TBM

SYSTEMATIC REVIEWS

A systematic review of stigma in sexual and gender minority health interventions

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Abstract

Stigma against sexual and gender minorities is a major driver of health disparities. Psychological and behavioral interventions that do not address the stigma experienced by sexual and gender minorities may be less efficacious. We conducted a systematic review of existing psychological and behavioral health interventions for sexual and gender minorities to investigate how interventions target sexual and gender minority stigma and consider how stigma could affect intervention efficacy. Preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines were followed. Eligible studies were peer reviewed and published in English between January 2003 and July 2019 and reported empirical results of behavioral or psychological interventions implemented among sexual and gender minorities. All interventions addressed stigma. We identified 37 eligible interventions. Most interventions targeted sexual minority men. Interventions were frequently developed or adapted for implementation among sexual and gender minorities and addressed multiple levels and types of stigma. Interventions most frequently targeted proximal stressors, including internalized and anticipated stigma. HIV and mental health were the most commonly targeted health outcomes. A limited number of studies investigated the moderating or mediating effects of stigma on intervention efficacy. The application of an intersectional framework was frequently absent and rarely amounted to addressing sources of stigma beyond sexual and gender minority identities. A growing number of interventions address sexual and gender minority stigma in an effort to prevent deleterious health effects. Future research is needed to assess whether stigma modifies the effectiveness of existing psychological and behavioral interventions among sexual and gender minorities. Further, the application of intersectional frameworks is needed to more comprehensively intervene on multiple, intersecting sources of stigma faced by the diverse sexual and gender minority community.

Keywords

Gender minorities, Intersectionality, Intervention, Stigma, Sexual minorities

IMPLICATIONS

Practice: Behavioral and psychological health interventions for sexual and gender minorities should account for experiences of stigma when they are designed and adapted.

Policy: Policy makers seeking to reduce psychological and behavioral health disparities among sexual and gender minorities should support sexual and gender minority-specific, evidence-based preventative interventions that intervene on stigma.

Research: Future intervention research with sexual and gender minority populations should investigate the impact of stigma on intervention effectiveness and examine the impact of multiple, intersecting sources of stigma.

Health disparities experienced by sexual and gender minorities (SGMs; i.e., individuals who do not identify as heterosexual or cisgender) are widely recorded in scientific literature [1–3]. Even with advances in social policy for SGM equality and protection, SGMs are more likely to experience psychological disorders [4], physical illness [5], and barriers to comprehensive, affirming health care [6] compared to heterosexual or cisgender populations. Minority stress theory posits that SGMs experience unique and chronic, stigma-related stress contributing to elevated risk for poor health and reduced access to coping resources [7, 8]. Thus, it is critical that interventions seeking to alleviate psychological distress and improve health among SGMs take into account the role stigma plays in SGM health.

Although a recent review summarized evidence-based interventions targeting stigma against sexual minorities [9], less is known about how the stigma experienced by SGMs is addressed. Thus, researchers are limited in their ability to improve on prior interventions systematically because the field has not yet summarized how existing interventions address SGM stigma. Further, attention should be paid to how stigma is operationalized in intervention research. The stigma that SGMs face occurs along a continuum of proximity to the individual from distal stressors (e.g., events of discrimination or violence and lack of legal protection) to more proximal stressors (e.g., expectations of rejection or internalized stigma). In addition, minority stress theory emerged from research mainly focused on a single

aspect of an individual's identity (i.e., sexual orientation *or* gender identity) rather than addressing the intersection of multiple, stigmatized social identities and the interlocking of identities with social privilege and disadvantage [10, 11]. Indeed, SGMs may experience SGM-specific stigma (e.g., homonegative discrimination) and non-SGM-specific stigma (e.g., HIV stigma and racism). Intersectionality provides a framework for understanding the multiple, intersecting identities that individuals embody within interlocking social systems of privilege and oppression [10–12]. Thus, a summary of SGM intervention literature is needed to comprehensively document how interventions address the multiple sources of the stigma that SGMs face and whether intersectionality is considered in health interventions implemented among diverse SGMs.

Current study

The current review investigates the integration of stigma into interventions targeting SGM psychological and behavioral health. We identified ways in which intervention content addresses stigma, how interventions directly intervene on stigma, and whether intervention efficacy is mediated or moderated by stigma. Finally, we reviewed the use of intersectional frameworks for intervention development and implementation among SGMs to determine whether these interventions address the many intersecting types of stigma SGM experience.

METHODS

We searched for empirical intervention studies among SGMs using PyscINFO and PubMed databases in July 2019 (study protocol [registered at Prospero Record ID CRD42020148605]). Search results included at least one stigma keyword (e.g., stigma, discrimination, and minority stress), one intervention keyword (e.g., intervention, clinical trial, and pilot), and one population keyword (e.g., bisexual, gender minority, and transgender) in paper titles or abstracts. The search was limited to English language, peer-reviewed papers published between January 1, 2003 (after the publication of Meyer's [8] study of sexual minority stress) and July 10, 2019. Three authors reviewed titles and abstracts for the following eligibility criteria: (a) SGM sample, (b) empirical results of a behavioral or psychological intervention, and (c) inclusion of stigma in intervention content, intervention outcomes, or as a mediator or moderator of intervention effects. We included all types of behavioral interventions (e.g., prevention programs and psychotherapy). Strictly biomedical or surgical interventions were excluded. Stigma was defined broadly across multiple levels [13] to include individual internalized (internalization of negative societal attitudes) and anticipated (sensitivity to or expectation of stigma), interpersonal enacted (expressed by one person to another), and structural stigma (societal, cultural, or institutional norms and policies) and was inclusive across identity statuses to include both SGM stigma (e.g., transphobic discrimination) and non-SGM stigma experienced by SGMs (e.g., HIV stigma and racism). Eligible studies reported either exclusively SGM samples or explicit SGM subsample analyses. Interventions described in multiple papers were included as a single intervention.

Extracted data included sample sexual orientation, gender identity, race/ethnicity, age, and intervention geographic location. Coded intervention design characteristics included trial type, program content, level (e.g., individual and group), targeted health outcomes, adapting for SGMs, and adapting, if any, to additional identities or stigma beyond SGM status (e.g., intersectional frameworks and adapting procedures). To identify integration of stigma, we coded how stigma was included in the intervention (content, targeted outcome, and mediator/moderator) and identified the stigma level (internalized, anticipated, enacted, and structural) and type (e.g., bullying, identity concealment, and internalized homonegativity).

RESULTS

We identified 4,581 potentially eligible papers (Fig. 1). Thirty-seven interventions met eligibility criteria and comprised the final sample. Most were published in the last 5 years (75.7%, n = 28; 2015–2019). Individual (32.4%, n = 12), group (43.2%, n = 16), community (13.5%, n = 5), and multilevel interventions (10.8%, n = 4) were represented. Sample demographics are summarized in Table 1. Interventions most frequently included individuals who were gay men (48.6%, n = 18), bisexual men (37.8%, n = 14), or men who have sex with men (MSM; 27.0%, n = 10). Some interventions (24.3%, n = 9) included transgender participants, fewer included gender-nonbinary or gender-nonconforming participants (8.1%, n = 3) [14–16], and many did not disaggregate gender identities (43.2%, n = 16). Taken together, intervention studies included 16,872 SGMs (90.7% men, 9.2% women, and 0.1% nonbinary). Transgender participants comprised at least 0.6% of men and 14.5% of women. The unweighted average age across interventions was 29.7 years old (SD = 9.7). A complete list of interventions with summary of content, target population, and approach to addressing stigma can be found in Table 2.

Stigma in sexual and gender minority interventions

Stigma was operationalized across internalized (64.8%, n = 24), anticipated (32.4%, n = 12), enacted (67.8%, n = 21), and structural levels (8.1%, n = 3). For internalized stigma, interventions most frequently reported addressing internalized homophobia/homonegativity/binegativity (27.02%, n = 10) [16–27]. Internalized HIV stigma was the most commonly addressed non-SGM stigma (16.2%,

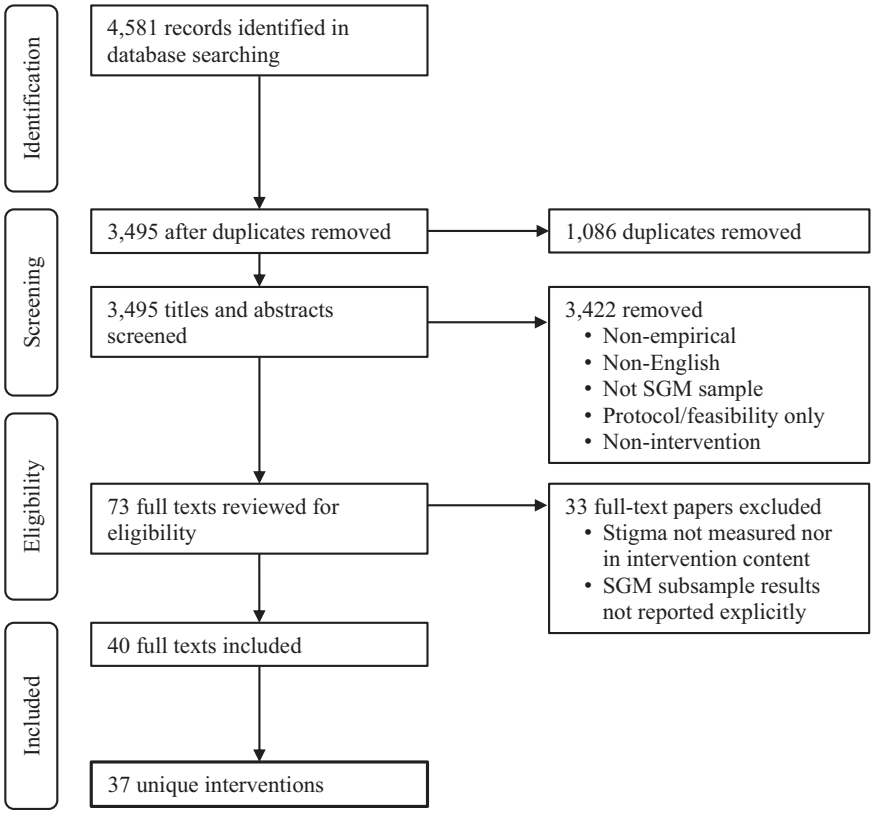

Fig 1 | Inclusion and exclusion process according to preferred reporting items for systematic reviews and meta-analyses (PRISMA).

n = 6) [28–33]. HIV stigma, though non-SGM specific, was addressed across all levels of stigma. Anticipated stigma most frequently included rejection sensitivity and fear (10.8%, *n* = 4) [18, 34–37], concealment (8.1%, *n* = 3) [17, 27, 37, 38], and HIV stigma (8.1%, *n* = 3) [30, 39, 40]. Enacted stigma most frequently included sexual minority discrimination (24.3%, *n* = 9) [19, 20, 24–26, 34, 41–44], HIV stigma (16.2%, *n* = 6) [41, 45–49], and transgender stigma (8.1%, *n* = 3) [15, 16, 50]. Structural stigma was addressed in three interventions [20, 24–26]. Interventions most frequently intervened on HIV transmission (54.1%, *n* = 20) and, to a lesser extent, mental health concerns (18.9%, *n* = 7).

Stigma in intervention content

Interventions were developed for SGMs (48.6%, *n* = 18), adapted from non-SGM interventions (13.5%, *n* = 5), adapted from interventions serving other SGM subpopulations (e.g., intervention for sexual minority men adapted for bisexual people of any gender [27]; 13.5%, *n* = 5), or implemented without SGM-specific considerations in content design or cultural adaptation (24.3%, *n* = 9). Novel interventions developed for implementation among SGMs relied on input from SGM health experts, community members, and advisory boards. Among interventions not adapted or developed for SGMs, all addressed HIV vulnerability or HIV stigma primarily among sexual minority men [28–30, 32, 39, 40, 49, 51, 52].

Intervening on stigma

Over half (64.9%, *n* = 24) of interventions intervened directly on stigma and measured intervention effect on stigma reduction. Individual and group interventions predominantly focused on reducing internalized homonegativity and binegativity, internalized HIV stigma, and anticipated stigma. Some interventions focused on individual's response to stigma (e.g., generating social support for participants experiencing enacted discrimination) [21, 22, 27, 30]. No interventions directly intervened on structural stigma, though some community-level interventions sought to create broader environmental change through reducing enacted stigma (e.g., [42]). Other community-level programs mobilized partners [33], developed media campaigns [47], identified discrimination in the community [49], or trained popular opinion leaders [46] to increase healthy behavior and reduce stigma through community engagement.

Mediation and moderation

Only five studies statistically tested stigma as a mediator (5.4%, *n* = 2) or moderator (8.1%, *n* =3) of intervention effects. Experiences of internalized HIV stigma did not mediate intervention effects in one intervention [30], whereas reductions in condomless anal intercourse in the *Socially Optimized Learning Virtual Environments* (SOLVE) intervention were fully mediated by reductions in experiences of sexual shame [53]. Discrimination coping [14] and

Table 1 | Demographic summary of interventions

	n	%
Country		
Africa		
Senegal	1	2.7
Asia		
China	2	5.4
Thailand	1	2.7
Australia/New Zealand	3	8.1
North America		
Canada	4	10.8
Mexico	2	5.4
USA	24	64.9
Race/ethnicity[a]		
All Asian/predominantly Asian	2	5.4
All Black/predominantly Black	9	24.3
All Latino/predominantly Latino	4	10.8
All White/predominantly White	13	35.1
Racially diverse[b]	7	18.9
Not reported	2	5.4
Gender identity[c]		
Men		
Transmen only	4	10.8
Cismen or not specified	28	75.7
Cismen and transmen	2	5.4
No men	3	8.1
Women		
Transwomen only	6	16.2
Ciswomen or not specified	7	18.9
Ciswomen and transwomen	1	2.7
No women	23	62.2
Gender-nonbinary/nonconforming	3	8.1
Sexual orientation[d]		
Asexual	4	10.8
Bisexual/pansexual	16	43.2
Gay	18	48.6
Heterosexual[e]	5	13.5
Lesbian	7	18.9
MSM	11	29.7
Queer	6	16.2
Questioning	2	5.4
Same-sex attracted	10	27.0
Age group		
Youth (under 18)	3	8.1
Young adults (18–30)	6	16.2
Youth and young adults (12–30)	5	13.5
Adults (18+)	14	37.8
Not reported	9	24.3

n = 37.

MSM men who have sex with men.

[a]Race/ethnicity predominance indicated by a single racial/ethnic group comprising more than 50% of the sample.

[b]No single race group exceeded 50% of the sample.

[c]Studies reporting gender as male or female without specifying cisgender or transgender were grouped with cisgender and marked as *nonspecified*.

[d]Percentages do not total to 100% because a single sample may have included many different orientations.

[e]Heterosexual orientation indicates sexual and gender minority (SGM) sample including heterosexually identified participants; heterosexual comparison groups are not accounted for in this table.

internalized stigma [23, 37] moderated intervention effects.

Intersectional stigma and adaptation

Less than half (45.9%, *n* = 17) of interventions considered additional identities or stigma beyond SGM status. Some interventions used community evaluation and feedback to develop programs for sexual minority men of specific racial/ethnic groups, including Black [21, 40, 45, 46, 49, 54] and Latino men [18, 44] and men of color broadly [51]. Other interventions accounted for regional, cultural differences by adapting to the needs, barriers, and lived experiences of SGMs in China [29], Mexico [31], and Thailand [30]. A limited number of programs were developed on the intersections of gender and sexual orientation: two were designed or adapted for sexual minority women [20, 25] and one for transgender sexual minority men [16]. Interventions also considered the unique needs of SGMs living with HIV [31, 41, 44, 49], SGMs with a history of incarceration [49], and SGM immigrants to the USA [18]. The use of intersectional theory was scarce, with only one intervention [49] explicitly naming an intersectional framework [11]. The *Health Mpowerment* community adaptation and *Still Climbin'* were the only two interventions to report intervention effects on racial stigma [41, 43], with mixed efficacy. No studies reported measures of intersectional stigma nor examined multiple sources of stigma within the same models.

Potential bias

About one third (*n* = 13) of interventions included fewer than 50 participants. Pilot tests were common (*n* =26), and only 12 studies described randomization into treatment. Most studies (*n* = 25) collected follow-up data at least 1 month after intervention.

DISCUSSION

The findings of this systematic review build on previous research identifying interventions that sought to reduce prejudice and stigma against sexual minorities [55] by reviewing evidence-based interventions addressing experiences of stigma among SGMs. Minority stress theory represents one of the most widely used models to explain health disparities experienced by SGM populations [8], which highlights the need for interventions to both consider and directly intervene on stigma. The more recent integration of minority stress theory with intersectionality frameworks expanded the understanding of how stigma related to multiple marginalized identities may uniquely impact some groups within the SGM community [10, 11]. Thus, we sought to systematically examine the extent to which such minority stress and intersectionality frameworks were used to develop new or adapted interventions, directly intervene on stigma-related

Table 2 | Intervention and stigma summary

Name	Intervention content	Primary outcomes	Population	Stigma type	Stigma level	Approach
Individual-level interventions						
Healthy Choices [30]	Motivational interviewing intervention for HIV-positive youth and health care providers	Receptive anal sex, drug use for sexual pleasure, and STIs	Gay and bisexual men	HIV stigma	Internalized, anticipated	Mediator
SOLVE [53]	Online intervention targeting sexual shame and risky sexual behaviors	Condomless anal sex, shame	Young MSM	Shame	Internalized	Outcome; mediator
ESTEEM [36, 37]	In-person intervention using cognitive-behavioral skills to help participants directly address minority stress	Depression, anxiety, condomless sex, alcohol use, stigma coping	Gay, bisexual, and queer men	Explicit and implicit internalized homophobia, concealment	Internalized, anticipated	Outcome; moderator
RISE [27]	Web-based modules about social and cognitive aspects of internalized binegativity and attitudinal change.	Internalized binegativity	Bisexual individuals	Internalized binegativity, concealment	Internalized, anticipated	Outcome
ART adherence reminders [28]	Two-way SMS reminder messages for medication adherence	ART adherence	Men living with HIV	HIV stigma and discrimination	Enacted	Outcome
Expressive writing [35]	Brief expressive writing exercises about gay-related trauma or stress	Affect, gay-specific functioning and stress	Gay men	Gay-related rejection sensitivity	Anticipated	Outcome
Evaluative conditioning [58]	Internet-based intervention targeting self-esteem and self-efficacy to decrease homonegativity internalization	Internalized homophobia; self-esteem	Gay men	Internalized homophobic stigma	Internalized	Outcome
CBT skills intervention [29]	CBT intervention for HIV-related distress and mental health and for integration in health care settings	Depressive thoughts, anxiety, and HIV-stigma distress	MSM	HIV stigma	Internalized	Outcome
Latinos Empowering Ourselves [44]	Intervention to prevent HIV transmission by improving self-efficacy and self-empowerment	Condomless sex; condom self-efficacy	Latino gay and bisexual men	Sexual minority stigma, internalized homophobia	Enacted, anticipated, internalized	Content only
PrEPTECH [51]	Telemedicine, home PrEP delivery, and at-home STI testing; intervention targeting barriers to PrEP uptake and adherence	PrEP initiation; daily adherence	Young MSM of color	PrEP stigma	Anticipated	Content only
Healthy Relationships [31]	Intervention delivered in primary care settings that targeted coping skills to promote HIV-related health	Condom use; depression, anxiety, substance use, HIV status disclosure	Gay men	HIV stigma, mental health stigma	Internalized	Content only
Rainbow SPARX [34]	Computerized CBT video game addressing emotion regulation in response to stigma	Depressive symptoms	Sexual minority youth	Internalized homophobia, heterosexism, rejection, bullying	Internalized, anticipated, enacted	Content only

(Continued)

Table 2 | Continued

Name	Intervention content	Primary outcomes	Population	Stigma type	Stigma level	Approach
Group-level interventions						
Somatic Experiencing [14]	Intervention targeting coping with gender minority stigma and gender dysphoria to improve mental health	Depression, anxiety, somatic symptoms, quality of life, coping with discrimination	Gender minorities	Gender minority stigma	Enacted	Moderator
2GETHER [23]	Individual and group-based couples intervention to improve relationship functioning and sexual health	Sexual risk behavior, HIV prevention behaviors	Sexual minority men	Internalized homonegativity	Internalized	Moderator
Project PRIDE [17]	Intervention focused on coping in response to minority stress, substance use reduction, and mental health concerns	Mental health, internalized homonegativity, substance use, sexual risk, self-esteem	Sexual minority young men	Internalized homonegativity, concealment	Internalized, anticipated	Outcome
La Familia [18]	Group discussions focused on sexual orientation disclosure, family rejection, and oppression of immigrant, Latino MSM	Condom use and intentions, sex and substance use coping	Latino MSM	Internalized homophobia, disclosure discomfort	Internalized, anticipated	Outcome
Modified Group CBT [19]	Manualized CBT intervention for depression	Internalized and anticipated stigma, depression	Sexual minorities	Internalized homophobia	Internalized	Outcome
Queer Women Conversations [20]	Group psychoeducational sessions with content on personal goal setting, coping, sex and bodies, sexual and internalized stigma, and relationships	Sexual risk behavior, sexual stigma	Sexual minority women	Sexual stigma, internalized homophobia	Internalized, enacted, structural	Outcome
Life Skills for Men—Adaptation [16]	Peer-led group intervention focused on HIV risk including adapted topics (e.g., identity affirmation; communication and partner negotiation; coming out; sexual practices; and HIV)	HIV risk and sexual behaviors	Transgender MSM	Internalized homophobia, prejudice, cisgender male stigma	Internalized, enacted	Outcome
Health Mpowerment [21, 22]	Mobile web-based intervention to reduce logistical, financial, and stigma barriers to HIV prevention and care with support through online forums and support	Barriers to HIV prevention and care, stigma coping	Black MSM	HIV stigma, internalized homophobia, sexual prejudice	Internalized, enacted	Outcome
Acceptance and compassion-based group therapy [32]	Group psychotherapeutic intervention targeting the mental distress associated with internalized HIV stigma	HIV stigma, cognitive flexibility	MSM	HIV stigma	Internalized	Outcome
Web-based peer counseling [40]	A video-interactive, internet-based peer counseling intervention for an at-home HIV-testing program	Transportation and anticipated HIV stigma as barriers to HIV testing	Gay and bisexual men	HIV stigma	Anticipated	Outcome

(Continued)

Table 2 | Continued

Name	Intervention content	Primary outcomes	Population	Stigma type	Stigma level	Approach
All Gender Health [50]	Group prevention and sexual health education program using lectures, video, music, and discussion developed for transgender and gender-nonconforming populations	Safe sex self-efficacy, condom use and attitudes, number of casual partners, relationship monogamy	SGM	Gender minority stigma, transphobic discrimination	Enacted	Content only
AFFIRM [15]	Group CBT intervention with integrated sexual and gender affirming practice to improve coping and mental health	Depression and reflective stigma coping skills	SGM youth	Transphobic stigma	Enacted	Content only
TIM Project: A Black Young Men's Health Study [45]	Facebook group intervention with videos and chats to improve HIV testing through HIV education, social support, and self-management	HIV testing	Black young MSM	HIV stigma	Enacted	Content only
Still Climbin' [41]	Group CBT intervention targeting coping with minority stress across multiple stigmatized identities	Coping with discrimination	Black MSM	HIV, race, sexual orientation discrimination	Enacted	Content only
SSSR Program [24, 26]	Group-based couples intervention on relationship skills for same-sex male couples (e.g., communication; problem-solving; negotiating monogamy; and minority stress coping)	Relationship communication and satisfaction, minority stress coping	Sexual minority men	Homophobia	Internalized, enacted, structural	Content only
SSSR—female adaptation [25]	Group intervention focused on relationship education skills for same-sex female couples; adapted SSSR with female same-sex couple content	Relationship functioning, minority stress coping	Sexual minority women	Homophobia	Internalized, enacted, structural	Content only
Community-level interventions						
POSSE [46]	Popular opinion leaders delivered intervention sessions with HIV risk reduction messages to young people in the House and Ball community	Sexual risk behavior, HIV stigma	Black young MSM and transwomen	HIV stigma	Enacted	Outcome
Out in Schools [42]	Film screenings in schools followed by facilitated dialogue about SGM experiences; both sexual minority and nonminority students participated	Suicide ideation, bullying discrimination, and school connectedness	Heterosexual and sexual minority youth	Discrimination, bullying	Enacted	Outcome
hivstigma.com [47]	Media campaign followed by moderated online blogs and forums aimed at reducing HIV stigma	HIV stigma	Sexual minority men	HIV stigma	Enacted	Outcome

(Continued)

Table 2 | Continued

Name	Intervention content	Primary outcomes	Population	Stigma type	Stigma level	Approach
Connect-To-Protect [33]	Community resource changes to decrease HIV stigma via community partner mobilization, targeting MSM, injection drug users, or heterosexual women	HIV stigma, HIV-related community resources	Young MSM, drug users, heterosexual women	HIV stigma	Internalized	Outcome
Combination Prevention Programme [39]	Multisite, multicity behavioral, biomedical, and structural interventions targeting HIV transmission and stigma in Mexico	Condom usage, HIV testing, awareness of HIV status, perceived stigma	MSM	HIV stigma, healthcare discrimination	Anticipated	Content only
Multilevel interventions						
Life Skills [48]	Peer-led groups and individual intervention focused on HIV risk with transgender-specific topics (e.g., transgender pride, medical care, housing, and employment; sexual negotiation)	HIV risk reduction	Transwomen	HIV stigma, gay-related stress	Enacted	Outcome
Health Mpowerment—community adaptation [43]	Community-level intervention using peer outreach and small group to discuss HIV testing and safer sex topics	HIV testing, safe sex	Black MSM and transwomen	Racism, homophobia, comfort with being gay	Enacted, internalized	Outcome
Reducing stigma and increasing health [52]	Multitiered community intervention aimed at mitigating healthcare stigma as a barrier to HIV prevention	Stigma mitigation	MSM and female sex workers	Health care discrimination	Enacted, anticipated	Outcome
LA-ICCSSCH [49]	Individual and structural interventions targeting housing discrimination and HIV stigma to reduce HIV transmission	HIV stigma as barrier to HIV care, HIV education and prevention	Black MSM and people living with HIV	Housing discrimination, HIV stigma	Enacted	Outcome

CBT cognitive behavioral therapy; *MSM* men who have sex with men; *SGM* sexual and gender minority.

processes, and examine the role of stigma in intervention efficacy. Of the 37 distinct interventions, we identified all included stigma within the intervention content, though few considered stigma reduction as an intervention outcome, limiting our knowledge of how effectively these interventions reduce stigma directly. Even fewer interventions examined stigma as a mechanism of intervention effects as predicted by minority stress theory [30, 53]. Few studies tested stigma as a moderator of intervention efficacy [14, 23, 37], which would inform how individual exposure to stigma alters program efficacy.

Detailed examination of studies included in our review provided evidence that interventions are now including diverse types (e.g., homonegativity, transgender stigma, and bullying) and levels (e.g., anticipated and enacted) of stigma in intervention content, indicating a nuanced understanding of the effects of stigma on SGMs. Despite designing intervention content to address the role of minority stress and, in some cases, testing the efficacy of the intervention in addressing stigma, few studies examined the mechanistic impact of stigma on intervention efficacy as either a mediator or effect modifier. The cultural appropriateness of the interventions was no doubt enhanced by considering the role of minority stress and stigma in the development of intervention content, though quantitatively assessing differences between adapted and nonadapted interventions is critical for better understanding the effect of addressing stigma in intervention success. Few interventions addressed structural stigma or called for meaningful structural change. Future intervention should consider the effect of stigma across multiple levels, including structural, to better capture the context within which SGM experience stigma [56].

Few interventions developed content designed to address the intersection of multiple identities and none quantitatively assessed stigma intersectionally. A major challenge is no doubt the complexity of capturing and analyzing quantitative intersectional data [10] and the relatively few validated measures of intersectional stigma among SGMs. Moreover, the most prominent intersecting identities in the reviewed interventions were SGMs and racial/ethnic identities, which highlights the need to consider not only racial/ethnic stigma and SGM stigma but also the intersectional stigma experienced uniquely by those who are both SGMs and racial/ethnic minorities. Intervention developers should address stigma at intersections of multiple marginalized identities, many of which were evident in the SGM samples in the studies reviewed—such as gender, gender expression, socioeconomic position, immigration status, intellectual and physical ability, and history of incarceration. The recent development in intersectional stigma measurement facilitates investigation of mechanisms mediating the association of intersectional stigma with health outcomes and points to the need to consider diverse measurement across levels and intersections of stigma [57]. Interventions that do not adequately consider the interlocking systems of power and oppression, including structural stigma [56], may miss evidence of differential intervention efficacy and, ultimately, risk propagating health disparities for SGM subgroups with multiple marginalized identities.

Overall, the majority of SGM interventions published to date were focused on HIV-related outcomes among sexual minority men. Indeed, more than 90% of participants in these intervention studies were men. Thus, significant gaps remain in addressing the wide range of health conditions among diverse SGMs. Interventions developed for cisgender women and gender-diverse people were uncommon and conclusions of effectiveness were based on a much smaller subsample than interventions among men. With extensive evidence of diverse health disparities among subgroups of SGMs, both research and funding must evolve to support intervention that addresses broader SGM health issues, not just HIV among sexual minority men.

LIMITATIONS

There are several limitations of the current review that are worth noting. First, the nature of the review necessitated a focus on published literature, which may exclude important, on-going and unpublished studies (e.g., null findings). It is possible that the consideration of intersectionality may not be a primary aim of reviewed studies and, thus, was not prominently described in reviewed papers. We also relied on a search of the literature using two databases, and it is possible that some published studies were not identified despite our best efforts. Further, studies of structural stigma may be framed within policy research rather than intervention research aimed at enacting individual-level change.

CONCLUSIONS

Overall, many interventions focusing on SGM populations have taken minority stress frameworks into account in the design and implementation, mostly within intervention content. Fewer studies have tested stigma directly as an outcome or as a mediator or moderator of intervention efficacy. We did not identify any studies that took an explicit quantitative approach to examining the intersection of multiple stigmatized identities within the intervention. The literature to date is predominated by studies of sexual minority men, with a heavy emphasis on HIV and mental health and, thus, there is significant need to expand not just in considering intersectional identities but also focusing on other subsets of the SGM population and the full range of health needs for these groups. In addition to expanding the focus of interventions, novel methodologies are needed to expand the ability to quantitatively consider

intersectional frameworks within the context of intervention trials.

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Compliance with Ethical Standards

Conflicts of Interest: All authors declare that they have no conflicts of interest.

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Ethical Approval: This article does not contain any studies with human participants performed by any of the authors. This article does not contain any studies with animals performed by any of the authors.

Informed Consent: This study does not involve human participants and informed consent was, therefore, not required.

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