461-020-02948-5> PMID:32564164 PMCID:PMC7749818
21. Abebe H, Shumet S, Nassir Z, Agidew M, Abebaw D. Prevalence of depressive symptoms and associated factors among HIV-positive youth attending ART follow-up in Addis Ababa, Ethiopia. *AIDS Research and Treatment*. 2019;2019. <https://doi.org/10.1155/2019/4610458> PMID:30719348 PMCID:PMC6334359
22. Tran BX, Ho RC, Ho CS, Latkin CA, Phan HT, Ha GH, Vu GT, Ying J, Zhang MW. Depression among patients with HIV/AIDS: research development and effective interventions (GAPRESEARCH). *International Journal of Environmental Research and Public Health*. 2019;16(10):1772. <https://doi.org/10.3390/ijerph16101772> PMID:31109139 PMCID:PMC6571985
23. Deshmukh NN, Borkar AM, Deshmukh JS. Depression and its associated factors among people living with HIV/AIDS: Can it affect their quality of life?. *Journal of Family Medicine and Primary Care*. 2017;6(3):549. <https://doi.org/10.4103/2249-4863.222016> PMID:29417006 PMCID:PMC5787953
24. Casale M, Boyes M, Pantelic M, Toska E, Cluver L. Suicidal thoughts and behaviour among South African adolescents living with HIV: Can social support buffer the impact of stigma?. *Journal of Affective Disorders*. 2019;245:82-90. <https://doi.org/10.1016/j.jad.2018.10.102> PMID:30368074
25. Evangeli M, Wadley AL, Pincus T. A preliminary analysis of the association between perceived stigma and HIV-related pain in South Africans living with HIV. *African Journal of Primary Health Care and Family Medicine*. 2019;11(1):1-5. <https://doi.org/10.4102/phcfm.v11i1.1647> PMID:30843417 PMCID:PMC6407439
26. Smallheer BA, Vollman M, Dietrich MS. Learned helplessness and depressive symptoms following myocardial infarction. *Clinical Nursing Research*. 2018;27(5):597-616. <https://doi.org/10.1177/1054773816689752> PMID:28129708
27. Ivanova EL, Hart TA, Wagner AC, Aljasseem K, Loutfy MR. Correlates of anxiety in women living with HIV of reproductive age. *AIDS and Behavior*. 2012;16:2181-91. <https://doi.org/10.1007/s10461-011-0133-6> PMID:22246517
28. Wagner AC, Hart TA, Mohammed S, Ivanova E, Wong J, Loutfy MR. Correlates of HIV stigma in HIV-positive women. *Archives of Women's Mental Health*. 2010;13:207-14. <https://doi.org/10.1007/s00737-010-0158-2> PMID:20372948
29. Varni SE, Miller CT, McCuin T, Solomon S. Disengagement and engagement coping with HIV/AIDS stigma and psychological well-being of people with HIV/AIDS. *Journal of Social and Clinical Psychology*. 2012;31(2):123-50. <https://doi.org/10.1521/jscp.2012.31.2.123> PMID:22611302 PMCID:PMC3355931
30. Gonzalez A, Solomon SE, Zvolensky MJ, Miller CT. The interaction of mindful-based attention and awareness and disengagement coping with HIV/AIDS-related stigma in regard to concurrent anxiety and depressive symptoms among adults with HIV/AIDS. *Journal of Health Psychology*. 2009;14(3):403-13. <https://doi.org/10.1177/1359105309102193> PMID:19293302 PMCID:PMC3434880
31. Kang E, Rapkin BD, Remien RH, Mellins CA, Oh A. Multiple dimensions of HIV stigma and psychological distress among Asians and Pacific Islanders living with HIV illness. *AIDS and Behavior*. 2005;9:145-54. <https://doi.org/10.1007/s10461-005-3896-9> PMID:15933834
32. Rongkavilit C, Wright K, Chen X, Naar-King S, Chuenyam T, Phanuphak P. HIV stigma, disclosure and psychosocial distress among Thai youth living with HIV. *International Journal of STD &*

- AIDS. 2010;21(2):126-32. <https://doi.org/10.1258/ijisa.2009.008488> PMID:20089999
33. Tesfaye SH, Bune GT. Generalized psychological distress among HIV-infected patients enrolled in antiretroviral treatment in Dilla University Hospital, Gedeo zone, Ethiopia. *Global health action*. 2014;7(1):23882. <https://doi.org/10.3402/gha.v7.23882> PMID:24852246 PMCID:PMC4030443
 34. Anakwa NO, Teye-Kwadjo E, Kretchy IA. Effect of HIV-related stigma and HIV-related stress on HIV disclosure concerns: a study of HIV-positive persons on antiretroviral therapy at two urban hospitals in Ghana. *Applied Research in Quality of Life*. 2021;16:1249-64. <https://doi.org/10.1007/s11482-020-09813-6>
 35. Zhu M, Guo Y, Li Y, Zeng C, Qiao J, Xu Z, Zeng Y, Cai W, Li L, Liu C. HIV-related stigma and quality of life in people living with HIV and depressive symptoms: Indirect effects of positive coping and perceived stress. *AIDS Care*. 2020;32(8):1030-5. <https://doi.org/10.1080/09540121.2020.1752890> PMID:32290681
 36. Glynn TR, Llabre MM, Lee JS, et al. Pathways to health: An examination of HIV-related stigma, life stressors, depression, and substance use. *International Journal of Behavioral Medicine*. 2019;26:286-96. <https://doi.org/10.1007/s12529-019-09786-3> PMID:31065930 PMCID:PMC6563607
 37. Gonzalez A, Locicero B, Mahaffey B, Fleming C, Harris J, Vujanovic AA. Internalized HIV stigma and mindfulness: associations with PTSD symptom severity in trauma-exposed adults with HIV/AIDS. *Behavior Modification*. 2016;40(1-2):144-63. <https://doi.org/10.1177/0145445515615354> PMID:26584609
 38. Breet E, Kagee A, Seedat S. HIV-related stigma and symptoms of post-traumatic stress disorder and depression in HIV-infected individuals: does social support play a mediating or moderating role?. *AIDS Care*. 2014;26(8):947-51. <https://doi.org/10.1080/09540121.2014.901486> PMID:24666226
 39. Adewuya AO, Afolabi MO, Ola BA, et al. Post-traumatic stress disorder (PTSD) after stigma related events in HIV infected individuals in Nigeria. *Social Psychiatry and Psychiatric Epidemiology*. 2009;44:761-6. <https://doi.org/10.1007/s00127-009-0493-7> PMID:19225704
 40. Tsai YT, Padmalatha S, Ku HC, et al. Suicidality among people living with HIV from 2010 to 2021: a systematic review and a meta-regression. *Psychosomatic Medicine*. 2022;84(8):924. <https://doi.org/10.1097/PSY.0000000000001127> PMID:36162070 PMCID:PMC9553271
 41. Orsolini L, Latini R, Pompili M, et al. Understanding the complex of suicide in depression: from research to clinics. *Psychiatry Investigation*. 2020;17(3):207. <https://doi.org/10.30773/pi.2019.0171> PMID:32209966 PMCID:PMC7113180
 42. Ferlatte O, Salway T, Oliffe JL, Trussler T. Stigma and suicide among gay and bisexual men living with HIV. *AIDS Care*. 2017;29(11):1346-50. <https://doi.org/10.1080/09540121.2017.1290762> PMID:28278571
 43. Wei L, Yan H, Guo M, et al. Perceived HIV stigma, depressive symptoms, self-esteem, and suicidal ideation among people living with HIV/AIDS in China: A moderated mediation modeling analysis. *Journal of Racial and Ethnic Health Disparities*. 2023;10(2):671-9. <https://doi.org/10.1007/s40615-022-01255-0> PMID:35165837 PMCID:PMC8853186
 44. Fu J, Chen X, Dai Z, et al. HIV-related stigma, depression and suicidal ideation among HIV-positive MSM in China: a moderated mediation model. *BMC Public Health*. 2023 Oct 27;23(1):2117. <https://doi.org/10.1186/s12889-023-17047-y> PMID:37891525 PMCID:PMC10612198
 45. Armoon B, Fleury MJ, Bayat AH, et al. 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*. 2022 Dec;16(1):1-7. <https://doi.org/10.1186/s13033-022-00527-w> PMID:35246211 PMCID:PMC8896327
 46. Pelton M, Ciarletta M, Wisnously H, et al. Rates and risk factors for suicidal ideation, suicide attempts and suicide deaths in persons with HIV: a systematic review and meta-analysis. *General Psychiatry*. 2021;34(2). <https://doi.org/10.1136/gpsych-2020-100247> PMID:33912798 PMCID:PMC8042999
 47. Pence BW. The impact of mental health and traumatic life experiences on antiretroviral treatment outcomes for people living with HIV/AIDS. *Journal of Antimicrobial Chemotherapy*. 2009;63(4):636-40. <https://doi.org/10.1093/jac/dkp006> PMID:19153077 PMCID:PMC2654041
 48. Mayston R, Kinyanda E, Chishinga N, Prince M, Patel V. Mental disorder and the outcome of HIV/AIDS in low-income and middle-income countries: a systematic review. *Aids*. 2012;26:S117-35. <https://doi.org/10.1097/QAD.0b013e32835bde0f> PMID:23303434
 49. Yehia BR, Stephens-Shield AJ, Momplaisir F, et al. Health outcomes of HIV-infected people with mental illness. *AIDS and Behavior*. 2015 Aug;19:1491-500. <https://doi.org/10.1007/s10461-015-1080-4> PMID:25931243 PMCID:PMC4527875
 50. Nel A, Kagee A. Common mental health problems and antiretroviral therapy adherence. *AIDS Care*. 2011;23(11):1360-5. <https://doi.org/10.1080/09540121.2011.565025> PMID:22022846
 51. Rao D, Nainis N, Williams L, Langner D, Eisin A, Paice J. Art therapy for relief of symptoms associated with HIV/AIDS. *AIDS Care*. 2009;21(1):64-9. <https://doi.org/10.1080/09540120802068795> PMID:19085221
 52. Treves-Kagan S, Steward WT, Ntswane L, et al. Why increasing availability of ART is not enough: a rapid, community-based study on how HIV-related stigma impacts engagement to care in rural South Africa. *BMC Public Health*. 2015;16:1-3. <https://doi.org/10.1186/s12889-016-2753-2> PMID:26823077 PMCID:PMC4730651
 53. Steward WT, Bharat S, Ramakrishna J, Heylen E, Ekstrand ML. Stigma is associated with delays in seeking care among HIV-infected people in India. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*. 2013;12(2):103-9. <https://doi.org/10.1177/1545109711432315> PMID:22282878 PMCID:PMC3482419
 54. Kinsler JJ, Wong MD, Sayles JN, Davis C, Cunningham WE. The effect of perceived stigma from a health care provider on access to care among a low-income HIV-positive population. *AIDS patient care and STDs*. 2007;21(8):584-92. <https://doi.org/10.1089/apc.2006.0202> PMID:17711383
 55. Collins PY, Holman AR, Freeman MC, Patel V. What is the relevance of mental health to HIV/AIDS care and treatment programs in developing countries? A systematic review. *AIDS (London, England)*. 2006;20(12):1571. <https://doi.org/10.1097/01.aids.0000238402.70379.d4> PMID:16868437 PMCID:PMC2801555
 56. Remien RH, Stirratt MJ, Nguyen N, Robbins RN, Pala AN, Mellins CA. Mental health and HIV/AIDS: the need for an integrated response. *AIDS (London, England)*. 2019;33(9):1411. <https://doi.org/10.1097/QAD.0000000000002227> PMID:30950883 PMCID:PMC6635049
 57. Senn TE, Greenwood GL, Rao VR. Global mental health and HIV care: gaps and research priorities. *Journal of the International AIDS Society*. 2021;24(Suppl 2). <https://doi.org/10.1002/jia2.25714> PMID:34164945 PMCID:PMC8222835
 58. Coleman SM, Blashill AJ, Gandhi RT, Safren SA, Freudenreich O. Impact of integrated and measurement-based depression care: clinical experience in an HIV clinic. *Psychosomatics*. 2012;53(1):51-7. <https://doi.org/10.1016/j.psym.2011.07.004> PMID:22221721
 59. Farber EW, Shahane AA, Brown JL, Campos PE. Perceived stigma reductions following participation in mental health services integrated within community-based HIV primary care. *AIDS Care*. 2014;26(6):750-3. <https://doi.org/10.1080/09540121.2013.845285> PMID:24093931

60. Chuah FL, Haldane VE, Cervero-Licerias F, et al. Interventions and approaches to integrating HIV and mental health services: a systematic review. *Health Policy and Planning*. 2017;32(suppl_4):iv27-47. <https://doi.org/10.1093/heapol/czw169> PMID:29106512 PMCID:PMC5886062
61. Pulerwitz J, Michaelis A, Weiss E, Brown L, Mahendra V. Reducing HIV-related stigma: lessons learned from Horizons research and programs. *Public Health Reports*. 2010;125(2):272-81. <https://doi.org/10.1177/003335491012500218> PMID:20297756 PMCID:PMC2821857
62. Stangl AL, Lloyd JK, Brady LM, Holland CE, Baral S. A systematic review of interventions to reduce HIV-related stigma and discrimination from 2002 to 2013: how far have we come?. *Journal of the International AIDS Society*. 2013;16:18734. <https://doi.org/10.7448/IAS.16.3.18734> PMID:24242268 PMCID:PMC3833106
63. Feyissa GT, Lockwood C, Woldie M, Munn Z. Reducing HIV-related stigma and discrimination in healthcare settings: A systematic review of quantitative evidence. *PloS one*. 2019 Jan 25;14(1):e0211298. <https://doi.org/10.1371/journal.pone.0211298> PMID:30682131 PMCID:PMC6347272
64. Reis RK, Galvao MT, Gir E. Challenges to an effective response for addressing stigma and discrimination related to HIV: from denial of rights to construction of support networks. *Journal of the International AIDS Society*. 2013;16(1). <https://doi.org/10.7448/IAS.16.1.18931> PMID:24314399 PMCID:PMC3854119
65. Mburu G, Ram M, Skovdal M, Bitira D, Hodgson I, Mwai GW, Stegling C, Seeley J. Resisting and challenging stigma in Uganda: the role of support groups of people living with HIV. *Journal of the International AIDS Society*. 2013;16:18636. <https://doi.org/10.7448/IAS.16.3.18636> PMID:24242256 PMCID:PMC3833188
66. Nyblade L, Stangl A, Weiss E, Ashburn K. Combating HIV stigma in health care settings: what works?. *Journal of the International AIDS Society*. 2009;12:1-7. <https://doi.org/10.1186/1758-2652-12-15> PMID:19660113 PMCID:PMC2731724