

Psychosocial Interventions for Mental Health and Well-being among LGBTQ+ Persons: a Systematic Review

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ABSTRACT

Introduction. The mental health and well-being of LGBTQ+ persons are severely affected by minority stress. **Objective.** This study seeks to review the original research on psychosocial interventions designed to improve mental health and well-being among LGBTQ+ adults. **Method.** The systematic review followed PRISMA guidelines, searching in PubMed, PsycInfo, and Scielo in English, Spanish, Portuguese, and French for original research articles with study outcomes. **Results.** Overall, 37 studies were included, comprising 21 randomized controlled trials, two other experimental designs, three quasi-experimental studies, two pilot studies, and nine pre-experimental studies. The total sample consisted of 3,858 LGBTQ+ adults aged between 20 and 51, mostly cis White and Afrodescendant males in the United States. Most studies ($n = 28$) reported a decrease in depression, anxiety, and trauma symptoms, especially those using the cognitive behavioral therapy (CBT) affirmative approach, while nine studies reported improvements in well-being and quality of life. **Discussion and conclusion.** The CBT affirmative approach showed the best outcomes for improving the mental health of LGBTQ+ persons, who often experience minority stress. More research is needed to include diverse populations regarding race/ethnicity and regional contexts, such as Latin America.

Keywords: Sexual and gender minorities, mental health, psychosocial intervention, systematic review.

RESUMEN

Introducción. La salud mental y el bienestar de las personas LGBTQ+ se ven especialmente afectados por el estrés de minorías. **Objetivo.** Analizar la investigación original acerca de las intervenciones psicosociales diseñadas para mejorar la salud mental y el bienestar de personas adultas LGBTQ+. **Método.** La revisión sistemática siguió los lineamientos de PRISMA, realizando búsquedas en PubMed, PsycInfo y Scielo en inglés, español, portugués y francés para identificar artículos de investigación originales con resultados de intervención. **Resultados.** Se incluyeron 37 estudios, que incluyeron 21 ensayos controlados aleatorizados, 2 con otros diseños experimentales, 3 estudios cuasiexperimentales, 2 pilotos y 9 preexperimentales. La muestra total estuvo compuesta por 3,858 personas adultas LGBTQ+ de entre 20 y 51 años, en su mayoría hombres cisgénero blancos y afrodescendientes residentes en Estados Unidos. La mayoría de los estudios ($n = 28$) reportó una disminución de los síntomas de depresión, ansiedad y trauma, especialmente aquellos que utilizaron el enfoque de terapia cognitivo-conductual (TCC) afirmativa; 9 estudios informaron mejoras en el bienestar y la calidad de vida. **Discusión y conclusión.** El enfoque de TCC afirmativa mostró los mejores resultados para mejorar la salud mental de las personas LGBTQ+, quienes con frecuencia experimentan estrés de minorías. Se requiere más investigación que incluya poblaciones diversas en términos de racialización y contextos regionales, como América Latina.

Palabras clave: Minorías sexuales y de género, salud mental, intervenciones psicosociales, revisión sistemática.

INTRODUCTION

Lesbian, gay, bisexual, trans, queer, asexual, pansexual, and other sexually dissident persons (LGBTQ+) are considered among the populations at the greatest risk of vulnerability to mental health problems (Tanni et al., 2024). Some argue this could be related to minority stress, the chronic stress faced by vulnerable populations due to belonging to a minority group, which can have significant repercussions on their physical and mental health (Meyer, 1995).

The main physical conditions studied in relation to minority stress are blood-borne infections, such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV) (Miller et al., 2024), associated with condomless sex. However, other physical conditions associated with minority stress among these populations include chronic conditions such as high blood pressure (Flentje et al., 2020), hypertension (Caceres et al., 2022), obesity (Devlin et al., 2024), high cholesterol (Veale, 2023), and diabetes mellitus (Mereish & Goldstein, 2020). There is also evidence of an increased risk among LGBTQ+ persons of depression (Sakharkar & Friday, 2022), anxiety (Miller et al., 2024), substance use (Marshall et al., 2008), Post-traumatic stress disorder (PTSD) (Marchi et al., 2023), and other conditions. In Latin American contexts, such as Mexico, general population surveys have found that, compared to heteronormative persons, LGBTQ+ persons are more likely to report having had suicidal behavior associated with problems in familial or sexual-affective relationships (Instituto Nacional de Estadística y Geografía [INEGI], 2021).

The relationship between mental and physical health has been widely documented, with comorbidity between mental and physical conditions being associated with greater disability than the sum of their individual effects (Prince et al., 2007; Scott et al., 2009). Among LGBTQ+ populations, poor mental health, particularly depression and anxiety, co-occurs with a higher number of chronic physical conditions, including asthma, arthritis, cardiovascular disease, and chronic pain (Fredriksen-Goldsen et al., 2017; Lick et al., 2013). In Mexico, minority stress has been studied among college students, showing that LGBTQ+ persons and heterosexual students with same-gender attraction had higher odds of mental disorders than heterosexual students without same-gender attraction (Rentería et al., 2025; Rentería et al., 2021).

The minority stress model posits that stigma, prejudice, and discrimination create a hostile social environment that may be conducive to mental health problems (Meyer, 2003). Evidence suggests that this high stress also compromises physical health through biological mechanisms such as immune dysregulation, cardiovascular reactivity, and hormonal alterations (Flentje et al., 2020). Evidence-based treatments addressing mental health among LGBTQ+

populations include psychosocial interventions, that is non-pharmacological treatments focused on decreasing psychiatric symptoms and improving mental health protective factors (Barbui et al., 2020). Some of them address quality of life, social inclusion, and well-being. The latter is defined as the presence of positive emotions and moods, the absence of negative emotions, and a high level of life satisfaction, fulfillment, and positive functioning (Centers for Disease Control and Prevention [CDC], 2023). Previous studies have shown that psychosocial interventions may not only reduce psychological distress but also prevent or mitigate physical health deterioration in LGBTQ+ populations (Lick et al., 2013; Prince et al., 2007).

Several psychotherapeutic approaches have been used to address the mental health and well-being of LGBTQ+ persons. One of them is cognitive behavioral therapy (CBT), which works primarily with the thoughts, emotions, and behavior associated with the interpretation of certain situations to modify dysfunctional reactions (Beck & Fleming, 2021). The contribution of traditional CBT to improving health in the general population has been widely documented (Fordham et al., 2021). However, some authors posit that affirmative CBT (an approach whereby therapists provide care by promoting affirmative LGBTQ+ attitudes and engaging in or affirming challenges to power inequities) may be a more feasible option for treating mental disorders among LGBTQ+ persons (Moradi & Budge, 2018). This may be related to their focus on cultural humanity (that is, therapist awareness of their self-cultural background, prejudices/privileges, ensuring that they do not interfere with the conceptualization of cases and treatment goals) and addressing minority stress (Balsam et al., 2019; Craig et al., 2025).

The wealth of evidence of the increased risk among LGBTQ+ people of living with a mental health condition (Hoy-Ellis, 2023; Marshall & Cahill, 2022), makes it essential to analyze the interventions developed to improve their mental health. Previous systematic reviews to summarize the evidence of psychosocial interventions in addressing the mental health of LGBTQ+ persons (e.g., Bochicchio et al., 2022; Yu et al., 2022) focused primarily on MSM living with HIV or youth, including adolescents. Some have excluded excluded studies published in a language other than English studies or have not purposely searched for evidence in Latin American contexts, where homonegativity and machismo are embedded in certain cultures (Rosenberg et al., 2024). The present systematic review aimed to examine existing evidence of psychosocial interventions designed to improve mental health and well-being among LGBTQ+ adults.

Some studies have opted to distinguish mental health interventions for persons living with HIV from those without this diagnosis (e.g., Liu et al., 2023; Sun et al., 2020). The biomedical justification for this is that HIV-related neuroinflammation can alter neurotransmitter segregation,

which, in turn, may increase the risk for depressive symptoms (Mudra Rakshasa-Loots, 2023). (Armoon et al., 2022; Turan et al., 2017). However, given that up to 30% of persons living with HIV remain undiagnosed (The Joint United Nations Programme on HIV/AIDS [UNAIDS], 2026), we decided to include studies regardless of participants' HIV diagnosis.

METHOD

Study design

This systematic review adhered to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009).

Research question and inclusion/exclusion criteria

The review was guided by the following primary research question: *“What psychosocial interventions have been developed or adapted to specifically improve the mental health and well-being of LGBTQ+ adults, and what are their reported outcomes in the scientific literature?”* It also adhered to the Population, Intervention, Outcomes, and Study Design (PIOS) framework (Hosseini et al., 2024):

Population

Adult persons (aged 18 or over) identifying as part of the LGBTQ+ population, regardless of their HIV status.

Interventions

Psychosocial interventions (such as CBT, acceptance and commitment therapy [ACT], mindfulness, affirmative therapy, peer support groups, resilience training, life-skills training, harm reduction, and counseling).

Outcomes

Primary

Mental health indicators (such as anxiety, depression, suicidal ideation, minority stress, psychosis, PTSD, dysphoria, emotional dysregulation, problematic substance use, image discomfort, loneliness, internalized homonegativity, internalized transphobia, and racial rumination).

Secondary

Well-being indicators (such as happiness, quality of life, personal satisfaction, emotional regulation, life satisfaction, coping behavior, and psychological adaptation).

Study designs

Randomized controlled trials (RCT), pre-experimental studies/pilot intervention, quasi-experimental studies, cohort studies, secondary analyses of an intervention.

Studies were eligible if they (1) were an original research article published in a peer-reviewed journal, (2) psychosocial interventions with outcomes (i.e., we excluded study protocols), (3) aimed to improve mental health or wellbeing (such as quality of life, personal satisfaction, emotional regulation, and coping strategies), (4) reported disaggregated data on LGBTQ+ adults or focused only on LGBTQ+ population, (5) were written in English, Spanish, Portuguese or French, and (6) were indexed in PubMed, PsycInfo or Scielo.

Search strategy

We searched the databases of PubMed, PsycInfo, and Scielo (the latter to ensure coverage of Latin American and Caribbean scientific production), and scanned the references of potentially eligible studies. We searched all English, Spanish, Portuguese, and French studies and abstracts, and set no date limits. Each database was searched from its inception to its most recent update as of April 2026.

The search terms were PubMed: ("Psychosocial Intervention"[Mesh] OR "Psychotherapy"[Mesh]) AND ("Psychological Well-Being"[Mesh] OR "Happiness"[Mesh] OR "Quality of Life"[Mesh] OR "Personal Satisfaction"[Mesh] OR "emotional regulation"[MeSH Terms] OR Well-Being[tiab]) AND (Sexual and Gender Minorities[MeSH Terms]) NOT (adolescents[tiab] OR child[tiab]). PsycInfo: ((well-being or mental health or life satisfaction or coping behavior or quality of life or emotional regulation or happiness).sh. or personal satisfaction.ab,ti.) AND ((LGBTQ or transgender).sh. or (LGB* or gay or lesbian or bisexual or transgender or "gender dysphoria" or "men who have sex with other men" or MSM or "women who have sex with other women" or WSW or "sexual minority" or multigender or transwoman or trans woman or transwoman or transmen or trans men or trans-men or queer or pansexual or transgend* or transsex* or trans-gend* or trans-sex* or trans-person*).ab,ti.) AND (("psychosocial interventions" or psychotherapy or counseling or psychoeducation).sh. or (counseling or psychotherapy).mh. or ("psychosocial intervention*" or "psychological intervention*" or psychotherap* or psychoeducat* or counseling or behavioral therap* or behavioural therap*).ab,ti.) NOT child*.ti,ab. NOT adolescent.mh.. Scielo: (psychotherap* OR "psychosocial intervention" OR "psychological intervention" OR psicoterapia OR "intervención psicosocial" OR "intervención psicológica") AND ("well-being" OR "psychological well-being" OR "quality of life" OR bienestar OR "bienestar psicológico" OR "calidad de vida") AND (LGBT* OR "sexual minorit*" OR lesbian* OR gay OR bisexual* OR transgender* OR "minorías sexuales") NOT (adolescent* OR child*).

Selection of studies and data extraction

Three of the coauthors (LJR, EOL, and MIR) each searched one of the databases using a predefined protocol. The

results were merged into a reference manager to organize and exclude duplicates. After the duplicates had been excluded, potential studies were divided into two lists and independently reviewed by two co-authors (LJR-EOL/ MIR-CR). Articles were first excluded by title and then by abstract. Full articles were subsequently analyzed to determine their eligibility for inclusion in the review. Discrepancies were discussed until a consensus was achieved.

Between April and May 2026, data were extracted using a standardized form requesting data on first author, publication year, country, sample size, intervention format (such as individual vs. group; in-person vs. online), study aims and design, type of psychosocial intervention, participant characteristics (such as mean age, sex/gender/sexual identity, and ethnicity), and key findings. Given the diversity of research methodologies and interventions, we extracted a range of summary measures when reported. In our search, we excluded systematic reviews (Bohicchio et al., 2022; Yu et al., 2022) although we analyzed the articles included in these reviews and incorporated those that met the inclusion criteria in this review.

RESULTS

Study selection and intervention characteristics

A total of 511 potential studies were identified, 343 of which were excluded by title, 108 by abstract, and 41 by inclusion criteria (Figure 1). Nineteen studies met the inclusion criteria, and 18 studies from other systematic reviews identified in our search were also incorporated. Thirty-seven articles were therefore included in this review (combined $n = 3,858$ participants; Table 1). All articles were written in English and published between 1998 and 2026. Most of the studies were conducted in the United States ($n = 22$) (Antoni et al., 2006; Antoni et al., 2000; Blashill et al., 2017; Carrico et al., 2006; Carrico, Antoni, Pereira, et al., 2005; Carrico, Antoni, Weaver, et al., 2005; Carrico et al., 2009; Chesney et al., 2003; Clements et al., 2021; Fobair et al., 2002; Ingraham et al., 2017; Jackson et al., 2022; Klimek et al., 2020; Lutgendorf et al., 1998; Noriega Esquivas et al., 2026; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Rashkovsky et al., 2025; Riggle et al., 2014; Stevens et al., 2020; Williams et al., 2013) followed by China ($n = 5$) (Huang et al., 2024; Li et al., 2025; Yang et al., 2018; Ye et al., 2017; Zhang et al., 2019), Canada ($n = 2$) (Austin et al., 2018; Gayner et al., 2012), and Australia ($n = 2$) (Burgess et al., 2018; Millard et al., 2016). Five were conducted in other countries in Europe (Romania, Italy, Finland, France, and the Netherlands) (Amodeo et al., 2018; Lelutiu-Weinberger et al., 2025; Mannerström et al., 2026; Strika-Bruneau et al.,

2024; Weiss et al., 2003) and only one was conducted in Latin America (Guatemala) (Barrington et al., 2023). The extent of the interventions ranged from 90 minutes (Clements et al., 2021; Pachankis, Williams, et al., 2020) to 15 months (Carrico et al., 2009). Regarding the format of the intervention, twenty-four were group-based, and thirteen were individual. Twenty-eight were conducted in-person, six online, and three had a mixed in-person/online format.

To assess the effect of the intervention on health outcomes, most of the studies ($n = 21$) used RCTs (Antoni et al., 2006; Austin et al., 2018; Blashill et al., 2017; Carrico

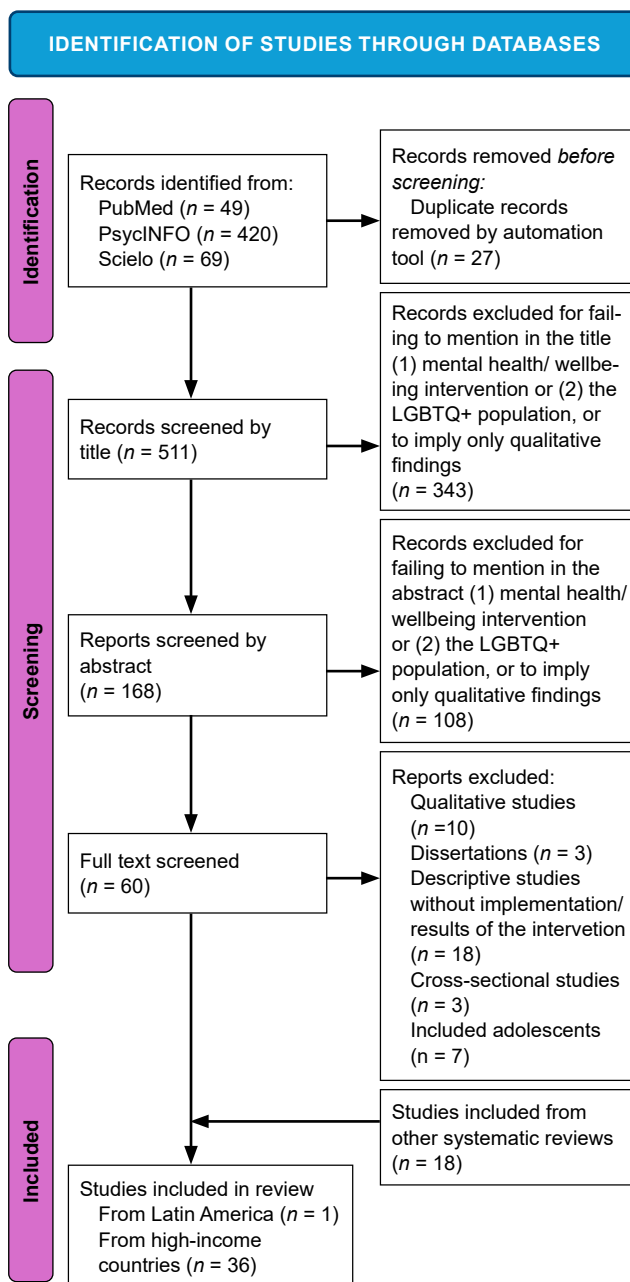


Figure 1. PRISMA 2020 flow diagram for the screening and study selection process.

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons

Author	Location	n	Study period	Individual/group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)			Sample characteristics			Main intervention findings
									Mean age (years)	Sex/ Gender/ Sexual identity	Ethnicity	Mean age (years)	Sex/ Gender/ Sexual identity	Ethnicity	
Amodeo et al., 2018	Italy	Eight transgender youths	Data collection took place at the beginning of training (T1), at the end (T2), and at three-month follow-up (T3)	Group	In-person	To assess the effectiveness of a training program to improve resilience among trans youth who have experienced transphobic episodes	Pre-experimental with pre-test and post-test	Experiential activities (i.e., roulette of identities and social dreaming matrix) and reflection on transphobic experiences	Resilience (14-item Resilience Scale)	28.5	n = 7 male-to-female transgender, n = 1 genderqueer person; n = straight, n = 1 queer, n = 1 lesbian	NR	n = 7 male-to-female transgender, n = 1 genderqueer person; n = straight, n = 1 queer, n = 1 lesbian	NR	An increase in resilience levels (identity affirmation, self-acceptance, and group as support). Non-significant increase in resilience levels from T1 to T2 and from T2 to T3
Antoni et al., 2006	United States	130 HIV-positive MSM	15-months: baseline, following a 10-week intervention period, at 9 months post-randomization, and 15 months post-randomization	Group	In-person	To test the added value associated with providing CBSPM for ART adherence	RCT	10 weekly 135-minute CBSPM interventions + ART adherence training	Mood (depressed mood and anxiety subscales of the POMS) and ART adherence (self-reported)	NR	Gay men	NR	Gay men	NR	Decreases in depressed mood over the 15 months among the experimental group. No effect on self-reported adherence
Antoni et al., 2000	United States	69 gay and bisexual men LWHIV	10-week	Group	In-person	To test the effects of a multimodal CBSPM intervention on cortisol levels and distressed mood	Pre-experimental with pre-test and post-test	Ten weekly group-based CBSPM sessions	Depressed mood and anxiety distress POMS subscales and urinary free cortisol	36 CBSPM, 37.33 control	Gay and bisexual men	55.1% Caucasian and 36.2% Latinx	Gay and bisexual men	55.1% Caucasian and 36.2% Latinx	Among the CBSPM group, significant decreases in POMS anxiety, depression, anger, and confusion and in cortisol levels. Only pre-post depressed mood changes were significantly associated with changes in cortisol
Austin et al., 2018	Canada	73 symptomatic HIV+ gay men	10-week	Group	In-person	To test the effects of a multimodal CBSPM intervention on anxious mood, perceived stress, 24-hr urinary catecholamine levels, and changes in T-cells	RCT	Manualized 10-week sessions of an affirmative CBT	Mood measures (POMS for anxiety, anger, and total mood disturbance, and PSS) and 24-hr urinary output of catecholamines	35.8 CBSPM, 36.3 control	Gay and bisexual men	Caucasian: 53% and Latinx: 38%	Gay and bisexual men	Caucasian: 53% and Latinx: 38%	Among experimental groups, significantly lower anxiety, POMS anger, POMS-TMD, and PSS scores post-treatment, and catecholamine levels compared to the control group
Barrington et al., 2023	Guatemala	112 gbMSM LWHIV	12 months (intervention and follow-ups)	Individual and group	Mixed	To pilot a multicomponent intervention, integrating emotional well-being and health navigation for gbMSM LWHIV	Pre-experimental with pre-test and post-test	Multicomponent intervention: integrated counseling focused on emotional well-being and health navigation	CD4 count, viral suppression, anxiety symptoms (GAD-2), depressive symptoms (PHQ-2), ART adherence, and ART interruption	26.0	100% cisgender MSM; 74.9% identified as gay, 23.4% as bisexual, and 1.7% as heterosexual	92.8% Ladino (Mestizo) and 7.2% Maya (Indigenous)	100% cisgender MSM; 74.9% identified as gay, 23.4% as bisexual, and 1.7% as heterosexual	92.8% Ladino (Mestizo) and 7.2% Maya (Indigenous)	Viral suppression increased significantly, and anxiety and depression significantly decreased. No changes in ART adherence or depression

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Individual group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)	Mean age (years)	Sample characteristics			Main intervention findings
											Sex/Gender/ Sexual identity	Ethnicity		
Blashill et al., 2017	United States	44 sexual minority men LWHIV	At three and six months after baseline	Individual	In-person	To test the acceptability, feasibility, and preliminary efficacy of CBT-BISC among sexual minority men LWHIV	RCT	CBT-BISC	Body image disturbance (BDD-YBOCS), ART adherence (electronically monitored), depressive symptoms (MADRS), and global functioning (GAF)	46.2	Men: 97.7% gay and 2.3% bisexual	34.1% African American/Black, 63.6% White, 4.5% Native American, maintained over 6 months	The experimental group had significantly lower body image disturbance and higher global functioning compared to TAU. Results generally maintained over 6 months	
Burgess et al., 2018	Australia	46 MSM who use methamphetamine	6-week intervention, 1, 3, 6, and 12 months follow-up	Group	In-person	To evaluate Re-Wired, a structured methamphetamine treatment and support program for MSM, a free, 6-week therapeutic group, and Re-Wired 2.0, a follow-up peer support group	Pre-experimental with pre-test and post-test	Harm reduction, mindfulness, and a peer support of substance use. (DUDIT), Self-Management and Recovery Training model	Frequency of substance use, methamphetamine use, psychological distress (K10), personal well-being (PWI), and readiness and willingness to change methamphetamine use behavior	NR	gMSM	NR	Modest improvements in psychological distress, personal well-being, readiness to change, and a decrease in methamphetamine use	
Carrico et al., 2005b	United States	129 gay men LWHIV	10-week	Group	In-person	To examine the degree to which CSM effects on depressed mood and social support in men with symptomatic HIV infection were maintained over a 6-month follow-up	RCT	A 10-week CBSM group intervention; participants attended weekly 135-min sessions, 90 min of stress management and 45 min of relaxation. The control group received an all-day psycho-educational seminar following a 10-week waiting period	Depression symptoms (BDI), social provisions (SPS), and coping with HIV-related physical symptoms (COPE)	35.6	Gay men	56% Caucasian, 33% Latinx; other participants were African American, Native American, or of multicultural heritage	CBSM group reported significant decrease over a 6-month follow-up in the CDI total score and in the affective subscale. They also reported significant increases in perceived American, social support over the 6 months	
Carrico et al., 2005a	United States	49 gay and bisexual men LWHIV	15 months: baseline, intervention (10-week CBSM group) immediately following, 6-to-12-month follow-up	Group	In-person	To examine the long-term effects of a group-based CBSM intervention on distress, dysphoria, perceived social support, and herpes virus IgG antibody titers	RCT	A group-based CBSM intervention was assigned as a group that experienced weekly 135-min sessions for stress management (90 min) and relaxation training (45 min). The wait-list control group received a condensed version of the didactic and experiential components presented in CBSM	Distress and dysphoria (POMS anxiety, depression, and anger subscales), depressive symptoms (BDI), social support (SPS), and blood samples	34.9	Men, gay and bisexual	65% White, 27% Latinx	CBSM participants reported a 23% decrease in dysphoria. Groups did not differ in levels of dysphoria at the 6- to 12-month follow-up assessment	

Table 1

Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Individual/group	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)	Sample characteristics		
									Mean age (years)	Sex/Gender/Sexual identity	Ethnicity
Carrico et al., 2006	United States	130 gay, bisexual men, LWHIV	10-week intervention period	Individual group	To examine the efficacy of the CBISM intervention in combination with ART adherence training	RCT	Group-based CBISM administered in weekly 135-min sessions. All participants received MAT	Self-reported adherence, coping skills (COPE inventory), and depressed mood (POMS, subscale)	41.6	Gay and bisexual men	52% non-Latin White (21% African American, 20% Latinx)
Carrico et al., 2009	United States	936 persons and 5-, 10-, 15-, 20-, and 25-month follow-up	15 months	Individual group	To examine the efficacy of this intervention with respect to measures of negative affect and positive psychological resources	RCT	CBT	Self-reported CD4+, HIV viral load, depressive symptoms (BDI), state anxiety (STAI), burnout, perceived stress (PSS), PSOM, CSE, SPS, and HIV transmission risk behavior	39.8	79% men (of whom 72% were MSM) and 21% female	32% White, 45% African American, 15% Latinx, 8% other
Chesney et al., 2003	United States	149 gay or bisexual men, LWHIV	Baseline and assessments at 3, 6, and 12 months	Group	To compare the effects of a theory-based coping effectiveness training (CET) intervention with an active informational control condition and a waiting-list control (WLC) condition on psychological distress and positive mood	RCT	Coping effectiveness training, including stress management and coping strategies (10 group sessions over 3 months and six maintenance sessions)	Depression symptoms (CES-D), perceived stress (PSS), burnout, anxiety (STAI), and negative and positive morale (Affect Balance Effect), coping self-efficacy, social support (Social Relationships Scale), optimism (LOT-R), and positive states of mind	39.0	Men; gay and bisexual	82% White
Clements et al., 2021	United States	11 transgender and non-binary individuals	Pre-assessment, intervention, focus group, personal narrative, post-assessment	Group	To examine the impact of participating in a focus group and pre-test creating individual videos of positive identity narratives on participants' positive identity and well-being	Quasi-experimental with pre-test and post-test	A 90-min strengths-based focus group about positive transgender identity	Positive identity (T-PIM) and well-being (Oxford Happiness Questionnaire OHQ, SWLS, and FS)	27.0	3 trans men, 3 trans women, 4 nonbinary, 1 questioning, 4 queer, 2 bisexual, 2 lesbian, 1 gay, 1 asexual, 1 questioning, 1 straight (they could identify more than one)	9 White, 1 Black, 1 Multiracial

Table 1

Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Individual group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)	Sample characteristics		
										Mean age (years)	Sex/Gender/ Sexual identity	Main findings
Fobair et al., 2002	United States	20 lesbian women with primary breast cancer	12-week intervention and 3-, 6-, and 12-month follow-up	Group	In-person	To examine the usefulness of Supportive-Expressive group therapy in helping lesbian women with the problems of a recent diagnosis of breast cancer	Pre-experimental mental with post-test	Supportive-Expressive group and therapy	Pain levels, sleep quality and quantity, mood disturbance (POMS): anxiety, depression, hostility, confusion, vigor, fatigue), clinical anxiety and depression (HADS), intrusive thoughts and avoidance (IES), coping responses to cancer (Mini-MAC), emotional self-efficacy (SESES-C), social support (SNSA), family relations (FRI), impact of illness on QoL, satisfaction and comfort with body image, and satisfaction with sexuality	47.0	All participants were women who self-identified as lesbians with primary breast cancer	Significant decrease in emotional distress, intrusiveness, avoidance, and anxious preoccupation, depression, and improved self-efficacy, and significantly less family conflict, less pain, better sleep, and informational social support were unexpected. No changes in body image, sexuality, or attitudes toward health-care providers
Gayner et al., 2012	Canada	117 gay men LWHIV	Eight weeks of intervention and six months of follow-up	Group	In-person	To determine whether mindfulness-based stress reduction would help gay men LWHIV improve psychosocial functioning and increase mindfulness compared to TAU	RCT	Mindfulness-Based Stress Reduction	HIV-specific distress (IES: intrusion and avoidance), anxiety and depressive symptoms (HADS), positive and negative affect (PANAS), and mindfulness ability (TMS: curiosity and decentering)	44.0	All participants were gay men LWHIV	Participants in the experimental group developed higher levels of mindfulness and demonstrated a significant decrease in avoidant coping and significantly higher positive affect compared to the control group. No significant differences were found between the groups regarding levels of depression, general anxiety, or intrusive thoughts
Huang et al., 2024	China	60 young gay men	Six months	Individual	Mixed	To examine whether mentorship could promote young gay men's identities and well-being, and whether a mentor's sexual orientation matters	Three-arm RCT (Arm A: sexual minority mentor; Arm B: heterosexual mentor; Arm C: control)	Peer mentorship program (community-based intervention focused on affirmational support and companionship rather than traditional psychoeducational therapy)	Depression (PHQ-9), general anxiety (GAD-7), resilience (CD-RISC), loneliness, internalized homonegativity, sexual identity development, and body image acceptance/concern	22.3	All participants identified as gay men or men; 96.5% identified as male and 3.5% as non-binary	Both groups showed improvements over time in internalized homonegativity, loneliness, resilience, and body image acceptance. The intervention had no significant effect on depression or anxiety for either group

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	Study period	Study population	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)		Sample characteristics	
							Mean age (years)	Sex/Gender/	Ethnicity	Main intervention findings
Ingraham et al., 2017	United States	12-16 weeks	266 lesbian, bisexual, and transgender women	To examine the effects of the WHAM intervention on outcomes associated with chronic disease risk among overweight/obese lesbian/bisexual women over 40	Quasi-experimental with pre-test and post-test	Mindfulness-based interventions: (1) an adaptation of MBSR focused on mindful eating, (2) IE, and (3) HAES	NR as a total average; 61.1% were 40-59 years old, and 38.9% were 60+	88.8% cisgender female, 1.9% trans woman, and 9.4% other gender identities, 82.3% were lesbian or gay, 11.7% bisexual, and 6.0% "something else"	72.6% White (non-Latinas), 9.8% Black (non-Latinas), 9.4% Latinas, and 7.9% other/multi-racial	Significant improvements in mental health, QoL, and nutrition among the mindfulness group. All participants achieved small but significant weight and waist circumference reductions
Jackson et al., 2022	United States	10 weeks of intervention and three months of follow-up	21 young Black and Latinx gay and bisexual men	To test the feasibility and acceptability of a GTT for intersecting stigma-related stressors	Open pilot	LGBTQ+ affirmative CBT with an intersectional approach	26.5	95.24% cisgender men and 4.76% trans men. 76.19% were gay, 14.29% bisexual, and 9.52% queer	33.33% Latino/Latinx, 23.81% White (Latinx), 23.81% Black (Latinx), and 19.05% Black (non-Latinx)	The pilot showed decreases in perceived sexual and racial minority stress, and improvements in depression, anxiety, and suicidality. Sexual health outcomes like PrEP uptake and condom self-efficacy also improved. No significant changes were found in alcohol use or internalized homophobia
Klimek et al., 2020	United States	12 individual weekly sessions of the intervention, and 3 and 6 months of follow-up	44 sexual minority men LWHIV and with body image disturbance	To assess skills-based mediators of treatment outcome in a body image treatment (CBT-BISC) for sexual minority men LWHIV and body image disturbance	Two-arm RCT	CBT-BISC	46.0	100% sexual minority men. 97.7% identified as gay and 2.3% as bisexual	63.6% White, 34.1% Black, 4.5% Native American, and 4.5% identified as "Other" race	The CBT-BISC intervention significantly reduced body image disturbance and improved coping skills compared to the control group
Lelutiu-Weinberger et al., 2025	Romania	16 weeks of intervention and five-month follow-up	25 transgender and gender expansive	To adapt an existing LGBTQ-affirmative CBT intervention and determine its feasibility, acceptability, and preliminary efficacy among the Romanian population	One-arm RCT	LGBTQ-affirmative CBT	25.2	44% trans women, 40% trans men, and 16% non-binary individuals. Regarding sexual orientation: 32% heterosexual, 24% queer, 20% bisexual, 16% pansexual, 4% gay, and 4% demisexual	84% Romanian, 4% Roma, 12% multi-ethnic and other	Large decrease was found in symptoms of depression, anxiety, identity concealment, and anticipated stigma

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Loca- tion	n	Study period	Indi- vidual/ group	In- ter- ven- tion	Study design	Study aims	Intervention	Health outcome (instru- ments in parentheses)	Sample characteristics			Main intervention findings
										Mean age (years)	Sex/Gender/ Sexual identity	Ethnicity	
Li et al., 2025	China	28 sexual minority men LWHIV	6 weeks of intervention and 1 month of follow-up	Group	Online	To introduce and adapt the validated MSC program for sexual minority men diagnosed with HIV, and to evaluate its efficacy	A two-arm RCT pilot (online self-comparison group vs. waitlist)	An adaptation of the Mindful Self-Compassion intervention to an online self-compassion group intervention	ART adherence, health-related quality of life (MOS-HIV), and self-compassion	31.0	100% sexual minority men	96.4% Han ethnicity	The treatment group significantly improved ART adherence and "health transition" (a QoL)
Lutgen- dort et al., 1998	United States	40 gay men LWHIV	10 weeks	Group	In-person	To examine the contribution of a CBT Stress Management intervention to improve cognitive coping skills and social support	Multivariate split-plot randomized experimental design	CBSM	CD3+ and CD4+ T-lymphocyte cell counts, mood disturbance and distress (POMS), depressive symptoms (BDI), coping skills (COPE), and perceived social support (SPS)	36.8	100% gay men LWHIV	62% White, 35% Latino, and 2.5% African American	The treatment group showed significant increases in positive reframing, acceptance, and social support
Manner- ström et al., 2026	Finland	58 people seeking gender-affirming treatment	10 weeks	Individual	Mixed	To obtain preliminary data on the effect of early-onset trans-sensitive therapy on mental distress and well-being among persons seeking gender-affirming treatment	RCT pilot	Trans-sensitive short-term CBT	Mental distress (GHQ-12) and mental well-being (Short Warwick-Edinburgh Mental Well-Being Scale)	Approximately 26.5 years and 17.5% non-binary	43.8% men, 38.6% women, and 17.5% non-binary	NR	Significant reduction in mental distress among treatment group
Millard et al., 2016	Australia	132 gay men LWHIV	Baseline, intervention (7-week post-intervention), and 12-week follow-up	Group	Online	To evaluate the effectiveness of an online self-management program in improving health outcomes and well-being for gay men LWHIV	RCT; the Positive Outlook program (EG) and TAU (CG)	The online Positive Outlook Program, based on self-efficacy theory, uses a self-management approach to enhance skills, confidence, and abilities to manage HIV-related psychological issues	HIV-related quality of life (PROQOL-HIV), health education outcomes (HeiQ), and HIV-specific self-efficacy (POSE)	42.3	gbMSM	NR	Significant improvement in EG on HIV-related quality of life, health education outcomes, and self-efficacy, compared to the control group
Noriega et al., 2026	United States	15 sexual minority men LWHIV and cancer	10 weeks	Group	Online	To describe the cultural adaptation and evaluation of a web-based CBSM intervention	Pre-experimental with pre-test and post-test	CBT stress management	CD4 count, HIV viral load status, ART adherence, health-related QoL (FACT-G and MOS-HIV), general stress (PSS), disease-related distress/PTSD symptoms (IES-R), coping self-efficacy (CSES), and perceived social support (ISEL)	51.2	100% cisgender as gay, 13.3% as bisexual, and 6.7% as pansexual	100% Latino; 66.7% White, 6.7% Black, 13.3% Other; and 13.3% missing	Significant improvements in emotional well-being and reduced PTSD avoidance symptoms and tics

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Loca- tion	Study period	In- di- vidual/ group	In- per- son/ online	Study aims	Study design	Health outcome (instruments in paren- theses)	Sample characteristics			Main intervention findings	
								Mean age (years)	Sex/Gender/ Sexual identity	Ethnicity		
Pachank- is et al., 2020	United States	19 sexual minority women	Baseline, inter- vention (10-ses- sions), three and six months post-base- line	Indi- vidual	In-per- son	RCT; intervention vs. waitlist (CG)	To test the effica- cy of a minori- ty-stress-focused CBT to improve the mental and behavioral health of sexual minori- ty women	Depression, anxi- ety, and alcohol use problems: minori- ty-stress-specific processes and uni- versal risk factors for psychopathology	25.6	Women: 56.7% cisgen- der	58.3% White, 41.7% racial or ethnic minorities	Improvements in depression, anxiety, and psy- chological distress, a marginally sig- nificant condition x time interaction effect for alcohol use between groups and pre- post assessments
Pachank- is et al., 2015	United States	60 young gay bisexual men	Baseline, inter- vention (10-ses- sions), Three months post-base- line, and six months postbase- line	Indi- vidual	In-per- son	RCT; intervention group vs. 3-month waitlist	To examine the potential efficacy of this CBT ap- proach adapted for young adult gbMSM minority stress experienc- es in decreasing mental health and associat- ed health-risk behaviors	Depressive and anxi- ety symptoms, alcohol use problems, sexual compulsivity, safer sex self-efficacy, risky sex- ual practices, minority stress processes, and universal risk factors	25.94 26.19 IG, 25.69 CG	Men. Gay/ queer 96.9% IG, 87.1% CG; Bisexual 3.1% IG, 12.9% CG	White 50% IG, 54.8% CG, Oth- er/mixed 31.3% IG, 32.3% CG; Black/ condomless anal sex, and margin- ally significant 18.8% IG, 12.9% CG; Pacific Islander 3.1% IG, 3.2% CG; Asian 9.7% CG; American Indian or Alaska Native 3.2% CG	Improvements in alcohol use prob- lems, depressive symptoms, sexual compulsivity, con- dom use self-effi- cacy, past-90-days cacy, past-90-days condomless anal sex, and margin- ally significant 18.8% IG, 12.9% CG; Pacific Islander 3.1% IG, 3.2% CG; Asian 9.7% CG; American Indian or Alaska Native 3.2% CG
Pachank- is et al., 2020	United States	108 LGBTQ young adults	3 days of inter- ven- tion and 3 months of follow-up	Indi- vidual	Online	Three-arm RCT	To compare the efficacy of ex- pressive writing and self-affirma- tion interventions to a neutral control	Depressive symptoms (CES-D), general psychological distress (BSI), anxiety (BAI), suicidal ideation (SI- DAS), alcohol misuse (AUDIT), substance misuse (SIP-DU), and past 90-day HIV-trans- mission-risk sex behaviors	23.7	55.6% were women and 44.4% were men; 24.1% were trans or gender non-conform- ing. Sexual orientation: 51.9% gay or lesbian, 27.8% bisexual, and 13.9% pan- sexual	87.1% White, 5.6% African American, 1.9% Native American, 3-month follow-up and 4.6% CG compared to the other; only CG 1.9% were Latinx	The intervention led to significant improvements in depressive symptoms and general psycholog- ical distress at the 3-month follow-up compared to the CG

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Individual group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)	Sample characteristics			Main intervention findings
										Mean age (years)	Sex/Gender/ Sexual identity	Ethnicity	
Rashkovsky et al., 2025	United States	161 women veterans with military sexual trauma	12 sessions of intervention, and 2- and 4-month follow-up	Individual	Online	To report outcomes of a SWM veterans participating in an RCT of STAIR compared to PCT for PTSD following MST	Secondary analysis of an RCT	STAIR vs. PCT for PTSD	PTSD symptoms (PCL-5), depression (BDI-II), emotion regulation difficulties (DERS), posttraumatic stress disorder (PTSD) symptoms (PCL-5), maladaptive beliefs (PMBs), and perceived social support (ISEL)	45.45 years for sexual minority women and 44.19 years for heterosexual	100% female veterans. 26.1% were sexual minority women, and 73.9% were heterosexual	In the sexual minority group: 69.0% White and 28.6% African American. In the heterosexual group: 54.6% White, 20.2% Latina, and 18.5% Black/African American	Both groups improved significantly in PTSD symptoms. However, STAIR outperformed PCT in decreasing PTSD symptoms, improving emotion regulation, correcting posttraumatic maladaptive beliefs, and decreasing depression
Riggle et al., 2014	United States	52 LGBTQ+ young adults and allies	One time (pre, a 30-minute talk on positive LGBTQ+ identities, post- and 1-month follow-up)	Group	In-person	To assess the impact of a brief positive identity intervention on LGBTQ+ young adults	Pre-experimental design with pre-post and one-month follow-up	Intervention on positive experiences of LGBTQ+ young adults and allies	Positive LGBTQ+ identity, collective self-esteem, and individual self-esteem (LGBTQA Scale, Collective Self-Esteem Scale, Rosenberg Self-Esteem Scale)	21.4	48.1% female, 32.7% male, 13.4% genderqueer, 5.8% trans, 28.9% lesbian or woman-loving-woman, 19.2% gay man or man-loving-man, 19.2% queer, 17.3% bisexual, 11.5% heterosexual, and 3.9% pansexual	84.6% White, 7.7% biracial, 3.9% Latinx or South American, 1.9% Indian/ Native American, 1.9% Asian American/Pacific Islander	The positive identity and the self-esteem significantly increased from the pre-to-post intervention. The follow-up scores did not significantly differ from pretest scores
Stevens et al., 2020	United States	170 LGBTQ+ and cisgender straight-ally youth and young adults experiencing homelessness	Pre-intervention, discharge at 6 months after intake	Group	In-person	To identify key types of self-acceptance among ITEAM participants	Pre-experimental design with pre-post	ITEAM affirming system (five-year affirming, system-of-care program for homeless LGBTQ+ and cisgender allied youth and young adults). The program included LGBTQ+ affirming clinical treatment, employment/education assistance, and sexual health education/HIV testing, securing appropriate housing options, among others	Self-acceptance (Self-Acceptance Scale), mental health status, housing stability, and employment status (SAMSHA Outcome Measures for GPRA Tool)	19.7	45.3% female, 44.7% male, 10% trans/gender non-conforming; 85% LGBTQ+	42% Latino(a), 36.4% White	Significant increases in self-acceptance. Employment and housing stability significantly improved over time

Table 1

Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Individual group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)			Sample characteristics			Main findings
												Mean age (years)	Sex/Gender/identity	Ethnicity	
Strika-Bruneau et al., 2024	France	10 MSM with problematic chemsex	13-16 sessions with 10 days between sessions, and three to four months of follow-up	Individual	In-person	To evaluate whether ACT could be an effective approach for chemsex and pre-exposure prophylaxis (PrEP) for adult MSM with anxiety and depressive symptoms who self-referred to an outpatient psychiatric department for self-reported problematic chemsex	Revision of practice of a post-exposure approach of a pre-exposure prophylaxis (PrEP) design with post and follow-up	ACT	Psychological flexibility (AAQ-2), symptoms of anxiety and depression (HADS), and intensity of sexual addiction/compulsive sexual behavior (QMICA-Se)	37.9	100% male; 40% identified as gay, 20% as bisexual, and 40% preferred not to use labels or used terms like "MSM"	40% White European, 40% Middle Eastern or North African, and 20% Black European			There was a significant improvement in psychological flexibility. Anxiety symptoms, depressive symptoms, and the intensity of sexual addiction showed a notable decrease
Weiss et al., 2003	The Netherlands	85 gay men LW/HIV	A group intervention (GI) for four months of weekly sessions followed by five monthly maintenance sessions (T1 baseline, T2 four months at the end of the weekly intervention period, T3 9 months at the end of the intervention, and T4 15 months)	Group	In-person	To compare the effects of a supportive-expressive group intervention (GI) with an educational control condition (EC) on long-term psychosocial adjustment in gay men LW/HIV	Experimental design with an educational-only control condition	A group support intervention based on a therapy manual with the session structure and each week's topic (setting personal goals, stress management, daily health and medical care, support system, suppressed emotions, and sexuality)	Psychological distress (Hopkins Symptom Checklist, BDI, and POMS)	40.3 GI, 37.1 EC	Men	93.2% White GI, 100% White EC			No significant differences between groups. Overall, distress levels decreased over time
Williams et al., 2013	United States	88 African American MSMW and with childhood sexual abuse experiences	Baseline assessment, 3-month and 6-month assessments	Group	In-person	To test a stress-focused sexual risk reduction intervention (ES-HIM) targeting HIV-positive African American MSMW with child sexual abuse	RCT	The Enhanced Sexual Health Intervention for Men (ES-HIM) or health promotion intervention (HP)	Childhood sexual abuse, sexual risk behaviors, posttraumatic stress disorder symptoms, depressive symptoms, and a biomarker composite of primary mediators of the stress response system, including cortisol levels	46.6	Men, not self-identified as gay	100% African American			No significant differences between groups on anal receptive intercourse or vaginal sex without a condom, and the number of sexual partners. There was a significant decrease in both groups in PTSD and depressive symptom severity. The decrease in depressive symptoms was higher within the experimental group

Table 1
Original research articles on psychosocial interventions to improve mental health and well-being among LGBTQ+ persons (continue)

Author	Location	n	Study period	Study group	In-person/online	Study aims	Study design	Intervention	Health outcome (instruments in parentheses)	Sample characteristics			Main intervention findings
										Mean age (years)	Sex/Gender/identity	Ethnicity	
Yang et al., 2018	China	10 MSM with a recent HIV diagnosis	Three weeks	Individual	In-person	Pre-post outcomes	Type 1 pilot hybrid effectiveness-implementation trial	CBT	HIV-related distress, depression (PHQ-9), problems in general psychological adjustment (BASE-6), resilience, HIV coping skills, and perceived social support (MOS-SSS)	26.5	100% MSM	NR	The pilot demonstrated significant decrease in HIV-related distress, depression, and adjustment problems, while increasing resilience and social support
Ye et al., 2017	China	60 MSM LWHIV	Four weeks	Group	In-person	To evaluate the efficacy of a group intervention to improve well-being and adaptive coping strategies	RCT	CBT and rational-emotive therapy	PTG, PTSD, and problem-focused emotion-focused coping strategies (WCC-R)	27.5	100% MSM	NR	The intervention group showed significant increases in problem-focused coping and posttraumatic growth, together with a significant decrease in PTSD symptoms
Zhang et al., 2019	China	420 men LWHIV	Over twelve monthly sessions	Group	In-person	To introduce CDSM to HIV management by assessing its effect on the post-MSM population in QoL and psychological and behavioral outcomes	Quasi-experimental design with pre-post	CDSM, based on psychological behavior therapy, through a workshop that included symptom management, problem-solving, HIV-related emotion management, physical exercises and workouts, nutrition instructions, prompt use of appropriate medications, and communicative skills	Quality of life (MOS-HIV) and psychological variables (e.g., depression and anxiety symptoms, condom use, and adherence to taking medicine)	48.4	Men	NR	Significant changes in the intervention group in six MOS-HIV scales (general health, role function, cognitive function, QoL, health transition, and mental scores). They showed a statistically significant decrease in anxiety symptoms and an increase in the prevalence of condom use

Note: AAQ-2: Acceptance and Action Questionnaire; ACT: Acceptance and Commitment Therapy; ART: antiretroviral therapy; AUDIT-C: Alcohol Use Disorders Identification Test-Consumption; BAI: Beck Anxiety Inventory; BASE-6: Brief Adjustment Scale; BDD-YBOCS: Yale-Brown Obsessive-Compulsive Scale Modified for Body Dysmorphic Disorder; BDI: Beck Depression Inventory-II; BICSI: body image coping skills inventory; BIDQ: body image disturbance questionnaire; BISC: Body Image Self-Consciousness Scale; BSI: Brief Symptom Inventory-18; CBDM: cognitive behavioral stress and self-management; CBT: cognitive behavioral therapy; CBT-BISC: Cognitive Behavioral Therapy for Body Image and Self-Care; CD-RISC: Connor-Davidson Resilience Scale; CDSM: chronic disease self-management; CES-D: Center for Epidemiologic Studies Depression Scale; CET: Coping Effectiveness Training; CG: Control Group; COPE: Coping Orientation Problems Experienced; CSE: coping self-efficacy; CSES: Coping Self-Efficacy Scale; DERS: Difficulties in Emotion Regulation Scale; DUDIT: Drug Use Disorders Identification Test; EC: Educational Control; EG: Experimental Group; EQuIP: Empowering Queer Identities in Psychotherapy; ES-HIM: Enhanced Sexual Health Intervention for Men; ESTEEM: Effective Skills to Empower Effective Men; FACT-G: Functional Assessment of Cancer Therapy; FRI: Family Relationship Index; FS: Flourishing Scale; GAD: generalized anxiety disorder; GAD-7: Generalized Anxiety Disorder-7; GAF: Global Assessment of Functioning; gbMSM: gay, bisexual and other men who have sex with men; GHQ: General Health Questionnaire; GI: Group Intervention; gMSM: gay men and other men who have sex with men; GPRA: Government Performance and Results Act; GTT: group therapy treatment; HADS: Hamilton Anxiety and Depression Scale; HAES: health at every size; HeIQ: Health Education Impact Questionnaire; HIV-Info: HIV information condition; HP: Health Promotion; HSCL: Hopkins Symptom Checklist; IE: intuitive eating; IES: Impact of Event Scale; IES-R: Impact of Event Scale-Revised; IG: Intervention Group; ISEL: Interpersonal Support Evaluation List; ITAM: (program name); K10: Kessler Psychological Distress Scale; LGBTQ+: Lesbian, Gay, Bisexual, Transgender, Queer, and others; LGBTQA: Lesbian, Gay, Bisexual, Transgender, Queer, and Asexual; LOT-R: Life Orientation Test-Revised; LWHIV: living with HIV; MAC: Mental Adjustment to Cancer; MADRS: Montgomery-Asberg Depression Rating Scale; MAT: Medication Adherence Training; MBSR: Mindfulness-Based Stress Reduction; MEQ: mindful eating questionnaire; MOS-HIV: Medical Outcomes Study-HIV; MOS-SSS: MOS Social Support Survey; MSC: Mindful Self-Compassion; MSM: men who have sex with men; MSMW: men who have sex with men and women; MST: military sexual trauma; NR: not explicitly reported in the study; OASIS: Overall Anxiety Severity and Impairment Scale; ODSIS: Overall Depression Severity and Impairment Scale; OHQ: Oxford Happiness Questionnaire; PANAS: Positive and Negative Affect Schedule; PCL-5: PTSD Check List Scale; PCT: Patient Health Questionnaire; PHQ-9: Patient Health Questionnaire-9; PMBS: Posttraumatic Maladaptive Beliefs Scale; POMS: Profile of Mood States; POSE: Perceived Self-Efficacy; PREP: pre-exposure prophylaxis; PROQOL-HIV: Patient-Reported Outcomes Quality of Life-HIV; PSOM: positive states of mind; PSS: Perceived Stress Scale; PTG: posttraumatic growth; PTSD: post-traumatic stress disorder; PWI: Personal Wellbeing Index; QMICA-Se: Questionnaire de Mesure de l'intensité des Conduites Addictives Sexuelles; QoL: quality of life; RCT: randomized control trial; SAMHSA: Substance Abuse and Mental Health Services Administration; SESES-C: Stanford Emotional Self-Efficacy Scale; SIDAS: Suicide Ideation Attributes Scale; SIP-DU: Short Inventory of Problems-Modified for Drug Use; SMW: sexual minority women; SANS: Scale for the Assessment of Negative Symptoms; SPS: perceived social support; STAI: State Trait Anxiety Inventory; STAIR: Skills Training in Affective and Interpersonal Regulation; SWLS: Satisfaction With Life Scale; TAU: treatment as usual; TGE: Transgender and Gender Expansive; TMS: Toronto Mindfulness Scale; TNB: Transgender and Nonbinary; T-PIM: Transgender Positive Identity Measure; VR-12 PCSMCS: Veterans Rand 12 Item Health Survey Physical Component Score and Mental Component Score; WCC-R: Ways of Coping Checklist Revised; WHAM: women's health and mindfulness; WLC: wait-list control. Ladinno refers to persons with mixed Indigenous, European, and African ancestry.

et al., 2006; Carrico, Antoni, Pereira, et al., 2005; Carrico, Antoni, Weaver, et al., 2005; Carrico et al., 2009; Chesney et al., 2003; Gayner et al., 2012; Huang et al., 2024; Klimek et al., 2020; Lelutiu-Weinberger et al., 2025; Li et al., 2025; Mannerström et al., 2026; Millard et al., 2016; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Rashkovsky et al., 2025; Williams et al., 2013; Ye et al., 2017) and other experimental designs ($n = 2$) (such as multivariate split-plot randomized experiment and experimental with pre-post) (Lutgendorf et al., 1998; Weiss et al., 2003). Other designs were pre-experimental (one group) with pre-test and post-test ($n = 9$) (Amodeo et al., 2018; Antoni et al., 2000; Barrington et al., 2023; Burgess et al., 2018; Fobair et al., 2002; Noriega Esquivas et al., 2026; Riggle et al., 2014; Stevens et al., 2020; Strika-Bruneau et al., 2024), quasi-experimental ($n = 3$) (Clements et al., 2021; Ingraham et al., 2016; Zhang et al., 2019) and pilot studies ($n = 2$) (Jackson et al., 2022; Yang et al., 2018).

All the studies aimed to identify the impact of the intervention on mental health distress symptoms and improvements in protective factors (such as social support, well-being, and quality of life). Fifteen interventions were designed to improve physical health among persons living with HIV (Antoni et al., 2006; Antoni et al., 2000; Barrington et al., 2023; Blashill et al., 2017; Carrico et al., 2006; Carrico, Antoni, Pereira, et al., 2005; Carrico, Antoni, Weaver, et al., 2005; Carrico et al., 2009; Klimek et al., 2020; Li et al., 2025; Lutgendorf et al., 1998; Millard et al., 2016; Noriega Esquivas et al., 2026; Williams et al., 2013; Zhang et al., 2019), and two studies focused on other health variables (such as body weight and sleep quality) (Fobair et al., 2002; Ingraham et al., 2016).

Seven interventions addressed substance use (Burgess et al., 2018; Lelutiu-Weinberger et al., 2025; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Stevens et al., 2020; Strika-Bruneau et al., 2024). However, only one aimed to address using methamphetamine, mephedrone, and cathinones during sex to enhance sexual encounters (i.e., chemsex) (Strika-Bruneau et al., 2024). Additionally, some studies presented results on the feasibility, adaptation, and acceptability of the intervention ($n = 12$) (Austin et al., 2018; Barrington et al., 2023; Blashill et al., 2017; Gayner et al., 2012; Huang et al., 2024; Jackson et al., 2022; Lelutiu-Weinberger et al., 2025; Li et al., 2025; Mannerström et al., 2026; Noriega Esquivas et al., 2026; Pachankis, McConocha, et al., 2020; Yang et al., 2018).

Regarding the psychosocial approach, most studies used CBT ($n = 26$). Some used traditional CBT ($n = 6$) (Carrico et al., 2009; Rashkovsky et al., 2025; Stevens et al., 2020; Williams et al., 2013; Yang et al., 2018; Ye et al., 2017) while others ($n = 14$) used a CBT variant. These included ACT, cognitive behavioral stress and self-management [CBSM], Cognitive Behavioral Therapy for Body

Image and Self-Care [CBT-BISC]) (Antoni et al., 2006; Antoni et al., 2000; Barrington et al., 2023; Blashill et al., 2017; Carrico et al., 2006; Carrico, Antoni, Pereira, et al., 2005; Carrico, Antoni, Weaver, et al., 2005; Chesney et al., 2003; Klimek et al., 2020; Lutgendorf et al., 1998; Noriega Esquivas et al., 2026; Pachankis, Williams, et al., 2020; Strika-Bruneau et al., 2024; Zhang et al., 2019). Six studies used the affirmative CBT approach (Austin et al., 2018; Jackson et al., 2022; Lelutiu-Weinberger et al., 2025; Mannerström et al., 2026; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020). Other interventions were based on mindfulness ($n = 3$) (Gayner et al., 2012; Ingraham et al., 2017; Li et al., 2025), social community support ($n = 5$) (Amodeo et al., 2018; Burgess et al., 2018; Fobair et al., 2002; Huang et al., 2024; Weiss et al., 2003), or other integrative approaches ($n = 3$) (Clements et al., 2021; Millard et al., 2016; Riggle et al., 2014).

Regarding health outcomes, most studies measured at least one form of psychiatric distress ($n = 35$). Seventeen focused on decreasing depression and anxiety symptoms (Antoni et al., 2006; Antoni et al., 2000; Barrington et al., 2023; Carrico et al., 2009; Chesney et al., 2003; Fobair et al., 2002; Gayner et al., 2012; Huang et al., 2024; Jackson et al., 2022; Lelutiu-Weinberger et al., 2025; Lutgendorf et al., 1998; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Stevens et al., 2020; Strika-Bruneau et al., 2024; Weiss et al., 2003), nine only considered decreasing depressive symptoms (Austin et al., 2018; Blashill et al., 2017; Carrico et al., 2006; Carrico, Antoni, Pereira, et al., 2005; Carrico, Antoni, Weaver, et al., 2005; Klimek et al., 2020; Rashkovsky et al., 2025; Williams et al., 2013; Yang et al., 2018), while six focused on PTSD/trauma (Fobair et al., 2002; Gayner et al., 2012; Noriega Esquivas et al., 2026; Rashkovsky et al., 2025; Williams et al., 2013; Ye et al., 2017). The remaining studies ($n = 3$) focused on overall mental distress (Burgess et al., 2018; Mannerström et al., 2026; Millard et al., 2016).

Almost half the studies formally assessed quality of life and well-being ($n = 16$) (Barrington et al., 2023; Burgess et al., 2018; Chesney et al., 2003; Clements et al., 2021; Fobair et al., 2002; Gayner et al., 2012; Huang et al., 2024; Ingraham et al., 2016; Li et al., 2025; Lutgendorf et al., 1998; Mannerström et al., 2026; Millard et al., 2016; Noriega Esquivas et al., 2026; Riggle et al., 2014; Yang et al., 2018; Zhang et al., 2019). Other common variables were sexual behavior/HIV-care (viral load, CD4 count) ($n = 17$) (e.g., Antoni et al., 2006; Blashill et al., 2017; Carrico et al., 2009), minority stress/coping process ($n = 12$) (e.g., Austin et al., 2018; Huang et al., 2024; Mannerström et al., 2026), and substance use ($n = 9$) (Burgess et al., 2018; Huang et al., 2024; Ingraham et al., 2016; Jackson et al., 2022; Lelutiu-Weinberger et al., 2025; Pachankis et al., 2015; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Strika-Bruneau et al., 2024).

Participant characteristics

The age of participants ranged from 18 years (Austin et al., 2018) to 70 years (Gayner et al., 2012). Twenty-eight studies focused on cis gay/bisexual men/men who have sex with men (gbMSM) (e.g., Barrington et al., 2023; Huang, 2024). Four studies included transgender/non-binary/non-conforming gender (Amodeo et al., 2018; Clements et al., 2021; Lelutiu-Weinberger et al., 2025; Mannerström et al., 2026), and another four focused mainly on cisgender lesbian, bisexual, and other women who have sex with women (Fobair et al., 2002; Ingraham et al., 2016; Pachankis, McConocha, et al., 2020; Rashkovsky et al., 2025). Regarding race/ethnicity, most of the studies (especially those conducted in the United States and Australia) included White (23.81% – 87.1%) (Jackson et al., 2022; Pachankis, Williams, et al., 2020), and Afrodescendant people (2.5% – 45%) (Carrico et al., 2009; Fobair et al., 2002; Lutgendorf et al., 1998). A smaller proportion of studies—not specifically designed for Latin/Latinx persons— included a representative sample of this population (1.9%, 9.4%, and 20.2% respectively) (Ingraham et al., 2017; Pachankis, Williams, et al., 2020; Rashkovsky et al., 2025). Except for the Guatemalan study, just eight studies included a small proportion of native Indigenous populations (10.9%, 4.5%, and 5.56% respectively) (Austin et al., 2018; Blashill et al., 2017; Carrico, Antoni, Pereira, et al., 2005; Klimek et al., 2020; Pachankis, McConocha, et al., 2020; Pachankis, Williams, et al., 2020; Rashkovsky et al., 2025; Riggle et al., 2014).

Intervention characteristics

Approximately a third of the studies reported a decrease in depression and anxiety symptoms in participants (regardless of their HIV status) after the intervention ($n = 14$). Especially those who used using the CBT affirmative approach or a variant of traditional CBT (e.g., Barrington et al., 2023; Lelutiu-Weinberger et al., 2025; Mannerström et al., 2026; Noriega Esquivés et al., 2026; Strika-Bruneau et al., 2024). CBT and person-centered therapies resulted in a significant decrease in PTSD symptoms (Noriega Esquivés et al., 2026; Rashkovsky et al., 2025; Williams et al., 2013; Ye et al., 2017).

Nine studies reported a specific improvement in the well-being of participants (Barrington et al., 2023; Burgess et al., 2018; Chesney et al., 2003; Clements et al., 2021; Jackson et al., 2022; Li et al., 2025; Lutgendorf et al., 1998; Noriega Esquivés et al., 2026; Zhang et al., 2019), with five achieving an improvement in the quality of life (Fobair et al., 2002; Ingraham et al., 2016; Lelutiu-Weinberger et al., 2025; Li et al., 2025; Zhang et al., 2019). Trans/non-binary persons reported a significant decrease in psychological distress after taking gender-sensitive therapies (Austin et al., 2018; Lelutiu-Weinberger et al., 2025; Mannerström et al.,

2026). However, some mindfulness and self-guided writing interventions showed no significant differences compared with control groups regarding anxiety, substance use, and suicide ideation (Gayner et al., 2012; Pachankis, Williams, et al., 2020).

Interventions designed to improve sexual and physical health reported a wide range of results. Stress management and health navigation interventions proved effective in controlling HIV viral load yet did not affect HIV-treatment adherence (Antoni et al., 2006; Barrington et al., 2023). The intervention of Pachankis et al. (2015) achieved significant decreases in risky behaviors for acquiring sexually transmitted infections (such as inconsistent condom use) but did not affect minority stress levels or emotional regulation. Conversely, Williams et al. (2013) reported that their intervention significantly decreased depression and PTSD symptoms but had no effect on the frequency of inconsistent condom use or the number of sexual partners compared to the control group. Li et al. (2025) reported that their self-compassion intervention significantly improved HIV treatment adherence yet had no effect on most of the quality-of-life dimensions assessed (such as mental health summary scores and social functioning). Burgess et al. (2018) reported a small decrease in methamphetamine use and psychological distress symptoms yet failed to provide statistical data for all sub-outcomes. Overall, interventions with a CBT-affirmative approach, as well as those incorporating both psychosocial factors (such as depression, body image, and trauma) and health behaviors, showed a strong improvement in mental health and well-being (Blashill et al., 2017; Jackson et al., 2022; Pachankis et al., 2015; Stevens et al., 2020).

Regarding the format of the intervention, no significant differences were observed in outcomes comparing individuals vs. the individuals vs. group, and in-person vs. online. However, some formats may be better suited to producing specific behavioral changes. In other words, while most individual (online or in-person) interventions showed positive outcomes in decreasing depression and anxiety symptoms (Barrington et al., 2023; Lelutiu-Weinberger et al., 2025; Strika-Bruneau et al., 2024), most of the group in-person interventions showed feasibility indicators for improving social support, positive affect, and well-being (Burgess et al., 2018; Gayner et al., 2012; Lutgendorf et al., 1998).

DISCUSSION AND CONCLUSION

This systematic review aimed to examine existing evidence of psychosocial interventions designed to improve mental health and well-being among LGBTQ+ adults. We found 37 independent interventions, most of which were CBT-based, all in English, mainly conducted in the United States and China, and lasting from 90 minutes to 15 months. About

half were group-based and mostly conducted in person. Study designs were usually RCTs, and while all of them specifically focused on mental health and wellbeing, a few also included health-behavior outcomes related to substance use and sexual encounters. Most of the studies worked with gbMSM aged between 20 and 52 years, who were mostly White or Afrodescendant people.

CBT-affirmative-based interventions significantly decreased psychiatric symptoms and increased protective mental health factors (i.e., [Barrington et al., 2023](#)). Traditional CBT interventions and other approaches (such as mindfulness) achieved mixed results. These findings align with the minority stress model ([Meyer, 2003](#)), suggesting that interventions explicitly addressing stigma-related stressors and affirming marginalized identities may yield more consistent benefits than generic approaches. The effectiveness of CBT and third-generation therapies in improving mental health and well-being among LGBTQ+ persons has been widely documented in the international literature ([Dunn et al., 2025](#); [Tudor-Sfetea & Topciu, 2024](#)). However, the affirmative approach may further contribute to these benefits through the management of minority stress and the inclusion of cultural humility. Therapist awareness of their self-cultural background and prejudices/privileges, ensuring that they do not interfere with the conceptualization of cases and treatment goals, are factors that enhance the result of interventions targeting LGBTQ+ persons ([Balsam et al., 2019](#); [Craig et al., 2025](#)). This point is also supported by the optimal outcomes observed of gender-sensitive interventions with trans and non-binary persons ([Lelutiu-Weinberger et al., 2025](#); [Mannerström et al., 2026](#)).

The effectiveness of CBT interventions did not differ between studies focused on LGBTQ+ persons living with HIV and studies with general LGBTQ+ samples. This is important because previous research has shown that HIV causes neuroinflammation, contributing to the emergence/persistence of mental health symptoms (such as depression), beyond the impact of stigma and other psychosocial factors ([Del Guerra et al., 2013](#); [Mudra Rakshasa-Loots, 2023](#)). CBT interventions may help decrease the neurological effects of HIV.

Although the search included four languages, we only found research articles published in English. We purposely searched databases indexing articles written in languages other than English to expand our search. While designing the systematic review, we originally aimed to include a sub-analysis of Latin American interventions, since this is the geographic context of the authors and the research setting of interest. However, we only found one study of Guatemala (i.e., [Barrington et al., 2023](#)). This was unexpected, given the evidence of LGBTQ+ mental health problems reported by systematic reviews in the region (e.g., [Bränström et al., 2024](#)), as well as the research on sexual health among gbMSM and trans persons ([Bardach et al., 2023](#); [Jiménez-Rivagorza et al., 2024](#); [Lozano-Verduzco](#)

[et al., 2023](#)). This gap is particularly concerning given the structural barriers in Latin America. Limited mental health research funding, persistent homonegativity, and the absence of national mental health surveillance systems disaggregating data by sexual orientation and gender identity, may perpetuate health inequities by invisibilizing the needs of LGBTQ+ populations ([Rosenberg et al., 2024](#)).

More psychosocial interventions addressing the mental health of LGBTQ+ persons in Latin America and the Caribbean must be conducted, because of the multiple intersecting stigmas to which this population is exposed compared with LGBTQ+ persons from high-income countries ([Cyrus, 2017](#); [Parra & Hastings, 2018](#)). Regarding the lack of findings from other regions (such as Southwest Asia and Africa), it is important to consider the religious and legal situation of being openly LGBTQ+ in these areas. “Conversion therapies” also constitute a significant barrier to the design and monitoring of mental health intervention programs targeting sexually diverse populations.

In keeping with the minority stress model ([Meyer, 1995](#)), previous research has shown that LGBTQ-related stigma affects physical and sexual health ([Devlin et al., 2024](#); [Veale, 2023](#)). This finding suggests that creating mental health interventions for LGBTQ+ persons would help address the rates of suicidal and psychiatric symptoms among this population ([Bränström et al., 2024](#); [Henry et al., 2021](#)). It could also improve the rates of HIV, HCV, and other physical health issues in sexually diverse populations, particularly among trans women and cis gay men ([Moradi et al., 2022](#); [UNAIDS, 2026](#)).

Although the studies addressing both mental and physical health showed overall positive trends, we found significant variations in their outcomes. Rather than a simple pattern, some interventions significantly decreased psychological distress but did not influence physical health ([Antoni et al., 2006](#); [Williams et al., 2013](#)), or vice versa ([Li et al., 2025](#)). This heterogeneity suggests that the mechanisms linking psychosocial interventions to mental versus physical health may be partially distinct. Available mental health treatments for LGBTQ+ persons must continue to be monitored and modified so that care to one area of health does not lead to the neglect of another. Instead of assuming a one-size-fits-all approach, future research should systematically examine moderators, such as baseline symptom severity or minority stress levels, to identify who benefits from these interventions and under what conditions. As has been done to ensure that interventions meet the needs of specific populations (such as people with cancer) ([Edsjö et al., 2023](#)), profile-precision treatments could be a viable option for improving the mental and physical health of LGBTQ+ persons.

From a clinical perspective, our findings support the implementation of affirmative CBT as a first-line psychosocial intervention for LGBTQ+ adults in mental health

services. Clinicians should prioritize three core components observed in effective intervention. These include psychoeducation on minority stress as a non-pathologizing framework for understanding distress, skills training to cope with stigma-related stressors, and active validation of sexual and gender identities within the therapeutic relationship. Interventions omitting these affirmative elements achieved null effects, suggesting that cultural adaptation is essential rather than optional. Mental health services in low- and middle-income countries, where no interventions have been published, could adapt these evidence-based protocols rather than developing novel approaches. Most of the analyzed evidence focused on gbMSM, with only four on other gender and sexually diverse persons and allies. The limited research that includes cis women and people with other gender identities (such as trans and non-binary) is problematic because it shows science has overlooked the needs of these populations. The current international funding environment must assert the need to work with sexually diverse populations, considering the ongoing underfunding of diversity studies in the United States.

Limitations

This systematic review has several limitations. The first is the risk of publication bias considering the specific interests of journals and the funding environment that prioritizes positive outcomes. This was observed in approximately ten of the excluded research articles, in which intervention protocols were presented, but whose authors did not subsequently publish the interventions' outcomes. Second, some studies reported on the sociodemographic characteristics of sexual identity/orientation yet lacked disaggregated inferential analyses to identify the health outcomes of the sexual minority subsample. Third, although the search for full articles was performed in a large electronic library of a public university, approximately ten articles were not accessible to the authors.

CONCLUSIONS

Affirmative cognitive-behavioral interventions may be the most consistently effective psychosocial approaches for improving mental health and well-being among LGBTQ+ adults, highlighting the importance of addressing minority stress and affirming sexual and gender identities within treatment. The striking lack of intervention research, particularly in Latin America, the Caribbean, Africa, and parts of Asia, underscores a critical global gap. Future research is required to advance precision-based interventions to address the diverse needs and intersecting vulnerabilities and health conditions of sexually and gender-diverse communities.

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Conflict of interest

The authors declare no conflicts of interest.

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