

Chapter 10

Stigma and Prejudice in Patients with HIV/AIDS

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Introduction

An abundance of advances related to pharmacology, diagnostics, patient education, management, and biomedical research over the past three decades has resulted in a dramatic decrease in the morbidity and mortality from HIV/AIDS. However, suffering remains high among those who are affected with HIV and their families as a result of negative mental health and quality of life consequences due to stigma. HIV stigma exists worldwide; its common drivers are recognized across different settings [1]. Stigma continues to be one of the greatest challenges in the fight against HIV/AIDS [2]. The goal of this chapter is to highlight stigma and prejudice as it pertains to patients with HIV/AIDS. We will set the stage with regard to stigma and HIV in this chapter by giving a historic overview of the HIV/AIDS epidemic from the 1980s; summarize the biology of HIV, transmission of the virus, course of illness and how they impact stigma; and discuss the implications of HIV detection and diagnosis on stigma.

This chapter also provides an overview of the literature on stigma and medicine, emphasizing that stigma in patients with certain medical illnesses predates the HIV epidemic. We will then review the theoretical framework and forms of stigma in

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patients with HIV/AIDS. The last four sections of the chapter then focus on the causes of stigma in HIV/AIDS patients, the impact of stigma and prejudice in HIV/AIDS, and the ongoing efforts to address stigma and prejudice in HIV/AIDS. We finally conclude the chapter by highlighting the key themes in each section of the chapter and provide some recommendations for future directions on how to continue to address stigma and prejudice among patients with HIV/AIDS.

Historic Overview of HIV/AIDS

The US Centers for Disease Control (CDC) first suggested the name acquired immunodeficiency syndrome (AIDS) in 1981 to describe the disease responsible for the high mortality of young homosexual men – who died from unusual opportunistic infections such as *Pneumocystis jirovecii* (formerly *carinii*) pneumonia and rare malignancies such as Kaposi's sarcoma [3]. Stigma and prejudice surrounding the cause and etiology of the virus stemmed from the high prevalence among intravenous drug users and the gay community. People quickly attributed the cause of AIDS to certain lifestyles such as having multiple sexual partners and the use of amyl nitrite (poppers) or injection drugs. Before the name AIDS was coined, people referred to the cause of these unusual infections as “gay cancer,” “gay compromise syndrome,” or “community-acquired immune dysfunction” [4]. However, with reports of AIDS in children who have received blood transfusions and in heterosexual adults, it became clearer that AIDS was caused by an infectious agent and not just related to certain stigmatized lifestyles. In an attempt to adequately care for those infected with AIDS, the first AIDS clinic was opened in San Francisco in 1982, and a year later, several cases of AIDS were also observed (not only in homosexual men but in individuals who engaged in heterosexual sex) in various European and African countries.

In 1983, Dr. Robert Gallo of the National Cancer Institute identified the human T-lymphocytic virus III (HTLV-III) as the causative agent of AIDS [5]. In Europe, the French insisted the same virus was called the lymphadenopathy-associated virus (LAV) [6]. The conflict surrounding the name of the virus was eventually resolved in 1986 when the International Committee on Taxonomy of Viruses coined the name human immunodeficiency virus (HIV). With little evidence about treatment for AIDS and the rising number of deaths among those infected, medications such as ribavirin which were thought to be active against HIV were smuggled from Mexico into the USA by HIV activists who felt it was unreasonable for patients with AIDS to wait for the US Food and Drug Administrative (FDA) processes for drug testing [7]. The discovery of HIV helped scientists to research effective ways of testing for the virus, and in 1985, FDA approved the first sensitive blood test, enzyme-linked immunosorbent assay (ELISA), for AIDS [8]. Almost two decades after the first HIV test, the FDA approved the first at-home HIV test (which was 99.6 % accurate) kit in 2002 [9].

Evidence from clinical trials using azidothymidine (AZT) showed a significant improvement in symptoms and less mortality during the drug arm of the study with one death among patients on AZT compared to 19 deaths for patients on placebo. AZT also slowed down the progression to AIDS for HIV-infected individuals which greatly impacts stigma because it is easier for individuals to identify someone who had AIDS compared to a person infected with HIV which has not progressed to AIDS. In 1995, the FDA approved the first protease inhibitor to target HIV, which resulted in this so-called highly active antiretroviral therapy (HAART) becoming the standard of care for HIV and AIDS. Individuals with HIV/AIDS living in high-income countries have benefited (with respect to mortality and morbidity) the most from HAART because of the cost of therapies and the inefficient healthcare delivery systems in many affected countries [10]. Early treatment with HAART controls the replication of the virus and its destruction of the immune system, resulting in less opportunistic infections and associated illnesses which results in the AIDS stigmata which include cutaneous lesions, wasting syndrome, hair loss, swollen lymph nodes, oral ulcers, or persistent diarrhea. Hence HIV stigma is less overt in high-income countries where affected individuals do not often acquire AIDS-related illnesses.

The Biology of HIV

A good understanding of the basic biology of the HIV is essential to appreciating the sophisticated nature of the virus and how it causes the stigmata of HIV/AIDS. HIV is part of the family of human retroviruses (*Retroviridae*) and the sub-family of lentiviruses [11]. There are two distinct human immunodeficiency viruses, HIV-1 and HIV-2. The most common cause of HIV in the USA is HIV-1 (which is a likely primate virus, with little evidence on how it was transmitted to humans), and there are currently four identified groups of HIV-1 (M, N, O, P) with the HIV-1M primarily responsible for the AIDS pandemic [11]. HIV-2 is not easily transmitted and is mostly prevalent in West Africa [12]. The HIV virion is an icosahedral structure covered by two major envelope proteins (external gp120 and transmembrane gp41), which form several external spikes. Although HIV is an RNA virus, it can transcribe its RNA to DNA with its reverse transcriptase, after which the viral DNA is eventually integrated into the host cell DNA. The virus replicates by binding to its host (such as a CD4+ lymphocytes, macrophages) via several receptors, which catalyzes a complex replication cycle influenced by a variety of viral and host regulatory gene products [11]. An HIV infection therefore causes cellular immune deficiency characterized by the depletion of helper T lymphocytes (CD4+ cells) which result in the development of AIDS-associated opportunistic infections and neoplastic disease in infected individuals. As HIV-infected individuals progress to AIDS, their risk of experiencing stigma becomes dramatically increased.

Transmission and Course of Illness

HIV/AIDS-related stigma experienced by patients can be impacted by how they contracted the virus or by how people around them perceive they contracted the virus. Patients with HIV/AIDS also experience various forms of stigma depending on where they are in the course of illness after infection. The three primary modes of transmission of the HIV are sexual, parenteral, and mother to child [10]. The most common mode of transmission is via sex with an infected individual, and the stigma experienced by patients who were perceived to have contracted the virus via sex is somewhat different from those who contracted it from their mothers at child-birth or parenterally. The probability of infection with one sexual encounter depends on many factors including: there is a higher chance of infection from male to female than from female to male and receptive anal sex also has a high probability of transmission than vaginal sex [13, 14]. Ulcerative sexually transmitted diseases (such as herpes) as well as higher viral loads usually during seroconversion or at later stages of the disease also increase the likelihood of transmission during sexual activity [15]. Shared needles among intravenous drug users and contaminated needle stick injuries among healthcare workers constitute parenteral transmissions. About 66 % of mother-to-child transmissions occur in utero, while 33 % occur from breastfeeding [10]. Commercial sex workers, intravenous drug users, and men who have sex with men are ostracized by many communities, and their infection with HIV/AIDS is automatically attributed to their lifestyles, further increasing their risk of stigma. HIV transmission therefore highlights the culturally sensitive issues of sexuality, commercial sex, intravenous drug use, and homosexuality which often drive HIV stigma [10].

The progression of HIV infection and illness, outlined in Table 10.1, can vary among individuals although the overall course of the infection is relatively the same if effective antiviral therapy is not initiated to interrupt the process [16]. Each stage of HIV disease progression to AIDS is associated with a different level of stigma as the physical manifestations of the disease become more obvious with disease progression. Patients at the early stages of disease right after infection only experience flu-like symptoms and experience no stigma associated with the virus because most patients are not even aware they have the virus and the infection does not impact their level of functioning or relationships with others. However, as the disease progresses to AIDS, the marked weight loss and other physical symptoms become visible and increase their risk for stigma.

HIV Detection and Diagnosis

Over the past three decades, diagnostic tests for HIV have evolved from the first FDA-approved enzyme immunoassay and Western blot tests [17]. The newer diagnostic tests have significantly advanced HIV screening because they are faster and

Table 10.1 Time course of HIV infection

Approximate time from infection	
1–2 weeks	HIV virus replicates and spreads to various tissues and organs Viral loads are not detectable and there is no immune response or symptoms observed
2–4 weeks	This acute phase where high viral loads are detected with large numbers of infected CD4+ T cells in the blood and lymph nodes Some individuals will experience flu-like symptoms characterized by fever and enlarged lymph nodes As viral levels peak, infected cells begin to express antibodies for all viral proteins There is transient decrease in the number of CD4+ T cells in the blood and viral levels also decline rapidly
1–20 years	Individuals are asymptomatic although viral levels are slowly increasing, infecting CD4+ T cells
20+ years	Continuous decline of CD4+ T cells results in a weakened immune system which allows opportunistic infections to flourish Acquired immunodeficiency syndrome (AIDS) characterized by CD4 cells less than 200 cells/ μ L and the presence of any AIDS defining condition including Kaposi's sarcoma, encephalopathy, or lymphoma

can sometimes be carried out in nonclinical settings [17]. The FDA has approved six rapid tests for the detection of HIV antibody, four of which can be completed in nonclinical settings. The HIV-1 RNA assay detection test has been useful for diagnosing HIV infection in individuals who are unaware of the infection. Advances in the diagnostic tests impacts HIV stigma because the newer tests are easier to perform and individuals do not have to return for test results or they can test themselves in the privacy of their homes [18]. Also, the evolved state laws and policies regarding HIV testing procedures (i.e., informed consent and pretest counseling) have also increased the number of tested individuals as well as decreased HIV stigma surrounding testing. The 2006 Center for Disease Control and Prevention (CDC)'s study provided support for routine testing and recommended that a separate written consent and prevention counseling for HIV testing not be required. This helped to reduce the existing stigma associated with HIV testing [19].

Conceptual Framework of Stigma and Medicine and How It Informs HIV Stigma

Stigma in patients with medical illness is not unique to patients with HIV infection. Over the past few decades, patients with a variety of medical conditions, including leprosy, tuberculosis, sexually transmitted disease, dwarfism, and mental illness, have also been faced with significant stigma. Sociologist Erving Goffman's conceptualization of stigma as a discrediting attribute that creates a "spoiled identity"

which removes the stigmatized individual “from himself and from society” forms the foundation of HIV and stigma research [20]. He suggested that negative attitudes toward undesirable behaviors arise from the perceptions that “out-groups” exhibiting these unacceptable behaviors have violated a community’s set of values or norms [21].

A community usually determines and defines what is ordinary and natural for different physical, psychological, and social features of a person, and any deviation from being ordinary results in a person being consciously or unconsciously discounted by other people in the society. This socially constructed identification forms the foundation for subsequent disqualification of membership from the group in which that person was initially accepted [22]. Goffman’s work dates back to his work in psychiatric hospitals in the late 1950s where he developed what has become the benchmark social theory of the association between stigma and disease.

In some societies, the mere fact of having a disease or illness symbolizes a deviation from the ordinary and leads to negative attitudes from others. The cause of stigma varies by the manifestation of the illness, its history, specific symptomatology, the nature of the population perceived to carry the illness, ease of contagion, treatment modalities or the lack thereof, and societal perceptions of mortality. For example, a patient with leprosy is stigmatized because of the associated disfigurement and how easily it is transmitted, while individuals with tuberculosis are stigmatized because of the lack of knowledge regarding modes of transmission and perceived risk of transmission [23]. Historically, misconceptions about the etiology, prognosis, and treatment of mental illness produce stigma, in addition to the symptoms and disabilities associated [24]. Society’s perception of HIV/AIDS being contracted through promiscuity, prostitution, and unconventional sexual practices and lack of knowledge about treatment options and modes of transmission have heavily fueled HIV/AIDS-related stigma.

Some scholars challenge the static and unidimensional nature of Goffman’s formulations on stigma emphasizing that stigma is more dynamic and complex than has been previously perceived [25–27]. In essence, stigma and discrimination are characterized by cross-cultural diversity and complexity [25]. With the increasing understanding of HIV infection and AIDS, novel conceptual frameworks have arisen from Goffman’s definition [21, 28]. The societal and structural nature of stigma further articulates the process of stigmatization [25, 28, 29]. Stigma is a harmful societal phenomenon which is enabled by underlying social, political, and economic powers; it usually begins when a difference is labeled and linked to negative stereotypes, leading to separation of “us” from “them” and finally status loss and discrimination for those carrying the trait [29]. Stigma should therefore be analyzed by drawing on concepts of power, dominance, hegemony, and oppression which calls for interventions that have deeper social, political, and economic roots [22].

Although many interpretations of stigma have focused on the individual and have been separated from broader social processes (especially relations of power), some anthropologists have focused their interpretations of stigma by lived experiences of those who suffer from HIV [30–32]. In some societies, HIV stigma is influenced by the contribution the individual makes to society (whether he or she is

a drain to societal resources), and this material symbolism of stigma in some cultures is pertinent as the life expectancy of people with HIV is prolonged [33–35].

The stigmatization process can be divided into specific domains (drivers, facilitators, intersecting stigmata, and manifestations of stigma) each of which can be addressed through programmatic and policy efforts [36]. Drivers are individual factors that negatively influence the stigmatization process, such as lack of awareness of stigma and its harmful consequences and fear of HIV infection via casual contact. Facilitators are societal- or policy-level factors, such as those of countries with laws that ban harm reduction initiatives for IV drug users or the prosecution of individuals who pass on the virus even without intent, which influence the stigmatization process (either negatively or positively including protective or punitive laws). Intersecting and layered stigmata refer to the multiple stigmata that people often face due to HIV status, gender, profession, migrancy, drug use, and poverty [36].

Forms of Stigma

HIV stigma experienced by infected patients can be categorized as felt stigma, enacted stigma, perceived stigma, and self-stigma [37]. Felt stigma refers to a patient's feelings about his or her condition and the expectations about others' reactions to them. Felt stigma damages the mental well-being of patients and the fear of discrimination destroys confidence to seek help and the necessary medical care for treatment. Felt stigma also results in the fear of a negative community reaction that bolsters the walls of silence and the shame surrounding contracting the disease.

Enacted stigma is the actual experiences of stigma, which is manifested when patients are discriminated against because they have, or are thought to have, HIV infection. Enacted stigma also refers to the discrimination based on the attribute that is ascribed to the stigmatized group [38, 39]. The story of Ryan Wayne White (1971–1990), an American teenager from Kokomo, Indiana, who contracted HIV from a blood transfusion to treat his hemophilia, clearly depicts the impact of HIV enacted stigma on a patient and his family [40]. Despite physician's report stating that he posed no risk to other students and that Ryan could return to school after treatment, school officials denied his return to school; many teachers and parents rallied against his attendance. Ryan was finally able to resume school after a court ruling; it is reported that he had few friends, was required to eat with disposable utensils, used a separate bathroom, and was forbidden to interact with other students. In his book, *My Own Story*, Ryan reported on how people would leave restaurants or refuse to sit near him in public or in church [41]. Enacted stigma experienced by individuals with HIV in 2014 may look a bit different from what Ryan experienced considering the advances in medicine for treatment options and an increased awareness of modes of transmission of HIV.

Perceived stigma is the fear of enacted stigma and the shame associated with the stigmatized attribute [42]. Perceived stigma is quite prevalent among patients in the asymptomatic phase of HIV infection; this consciously and unconsciously

fuels a desire to conceal the diagnosis. Concealing a diagnosis of HIV infection not only harms the infected individual as delayed diagnosis and progression to AIDS increases mortality, but it also poses a major public health threat as more people become infected. Perceived stigma can also manifest as self-blame and depreciation [43].

Very often, patients with HIV infection experience more than one form of stigma. The kind of stigma a patient may experience could evolve over the course of their illness especially if they receive no treatment and they develop AIDS. Little scholarly work exists on whether the specific form of stigma experienced by a patient has a differing impact on antiretroviral medication adherence, disclosure of HIV status, support-seeking, testing or prevention, mental health, or quality of life.

Causes of HIV Stigma

The etiology of stigma experienced by HIV/AIDS patients is dynamic and universal. The complexity ingrained in the etiology of HIV stigma reflects how multidimensional stigma can be. Several factors including socioeconomic status (mostly poverty), gender (especially in women), sexuality (men who have sex with men), level of education, age, religious beliefs, and culture, just to name a few, influence the causes of HIV stigma.

HIV stigma is perpetuated by reduced social capital [44]. Stigma and poverty are woven in a reciprocal and mutually reinforcing relationship. Poor people have more HIV-related stigma; the lower the socioeconomic status, the greater the stigma. Poorer communities typically tend to also have limited access to healthcare. Hence poorer patients with HIV have less access to treatment which results in a faster progression of the disease to AIDS, and its associated opportunistic infections, stigma, and discrimination. Some poor communities also consider patients with HIV to be less productive members of the society who draw on community resources and all these perceptions feed into the stigmatization process.

Ignorance and misinformation about how HIV is transmitted, the prognosis of the disease, and its treatment options also contribute to stigma [45]. The mystery of HIV/AIDS and how the disease progresses was a major contributor to stigma in the 1980s when much was not known about the transmission of the virus. With efficacious treatment options to control the virus, the decrease in morbidity and mortality of patients with HIV and the increased awareness of HIV infection has dramatically reduced HIV stigma.

Some patients with HIV/AIDS are also stigmatized because HIV is associated with “deviant behavior” with the individual responsible for the illness as compared to other diseases, which can be contracted independent of a person’s behavior. In these contexts, the HIV/AIDS is tainted by cultural beliefs that the disease is a result of a morally sanctionable behavior which introduces a contagious disease that is threatening to the community and is associated with an undesirable form of death [21].

In many situations, social norms intensified HIV stigma as it was layered on top of preexisting inequalities, such as those related to sexual minority status, poverty, and injection drug use [46, 47]. Historically, HIV/AIDS was first recognized as a new disease in the USA in young homosexual men who presented with opportunistic infections typically seen in immunosuppressed individuals [4]. Although we know that there is great diversity in the demographics of patients infected with HIV/AIDS, some cultures around the world still hold the notion that the disease mostly affects gay men. Despite the efforts to reduce stigma, prejudice, and discrimination against gay men over the past few decades, it still remains a commonplace in many cultures. Hence, in societies where homosexuality is not widely acceptable, individuals with HIV infection are stigmatized because of suspicions that they practice homosexuality [48].

Structural violence can also determine in large part who suffers from AIDS-related stigma and discrimination [22]. Observations in Haiti and other low-income countries assert that racism, sexism, stigma, and prejudice are worsened when there is political violence and social inequalities. In essence, structural violence creates the environment that predisposes certain people to the risk of infection and also determines those who have access (or do not have) to quality healthcare for effective treatment of their diseases [49]. Being a victim of violence in itself predisposes one to stigma, which is often worsened after a person contracts HIV and has limited access to care.

HIV-related stigma can be damaging within healthcare facilities. HIV-related stigma is a key barrier to both the effective delivery of quality services by clinicians and the utilization of services by the community. Increased morbidity and mortality results when HIV-related stigma causes clinicians to delay, deny, or avoid the provision of healthcare to patients with HIV [50]. HIV-related stigma also results in patients receiving differential treatment characterized by emotional harassment, avoidance by clinical staff, and the use of gloves by clinicians regardless of physical contact and public designation of HIV status on charts [50]. At the start of the epidemic and in some countries, factors associated with stigma among healthcare providers included a lack of knowledge, fear related to incurability of AIDS, fear of being infected, lack of certainty of how it was contracted, and prejudice toward marginalized behaviors [51].

The perceived stigma in healthcare settings results in late detection of the HIV infection, reduced utilization of prevention services, and rejection of care and medication nonadherence among patients with HIV/AIDS.

Impact of HIV Stigma

HIV-related stigma is a multilayered phenomenon which has been shown to impact many aspects of the disease on patients and their communities [52]. Stigma inflicts hardships and suffering on patients living with HIV infection both in resource-rich and resource-constrained settings [53]. The impact of HIV stigma affects individuals, families, societies, and healthcare systems.

For affected patients, HIV stigma causes physical, psychological, social, and economic burden. It remains one of the most challenging barriers to maintaining overall health (e.g., physical, mental, and emotional well-being) in those living with HIV/AIDS. Physically, stigma serves as a barrier to timely testing, to participation in prevention measures, and to adherence to antiretroviral treatment. Having HIV infection and mental illness, both of which are stigmatized in many communities, poses a higher risk of morbidity for individuals. The lack of access to needed medical care and assistance with daily functions breeds discouragement, which hastens the patient's demise. Socially, HIV stigma discourages self-disclosure due to the threat of being ostracized. Stigmatized patients are often isolated with minimal social interactions resulting in decreased communal support and social networks. Isolation from friends and family, as well as employment loss, causes psychological pain and fosters depression, low self-esteem, and anxiety. Stigma also undermines adaptive coping strategies and promotes maladaptive coping strategies like regression and avoidance. The possible economic impact of HIV on individuals is multifaceted. The disease itself could deprive the individual of stamina and motivation to work; at the beginning of the HIV epidemic and much less today, stigma created a barrier for job opportunities due to incorrect perceptions of contagion. Patients with HIV infection also have to deal with stigma from their coworkers and employers, including social isolation or ridicule and in some cases discrimination. Overall, HIV stigma not only worsens the course of disease for patients but also contributes significantly to poor quality of life to those affected.

The impact of HIV stigma extends to the family of affected individuals. The impact can be economic, psychological, or social. An HIV-infected person who was the breadwinner of the family or the primary care giver for children is less likely to function adequately in their role as a result of the progression of the disease, resulting in a disruption in the family structure. Financial instability becomes a problem from lack of gainful employment to inability to work due to the physical toll of the disease on the body. The psychological drain on family members results from caregiver burden experienced by family members who are primarily responsible for the needs of the patient depending on the stage of their condition. Seeing a loved one slowly deteriorate from medical complications resulting from untreated HIV/AIDS can be traumatic for family members who feel helpless because they are unable to deter impending demise of their loved one. The shame experienced by an HIV-infected individual is often shared by the family who may be ridiculed by their community. The superstitious beliefs held in some communities about the etiology of the AIDS (with regards to immoral behavior) can be extended to family members even if they do not have the virus. Socially, the isolation of individuals infected with HIV is also extended to their family and those who come into contact with them.

The impact of HIV stigma on healthcare systems is complicated and multidimensional, affecting both medical resources (both human and physical asset) and service delivery. An increased burden of HIV/AIDS can greatly increase healthcare costs, stretch the existing healthcare services, and cause disparities in healthcare delivery especially in areas where the facilities and resources needed to adequately manage these patients are lacking. Healthcare-related stigma has changed over the

past three decades with the increased knowledge about the pathophysiology of HIV infection and advancements in treatment options. In the 1980s and 1990s, the burden of HIV/AIDS caused a strain on healthcare providers. Stigma further exacerbated disparities in healthcare access in populations that already struggle to access quality healthcare.

At the beginning of the HIV epidemic, many physicians and other healthcare providers were fearful for their physical well-being as very little was known about how the virus was spread. Brave and dedicated healthcare providers who specialized in infectious diseases served as the primary consultants for HIV patients. These made a huge impact on reducing stigma by dedicating their careers to understanding how the virus affects the immune system and how its impact can be curtailed. Governmental financial support and generous individual donors who set up foundations dedicated to understanding the virus really advanced HIV research in the 1990s, resulting in effective therapeutics and treatment options that have tremendously helped to reduce stigma. Advances in diagnosis, treatment, and management of HIV/AIDS in western countries have minimized the stigma in healthcare facilities. However, in low- and middle-income countries with limited access to treatment of HIV, the stigma in healthcare facilities remains prevalent.

The complicated and substantial nature of HIV-related stigma exists outside the healthcare system and actually impacts an entire economy as evidenced in many African countries. Over the past two to three decades, several million people died from AIDS, and majority of the people with HIV/AIDS reside in Africa [54]. The burden of disease in sub-Saharan Africa reduced labor supply and productivity, resulting in exponential increases in imports and decreases in exports, stifling Africa's economic development. The stigma created by the disease also impacted foreign investors' choices to work in Africa and other low-income countries that could not cope with the pandemic. Unfortunately, poorer communities and countries who were most plagued by the virus lost human resources which further worsened the unfavorable economic conditions required to promote economic growth [55].

Efforts to Address HIV and Stigma

Many unanswered questions remain, as do gaps in HIV stigma research; there are no fully powered randomized controlled trials on HIV stigma prevention strategies [27, 56, 57]. Doubling research efforts on HIV stigma would not only expand the peer-reviewed literature with evidence for stigma interventions, but it would also motivate healthcare workers to actively engage their patients on issues related to HIV stigma.

Interventions with the goal of reducing HIV/AIDS-related stigma must reflect the multidimensional and layered nature of the stigmatization process of the disease [58] which acknowledges community contexts and uses culturally appropriate

intervention strategies [50, 59–61]. Currently, very few interventions exist for reducing stigma at the intersection of HIV infection and key population variables [52, 56]. However, there are several intervention categories as follows [56]:

- Information-based approaches (e.g., brochures)
- Skill-building and hands-on learning approaches
- Counseling and peer support approaches
- Contact with affected groups
- Media (e.g., radio, TV, play, movies) and printed information

Information-based approaches include the use of brochures and other educational materials, which are disseminated in communities. Skill-building and hands-on learning approaches (via workshops for both individuals with HIV infection and the general public) usually target negative attitudes. Counseling and peer support approaches are effective because collective participation in livelihood activities provides skills to cope with external stigma and confidence to overcome self-stigma via pooling of labor and resources [62–65]. Although the natural tendency of individuals with HIV infection is to hide their disease from their communities because of stigma, studies have shown that meaningful engagement of people living with HIV and their communities can contribute to interventions to mitigate HIV stigma. Testimonials from individuals with HIV/AIDS usually empower other infected individuals and their families to engage their communities and to educate people around them.

The American media, public figures, and the entertainment industry via radio, TV, plays, and movies have been powerful tools in the campaign to address HIV and stigma over the past couple of decades. Celebrities, like Magic Johnson, made a huge impact on awareness about HIV in the early 1990s by announcing that they had the virus [66]. It is reported that Magic Johnson's announcement encouraged people, especially, heterosexuals, to get tested for the virus and changed perceptions that HIV was mostly contracted by men who had sex with men [66].

HIV stigma has been successfully subverted in resource-limited settings by strengthening social support and livelihoods of HIV-positive individuals since the economic impacts of HIV typically exacerbate the symbolic aspects of stigma [67, 68]. When an individual has HIV and is unable to work, addressing community-level social economic status inequality reduces HIV stigma [44]. However, economic strengthening strategies as a way to reduce HIV stigma have not been formally tested [27, 56].

Establishing peer support groups has been shown to be an effective way to address HIV stigma [69]. In sub-Saharan Africa, increasing the availability of anti-retroviral therapy (ART) and counseling alone did not reduce HIV stigma, but ART coupled with support groups that teach coping strategies and resiliency to people living with HIV was thought to be more effective [69, 70].

Ignorance and lack of knowledge about the causes of HIV, testing, modes of transmission, and treatment modalities have been primary sources of stigma in several communities around the world. Hence, increasing awareness and community education interventions about the virus can result in reduced HIV-related stigma as reported by Logie and Vyas [71, 72].

Conclusion

Well-known sociologists like Erving Goffman, PhD, described stigma as a discrediting attribute and identity, which removes the stigmatized individual from himself and society. Inherently, an individual's societal norms define what is acceptable and normal, impacting which attributes are considered stigmatized. For centuries patients with several medical conditions including leprosy, tuberculosis, and mental illness have been stigmatized in many societies. Patients with HIV/AIDS similar to historically stigmatized populations became stigmatized because of limited knowledge about how the disease is transmitted and how it can be cured. Therefore, the manifestation of an illness, historical causes, specific symptomatology, ease of contagion, and limited treatment modalities usually influence stigma associated with disease. The causes of stigma in patients with HIV/AIDS are dynamic and universal, including socioeconomic status, gender, sexuality, and education level. The impact of stigma is as complex and multidimensional as the causes of the stigma and it impacts both individuals and their communities alike.

Stigma in patients with HIV/AIDS has evolved over the past three decades, as pharmacology and medical technology has advanced to elucidate more about the pathophysiology and treatment to control the effect of the virus on the immune system. As we become more educated about HIV/AIDS, patients with the infection and disease experience a different kind of stigma today than existed three decades ago at the start of the epidemic. Furthermore, the issues of stigma and prejudice surrounding HIV/AIDS have different implications for younger generations of healthcare providers today than providers caring for patients with HIV/AIDS three decades ago.

Celebrities, organizations, foundations, and governmental policies in some heavily affected countries have helped to reduce stigma by public health education efforts and educating people about modes of transmission with hopes of treatment of the virus. However, there are many gaps and unanswered questions about HIV stigma, which call for a collaborative effort by experts in medicine, sociology, anthropology, and policymakers to work on creative ways to eradicate stigma.

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