



## Review Article



# HIV-Related Stigma Reduction in the Era of Undetectable Equals Untransmittable: The South Korean Perspective

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## ABSTRACT

Since the introduction of effective antiretroviral therapy (ART) in the late 1990s, the prognosis for people living with human immunodeficiency virus (HIV) (PLWH) has dramatically improved. High-income countries like South Korea have had rapid declines in HIV-related deaths. Scientific advancements including pre-exposure prophylaxis (PrEP) and “undetectable equals untransmittable (U = U)” knowledge have contributed progress towards the goal of ending the acquired immune deficiency syndrome epidemic by 2030. However, the application of these advancements has been limited in South Korea. Evidence shows that HIV-related stigma and discrimination in healthcare settings remain strong in this region. We review key principles for stigma reduction and people-centered approaches in the era of U = U and identify three priorities: 1) immediate intervention in HIV stigma drivers in healthcare settings; 2) social stigma reduction on multiple levels; and 3) collaboration with key populations.

**Keywords:** Acquired Immunodeficiency Syndrome; Social stigma; Pre-exposure prophylaxis; Republic of Korea; Delivery of health care

## INTRODUCTION

Since the introduction of effective antiretroviral therapy (ART) in the late 1990s, the prognosis for people living with human immunodeficiency virus (HIV) (PLWH) has dramatically improved. Especially in high-income countries, HIV-related deaths have significantly decreased in the past two decades. South Korea has guaranteed universal access to ART through a health insurance system since 1997. Hereafter, we use South Korea to refer the Republic of Korea (ROK, Han'guk) as this article only includes information on the ROK and does not cover the Democratic People's Republic of Korea, *i.e.*, North Korea. The Joint United Nations Programme on HIV and AIDS (UNAIDS) 90-90-90 target calls for 90% of all people living with HIV to be diagnosed, 90% of those diagnosed to receive ART, and 90% of those receiving ART to be virally suppressed. This has been crucial to the national response to the HIV epidemic [1]. Scientific advancements, including pre-exposure prophylaxis (PrEP) and the knowledge of “undetectable equals untransmittable (U = U),” also have helped


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achieve substantial progress towards the goal of ending the acquired immune deficiency syndrome (AIDS) epidemic by 2030.

However, the application of these advancements has been limited in South Korea. Stigma and discrimination still are major barriers to early diagnosis, prevention, and linkage to care. HIV-related discrimination and exclusion remain strong in healthcare settings, especially in non-HIV-related health services and long-term nursing care. In South Korea, HIV care has become highly specialized and is mostly delivered by infectious disease specialists based in tertiary level hospitals. Most healthcare providers working in non-HIV-related sectors have limited knowledge of HIV treatment and prevention advancements and still have concerns regarding transmission risk. Standard precautions should be applied in all clinical circumstances regardless of the patient's HIV status. In case of surgery and invasive procedures for patients known to have an HIV diagnosis, the common protocol for blood-borne virus pathogen should be applied. According to this clinical principle, refusal to care for patients based on their HIV status and unnecessary precautions (*e.g.*, double gloving and unnecessary isolation) are both discriminative and unscientific. Yet, in South Korea, such practices have been continued without legal and institutional interventions.

From 2007 to 2016, a total of 31 HIV-related discrimination cases in healthcare facilities were submitted to the National Human Rights Commission of Korea (NHRCK) [2]. PLWH organizations presented a series of petitions to the NHRCK to address discriminative practices and refusal of treatment cases. In 2017, the NHRCK made several important recommendations regarding PLWH's rights to access healthcare. The NHRCK advised the Ministry of Health and Welfare to revise the AIDS Prevention Act to prohibit discrimination in healthcare facilities and recommended that the Korean Disease Control and Prevention Agency (KDCA) develop a guiding document for healthcare providers to prevent discrimination and human rights violations in health facilities. The AIDS Prevention Act has not been revised yet, but the KDCA agreed to accept this recommendation. The "Guidance for Facilities Caring for People Living with HIV" was finally published in December of 2020 [3]. This was the very first publication in South Korea to suggest that all health facilities implement standard precautions for the care of PLWH and to specify anti-discrimination principles (Table 1).

This new guidance signals a change in HIV policy in South Korea, yet tackling stigma and discrimination in healthcare settings requires a broader systemic effort. U = U knowledge has crucial importance especially in South Korea, where the risk of HIV transmission has been exaggerated. Unnecessary fear and anxiety toward HIV transmission put PLWH at risk of harm and injustice. Healthcare providers' knowledge and attitudes should incorporate the latest scientific information. In this article, we review the broader implication of U = U knowledge in HIV treatment and prevention and identify current challenges in reducing HIV-related stigma and providing people-centered care in a South Korean context.

### 1. Review strategy and selection criteria

In this article, we provide a narrative-focused review of stigma reduction interventions that have implications for understanding the HIV epidemic in South Korea. Since scientific research focusing on stigma and discrimination in the context of South Korea are scarce, we adopted mixed methods to examine both quantitative and qualitative research. We identified published literature reviews that examined stigma manifestation, its association with health-related quality of life, and the implications of U = U knowledge and also used

**Table 1.** Contents of the guidance for healthcare facilities caring for people living with HIV

<p><b>1. A patient's right to health</b> All patients have the right to not be discriminated against in healthcare facilities and to receive the best equitable treatment regardless of gender, age, places of origin, ethnicity, sexual orientation, religion, language, socioeconomic status, disability, HIV status or other health conditions, drug use, or state of imprisonment or detention.</p>
<p><b>2. Care without discrimination</b> Healthcare providers should not refuse to treat HIV-positive patients (hospitalization or operation). HIV-positive patients should not be segregated at a specially designated facility, and their treatment should not be postponed without specific medical reasons (<i>i.e.</i>, communicable respiratory disease status, like active pulmonary tuberculosis, reverse isolation for the protection of immune-compromised patients, or to provide a safer procedure).</p>
<p><b>3. Testing and counseling</b> Healthcare providers should discuss with patients and obtain their informed consent before HIV testing. Healthcare providers should explain the possibility of false-positive results on the screening test and provide a follow-up evaluation plan.</p>
<p><b>4. Confidentiality and privacy</b> Healthcare providers should keep patients' HIV status confidential during the course of care and not reveal any patient's HIV status to third parties without consent. Special markings on a patients' bed or chart should not be placed in a noticeable manner. If a marking is necessary for infection control purposes, it should be detectable to only healthcare providers.</p>
<p><b>5. Respect for patients</b> During counselling, healthcare providers must not use verbal or nonverbal expressions communicating disgust or contempt regarding HIV status or sexual orientation. Medical staff must respect patient dignity and self-determination.</p>
<p><b>6. Standard precautions</b> Healthcare providers should comply with the standard precaution principles in all clinical circumstances for all patients. In treating HIV-positive patients, healthcare providers do not have to wear unnecessary protective gear in clinical situations other than invasive procedures or when dealing with blood. Medical staff should follow common blood-borne pathogen precautions during surgery for the safety of patients and medical staff.</p>
<p><b>7. Education and training: the responsibility of medical societies</b> Medical societies should acknowledge the negative influence of discrimination on the health of PLWH and promote healthcare providers' understanding of patient rights. It is also medical societies' responsibility to deliver education to healthcare providers that helps them to understand PLWH and reduces social stigma and discrimination.</p>
<p><b>8. Policy: the responsibility of the state</b> Public health authorities (state or local governments) should prevent discrimination against PLWH and provide proper resources for infection control in healthcare facilities. They also have to implement auditing measures to monitor the protection of patient rights and proper infection control.</p>

HIV, Human immunodeficiency virus; PLWH, people living with HIV.

original research articles, commentaries, and consensus statements regarding these topics. We also identified references by searching the grey literature published by major stakeholders including UNAIDS, World Health Organization (WHO), KCDA, and NHRCK. We reviewed literature published in English and Korean. We acknowledge the limitations of our methods, as it does not meet systematic review or quality assessment standards.

## 2. Clinical situations of PLWH in South Korea

In 2020, 1,016 cases of newly diagnosed people living with HIV (1.96 cases/100,000 populations) were reported [4]. It is estimated that a total of 14,538 PLWH are currently in South Korea. According to the 2020 annual report of hospital-based HIV counseling project that covered 26 hospitals, 72% of all reported PLWH visited these facilities, and 94.1% of them utilized counseling services. Almost all the PLWH visiting these facilities were on ART (99.7%), and 93.4% attained viral suppression (HIV RNA <40 copies/ml) [5]. Among 564 newly diagnosed PLWH, 57.7% of them visited a hospital with an initial CD-4 T-cell <350/mm<sup>3</sup> as a late presenter. As ART falls under universal coverage, such a high proportion of late presentation shows that there are several hurdles in the care continuum that hamper timely diagnosis and health-seeking behaviors.

## ADVANCEMENT OF HIV CARE AND U = U KNOWLEDGE

From the early period of the HIV/AIDS epidemic, the severity of the disease and the moral taboos attached to sexually transmitted infection threatened both the physical and social lives of PLWH. With the advancement of effective ART, PLWH can maintain a healthy status free of acute or AIDS-defining illnesses and age with multiple chronic non-communicable comorbidities [6-9]. Most PLWH who were on ART and maintained a suppressed HIV viral load experienced improved physical health. However, concerns remained regarding HIV transmission through condomless sex, which was usually described as 'risky behavior' or 'unsafe sex'. In this situation, the social and sexual lives of PLWH had to be restrained, and the stigma attached to HIV transmission perpetuated.

Treatment as a prevention strategy created a groundbreaking change in HIV. In 2016, the U = U campaign was launched with Consensus Statements out of Prevention Access Campaign initiatives [10]. This campaign was underpinned by firm scientific evidence from clinical trials and observational studies based on the experiences and sexual activities of many PLWH. It was endorsed by 1,025 organizations from 102 counties and finally included in guidelines from the U.S. Department of Health and Human Services and WHO [11, 12].

The U = U campaign comes from a decade of scientific research. The HIV Prevention Trials Network 052 (HPTN052) study published in 2011 was a clinical trial designed to determine the preventive effect of early ART treatment (CD-4 T-cell = 350 - 550/mm<sup>3</sup>) versus delayed treatment (CD-4 T-cell <250/mm<sup>3</sup>) between serodiscordant partners. It showed a 96% reduction in HIV transmission risk in the early ART initiation group compared with the group that deferred treatment [13]. In a total of 1,763 couples (98% of whom were heterosexual), there were three phylogenetically linked transmissions in the early group and five in the delayed group during a median of 5.5 years of follow-up. Four cases were related to partners on ART who were not virally suppressed, and the other four cases were those that had failed ART. This study provided solid evidence that no linked HIV transmission was observed when the virus was suppressed successfully by ART [13, 14].

The Partners of People on ART-A New Evaluation of the Risks (PARTNER) 1 study was designed to observe the HIV acquisition risk of serodifferent partnerships that have penetrative sex without condoms in which the HIV-positive partner taking ART has a plasma HIV-1 viral load <200 copies/ml [15]. In 1,166 serodiscordant couples from 14 European countries, 888 couples, including 548 heterosexual and 340 MSM (men who have sex with men) couples, reported 58,000 cases of condomless sex. During a median follow-up of 1.3 years, even though 10% of research participants experienced other sexually transmitted infections, only 11 cases of non-phylogenetically linked HIV acquisitions were reported in the negative partners. In 2018, the Opposites Attract Study conducted among 343 serodiscordant gay male couples from Australia, Brazil, and Thailand confirmed that there were zero cases of transmission through condomless sex acts when viral load was undetectable [16]. After 16,800 reported instances of condomless anal intercourses during a median follow-up of 1.7 years, 13% of partner-contracted sexually transmitted infections and three new cases of HIV infection were reported. None of them was phylogenetically from the same partner with an undetectable viral load <200 copies/ml. The second phase of the PARTNER study (PARTNER2) provided precise estimates of transmission risk in serodiscordant relationships and revealed that the HIV transmission risk in gay couples through condomless sex is effectively zero when the HIV positive partner's HIV viral load is undetectable (<200 copies/

**Table 2.** Scientific evidences for the U = U campaign.

Study	HPTN052 [13]	PARTNER1 [15]	OPPOSITE ATTRACT STUDY [16]	PARTNER2 [17]
Design	Randomized Controlled Trial	Prospective observational study	Prospective observational study	Prospective observational study
Participant enrollment	Africa, Southeast Asia and America 1,763 serodiscordant couples (98% heterosexual)	14 European countries 548 couples Heterosexual (HIV + men n = 269, HIV + women n = 279) 340 MSM	Australia, Brazil, Thailand 343 serodiscordant couples	14 European countries 782 serodiscordant Gay couples
Condition of HIV positive partner		32 missing 760 (85.5%) Undetectable HIV viral load	Viral load <200 copies/mL = 267 (78%) Mean CD4 = 628.8/mm <sup>3</sup> (n = 292.8)	Viral load <200 copies/mL = 774/781 (99%) CD4 >350/mm <sup>3</sup> = 730/781 (93%)
Eligible couple year (Median follow up duration, years)	(5.5)	1,138 (1.3)	588.4 (1.7)	1,593 (2.0)
Condomless sexual relationship		Heterosexual: 36,000 times MSM: 22,000 times	16,800 times	76,088 times
Newly developed HIV infection (cases)	Early treatment group: 19 vs. delayed treatment group: 59	10 MSM, 1 heterosexual	3 new HIV infections	15 new HIV infections
Phylogenetically linked transmission	0 <sup>a</sup>	0	0	0
Other Sexually transmitted infections	Not checked	89/888 (10%)	46/343 (13%)	185/779 (24%)

<sup>a</sup>In HTN052 study, phylogenetically linked infections after treatment were occurred in 3 patients from early treatment group and 5 from delayed groups. U = U, Undetectable = Untransmittable; HIV, human immunodeficiency virus; MSM, men who have sex with men.

ml) [17]. Over a median follow-up of 2.0 years, 758 serodifferent gay couples reported 76,088 instances of condomless penetrative sex. 15 research participants contracted HIV, but none of them were passed from positive partners with undetectable viral loads based on phylogenetical analysis (Table 2).

There are some suspicions regarding U = U in terms of the role of sexually transmitted infection, genital compartmentalization, and viral rebounds. Several studies confirmed that genital ulcerative sexually transmitted infections were not related to HIV transmission in virally suppressed patients. Seminal HIV RNA has been detected in 6.6% of heterosexual men with suppressed HIV (RNA <40 copies/ml) who are on ART treatment for more than six months to 8% of men with suppressed HIV-1 (RNA <1,000 copies/ml) in the Partner PrEP study [18, 19]. In a study of female genital shedding, among 900 women with an undetectable plasma viral load, only 5.1% of them shed the virus [20]. A recent study showed that the duration of ART treatment was related to the suppression of female genital tract shedding [21]. All of these PLWH with an undetectable viral load had detectable amounts of HIV genetic material in their genital fluids, but there had been no scientific evidence that these included replication-competent viable virion. This indicates that the detection of HIV genetic material in genital fluids was not associated with HIV transmission. According to a retrospective cohort study only 2.4 - 5.1% of research participants experienced viral rebound (defined as >200 copies/ml) in four years of follow-up [22]. It also confirmed that retention in care was associated with viral suppression; younger individuals or those who are incarcerated need more support for regular visiting.

U = U science has multiple implications in reframing the global and national HIV responses. First, it confirms the crucial importance of the linkage to care: taking ART for at least six months is essential to maintaining undetectable viral loads (<200 copies/ml) and regular follow-up and care should be provided [23]. Second, awareness of U = U can empower PLWH and their partners by supporting sexual health. If PLWH maintain undetectable viral

loads, even though they have other sexually transmitted infections, they cannot pass HIV to their partner through condomless intercourse. This means that there is ‘zero risk’ of HIV transmission. This also indicates that PLWH have the right to experience the same forms of sexual pleasure enjoyed by HIV-negative people without guilt, fear, and risk of penalization [24]. Recognizing PLWH’s agency in sexual behavior is expected to be instrumental in reducing the internal and external stigma of HIV. Third, U = U science indicates it is the medical duty of healthcare providers to deliver relevant and accurate information regarding transmission risk. It is fundamentally unethical for a healthcare provider to withhold or distort the U = U message, as this is against all of the four key principles of medical ethics: respect for patient’s autonomy, beneficence, nonmaleficence, and justice [25].

Therefore, disseminating knowledge related to U = U should be a crucial part of HIV policy. Yet the South Korean response to U = U has been insufficient. According to an online survey from 2,389 PLWH in 25 countries on awareness and health outcomes performed in 2019 - 2020, 66.5% of respondents discussed U = U with their healthcare providers, and this experience was positively associated with favorable clinical outcomes [26]. This study included 50 Koreans, and only 38% of them had ever discussed U = U issues with their healthcare providers. The British HIV Association (BHIVA) conducted a survey in 2018 about attitudes on U = U, and their research showed that 71.4% of members had routine discussions on U=U [27]. Yet, only 37% of them communicated with their patients regarding the accurate message of “the transmission risk is zero”. Based on this finding, the BHIVA recommended that healthcare providers disseminate U = U information with consistent, accurate, and unambiguous terminology. Healthcare providers should use terms like ‘no risk’ or ‘zero risk’ of sexual transmission and avoid ambiguous expressions such as ‘negligible risk’ and ‘minimal risk’ [28].

## CHALLENGES

### 1. HIV-related discrimination in healthcare settings

Since the life expectancy of PLWH has increased considerably, there is a growing number of people who are aging with HIV. Andersson and colleagues argued that the UNAIDS 90-90-90 targets for epidemic control does not account for people living and aging with HIV, and so proposed the ‘fourth 90’ target that aims to improve health-related quality of life for PLWH [29]. Stigma reduction interventions have become more important, as more PLWH seek care outside of HIV-specific health sectors. *Lancet HIV* had launched a series on “HIV outcomes beyond viral suppression” to highlight the fundamental transformation of the HIV epidemic and the need for lifelong care for PLWH [30]. In the era of U = U and treatment as prevention, the reorientation of the HIV field to “focus more holistically on the wellbeing of people living with HIV rather than merely their viral loads” [30] is a new global agenda.

In the South Korean context, two major obstacles have been identified to achieve healthy aging and long-term wellbeing. First, the timely initiation of ART remains a key problem. According to the 2020 annual report of the nationwide hospital-based HIV counseling project, 57.7% of newly registered patients showed initial CD-4 T-cell  $<350/\text{mm}^3$  as late presenters [4]. Considering South Korea’s extensive ART coverage, this proportion is alarming. These late presenters suffer from AIDS-defining illnesses and have a high risk of severe neurological complications resulting in disabilities [31-34]. Late presentation for HIV care is also a key marker of stigma manifestation: findings from a meta-analysis study

identified that people who perceived high HIV-related stigma had twice the probability of late presentation than those who perceived low stigma [35]. Although there is no systemic research done in South Korea on the association between the perception of stigma and late presentation for HIV care, we suspect that stigma harms HIV testing and healthcare utilization in South Korea.

Second, palliative interventions and rehabilitation programs for PLWH are not systemically organized in South Korea. PLWH face difficulties in finding long-term care facilities such as hospitals, nursing homes, and rehabilitation centers. Qualitative studies based on anthropological research show that denial of admission based on HIV infection was institutionally supported by the association of long-term care hospitals and caused detrimental effects on health-related quality of life for PLWH [36, 37]. Based on patients' lived experiences, these studies found that there were only a small number of long-term care hospitals that agreed to admit patients with HIV in South Korea, but the quality of care in these facilities was either problematic or sub-standard. In this context, the lack of rehabilitation and home care programs has made it difficult for PLWH with disabilities to maintain independent living.

These two major challenges—the late detection of HIV infection and PLWH's higher prevalence of multimorbidity [38, 39]—signify that PLWH in South Korea have a great unmet need for care and support. The investigation report on HIV-related discrimination in healthcare settings submitted to the NHRCK in 2016 presents an overview of stigma manifestations. According to this report, which surveyed a total of 208 people, 11.5% of respondents reported experiencing the cancellation or refusal of scheduled surgery after their HIV status was disclosed in the preceding five years. In addition, 27% reported that they had encountered healthcare providers' discriminative attitudes or disrespectful expressions toward their sexual orientation or homosexuality in the same period. In terms of anticipated discrimination, respondents noted the cancellation or refusal of scheduled surgery and the refusal of admission to long-term care hospitals as the most serious problems they expected to encounter as PLWH. Such manifestations of enacted and anticipated HIV stigma are likely associated with their self-assessed overall health: 87.7% of respondents reported that they were concerned about worsening health conditions, although all of the respondents receive sustained ART.

These findings suggest that human rights violations are habitually occurring in relation to HIV in the South Korean healthcare environment. Further studies are required to systemically assess the association between stigma manifestation and health-related quality of life for PLWH in South Korea. Stigma hampers effective responses across the HIV care continuum (testing, linkage to care, treatment adherence, and viral suppression) and undermines national efforts to achieve better health outcomes [29].

## 2. Social and legal factors associated with HIV stigma

Stigma is a complex sociocultural process constituted by political and economic forces [40]. Healthcare providers are also social actors who are constantly influenced by the sociocultural environment [41]. Therefore, to reduce HIV stigma in healthcare settings, a broader intervention beyond the clinical setting must be established. UNAIDS confirmed that “every national response should be based on an evidence-informed understanding of HIV-related stigma” [42] and proposed that efforts have to be made at all levels, including legal systems, institutional mechanisms, and community engagement. The People Living with

HIV Stigma Index has been used in more than 90 countries to document national and global achievements in stigma reduction.

In South Korea, the People Living with HIV Stigma Index was first published in 2017. It offers valuable information regarding the broader implications of HIV-related stigma [43]. One of the key findings in this report is that anticipated and internalized stigma manifests strongly: 75% of all respondents felt self-blame, 64% stated feeling guilt, and 36.5% reported that they have had suicidal ideations. Only 13.5% stated that they experienced no negative feelings in connection with their HIV status. In the German Stigma Index Report, the percentage of respondents who reported self-blame (32.2%) or feelings of guilt (22.8%) was much smaller than that of South Korea. Regarding the percentage of respondents who had suicidal thoughts at least once in the past 12 months, the South Korean result (36.5%) was twice that reported in the Thai Stigma Index report (16.7%). While the survey size for the South Korean HIV Stigma Index (sum = 104) is too small to attempt a meta-analysis with other countries' results, this comparison provides a basic insight into the distinctive pattern of stigma manifestation in South Korea.

Given the impressive clinical and virological improvements in HIV care and its wide adoption in South Korea, this strong manifestation of internalized stigma requires further investigation. An internalized sense of status loss is closely related to power relations, legal frameworks, and intersecting discrimination experienced by many marginalized minority groups that are disproportionately affected by HIV [44]. MSM are a key South Korean population that experiences many new HIV infections. The stigma attached to homosexuality has been a key driver of HIV-related stigma. A qualitative research study that examined Protestant churches' influence on the HIV/AIDS campaign in South Korea indicates that this internalized form of stigma also has intersectional characteristics [45]. Cho and Sohn found that the unscientific perception of HIV has a close association with moralizing societal views and the influence of politicized religious organizations. This finding indicates that it is equally important to address prejudice and discrimination related to sexual minorities to reduce HIV-related stigma [46].

Legal frameworks, especially HIV criminalization, also play a significant role in perpetuating HIV stigma. South Korea's AIDS Prevention Law criminalizes HIV exposure and transmission and has a great influence on the general public's understanding of HIV transmission and MSM groups' sexual practices and social standing. The negative public health impacts of the criminalization of HIV on prevention and treatment have been widely acknowledged. The "Expert Consensus Statement on the Science of HIV in the Context of Criminal Law" published in the *Journal of the International AIDS Society* confirmed that the criminalization of HIV is unscientific and inappropriate [47]. The authors conclude that decriminalizing HIV transmission is fundamentally important to reducing stigma and discrimination and avoiding miscarriages of justice. As the treatment program for viral suppression is well established in South Korea, reforming the current AIDS Prevention Law according to recent advances in HIV science will be instrumental in bringing about people-centered interventions and positive changes.

In the era of U = U, there is growing evidence that protecting human rights and addressing gender-based violence is crucial in implementing biomedical interventions. A cross-national study based on a new dataset of laws and policies for 194 countries shows that countries that criminalized same-sex sexual acts, sex work, and drug use were less successful in achieving the 90-90-90 goals [48]. Meanwhile, countries with human rights laws and a gender-based



violence response had better HIV testing and viral suppression results. This finding echoes previous studies that emphasized the importance of the human-rights based and people-centered approach for key populations [49, 50].

## KEY PRINCIPLES FOR REDUCING HIV STIGMA THROUGH A PEOPLE-CENTERED APPROACH

A people-centered approach assigns intrinsic importance to people's dignity and their need to be treated with respect [51]. It also aims to build a respectful and empowering relationship in clinical settings [52]. In 2016, the World Health Assembly endorsed WHO's Framework on Integrated People-Centered Health Services, which emphasizes a goal of securing "equal access to quality health services that are ... coordinated across the continuum of care, and are comprehensive, safe, effective, timely, efficient and acceptable" [53].

This approach is crucial for PLWH and healthcare providers engaging with PLWH, as HIV stigma imposes a degraded status to its bearers and creates a greater power imbalance both in healthcare and social settings. Yang and colleagues define three key elements for constituting a people-centered approach in HIV services: 1) seeing PLWH as a whole and not projecting them as bearers of a disease or a threat to public health; 2) valuing the lived experiences and knowledge of PLWH; and 3) empowering PLWH through collaboration with healthcare workers and caregivers [50].

Based on lessons learned from the global research and people-centered approaches, we identified key principles and recommendations appropriate to the South Korean context.

### 1. Principle one: immediately intervening in HIV stigma drivers in healthcare settings

Rigorous interventions must be made to address major drivers of HIV stigma and discrimination in healthcare settings. By reviewing the recently published evidence, Nyblade and colleagues concluded that addressing key causes of HIV stigma that are actionable in the short or immediate term is fundamental to stigma reduction [54]. They emphasize that addressing fears and misconceptions about contracting HIV and raising awareness of stigmatizing attitudes require immediate interventions.

The poor adoption of standard precautions and discriminative utilization of extra precautions or refusal of treatment can be identified as key drivers of HIV stigma in South Korean healthcare settings. The KCDA's "Guidance for Healthcare Facility Caring for People Living with HIV" was the first national endeavor to intervene in this widespread practice of discrimination. This guidance suggests eight key recommendations that specify healthcare providers' duties in patient care and provides detailed information on the standard precautions necessary for infection control. This is also the first official document that explicitly states the responsibility of the medical societies and the government to support both PLWH's rights and the safety of healthcare providers. It confirms the basic principle that PLWH's human rights and healthcare workers' safety are not in conflict, but rather coexist (Table 2).

The application of this guidance should be further documented to evaluate its efficacy in stigma reduction. A qualitative study done in India regarding discriminative refusal and referral argues that testing patients routinely for HIV as a precondition to accessing care,

instead of applying standard precautions, contributed to discriminative referrals of patients and perpetuated healthcare providers' fear of exposure to HIV [55]. This study recommends that the whole health system implement standard precautions in all health settings. Legal and institutional measures to ensure patients' right to receiving timely and appropriate care and preventing healthcare providers' discriminative practices should be additionally implemented in South Korea, since the current AIDS Prevention Act and the Medical Service Act cannot adequately ensure anti-discriminative principles in healthcare settings.

Such legal changes must be accompanied by capacity building for healthcare providers to take care of PLWH. Gaps in knowledge and practices between HIV specialists and general practitioners must be bridged. Surgeons, nurses, and other healthcare providers need educational opportunities [56]. The KDCA's guidance specifies the obligation of medical societies and the government to provide necessary training and education for healthcare providers, but no specific budget has yet been designed to implement this recommendation. Providing training opportunities especially for those working in long-term care hospitals, rehabilitation centers, mental health facilities, and non-HIV specific clinics is crucial in accommodating the growing healthcare needs of aging PLWH.

## **2. Principle two: addressing social stigma at multiple levels by utilizing U = U knowledge**

U = U knowledge may reduce the prevalence of stigma both in health facilities and the broader social environment. Since stigma occurs at multiple levels, interventions are needed at the individual and ecological levels. To address stigma in health facilities, simultaneously targeting both individual practices and broader public policy and social environments is necessary to address stigma in health facilities [57]. A wide range of stigma was documented in South Korea, including outright denial of care, provision of sub-standard care, internalized stigmatization, abandonment, and dehumanization [36, 37]. In this situation, healthcare providers are impacted by a wider culture of stigmatization. Therefore, multiple intervention strategies have to be developed in addition to providing knowledge and information. Skill-building activities that offer opportunities for healthcare providers to develop the necessary skills to work with stigmatized groups are needed.

Participatory trainings that assess the levels of stigma within a facility and develop a code of conduct that mainstreams stigma-free norms and practices are effective practices [57]. Enhancing awareness of the fact that healthcare providers may hold moral (or religious) judgement toward PLWH and key populations is crucial to promoting patient rights, respect for differences, and high quality of care [58]. Thus stigma reduction should be integrated into pre-service and in-service training of all cadres of healthcare workers [54].

In reducing social stigma in a South Korean context, U = U knowledge must be incorporated into HIV policy and legislation. Article 19 of the AIDS Prevention Act, which criminalizes HIV exposure and transmission, is inconsistent with science and people-centered principles. This law has detrimental effects both in the healthcare and social environments, as it perceives PLWH not as a human being with various desires and vulnerabilities but as carriers of a dangerous virus whose conduct has to be surveilled and controlled. This law also hampers healthcare providers' capacity to care for PLWH in a science-based manner. In the South Korean context, reforming the current AIDS Prevention Law and adopting new legislative and health policies consistent with U = U science will be an effective strategy to addressing social stigma at multiple levels.

### 3. Principle three: ensuring meaningful participation of PLWH and other key populations in policy-making

PLWH must be included in policy-making and designing treatment programs for effective interventions. A shift from a disease-focused to a people-centered approach is instrumental in HIV care, as PLWH play a major role in prevention. Based on extensive review work, Anderson and colleagues suggest that to effectively reduce stigma, PLWH must be included in a whole range of policy-making and implementation [29]. PLWH require economic assistance and other support to strengthen social networks and build capacity for meaningful engagement [54].

MSM, transgender (trans) people, sex workers and their sexual partners, people who inject drugs, and incarcerated persons are key populations of HIV prevention since they have most affected by HIV-related stigma and other intersecting stigmas [59]. These populations should be at the core of stigma reduction responses. The question of how to engage with the needs, desires, and experiences of key populations should be rigorously researched [50]. Testing and treatment programs that address the needs and vulnerabilities of these groups should be designed through their active involvement.

## CONCLUSION

In 1987, the World Medical Association (WMA) announced one of the most important guidelines in the early history of the HIV epidemic. The WMA Statement on the Professional Responsibility of Physicians in Treating AIDS Patients confirmed that:

“Patients with AIDS and those who test positively for the antibody to the AIDS virus must be provided with appropriate medical care and should not be treated unfairly or suffer from arbitrary or irrational discrimination in their daily lives. Physicians have a long and honored tradition of tending to patients afflicted with infectious diseases with compassion and courage. That tradition must be continued throughout the AIDS epidemic.” [60].

This statement was made before the establishment of effective ART to confirm the duty of all physicians regarding the treatment of PLWH. Medical tradition enshrines compassion and respect for human dignity, which has fueled the advancement of HIV care. U = U science is also the result of this tradition. Yet, inappropriate fear of contagion and the discrimination and stigmatization of PLWH in healthcare settings have lingered. In South-Korea, efforts to support healthcare providers’ responsibilities and capacities and protect the human rights of PLWH have been insufficient.

The available evidence demonstrates that people-centered principles that emphasize the respect and fulfillment of human rights can be translated into better public health outcomes. The science of U = U has transformed the face of the HIV epidemic, and new national strategies should be tailored to reflect this change. We identified three principles for HIV stigma reduction and discussed how they can be adopted in South Korean contexts: immediate intervention in HIV stigma drivers in healthcare settings, social stigma reduction targeting multiple levels, and collaboration with key populations.

To realize these key principles, the government and medical society must take active roles for stigma reduction and evaluating ongoing progress. For instance, Thailand introduced

a national network for monitoring HIV-related stigma and discrimination in healthcare settings in 2015 and has since incorporated monitoring results into the national HIV plan [61]. A similar project was launched in Vietnam as well [62]. The South Korean government, especially institutions that oversee the health system, including KDCA and the Ministry of Health and Welfare, should take an active role in including stigma reduction in healthcare delivery and evaluation. Decisive efforts to reduce stigma and discrimination in all healthcare settings should be made to eliminate AIDS as a public health threat by 2030.

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