



Health of Korean sexual and gender minorities: a narrative review of quantitative studies

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This study reviewed quantitative research on the health of sexual and gender minorities (SGMs) in Korea and aimed to propose a role for healthcare professionals in improving their health and access to medical care. We searched PubMed through February 29, 2024 for articles published since 2000, using terms related to SGMs and the keyword "Korea." This process yielded 33 quantitative studies on Korean SGMs. Of these, 17 focused on sexual minorities and 16 on gender minorities. The findings indicate that Korean SGMs experience many symptoms of depression and anxiety, as well as high rates of suicidal ideation, planning, and attempts. They also report diminished health-related quality of life. SGM individuals who have faced discrimination or pressure to change their sexual or gender identity face an elevated risk of mental health issues. To improve the health of Korean SGMs and improve their access to healthcare, we recommend several approaches. First, more research on the health of Korean SGMs is necessary. Second, education and training programs for health professionals are essential to promote their understanding of SGM health issues and their advocacy for SGM health. Third, strategies are required to develop and implement program interventions that improve SGM health, such as increasing the availability of gender-affirming care, which is known to benefit the health of transgender and gender-diverse individuals. Finally, healthcare professionals should actively advocate for SGM health and call for shifts in public perception and institutional change, grounded in a broad understanding of SGMs and their health needs.

Introduction

Background

Definition and prevalence of sexual and gender minorities

Sexual and gender minorities (SGMs) are individuals or groups whose sexual orientation or gender identity diverges from that of the societal majority. Common international terms for SGMs include LGBT, LGBTQ, and LGBTQIA+, which encompass lesbian, gay, bisexual, transgender, questioning, intersex, asexual, and other diverse identities (as indicated by the +symbol) [1]. The American Psychiatric Association (APA) defines sexual orientation refers to an enduring pattern of emotional, romantic, and/or sexual attractions to men, women, or both sexes [2]. Heterosexual individuals are attracted to the opposite gender, homosexual people to the same gender, and

bisexual individuals to both genders. The term “lesbian” describes women who are romantically or sexually attracted to other women, while “gay” typically refers to men attracted to other men. Pansexual individuals perceive attraction regardless of gender, and asexual people experience little or no sexual attraction or interest in sexual behavior [2]. Additionally, in the medical context, the term “men who have sex with men” (MSM) describes men who engage in sexual activities with other men. Gender identity refers to a person’s internal sense of being male, female or something else [3]. Transgender and gender diverse (TGD) individuals are broadly defined as those whose gender identity does not align with their sex assigned at birth, which can result in gender dysphoria [4]. This group includes transmen, who identify as men; transwomen, who identify as women; and nonbinary transgender individuals, whose identities do not conform to the male/female binary [4,5]. Intersex individual is person with variations in physical sex characteristics, including anatomy, hormones, chromosomes, or other traits, that differ from expectations generally associated with male or female body (Table 1).

Studies conducted outside of Korea estimate that SGMs comprise 4%–5% of the total population [6,7]. In the United States, an annual survey of adults aged 18 years and older found that 7.6% self-identified as SGM in 2023, an increase from 3.5% in 2012 and 5.6% in 2020 [8]. The proportion was notably higher among younger generations, with 22.3% of Generation Z (born 1997–2012) and 9.8% of millennials (born 1981–1996) identifying as SGMs. This contrasts with 4.5% of Generation X (born 1965–1980) and 2.3% of Baby Boomers (born 1946–1964). The generational difference may reflect a greater visibility and openness about their identities among younger people. Unlike countries that estimate the sizes of their SGM populations through national statistics and questionnaires, Korea lacks such data, as questions about sexual orientation and gender identity are not collected in national surveys. Applying international estimates to Korea’s population of 50 million suggests a population of approximately 2–2.5 million SGM individuals.

Sexual and gender minorities and health

In the past, the understanding of SGMs was limited, and these identities were classified as mental disorders. However, with advances in scientific and social understanding, diagnostic classifications evolved, and SGM identities were depathologized. Regarding sexual orientation, homosexuality was listed in the APA’s Diagnostic and Statistical Manual of Mental Disorders (DSM)-I in 1952. It was removed from the DSM-II as a mental disorder in 1973, following social

Table 1. Definitions of sexual and gender minorities

Term	Definition
Lesbian	A woman who experiences emotional, romantic, or sexual attraction to women
Gay	A man who experiences emotional, romantic, or sexual attraction to men
Bisexual	A person who is attracted to both people of their own and other genders
Asexual	A person who does not experience sexual attraction toward individuals of any gender
Transgender	An individual whose current gender identity differs from the sex assigned at birth
Nonbinary	An individual who does not identify as male or female regarding gender
Questioning	For some, the process of exploring and discovering one’s own sexual orientation, gender identity, or gender expression
Intersex	A person with variations in physical sex characteristics, including anatomy, hormones, chromosomes, or other traits, that differ from expectations generally associated with male or female bodies

Data from Centers for Disease Control and Prevention [69].

movements such as the Stonewall riots in 1969 as well as a growing understanding of SGMs. In its place, the category “sexual orientation disturbance” was introduced. By the publication of the DSM-V in 2013, homosexuality was totally deleted, with the recognition that variations in sexual orientation are not indicative of a disorder [9]. In 1998, the APA officially stated that attempts to change an individual’s sexual orientation, commonly referred to as conversion therapy, are contraindicated as they can worsen mental health [9]. In the context of gender identity, “transsexualism” was first included in the DSM-III in 1980. In the 2013 release of the DSM-V, this term was replaced with the diagnosis of gender dysphoria, with the manual clarifying that gender identity is not a disorder. Gender dysphoria is now used to justify the need for gender-affirming care (GAC) rather than to label gender identity as a disorder [4].

While SGM identities are no longer classified as mental disorders, these groups continue to face health disparities in various areas. Gay, lesbian, and bisexual individuals often experience comparatively poor mental health outcomes, such as higher rates of depression, anxiety, and suicidal ideation, as well as an increased prevalence of chronic conditions like insomnia [10,11]. TGD individuals also experience elevated levels of depression, anxiety, suicidal ideation, and suicide attempts, along with higher mortality rates [12,13]. The minority stress model, which posits that stress stemming from a minority identity and status imposes additional burdens on top of general stressors, is commonly employed to explain the poor mental health observed among SGM populations [14,15]. A 2024 review published in *The Lancet* indicated that structural stigma—including societal conditions, cultural norms, and institutional policies—intensifies health disparities for SGM individuals [16].

Another critical issue for SGM health is GAC for TGD individuals. GAC includes medical interventions that enable TGD people to live in a manner consistent with their gender identity, thereby alleviating gender dysphoria [4]. This care may involve gender-affirming hormone therapy (GAHT) and gender-affirming surgery. As part of this process, many TGD individuals are diagnosed with gender identity disorder (GID, ICD-10 code F64) [4]. Although not all TGD individuals seek medical intervention, many require varying levels of GAC to relieve their gender dysphoria. Previous research has shown that GAC can enhance physical and mental health by reducing gender dysphoria, improving overall quality of life, and decreasing suicidal ideation among TGD people [17,18]. Consequently, many countries, including the United States and Germany, have implemented policies to expand access to GAC through public insurance coverage [19–21].

Health of sexual and gender minorities in Korea

Scientifically, little is known about the health of SGMs in Korea. Despite the depathologization of SGM identities, their presence has remained largely invisible within academic research for many years. Apart from acknowledging MSM as a high-risk group for HIV/acquired immunodeficiency syndrome (AIDS), research on SGM health in Korea has been limited. A systematic review of Korean SGM health, conducted in 2014, analyzed 128 papers published up to that year. This review identified 101 clinical studies and 27 social health studies [22]. Among the clinical investigations, 50 case reports pertained to intersex conditions, while 21 studies focused on surgical interventions for intersex and transgender individuals. Of the social health studies, 13 examined mental health. The review highlighted a notable shortfall in research on SGM health in Korea compared to other countries and pointed out the lack of studies on healthcare accessibility, a crucial social determinant of health [22].

As of 2024, TGD individuals in Korea are required to undergo GAC not only to alleviate gender

dysphoria but also to obtain legal gender recognition [23]. Per the Supreme Court's Family Relations Registration Guidelines No. 550, titled "Guidelines for Processing Applications for Legal Gender Recognition of Transgender Individuals," applicants are typically required to present a diagnosis of GID and evidence of their inability to reproduce [23]. Furthermore, TGD individuals assigned male at birth must receive GAC, including a GID diagnosis, to qualify for exemption from mandatory military service as stipulated by Korea's Military Service Act. In some instances, TGD individuals may undergo GAC solely for the purposes of legal gender recognition or military exemption, rather than out of personal necessity. Despite these mandates, GAC in Korea is not covered by the National Health Insurance (NHI) service, and very few healthcare facilities offer these services. Research is scarce regarding the current availability and impact of GAC for TGD individuals in Korea.

Objectives

This study aims to review existing research on the health of Korean SGMs and to propose strategies for healthcare professionals to improve their health outcomes and access to medical care.

Methods

Ethics statement

As this is a literature review study, it does not require approval from an institutional review board or individual consent.

Study design

The present study is a narrative review of peer-reviewed quantitative studies obtained through a web-based database search.

Literature search

We reviewed quantitative studies on SGM health that were published in peer-reviewed international journals after 2000s, the year marked the depathologization of SGM identities and their increased visibility within Korean society.

Inclusion and exclusion criteria

As a 2014 systematic review focused on theses and Korean domestic journals [22], our study was limited to quantitative research published in peer-reviewed international journals. We excluded PhD theses, review papers, qualitative studies, validation studies for assessment tools, and studies of surgical techniques. Additionally, research that considered SGMs within the context of HIV/AIDS risk groups was not included in our analysis.

Information source and search strategy

The following search terms were used in PubMed, combining terms related to SGMs with "Korea" [16]:

(Korea) AND {(bisexual [tiab]) OR (bisexuality [MESH terms]) OR (gay [tiab]) OR (homosexuality, female [MESH terms]) OR (homosexuality, male [MESH terms]) OR (lesbian [tiab]) OR (LGB [tiab]) OR (LGBT [tiab]) OR (sexual and gender minorities [MESH terms]) OR (sexual behavior [MESH

terms]) OR (sexual orientation [tiab]) OR (sexuality [MESH terms]) OR (transgender persons [MESH terms])}

As of February 29, 2024, the titles and abstracts of all identified papers were reviewed. Additional studies by the same authors and cited references were also examined. This led to the analysis of 33 studies that focused on Korean SGMs and included health-related variables as independent or outcome measures.

Results

The selected papers were analyzed, which involved categorizing them based on their focus on either sexual minority or gender minority health. Key aspects such as the publication year, study methods, and topics were examined, and the critical findings from each paper were reviewed.

Studies of the health of sexual minorities

Within the category of sexual minority health, a total of 17 studies were identified (Table 2). Seven studies (41%) utilized data from online surveys conducted in 2016 among gay, lesbian, and bisexual individuals. Four articles (24%) employed data from the Youth Risk Behavior Survey, which included questions regarding the sex of sexual partners. Two studies used data from online surveys of lesbian and bisexual women conducted in 2017, and two studies used data from online surveys of gay and bisexual men (that is, MSM) conducted in 2022.

The topic most frequently addressed was mental health, with six studies (35%) investigating depression, anxiety symptoms, and suicidal ideation, plans, and attempts among sexual minorities. Four studies (24%) examined health-related behaviors, including alcohol consumption and smoking. Additionally, two studies explored health-related quality of life. One study each investigated disordered eating behaviors, cervical cancer screening and HPV vaccination, HIV testing, avoidance or delay in seeking healthcare, sleep health, coronavirus disease (COVID-19) vaccination, and physical distancing from people living with HIV (PLWH).

The research findings indicated that homosexual adolescents, compared to their heterosexual counterparts, faced a higher risk of engaging in health-risk behaviors such as alcohol consumption and smoking. They also experienced higher rates of suicidal ideation, plans, and attempts [24,25]. Bisexual adolescents were more likely than homosexual adolescents to engage in disordered weight control behaviors and exhibited higher frequencies of alcohol consumption [26,27]. Among adults, gay, lesbians, and bisexuals reported poorer self-rated health, more musculoskeletal pain, higher levels of depression, and elevated risks of suicidal ideation and attempts compared to the general population [11,28]. Studies that focused exclusively on gays, lesbians, and bisexuals revealed that those with higher levels of internalized homophobia, experiences of discrimination due to sexual orientation, or experiences of bullying related to sexual orientation during adolescence were more likely to report depression [29–31]. Higher levels of internalized homophobia, experiences of sexual orientation change efforts, and experiences of bullying related to sexual orientation during adolescence were also associated with higher rates of suicidal ideation and attempts [29,31,32]. Individuals who perceived a risk of rejection because of their sexual orientation were more likely to avoid or delay seeking healthcare, and those who experienced discrimination based on sexual orientation reported poorer sleep health [33,34].

Studies focusing on lesbian and bisexual women have shown that although their physical

Table 2. List of 17 articles on the health of sexual minorities

No	Year	Authors	Primary exposure or measure	Outcome assessment	Method	Sample characteristics	Main result and significant effect association indicating adverse health effects
1	2016	Lee et al. [24]	Sexual orientation (homosexual)	Health-risk behaviors and health cognition	Youth online survey*	N=129,900, adolescent	Health risk behavior, poor health cognition.
2	2016	Cho et al. [28]	Sexual orientation (homosexual)	Stress, depression, suicidal ideation, and attempts	Online survey	N=873, MSM	Perceived stress, depression.
3	2017	Kwak et al. [25]	Sexual orientation (homosexual)	Lifestyle and suicide-related behaviors.	Youth online survey	N=3,603, adolescent	Suicidal ideation, plans, attempts, medically serious attempts.
4	2017	Yi et al. [11]	Sexual orientation (homosexual and bisexual)	Physical/mental health symptom, health-risk behaviors, suicide-related behavior	RCP1 online survey†	N=2,335, LGB	Low self-rated health, More musculoskeletal pain, depressive symptom, suicidal ideation, suicidal attempt.
5	2018	Yu et al. [26]	Sex of sexual partners (bisexual)	Disordered weight control behaviors	Youth online survey	N=67,266, adolescent	Disordered weight control behavior.
6	2019	Lee et al. [29]	Internalized Homophobia	Depressive symptoms, suicidality	RCP1 online survey	N=2,178, LGB	Depressive symptom, suicidal ideation.
7	2019	Lee et al. [30]	Discrimination	Depressive symptoms	RCP1 online survey	N=2,162, LGB	Depressive symptom.
8	2020	Kim et al. [36]	Sex of sexual partners	Cervical cancer screening and HPV	Online survey	N=671, LB (women)	Homosexual less screening and less completion of HPV vaccination than bisexual.
9	2020	Kim et al. [27]	Sexual orientation	Alcohol use behaviors	Youth online survey	N=9,014, adolescent	Alcohol use: bisexual>homosexual.
10	2021	Lee et al. [32]	Sexual orientation change efforts	Depressive symptoms, suicidality	RCP1 online survey	N=2,168, LGB	Binge drinking: homosexual>bisexual, heterosexual. Suicidal ideation and attempts.
11	2021	Kim et al. [35]	Sexual orientation	HRQoL was measured using SF-36v2	Online survey	N=736, LB (women)	Overall low mental HRQoL. Bisexual lower than homosexual.
12	2022	Lee et al. [70]	Internalized homophobia	Past 12-month HIV testing	Online survey	N=907, GB (men) with HIV (-)	Low HIV testing.
13	2022	Choo et al. [33]	Expectation of rejection	Healthcare avoidance and delay	RCP1 online survey	N=2,175, LGB	Healthcare avoidance and delay.
14	2022	Park et al. [31]	Adolescent bullying victimization due to SOGE	Adulthood suicidality and depressive symptoms	RCP1 online survey	N=2,152, LGB	Depressive symptoms, suicidal ideation, and suicide attempts.
15	2022	Choo et al. [34]	Discrimination	Poor sleep health outcomes	RCP1 online survey	N=2,192, LGB	Overall poor sleep health, discrimination experience - higher prevalence of poor sleep quality, unrestful sleep, and long sleep latency.
16	2024	Jung [37]	HIV infection (+)	COVID-19 vaccination and infection	Online survey	N=942, MSM	More COVID19 infection.
17	2024	Jung [38]	Homosexual attributes of MSM.	extent of physical distancing perceived by MSMs without HIV toward PLWH	Online survey	N=878, MSM	HIV positive acquaintances around them – less physically distance from PLWH.

*Youth online survey: Korea Youth Risk Behavior Web-based Survey.

†RCP1 online survey: rainbow connection project 1.

MSM, men who have sex with men; LGB, lesbian, gay, and bisexual; LB, lesbian and bisexual; HRQoL, health-related quality of life; SF-36v2, 36-item Short-Form Health Survey version 2.0; GB, gay and bisexual; HIV, human immunodeficiency virus; SOGE, sexual orientation and gender identity; COVID-19, coronavirus disease-19; PLWH, people living with HIV.

health-related quality of life is comparable to that of the general population, their mental health-related quality of life is lower [35]. Furthermore, rates of cervical cancer screening and HPV vaccination differ based on the sex of sexual partners, with lesbian and bisexual women who have sex exclusively with female partners tending to receive fewer screenings and vaccinations [36].

Research involving gay and bisexual men has shown that PLWH experienced higher rates of COVID-19 infection. Additionally, individuals who had PLWH as friends or acquaintances were less likely to maintain physical distancing from them, compared to those who did not have PLWH as friends or acquaintances [37,38].

Studies of the health of gender minorities

Regarding the health of gender minorities, a total of 16 studies were identified (Table 3). The earliest study, published in 2006, utilized survey data from the Military Manpower Administration. Seven studies (44%) used data from online surveys of TGD individuals conducted in 2017, while four studies (25%) used data from online surveys of this population conducted in 2020, with 1 year of follow-up. Three studies utilized hospital medical records, and one study used administrative data from the Health Insurance Review and Assessment Service. The majority of the studies (12 of 16, or 75%) were based on surveys of TGD individuals.

The most frequently researched topic was mental health, with nine studies (56%) exploring issues such as depression, anxiety symptoms, and suicidal ideation, plans, and attempts among TGD individuals. Three clinical studies focused on TGD patients who underwent GAC at a single institution; these studies reported on the detail of GAC, the physical effects of GAHT, and the time elapsed between recognizing gender dysphoria and initiating GAHT. Two studies investigated the tendency of TGD individuals to avoid or delay seeking necessary healthcare, while another study explored the barriers they faced in accessing GAC. Additionally, two studies—one using online survey data and the other analyzing administrative data—examined the demographic characteristics of the TGD population in Korea.

The research findings indicated that transgender individuals experienced higher levels of psychological distress and stress, along with lower self-esteem, compared to their non-transgender counterparts. Additionally, they faced increased risks of depression and suicidal ideation relative to the general population [39,40]. An examination of medical records revealed that 20% of TGD individuals who underwent GAC had a mental health diagnosis other than gender dysphoria [41]. Results from an online survey showed that over half (53.7%) of TGD individuals had faced discrimination due to their gender identity. Those who encountered such discrimination were more likely to avoid or postpone seeking GAC or other healthcare services [42,43]. Among TGD individuals, higher levels of internalized transphobia, stress associated with using public bathrooms, experiences of gender identity change efforts, and discrimination based on gender identity were associated with greater depression [44–47]. Higher levels of internalized transphobia and experiences of gender identity change efforts were linked to increased suicidal ideation and attempts [44,45]. TGD individuals who faced discrimination due to their gender identity reported worse sleep health. Additionally, those who avoided public bathrooms, job-seeking activities, or healthcare services because of their gender identity experienced higher levels of anxiety symptoms [48,49]. TGD individuals identified several significant barriers to accessing GAC, including costs, negative experiences in healthcare settings, a scarcity of healthcare providers and facilities with expertise in GAC, and societal stigma [50].

A study of 337 TGD individuals in Korea who underwent GAC revealed that the average age

Table 3. List of 16 articles on the health of gender minorities

No	Year	Authors	Primary exposure or measure	Outcome assessment	Sample design	Sample characteristics	Significant main effect adverse health effects of LGB
1	2006	Kim et al. [39]	Gender identity (TGD)	Psychological burdens (BDI, SADS, SES, FACES-III)	Offline survey	TGD, N=43, 49 matched non-transsexual	High depression burden, social avoidance and distress, low self-esteem scale, family adaptability and cohesion.
2	2018	Lee et al. [50]	Experiences of and barriers to transition-related healthcare	Gender affirming care	RCP2* online survey	TGD, N=278	Barrier: cost, negative experiences in healthcare settings, lack of specialized healthcare professionals and facilities, and social stigma against TGD.
3	2019	Lim et al. [41]	Demographics	Gender identity-related characteristics	Hospital medical record review	TGD, N=54	20% had mental disorder other than gender dysphoria.
4	2020	Lee et al. [44]	Internalized transphobia	Depressive symptoms, suicidal ideation, and suicide attempts.	RCP2 online survey	TGD, N=207	Depressive symptom, suicidal ideation and attempts.
5	2020	Lee et al. [40]	Gender identity (TGD)	Physical health, mental health	RCP2 online survey	TGD, N=255	Depressive symptom, suicidal ideation.
6	2021	Yun et al. [52]	Cross-sex hormone	Body composition, bone mineral density, muscle strength	Hospital medical record review	TGD women, N=11	Increase fat mass, decrease in overall lean body mass and handgrip strength.
7	2021	Lee et al. [46]	Public Bathroom-Related Stressors	Depressive Symptoms	RCP3 [†] online survey	TGD, N=557	Depressive symptoms.
8	2022	Lee et al. [43]	Discrimination due to TGD identity	Healthcare avoidance and delay	RCP2 online survey	TGD, N=244	Healthcare avoidance and delay.
9	2022	Eom et al. [49]	Discrimination due to TGD identity	Sleep problems	RCP3 online survey	TGD, N=583	Sleep problems.
10	2022	Choo et al. [34]	Discrimination due to TGD identity	Dymptoms of depression and anxiety	RCP2 online survey	TGD, N=269	Depressive and anxiety symptoms.
11	2023	Lee et al. [45]	Gender identity change effort	Depression, PTSD, suicide attempts	RCP3 online survey	TGD, N=566	11.5% Gender identity change effort experience, more depression, panic disorder, suicide attempt.
12	2023	Lee et al. [71]	Transgender-specific COVID-19-related stressors	Past-week depressive symptoms	RCP3 online survey	TGD, N=564	30% TGD-specific COVID-19 related stressor experience and more depressive symptoms. Barrier to gender affirming care: economic hardship, limited access to hospital.
13	2023	Kim et al. [42]	Discrimination due to TGD identity	Healthcare avoidance and delay	RCP2 online survey	TGD, N=190	53.7% experienced anti-transgender discrimination at initial and one year follow up survey, and they experienced more non-transition-related healthcare avoidance and delay.
14	2023	Kim et al. [53]	Demographics	Gender identity disorder, intersex	Administrative data (HIRA)	TGD, N=8,602	For 15 years (2007-2021), 8,602 people who received the F64 codes (gender identity disorder), 45 people diagnosed intersex.
15	2024	Eom et al. [48]	Situational avoidance	Mental health (1week depression, 2week anxiety)	RCP2 online survey	TGD, N=268	50.4% experienced avoided daily activities (public bathroom use, job application, and hospital visit) and more anxiety symptom.
16	2024	Oh et al. [51]	Demographics	Onset of gender incongruence	Hospital medical record review	TGD, N=337	Mean age of onset of GI was 10.6 years (29% before age 6, 61% before age 12, and 87% before age 15), TGD lived with GI for almost 14 years before gender affirming hormone therapy.

*RCP2 online survey: rainbow connection project 2.

†RCP3 online survey: rainbow connection project 3.

TGD, transgender and gender diverse; BDI, Beck's Depression Inventory; SADS, Social Avoidance and Distress Scale; SES, Self-Esteem Scale; FACES, Family Adaptability and Cohesion Evaluation Scale; PTSD, post-traumatic stress disorder; COVID-19, coronavirus disease-19; HIRA, Health Insurance Review and Assessment Service.

at which participants first recognized their gender dysphoria was 10.6 years (SD, 5.1 years), with 29% recognizing it before the age of 6 and 61% before age 12. Based on the median age of initiating GAHT, which is 23 years, these individuals lived with gender dysphoria for an average of approximately 14 years before beginning GAHT [51]. A study of transgender women undergoing GAHT observed physical changes that included an increase in fat mass, a decrease in hand grip strength, and a shift toward a more “feminized” body fat distribution when compared to the pre-treatment period [52].

A study utilizing Health Insurance Review and Assessment Service data found that, between 2007 and 2021, 8,602 individuals received a diagnosis of GID (ICD-10 code, F64), with an annual rate of approximately 500–600 diagnoses and an increasing trend over the years [53].

Discussion

Interpretation

Between 2000 and 2024, only 33 quantitative studies focusing on the health of Korean SGMs were published in peer-reviewed international journals. Although the number of studies has gradually increased, with one study published between 2000–2010, 13 studies from 2011–2020, and 19 studies from 2021–2024, research on this topic is still relatively limited. Starting in 2017, surveys have been conducted of Korean gay, lesbian, bisexual, and TGD individuals, contributing to the growth in published research on the health of Korean SGMs. Gay, lesbian, and bisexual Koreans have reported higher rates of depression, anxiety symptoms, suicidal ideation, and suicide attempts, as well as a lower health-related quality of life. Those with internalized homophobia, who have experienced coercive attempts to change their sexual orientation, or who have faced discrimination due to their sexual orientation are more likely to experience poor mental health and sleep issues and to avoid or delay seeking medical care. Similarly, TGD individuals report relatively high rates of depression, anxiety symptoms, suicidal thoughts, and suicide attempts. Those with greater internalized transphobia, who have encountered discrimination based on their gender identity, or who have avoided daily activities due to their gender identity are relatively likely to experience worse mental health and to avoid or delay using healthcare services.

Suggestions for improving the health of sexual and gender minorities

Based on these research findings, the following changes are needed to improve the health of the vulnerable SGM population in Korea and to increase their access to medical care:

First, more research is required on the health of Korean SGMs. While international studies encompass a wide range of topics, including chronic disease management, cancer incidence, and the long-term effects of GAC for TGD individuals, research on the health of Korean SGMs remains limited in scope. To improve the health of SGMs and to develop strategies for suitable healthcare access, it is imperative to expand the breadth of studies within the Korean healthcare system [54–56].

Based on the comparatively poor health outcomes demonstrated, many countries are actively supporting research to enhance the health of SGMs. For instance, in 2015, the US National Institutes of Health established the Sexual & Gender Minority Research Office, which developed a strategic plan to advance research on the health and well-being of SGMs [57]. Research on SGM health must be promoted, both to identify the population-level factors that contribute to their vulnerability and to scientifically explore ways to improve their health outcomes.

Additionally, national-level statistics are essential for gaining a more accurate understanding of the lives and health of SGMs. Following the examples of the United States and the United Kingdom, incorporating questions about sexual orientation and gender identity into national surveys, such as the National Health and Nutrition Examination Survey and the Community Health Survey, would represent a key first step. This would provide baseline statistics on the size and status of the SGM population, which could inform our understanding of their health in Korea [58,59].

Second, LGBTQ-friendly healthcare providers are essential for improving healthcare access for SGMs. Due to their identities, many SGM individuals face discrimination in their daily lives, which often leads to delays in seeking necessary medical care. Additionally, TGD individuals report a lack of competent healthcare providers and facilities as a significant barrier to GAC [50]. To develop LGBTQ-friendly healthcare providers, education and training on SGM health must be integrated into medical school curricula and residency training programs. In 2015, the American College of Physicians emphasized that training healthcare providers in knowledge, experience, cultural competency, and sensitivity to human rights regarding SGMs is vital for promoting SGM health and reducing health disparities [60]. While international medical schools such as Harvard University and the University of Washington offer educational programs on SGM health, and the American Medical Association provides an SGM health fellowship, educational programs on SGM health in Korea are still in their infancy [61,62]. In 2021, Seoul National University College of Medicine introduced an elective course on SGM health for second-year medical students, and in 2022, mandatory course began for all students. The need exists for a standardized curriculum on SGM health, which should be disseminated to all medical schools and training institutions nationwide. This would serve as a critical first step in training healthcare professionals who are knowledgeable about SGM health vulnerabilities and who actively participate in addressing them.

Third, research and policy efforts are needed to implement programs that have been demonstrated to enhance the health of SGMs. Social support and the legalization of same-sex marriage have been shown to improve the mental health of homosexual and bisexual individuals [63,64]. Increasing access to GAC for TGD individuals is another notable example, with many studies demonstrating its positive effects. Although systematic reviews have highlighted the beneficial impacts of GAC, and the 8th edition of the international Standards of Care for the Health of Transgender and Gender Diverse People was published in 2022, knowledge is still limited regarding the health outcomes of TGD individuals receiving GAC in Korea.

Within Korea, TGD individuals encounter barriers to accessing GAC, including prohibitive costs, a lack of competent providers and facilities, and social stigma [50]. In 2014, Soonchunhyang University Seoul Hospital opened a gender clinic within its Department of Obstetrics and Gynecology, becoming the first tertiary hospital in Korea to specialize in GAHT. Subsequently, in 2021, the LGBTQ+ Clinic at Kangdong Sacred Heart Hospital—through collaboration among the Department of Plastic Surgery, the Department of Psychiatry, and other multidisciplinary services—and the Gender Clinic of Korea University Anam Hospital's Department of Plastic Surgery opened their doors to provide gender-affirming surgery. Additionally, several primary care clinics (such as the Salim Clinic, which has administered GAHT to over 3,000 TGD individuals since 2012) have begun offering GAC, with a growing number of providers. Despite these advancements, GAC is still not accessible as a universal healthcare service. More LGBTQ-friendly healthcare facilities, capable of providing GAC rooted in current knowledge and cultural competency, are needed. Moreover, it is crucial to assess the present state of GAC in Korea

and to evaluate its impact, forming the foundation for new strategies that enhance access to these services. In 2023, eight LGBTQ-friendly healthcare facilities and researchers specializing in SGM health initiated the KITE: Korean Initiative for Transgender hEalth project, a cohort study focused on the health of Korean TGD individuals. Gathering scientific evidence on the health of the Korean TGD population and the effects of GAC is imperative. These findings can then inform societal discussions about the inclusion of GAC in the coverage provided by the NHI system.

Fourth, healthcare professionals should advocate for changes in social perceptions and institutional policies related to SGM health. Studies in Korea have shown that internalized stigma, harassment, discrimination, and exclusion due to SGM identities are associated with worsened mental health and increases in suicidal ideation and attempts [29,30,33,34,44]. To promote SGM health, the American College of Physicians recommends that healthcare professionals advocate for the rights to same-sex marriage, institutional guarantees of GAC for TGD individuals, and the inclusion of sexual orientation and gender identity as protected categories against discrimination [60].

Healthcare professionals should serve as authorities in correcting misconceptions about SGMs and spearheading institutional reforms that are closely linked to SGM health. For example, the APA has published an official statement denouncing discrimination against transgender individuals. Similarly, GLMA: Health Professionals Advancing LGBTQ+ Equality, a coalition of healthcare providers advocating for SGM equality, has consistently issued statements in favor of same-sex marriage and partnership laws, the protection of transgender individuals' healthcare rights against discrimination, and the provision of support for SGM youth in educational settings [65,66]. In a 2019 international survey, only 44% of Koreans agreed that homosexuality should be accepted by society, a figure markedly lower than those reported in Sweden (94%), the Netherlands (92%), and the United States (72%). The 2023 Social Integration Survey further indicated that Koreans exhibit a high tendency to exclude sexual minorities from societal acceptance (52.3%), ranking just below their inclination to exclude ex-convicts (72.1%) [67,68]. In Korea, same-sex marriage remains illegal, GAC for TGD individuals is not covered by the NHI, and no anti-discrimination laws yet exist that encompass SGM identities. Given this context, there is much work for healthcare professionals to do to promote SGM health.

Conclusion

This study aimed to propose a role for healthcare professionals in improving the health and healthcare access of Korean SGMs through a narrative review of quantitative studies on SGM health. Korean SGM individuals have been found to experience higher rates of depression, anxiety, suicidal ideation, and suicide attempts, with the risks being even greater for those subjected to discrimination or coercive efforts to alter their SGM identities.

While GAC has been shown to enhance the health and quality of life of TGD individuals, data are limited regarding the availability and accessibility of GAC within the Korean TGD population. Despite the acknowledgment that diversity in sexual orientation and gender identity is not indicative of a disorder, SGMs in Korea continue to experience poor health outcomes and a diminished health-related quality of life. Furthermore, scant research has been conducted on their health status.

In Korean society, where discrimination and hatred against SGMs are rampant, the discrimination and stigma experienced by SGMs not only worsen their mental health but also reduce their access to healthcare, further exacerbating their health vulnerabilities. Healthcare professionals should become active advocates for SGM health, grounded in a comprehensive understanding of SGMs and their health-related needs.

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Supplementary materials

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Supplement 1. Korean version of the present review article

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