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REVIEW

HIV-related stigma: effects on health outcomes and directions for stigma-focused interventions

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ABSTRACT

HIV-related stigma is a widespread experience among HIV-affected individuals that may have an impact on the well-being of both people living with HIV (PLWH) and associated individuals. This review examines the multifaceted nature of HIV-related stigma by summarizing its dimensions. Furthermore, it discusses how different dimensions of HIV-related stigma and intersectional stigma due to co-existing stigmatized conditions can lead to differential effects on the mental and physical health outcomes of PLWH. The scope of this review consists of the associations between HIV-related stigma and mental health challenges of depression and anxiety, as well as substance use, with a focus on the cognitive behavioral underpinnings, social isolation, and health behaviors of PLWH. On the other hand, the interplays between HIV-related stigma and immunological parameters, such as CD4 counts and viral loads, were discussed, which may have an effect through behavioral and non-behavioral pathways. This review also discusses possible stigma-informed policies and interventions with a multi-level approach. Specifically, it suggests that the focus of structural-level interventions can constitute policy regulations to ensure reducing HIV-related stigma and stereotype threats in organizational and legal settings. Stigma-informed intrapersonal interventions may focus on providing strategies that can target the cognitive and behavioral experiences of HIV-affected individuals through individual or group therapies. Lastly, interventions that focus on interpersonal and intergroup experiences can underline improving the quality of the contact and relationship between PLWH and HIV-negative individuals to challenge HIV-related stigma and improve the well-being of both populations.

Keywords: HIV-related stigma, mental health, physical health, stigma-informed interventions

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INTRODUCTION

Human immunodeficiency virus (HIV) compromises the immune system and can lead to a potentially life-threatening and chronic condition of acquired immunodeficiency syndrome (AIDS) if not managed properly [1]. According to the latest but underestimated numbers, approximately 40 million individuals worldwide are living with HIV, and 1.3 million people have acquired HIV in 2023 [2]. Although there has been great progress in each pillar of the HIV care cascade, especially in access to antiretroviral treatment (ART), with almost 21 million lives saved within the last two decades, many other challenges remain in HIV management. One of the major challenges is HIV-related stigma and discrimination and the associated psychosocial difficulties in people living with HIV (PLWH). The current review aims to discuss social stigma and its relations with mental and physical health outcomes, as well as intervention approaches to improve and protect the well-being of PLWH and associated individuals.

HIV-related stigma

Stigma is a social construction that refers to marking and devaluing individuals who possess attributes, conditions, or behaviors that are perceived as discrediting and contrary to the norms of social groups [3,4]. HIV-related stigma encompasses negative attitudes, including prejudices and stereotypes about HIV and discrimination toward PLWH [5]. HIV is widely stigmatized due to its association with practices that are perceived as immoral, such as unprotected or non-heterosexual intercourse or intravenous drug injection, its chronic nature, and misinformation related to the disease and its transmission [6,7].

HIV-related stigma can lead to psychological distress as well as exacerbate existing mental health difficulties in many PLWH [8]. In fact, the prevalence of mood disorders, such as depression and anxiety disorders, is elevated in PLWH compared to the general population [9]. HIV-related stigma is theorized to have several mechanisms and dimensions through which it leads to adverse social, physiological, and mental health outcomes [10-12].

HIV-related stigma dimensions

Enacted or experienced HIV stigma comprises experiences that include prejudice, negative attitudes, and discrimination toward PLWH [13]. In other words, enacted HIV stigma pertains to the public's explicit and disgracing behaviors or attitudes toward PLWH. These stigmatizing experiences are overt and obvious. However, stigma can also be executed covertly and implicitly. This type of stigma is known as microaggression. Primarily developed within the context of racial stigma, microaggression has been extended to HIV and conceptually covers stigmatizing behaviors and attitudes toward PLWH that are carried out subtly [14]. For instance, some individuals might possess implicit and unfounded beliefs that HIV implies dirtiness, and thus, these people might inaccurately label PLWH as "dirty" [15]. Not all individuals may explicitly admit that they have this assumption. However, this stereotype can still manifest itself through tacit behaviors, such as saying that an individual is "clean" to indicate their HIV-negative serostatus [14].

Under some circumstances, these experiences of enacted stigma and microaggressions can be internalized, meaning that negative and stigmatizing public attitudes and characteristics related to HIV can be accepted as applying to oneself (i.e., internalized or self-stigma; [16,17]). This internalization process is usually accompanied by several changes in cognitive, affective, and behavioral domains, which are responsible for mental and physical health difficulties [18]. For example, in a cognitive domain, internalization of stigmatizing attitudes, stereotypes, and prejudices might result in self-deprecating thoughts, including blaming oneself because of one's HIV serostatus and low levels of self-acceptance and self-worth [12,19,20]. From an affective perspective, internalized HIV stigma is associated with feelings of shame, guilt, embarrassment, depression, anxiety, and hopelessness [18,21,22]. According to cognitive behavioral theories, these negative self-related cognitions and emotions also have behavioral manifestations [23]. Within the context of HIV, these behavioral consequences of internalized HIV stigma include using maladaptive and dysfunctional coping skills, including avoidance, denial, and low adherence to treatment [24,25].

Another HIV-related stigma dimension that is associated specifically with health outcomes is anticipated HIV stigma, which refers to the expectations of PLWH that they will receive adverse and stigmatizing treatment if their positive HIV serostatus is known [12]. Researchers suggest distinguishing the sources of anticipated and enacted stigma, such as family members, friends, community members, and healthcare providers [12]. This conceptual separation allows researchers to predict the effects of anticipated and enacted HIV stigma more precisely.

Experienced, anticipated, and internalized HIV-related stigma were proposed by Earnshaw and Chaudoir [11] as part of the HIV stigma framework, which is helpful in understanding the effects of different types of stigma dimensions on health outcomes. Furthermore, initially originating from Berger et al.'s [26] HIV-related stigma scale, Turan et al. [12] modified this framework by adding perceived community stigma, which refers to the

PLWH's perception of whether the stigmatizing attitudes and behaviors related to HIV exist within their community and the degree of its severity. Perceived community stigma emphasizes the personalized nature of stigma; it incorporates perceptions of PLWH rather than actual experiences of discrimination, unlike enacted or experienced stigma [12].

Previous research focused on how these dimensions of HIV-related stigma are associated with different intrapersonal and interpersonal outcomes. However, recent studies on intersectional stigma emphasize the importance of considering other co-existing stigmatized conditions that PLWH can identify with to get a holistic view of their experiences [27]. The concept of intersectional stigma refers to the convergent stigmatizing attitudes and discrimination experienced by individuals who identify with several stigmatized social groups and their joint effects on the well-being of these marginalized social groups [28]. For instance, PLWH, who also identify as gay, can be subject to stigmatization because of their intersecting HIV serostatus and gay identity [29]. Specifically, they can experience both HIV-related stigma and homophobia, which might exacerbate stigma-induced difficulties [30]. In addition to their HIV serostatus, PLWH can also be stigmatized because of substance use [31] and identifying with racial/ethnic minorities [32]. These intersecting identities and stigmas can synergistically affect the health outcomes of PLWH [27,33]. Therefore, it is crucial to consider the possible vulnerabilities created by multiple stigmatized identities in understanding the experiences of PLWH.

Stigma is not imprinted on or inherent in a social group; it is a social construction that is developed through social interactions [34]. It includes the relational systems that surround stigmatized social groups. Through learning and conditioning processes, individuals from these systems might be associated with stigmatized social groups [35]. Thus, stigmatization may not be specific to individuals with stigmatized characteristics or conditions. People who are associated with stigmatized populations can also be subject to stigmatization, called stigma by association, courtesy stigma, or associative stigma [35]. Within the context of HIV, stigmatization can be directed toward family members and romantic partners of PLWH, healthcare providers who work with PLWH, and even individuals who are in the coincidental presence of PLWH [35-38]. It is particularly essential to consider stigma by association since it suggests that HIV-related stigmatization can include automatic reactions that can go beyond PLWH. In other words, HIV-related stigma can act like an infection, leading to a "social epidemic" [39].

HIV-related stigma and physical health outcomes

Stigma can be a stressor that affects the well-being of PLWH and individuals who are associated with them [40]. Different dimensions of stigma might have differential and adverse effects on physical and psychological health outcomes. The HIV stigma framework, developed by Earnshaw and Chaudoir [11], suggests that internalized HIV stigma can be a better predictor of mental health outcomes, whereas enacted and anticipated HIV stigma can be better predictors of physical health outcomes [12,13].

One of the immunological parameters that is studied within the context of HIV-related stigma is CD4 counts. Research supports the role of stress on declines in CD4 counts, indicating compromised immune health [41,42]. Considering that HIV-related stigma can be a chronic stressor, previous studies in the pre-ART era observed independent associations between enacted and anticipated HIV stigma with decreased CD4 counts [13]. However, it is essential to note that some studies have reported associations between depression and lower CD4 counts [41]. Thus, it is possible that in addition to HIV-related stigma, CD4 counts can be influenced by comorbid disorders, such as depression, among PLWH.

Viral load (HIV viral RNA level) can also be studied to observe the links between HIV-related stigma and psychological well-being. Viral load is the major predictor of favorable outcomes in PLWH. In addition, people with a suppressed viral load do not transmit the virus to their sexual partners [43]. Consistent with the HIV stigma framework, studies support the predictor role of enacted HIV stigma on viral load. However, research has observed positive associations between HIV-related stigma and unsuppressed (i.e., detectable) viral load [44,45], and specifically, high levels of enacted HIV stigma predicted higher viral load [46]. Thus, HIV-related

stigma might indirectly contribute to the risk of HIV transmission by making it hard to obtain an undetectable viral load.

PLWH can use behavioral and non-behavioral pathways through which HIV-related stigma can influence virological and immunological parameters [12]. One of the behavioral pathways that might lead to poor health outcomes is coping strategies used by PLWH to deal with HIV-related stigma. To manage HIV-related stigma, PLWH can use avoidant coping strategies, such as denying one's HIV serostatus through avoiding medications and HIV care visits, blaming oneself because of one's HIV serostatus, and behavioral disengagement from HIV treatment [47]. Avoidant coping strategies might result in PLWH disengaging from and not adhering to their treatment. Enacted and anticipated HIV stigma might be important when considering the behavioral pathway. Enacted and anticipated HIV stigma can have detrimental effects on CD4 counts and viral loads, potentially due to experiencing and anticipating stigma in healthcare settings, which can prevent PLWH from engaging in receiving adequate treatment [44].

Non-behavioral pathways refer to physiological and biological processes related to stress that can affect the clinical outcomes of PLWH. Anticipated HIV stigma, with a constant threat of being subject to stigmatization, enacted HIV stigma, and the stressors brought about by the infection, such as social isolation, can function as chronic stressors that compromise neuroendocrine and immune systems [48]. It has been proposed that chronic stressors and the perceived inability to cope with them can result in elevations in cortisol levels, indicating the dysregulation of the Hypothalamic-Pituitary-Adrenal (HPA) Axis that is responsible for physiological stress responses [49,50]. These elevations in adrenal hormones can, in turn, lead to alterations in the functioning of the immune system, resulting in poor physical health outcomes among PLWH [51].

HIV-related stigma and mental health outcomes

HIV-related stigma not only contributes to adverse physical health outcomes but also has an impact on the mental health outcomes and psychological well-being of PLWH. One of the internalizing mental health difficulties that is investigated extensively in the context of HIV-related stigma is depression. Previous research has consistently replicated positive associations between HIV-related stigma and depression symptoms in PLWH [52]. However, there is no agreement on the direction of this influence [53]. Experiencing HIV-related stigma might contribute to depression symptoms, but experiencing depression symptoms might also lead PLWH to be more receptive and sensitive to perceiving stigma [54]. Furthermore, research has observed positive associations between HIV-related stigma and anxiety symptoms in PLWH [55]. Similar to depression symptoms, there might be a bidirectional relationship between anxiety symptoms and HIV-related stigma. In support of this, a meta-analysis reported that PLWH who were diagnosed with anxiety were more likely to report experiencing HIV-related stigma [56].

Considering different dimensions of HIV-related stigma, internalized HIV stigma has been observed to be a consistent predictor of depression and anxiety symptoms [53]. According to the cognitive behavioral theories, internalization of HIV-related stigma might lead to negative cognitions (e.g., blaming oneself because of one's HIV serostatus), emotions (e.g., guilt, shame), and maladaptive behavioral responses (e.g., avoiding treatment), which can contribute to developing or aggravation of the depression and anxiety symptoms in PLWH [19,57]. In addition to internalized HIV stigma, some studies suggest that enacted HIV stigma and perceived community stigma can indirectly contribute to depression symptoms through internalized HIV stigma [12,58]. Specifically, experiencing and perceiving stigma within one's community and the public can lead PLWH to internalize HIV-related stigma, which can then contribute to depression symptoms.

In addition to cognitive and behavioral models, the path through which HIV-related stigma predicts depression symptoms might be social isolation and non-disclosure of HIV serostatus that is brought about by stigma. Studies suggest that internalized HIV stigma leads PLWH to perceive social isolation or a lack of social support, which then predicts depression symptoms [59]. In other words, perceived social support and social isolation might be mediating variables in understanding the relationship between HIV-related stigma and depression symptoms. HIV-related stigma might also create barriers to disclosing one's HIV serostatus

[60]. Internalized HIV stigma has been observed to be predictive of non-disclosure [61]. However, it is essential to note that non-disclosure of one's HIV serostatus has also been found to be predictive of internalized HIV stigma and depression symptoms [61]. Thus, HIV-related stigma and disclosure of one's HIV serostatus might be feeding each other to induce an effect on depression symptoms.

Lastly, these complex relationships can be explained through understanding the health behaviors of PLWH. PLWH who have been self-stigmatizing might begin to avoid utilizing healthcare services because of the fear that they will be subject to stigma and discrimination from healthcare workers [62,63]. For this reason, they might be less likely to benefit from mental health services or adhere to the treatment if they receive any [64]. The avoidance of utilization of mental health services can explain the high levels of depression and anxiety symptoms observed in PLWH. There is also a possibility that experiencing stigma, combined with a lack of mental health support, can deprive PLWH of learning and practicing more functional and adaptive coping strategies, which can eventually contribute to mental health difficulties [65].

Substance use disorders have also been studied in the context of the health consequences of HIV-related stigma. Particularly in the United States and eastern Europe, substance use is a bigger problem among PLWH than in the general population [66,67]. One reason for the increased use of substances among PLWH can be that substance use might be one way of avoidant coping that PLWH benefit from to handle the stressors and negative emotions brought about by HIV and HIV-related stigma. For example, emotional dysregulation that is accompanied by depression symptoms among PLWH can perpetuate substance use [68]. Therefore, some studies suggest a mediating role of depression symptoms in the relationship between HIV-related stigma and substance use. In other words, internalized and enacted HIV stigma might be contributing to depression symptoms, which then contribute to substance use among PLWH [66]. This finding supports the avoidant coping nature of substance use.

PLWH can also be subject to stigmatization because of using substances. In fact, one qualitative study reported that substance use stigma towards PLWH was more prevalent compared to HIV-related stigma [69]. This finding suggests the co-existence of and interaction between two different stigmatized conditions to impact health outcomes. Researchers investigating this interaction observed that the relationship between internalized HIV stigma and depression symptoms was strengthened with the presence of internalized substance use stigma [31]. In other words, HIV-related and substance use stigma might interact with each other to create synergistic effects on the mental health outcomes of PLWH, supporting an intersectional stigma framework. Overall, these findings indicate that PLWH might use substances to cope with HIV-related stigma, which increases the possibility of experiencing stigma due to substance use as well, leading to intersectional stigma.

Even though PLWH might use substances as a way of coping, it can create unique health difficulties within the context of HIV, such as contributing to the transmission of the disease through increased sexual risk behaviors, injection drug use, non-adherence to treatment, and suboptimal virological and immunological responses to ART [70]. The combined influences and intersectional stigmas of HIV and substance use might result in strengthening the perception of barriers to HIV treatment due to fear of stigmatization and result in a lower likelihood of seeking treatment for these health difficulties [71,72]. These findings indicate that substance use might be a mental health result of HIV-related stigma but can also contribute to further mental and physical health difficulties. Therefore, interventions designed for PLWH and individuals who are associated with PLWH should consider the comorbidity of substance use disorders and their potential health effects and promote adaptive coping skills that PLWH can use instead of substance use [73].

Stigma-informed interventions

Taking into account the pervasive stigma-related difficulties and their complex effects on mental and physical health, it is essential to utilize stigma-informed interventions at different levels to improve and protect the well-being and health outcomes of PLWH and individuals who are associated with PLWH [74]. In line with Bronfenbrenner's ecological model [75], some researchers utilized a multi-level approach to studying HIV-related stigma interventions and their effects. Considering that stigma research investigates

the effects of stigmatization on different levels (e.g., intrapersonal, interpersonal, structural) and their intersections, it is beneficial to take a similar multi-level approach to study the effectiveness of HIV-related stigma interventions [76]. This section will briefly focus on the interventions developed to combat HIV-related stigma from intrapersonal, interpersonal, and structural levels and propose a new interpersonal-level discussion to potentially further ensure the wholeness of the intervention designs and implementations.

Structural-level HIV-related stigma interventions mainly focus on legislative changes in policies and governmental practices to ensure the involvement of PLWH in the communities. In their review, Cook et al. [77] reported several ways through which HIV-related stigma can be addressed at a structural level. Specifically, communicating values related to diversity and inclusivity within organizations and from organizational and political leaders may help reduce HIV-related stigma and its adverse effects by ensuring that the environment is devoid of stereotypical beliefs. This may enable PLWH to perform and work in environments that are free from stereotype threat. Furthermore, legal and policy interventions can be improved to ensure that the rights of PLWH are protected. Most studies on HIV-related stigma have been conducted in Western countries and Africa, which may show differences compared to non-Western countries. Therefore, more research is needed to elucidate cultural factors in the levels and effects of stigma to provide policies and interventions that are unique to the cultural needs of HIV-affected individuals. Specifically, in the context of Türkiye, there are no reported national policies and legal interventions to combat HIV-related stigma [78,79]. Even though PLWH should be benefiting from patient rights, one of the non-governmental organizations in Türkiye that works with HIV-affected individuals observed that compared to previous years, in 2023, PLWH encountered increased violations of their rights to healthcare access [80]. Furthermore, this violation had an intersectional nature, encompassing the violation of rights related to employment, travel, and housing due to HIV-related stigma and discrimination [80]. However, various non-governmental organizations in Türkiye are working in the area of battling HIV-related stigma through activism and educational interventions that utilize mass media and advertising, as well as providing legal counseling to PLWH. It is important to note that even though there are no specific legal policies tailored to address HIV-related stigma in Türkiye, interventions at different levels and their effects may reach and contribute to the structural level [77].

In addition to structural-level interventions, most researchers have focused on interventions at an intrapersonal level. Intrapersonal-level interventions mostly emphasize reducing the impact of HIV-related stigma, specifically internalized HIV stigma, on stigmatized individuals' physical and mental well-being, as well as individual behavior change through enhanced coping skills [77,81]. One of the interventions that is aimed at improving the well-being of PLWH is cognitive-behavioral therapy (CBT) interventions and counseling [79]. CBT techniques can be utilized in various stages of living with HIV, ranging from getting a diagnosis to managing HIV-related stigma. Within the context of HIV-related stigma, CBT-based interventions and counseling may be particularly useful in the process of preventing the internalization of HIV-related stigma [81]. The cognitive component of CBT may help challenge the stigmatizing cognitions and thoughts (e.g., "I am a bad person because I live with HIV") that lead to the internalization of HIV-related stigma by replacing them with thoughts that are based on more grounded and factual information, which may also include educational intervention strategies. In addition, the behavioral component of CBT may improve coping skills to use active coping strategies and facilitate stress management [82]. CBT strategies can also be administered in a group setting (i.e., support groups), which promotes the social integration of PLWH and eventually restores a sense of community and belonging crucial for treatment adherence [77].

Lastly, HIV-related stigma interventions can also be handled at an interpersonal- and intergroup-level. Interpersonal- and intergroup-level interventions mainly focus on considering the power of situational factors in the effects of HIV-related stigma [77]. In other words, these interventions consider the social factors to counteract the effects of stigma. Studies in this area mostly focused on reducing stigmatizing behaviors in non-stigmatized populations (i.e., "stigmatizers"), which is essential for reducing damaging stereotypes and stigma associated with HIV, as well as discrimination. It has

been suggested that stigma may be driven by a lack of outgroup contact [77]. Within the context of HIV, a lack of interaction between PLWH and non-stigmatized populations may be partly responsible for the stigma attached to HIV and PLWH by contributing to the continuation of commonly held negative stereotypical ideas. It has been suggested that aiding high-quality contact and interaction between PLWH and non-stigmatized groups may reduce the widespread stigma through exchanging information related to HIV and PLWH [76]. This bi-directional learning process between PLWH and non-stigmatized individuals may provide an opportunity to challenge misinformation and myths about HIV. Furthermore, PLWH may also get support and care from their close relationships, such as their family members, partners, and even healthcare workers. Therefore, it is also essential to provide educational interventions that incorporate strategies for engaging in functional coping strategies to individuals who are caring for and supporting PLWH that will help handle the unique difficulties of HIV and associated stigma [81]. It is important to note that just like PLWH who are affected by HIV-related stigma, individuals who are associated with PLWH may also get physically, emotionally, and socially affected by HIV-related stigma by association. For this reason, future research may also benefit from considering the mental and physical health outcomes, as well as relationship experiences of individuals who are associated with PLWH, to better understand how HIV-related stigma may impact different populations who are caring for and supporting PLWH.

CONCLUSION

This review aimed to provide an overview of HIV-related stigma dimensions and their effects on mental and physical well-being. Furthermore, it aimed to provide information on current developments in stigma-informed interventions at different levels of study in the context of Türkiye. Individuals who are affected by HIV are prominently subject to various types of stigmas that can have a differential impact on mental and physical health outcomes. In addition to HIV-related difficulties, consideration of intersecting health conditions and social identities of PLWH is essential to get a holistic understanding of their experiences and provide complementary interventions. Most interventions for HIV-related stigma and related difficulties are provided at the individual level by emphasizing psychotherapy to PLWH. However, it is known from stigma by association that the adverse effects of HIV-related stigma can be "contagious" to associated individuals, such as PLWH's partners or family members. Thus, future interventions can emphasize and incorporate the interpersonal relationships of PLWH into treatment and intervention processes. Lastly, even though awareness of HIV-related stigma, discrimination, and its adverse effects is increasing, more work is needed to be done at the structural level, such as improved and inclusive policies to enhance community involvement of PLWH and the welfare of societies.

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Conflict of interest

The authors declare that there is no conflict of interest.

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