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Mental Health of LGBTQ Individuals Who are Arab or of an Arab Descent: A Systematic Review

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ABSTRACT

Lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals are at a higher risk of mental illness when compared to their heterosexual and cisgender counterparts. Most research emanates from Western countries, with a paucity of studies in the Arab world. We systematically reviewed studies assessing the mental health of LGBTQ individuals who live in the Arab world or are of Arab descent. Of 261 articles, seven were eligible for analysis. Depression was the most common psychiatric disorder. Suicidal ideations and attempts were frequent in trans women. Post-traumatic stress disorder was also common, with the majority of precipitating traumatic events being related to sexual orientation and/or gender identity. Societal and familial stressors in the Arab culture are major contributors to the increased vulnerability of the LGBTQ community to mental health challenges. Further research is of utmost need while taking into consideration the Arab socio-cultural context.

KEYWORDS

LGBTQ; gender minorities; sexual minorities; mental health; Arab; Arab world; Middle East and North Africa; systematic review

Introduction

In the early 1950s, pioneering studies on same-sex sexuality led to the removal of homosexuality, initially viewed as a sociopathic personality disorder and a mental disorder, from the American Association's Diagnostic Statistical Manual of Mental Disorders (DSM) (Baughey-Gill, 2011). In the following years, there was an increased understanding of sexual and gender identities following the emergence of scientific and public awareness about the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community (Russell & Fish, 2016).

Originally, the mental health of these sexual and gender minorities became of particular interest to researchers after several studies found alarming rates of suicidal behaviors among gay youth (Skerrett, Kolves, & De Leo, 2015).

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Multiple studies on this matter showed that LGBTQ individuals were at a higher risk of experiencing mental illnesses when compared to their heterosexual and cisgender counterparts, even after controlling for confounding variables such as age, race, education, and living arrangement. For example, one meta-analysis found that LGBTQ individuals were at least 1.5 times more likely than heterosexuals to suffer from depression, anxiety disorders, and dependence on substances including alcohol, nicotine, and recreational drugs (King et al., 2008). Rates of self-harm, suicidal ideations, and suicidal attempts were also higher in these sexual and gender minorities compared to heterosexuals, reaching a prevalence of almost double (Liu et al., 2019; Peter et al., 2017). The reasons behind the elevated rates of mental disorders among the LGBTQ community are still debatable. Research into the mental health disparities and challenges faced by individuals who identify as LGBTQ, however, has identified that one possible culprit might be related to experienced stress due to marginalization and prejudice (Meyer, 2003). This was found to affect the LGBTQ community's access to adequate health care and subsequently increase their vulnerability not only to mental illness but also to inflammatory disorders, cardiovascular diseases, and cognitive changes (Veltman & Chaimowitz, 2014). Therefore, understanding the mechanisms behind worsened physical and mental health outcomes in this community is crucial to implement effective intervention and prevention strategies.

LGBTQ individuals represent about 4% of the United States (US) population (Grasso et al., 2019). The majority of studies in the field emanates from the US while fewer have been conducted in other countries, such as the United Kingdom, Continental Europe, and Australia. Alternatively, there is a paucity of research that exclusively focuses on the mental health of LGBTQ individuals in the Arab world, despite them being regarded as a high-risk and vulnerable population. This lack of studies relates to several factors, including the illegality of identifying as a member of the LGBTQ community, the significant discrimination, and the social pressure faced by these minorities, typically fueled by lack of awareness, societal and familial norms, religion, cultural factors, and associated perception of gender and sexuality (Abboud et al., 2021; Awada, 2019; Michli & Jamil, 2020). Therefore, this systematic review aims to identify and narrate all studies reporting information on the mental health of LGBTQ individuals who live in the Arab world or are of Arab descent.

Methods

Eligibility criteria

This systematic review was registered in Prospero (ID 216643). To be eligible, studies had to meet the following criteria

- Population: Individuals belonging to the LGBTQ community who are of Arab nationality, regardless if residing in one of the Arab countries of the Middle East and North Africa region or abroad.
- Outcome of interest: Prevalence, incidence, and characteristics of various psychiatric disorders in the LGBTQ community. This includes, but is not restricted to, mood disorders, anxiety disorders, and substance use disorders.
- Design: Quantitative studies, including cross-sectional, cohort, and case-control. Studies of qualitative nature (case reports and case series), reviews, correspondences, theses, and book chapters were excluded. Studies reported as abstracts for which the authors could not identify a full text after consultation of a medical librarian or contact with the corresponding author were also excluded.

Search strategy

The authors systematically searched the electronic databases of Medline, Embase, PsycInfo, and Scopus from inception until June 22, 2020. Terms related to mental health, the LGBTQ community, and the Arab world, including the name of each Arab country, were used. The search strategy and its relevant MESH terms are outlined in [Appendix A](#). No filter searches or language restrictions were applied. The search also included the gray literature such as online research reports, doctoral dissertations, conference papers, and other unpublished work. The authors hand-searched the reference lists of the final included studies. The “cited by” function in Google Scholar was also used to find articles that cited the included studies.

Selection process

EndNote software version X9.2 was used to import all studies obtained from the search. Two pairs of investigators (MC and MM; GK and MS) screened the articles obtained from the literature search independently. A third pair (CZ and SEH) assessed the results of the gray literature. Initial screening of the title and abstract for eligibility was done followed by a full-text screening. A disagreement between each pair of reviewers was resolved by discussion or by consulting a reviewer in the other pair.

Data abstraction

Two reviewers (MC and SEH) independently extracted and compared the data of interest from the full texts of the eligible studies. For each eligible study, the reviewers extracted the following information: country of origin, design, aims, recruitment strategy (including the site of recruitment, method, duration, and

eligibility criteria), relevant scales that assessed mental health outcomes, participant characteristics (sample size, age, gender, gender identity, sexual orientation, nationality, education, and marital status), and mental health-related outcomes.

Data appraisal

Two reviewers (GK and SEH) assessed the risk of bias in each eligible study and resolved any disagreement by discussion or, if unsuccessful, with the help of a third reviewer. The criteria evaluated were based on the GRADE system for observational non-randomized studies (Guyatt et al., 2011):

- Failure to develop and apply appropriate eligibility criteria
- Flawed measurement of both exposure and outcome
- Failure to adequately control confounding
- Incomplete follow-up, if applicable.

Data synthesis

Although the authors planned to include a quantitative synthesis (meta-analysis) of the results from analytical studies, it was not possible to conduct it due to the number, nature, and methodological heterogeneity between studies. Instead, a qualitative synthesis of results was conducted.

Results

Search results

Our electronic search identified a total of 261 records, of which 232 were identified through database search and 29 from the gray literature (Figure 1). After removing duplicates, we screened 215 articles and excluded 170 records that did not fit eligibility criteria as per title and abstract screening guidelines. We then assessed 45 full texts for eligibility and excluded 38 for the following reasons: non-quantitative studies ($n = 12$), articles not targeting the Arab ($n = 9$) or LGBTQ ($n = 3$) communities, and articles not assessing the outcome of mental health ($n = 14$). We included seven studies in the qualitative synthesis. No additional articles were found after screening the reference lists and citations of the final set of included studies.

There was some variability in the methodological quality of the seven included studies (see Appendix B). Based on GRADE 4 guidelines, 2 studies were considered to have a very low bias, 4 had a low risk of bias, whereas only one had a high risk of bias.

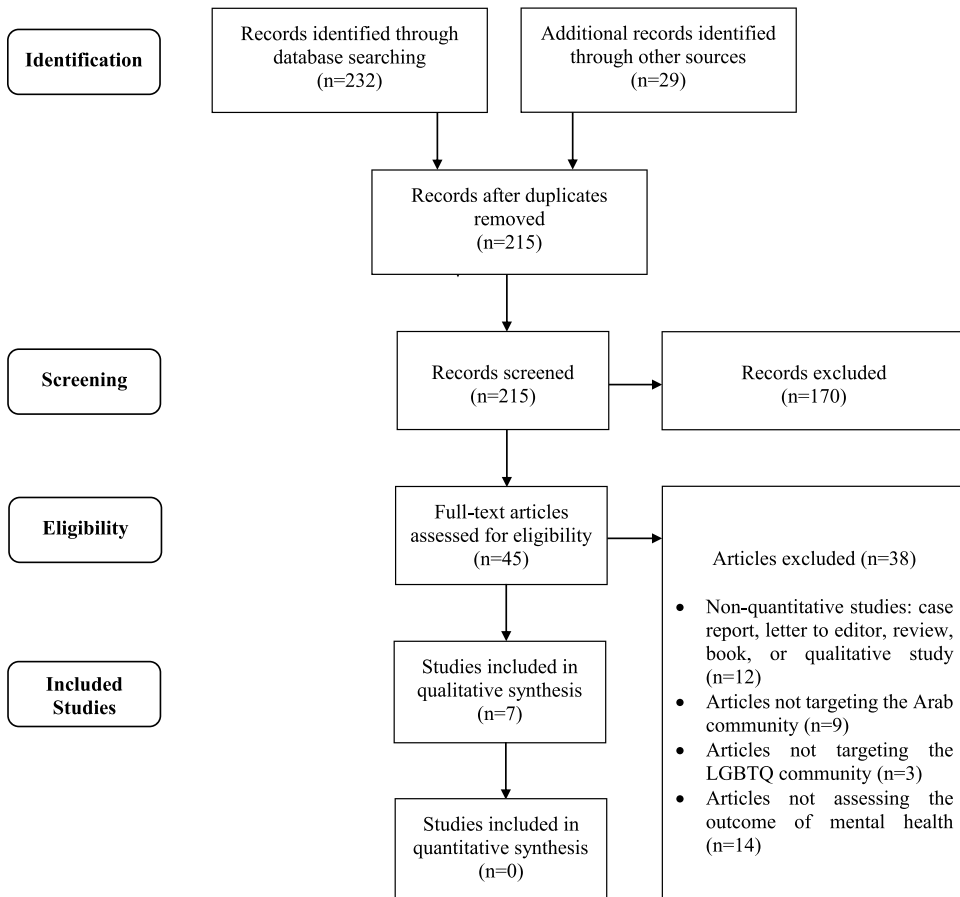


Figure 1. Systematic review flowchart. Seven studies were included in the qualitative analysis.

Characteristics of included studies

Seven studies examined the mental health of the LGBTQ community living in the Arab world or of Arab descent (Table 1). They were conducted in three main countries: Lebanon (n = 5) (El Khoury et al., 2019; Ibrahim, Haddad, & Richa, 2016; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016; Wagner et al., 2019), Austria and the Netherlands (n = 1) (Alessi, Kahn, Woolner, & Van Der Horn, 2018), and Iraq (n = 1) (Farhan & Shakir, 2014). All studies were cross-sectional (Alessi et al., 2018; El Khoury et al., 2019; Farhan & Shakir, 2014; Ibrahim et al., 2016; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016) except one which was a longitudinal cohort (Wagner et al., 2019). Participants throughout all studies were recruited from clinics, centers, or non-governmental organizations that provide services related to sexual health in general or to the LGBTQ community in particular. The main sampling method was via long-chair referral (El Khoury et al., 2019; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016; Wagner et al.,

Table 1. Characteristics and methodology of studies on the mental health of the LGBTQ community living in the Arab world or of Arab descent.

Study & country	Design	Aim (s)	Recruitment strategy	Relevant scales
Alessi et al. (2018) Austria, The Netherlands	Qualitative and cross-sectional	Investigate how traumatic stress shaped the migration experiences of LGBTQ refugees from the Middle East and North Africa as well as Central and South Asia.	<p>Site: Two community organizations in Vienna and Amsterdam that provide social services and immigration-related assistance to LGBTQ refugees.</p> <p>Method: Purposive sampling.</p> <p>Eligibility criteria: At least 18 years old, residing in Austria or the Netherlands for at least 1 week, identifying as LGBTQ, and have migrated to Europe from the Middle East, North Africa, or a predominantly Islamic country.</p>	<p>Trauma: Post-traumatic Stress Disorder Checklist for DSM-V.</p> <p>Suicidality: Participants were asked if they had "ever thought about or attempted suicide."</p>
El Khoury et al. (2019) Lebanon	Cross-sectional	Examine the prevalence of childhood and post-childhood experiences of sexual violence and their correlation with each other, as well as with measures of mental health, substance use, sexual behavior, and sexuality-related discrimination.	<p>Site: Cohort of men enrolled in an open trial of a community-based HIV prevention and sexual health promotion intervention, via Lebanese community organizations working with men who have sex with men.</p> <p>Method: Long-chain referral sampling, recruitment flyers, posts on social media, and word of mouth.</p> <p>Duration: July 2016—March 2016.</p> <p>Eligibility criteria: Being biologically male and/or male-identified, 18 to 29 years, fluent in Arabic or English, residing in greater Beirut, and having had oral or anal sex with a man in the past 12 months.</p>	<p>Trauma: History of sexual assault, harassment, or rape derived from the question "anyone ever forced or pressured you to touch or be touched sexually, have oral sex, or have vaginal or anal intercourse" and from the Community Attitudes on Sexual Assault Survey.</p> <p>Substance use: Assessed by the frequency of use (never, once a month or less, 2 to 3 times a month, about once a week, and several times a week) of a substance and its nature in the past 3 months.</p> <p>Depression: Measured via PHQ-2 and subsequent PHQ-9 (if PHQ-2 score > 2).</p> <p>Suicidality: Assessed for suicidal ideations and attempts.</p>
Farhan & Shakir (2014) Iraq	Cross-sectional	Establish the prevalence of mental disorders among LGBT in Baghdad. To assess the effect of gender and socio-economic variables on mental disorders in this population.	<p>Site: Individuals recruited from Al-Rashad sex clinic, Ibn Rushed sex clinic, Kamal Al-Samarae psychosexual clinic, the psychiatric clinic in Baghdad teaching hospital, and Al-Emam Ali psychiatric unit.</p> <p>Duration: August 2009—August 2013.</p> <p>Eligibility criteria: Being stable and meeting criteria for a DSM-IV diagnosis.</p>	<p>Psychiatric disorders: As per DSM-IV criteria.</p>

(Continued)

Table 1. (Continued).

Study & country	Design	Aim (s)	Recruitment strategy	Relevant scales
Ibrahim et al. (2016) Lebanon	Cross-sectional	Assess psychiatric comorbidity in a population of transgender individuals and compare it to the general population.	<p>Site: Lebanese organizations working with transgender individuals.</p> <p>Methods: Snowball sampling via phone calls. Random sampling to collect the control group.</p> <p>Eligibility criteria: Identifying as transgender and being above 18 years with no endocrinological disorder.</p>	<p>Psychiatric disorders: Mini International Neuropsychiatric Interview—Plus version 5.0.0 (MINI-Plus); Structured Clinical Interview for DSM Disorders (SCID-II).</p> <p>Suicidality: MINI-Plus.</p>
Kaplan, McGowan et al. (2016) Lebanon	Cross-sectional	Measure and interpret demographic determinants, HIV prevalence, and risk behaviors associations among transfeminine individuals.	<p>Site: Lebanese community organizations working with transfeminine individuals.</p> <p>Method: Long-chain referral sampling.</p> <p>Duration: May 2012—December 2012.</p> <p>Eligibility criteria: Having been assigned male sex at birth and identifying as a woman or transfeminine, 18 years or older, fluent in Arabic or English, and residing in greater Beirut.</p>	<p>Trauma: Measures of physical and/or sexual abuse were derived from a dichotomous question (yes/no).</p> <p>Depression: Measured via PHQ-2 and subsequent PHQ-9 (if PHQ-2 score > 2).</p> <p>Suicidality: Assessed by the question “ever thought about or attempted suicide.”</p>
Kaplan, Nehme et al. (2016) Lebanon	Cross-sectional	Examine the prevalence, risk factors, and protective factors of suicide attempts among transfeminine individuals.	<p>Site: Lebanese community organizations working with transfeminine individuals.</p> <p>Method: Long-chain referral sampling.</p> <p>Duration: May 2012—December 2012.</p> <p>Eligibility criteria: Having been assigned male sex at birth and identifying as a woman or transfeminine, 18 years or older, fluent in Arabic or English, and residing in greater Beirut.</p>	<p>Depression: Measured via PHQ-2 and subsequent PHQ-9 (if PHQ-2 score > 2).</p>
Wagner et al. (2019) Lebanon	Longitudinal cohort	Assess rates of depression as well as risk and protective factors among men who have sex with men.	<p>Site: Community-based.</p> <p>Method: Long-chain peer referral methods, recruitment flyers, social media, word of mouth.</p> <p>Duration: July 2016—March 2017.</p> <p>Eligibility criteria: Having been assigned male sex at birth and identifying as male, 18 to 29 years, fluent in English or Arabic, residing in greater Beirut, and having had oral or anal sex with a man in the past 12 months.</p>	<p>Depression: Measured via PHQ-2 and subsequent PHQ-9 (if PHQ-2 score > 2).</p> <p>Suicidality: Suicidal Behaviors Questionnaire.</p>

2019) due to the difficulty in recruiting participants. The mental health outcomes that were assessed included depression (El Khoury et al., 2019; Farhan & Shakir, 2014; Ibrahim et al., 2016; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016; Wagner et al., 2019), suicidality (El Khoury et al., 2019; Ibrahim et al., 2016; Rachel L. Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016; Wagner et al., 2019), trauma (Alessi et al., 2018; El Khoury et al., 2019; Ibrahim et al., 2016; Kaplan, McGowan et al., 2016), and substance use (El Khoury et al., 2019; Farhan & Shakir, 2014). More details about the methodology and scales used in each study are provided in [Table 1](#).

Comparison of results

The results in this section are grouped by common themes of interest, recurrent in most studies. An exhaustive description of individual studies is presented in [Table 2](#), including the characteristics of participants (their age, gender identity, sexual orientation, and demographics) and the prevalence and correlates of mental health disorders.

The sample size in the six studies varied between 38 and 350 participants. Individuals were young adults and were transgender (Ibrahim et al., 2016; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016), men who have sex with men (El Khoury et al., 2019; Kaplan, McGowan et al., 2016; Wagner et al., 2019), or of unspecified gender identity and sexual orientation (Alessi et al., 2018; Farhan & Shakir, 2014).

When assessing for depression, the included studies showed heterogeneous scores on depression scales, ranging between 15.9%–17.8% as per PHQ-9 (Wagner et al., 2019) and DSM-IV criteria (Farhan & Shakir, 2014) respectively, up to 63–66% as per PHQ-9 ((Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016), respectively). Depression was the most commonly reported psychiatric diagnosis (Farhan & Shakir, 2014; Ibrahim et al., 2016). Being unemployed, having no legal resident status, experiencing sexual minority-related discrimination, or having greater discomfort with one's sexual orientation were associated with developing depression (Wagner et al., 2019).

In terms of suicidality, included studies had a prevalence of suicidal ideations without a plan ranging between 15% and 55% (El Khoury et al., 2019; Ibrahim et al., 2016; Kaplan, McGowan et al., 2016; Kaplan, Nehme et al., 2016; Wagner et al., 2019). One study found that 46% of trans women had attempted suicide in their lifetime (Kaplan, Nehme et al., 2016). Additionally, Wagner et al. found that a history of attempted suicide was significantly associated with lower general social support, lower support from peers, as well as being more open about transgender identity in public (Wagner et al., 2019). They also reported that while depression was not significantly related to

Table 2. Summary of results of studies on the mental health of the LGBTQ community living in the Arab world or of Arab descent. PTSD: post-traumatic stress disorder, MDD: major depressive disorder, GAD: generalized anxiety disorder.

Study & country	Sample size & Age	Gender, identity, and orientation	Demographics	Mental health-related outcomes
Alessi et al. (2018) Austria, The Netherlands	N = 38 30.26 ± 6.96	Gender: Not mentioned Gender identity: Transgender male: n = 1 Transgender female: n = 5 Queer or gender nonconforming: n = 2 Sexual orientation: Homosexual: n = 27 Bisexual: n = 3	Nationality: Syrian: n = 10, Iraqi: n = 5, Lebanese: n = 4, Egyptian: n = 3, Jordanian: n = 2, Palestinian: n = 1, Somali: n = 1	Trauma: Met criteria for PTSD: n = 24, 64.9% Precipitating event secondary to sexual orientation and/or gender identity: n = 15, 39.47%
El Khoury et al. (2019) Lebanon	N = 226 18–29	Gender: Assigned male sex at birth: n = 226 Sexual orientation: Gay: n = 185	Nationality: Lebanese: n = 169 Non-Lebanese: n = 57 Education: University: n = 193 High school: n = 22 Less than high school: n = 11	Trauma: Experienced child sexual abuse: n = 39, 17.3% Taken sexual advantage of when too drunk/high to stop it: n = 41, 18.3% Taken sexual advantage of by someone threatening to spread information about sexual orientation: n = 42, 18.6% Any history of sexual violence post-childhood: n = 143, 63.3% Been in an abusive relationship: n = 82, 36.4% Depression: Clinically depressed (PHQ-9 > 9): n = 58, 25% Suicidality: Any history of suicidal ideations: n = 75, 33% Any history of a suicidal plan: n = 33, 15% Substance use: Weekly use of alcohol: n = 123, 54.4% Weekly use of marijuana: n = 27, 11.9% Weekly use of club drugs: n = 10, 4.42% Correlates: Those who reported childhood or adulthood sexual abuse did not differ in depressive symptoms and suicidality compared to those not abused. Participants who reported being sexually abused as an adolescent/adult were more likely to report at least weekly use of marijuana (p = .039) and a greater number of substances used in the past 3 months compared to those not abused (p = .004). Participants who reported being sexually abused as a child/adolescent/adult were marginally more likely to report at least weekly use of club drugs (p = .066).

(Continued)



Table 2. (Continued).

Study & country	Sample size & Age	Gender, identity, and orientation	Demographics	Mental health-related outcomes
Farhan & Shakir (2014) Iraq	N = 350 Age not mentioned	Gender: Males: n = 275 Females: n = 75	Education: Higher-level: n = 71 Secondary: n = 37 Primary and illiterate: n = 42 Marital status: Single: n = 89 Married: n = 57 Divorced: n = 4 <i>(from the 150 participants with mental disorders)</i>	Mental disorders: Participants suffering from a mental disorder: n = 150 Depression: n = 30 Nicotine, alcohol dependency, and substance misuse: n = 21 Correlates: There was no significant association between age groups, gender, and having a mental health disorder. Depression was found to be the most common diagnosis among males and females (n = 22; 17.8% and n = 8; 2.9% respectively).
Ibrahim et al. (2016) Lebanon	N = 20 (transgender) N = 20 (control) Mean age: 23.55	Gender: Males: n = 19 Females: n = 1 Gender identity: Transgender: n = 20 <i>(from the 20 transgender participants)</i>	Education: University: n = 9 Secondary: n = 11 Marital status: Single: n = 19 Divorced: n = 1 Employment: Unemployed: n = 17 Employed: n = 3 <i>(from the 20 transgender participants)</i>	Axis I disorders (p = .039): Trauma: PTSD among transgender: n = 1, 5% PTSD among control: n = 0 Depression: MDD among transgender: n = 9, 45% MDD among control: n = 2, 10% Individuals with both MDD/PTSD: MDD/PTSD among transgender: n = 2, 10% MDD/PTSD among control: n = 0 GAD: GAD among transgender: n = 1, 5% GAD among control: n = 0 Axis II disorders (p = .068): Borderline personality among transgender: n = 3, 15% Borderline personality among control: n = 0 Histrionic personality among transgender: n = 3, 15% Histrionic personality among control: n = 0 OCPD among transgender: n = 1, 5% OCPD among control: n = 1, 5% Suicidality (p = .000): Suicidal ideations present at the time of the interview among transgender individuals: n = 11, 55% Suicidal ideations among control: n = 0

(Continued)

Table 2. (Continued).

Study & country	Sample size & Age	Gender, identity, and orientation	Demographics	Mental health-related outcomes
Kaplan, McGowan et al. (2016) (a) Lebanon	N = 53 Median age: 22	Gender: Assigned male sex at birth: n = 53 Gender identity: Transgender women: n = 53 Sexual orientation: Heterosexual: n = 21 Homosexual: n = 9 Bisexual/other: n = 23	Education: University: n = 9 High school: n = 14 Less than high school: n = 30	Trauma: Has been physically abused: n = 36, 67.9% Has been sexually abused: n = 26, 49.1% Depression: Currently depressed: n = 33, 63.3% Suicidality: Never thought about or attempted: n = 20, 37.7% Suicidal ideation: n = 11, 20.8% Attempted suicide: n = 22, 41.5% Correlates: History of physical abuse, depression, suicidal ideations, and suicidal attempts were not correlated with condomless receptive anal intercourse. History of sexual abuse was found to be negatively associated with condomless receptive anal intercourse (p = .040). Two-thirds reported having been physically abused because of their gender identity or presentation.
Kaplan, Nehme et al. (2016) (b) Lebanon	N = 54 27 ± 9.3	Gender: Assigned male sex at birth: n = 54 Gender identity: Woman or trans woman: n = 54	Nationality: Born in Lebanon: n = 47 Education: University: n = 9 High school: n = 14 Did not complete high school: n = 31 Currently in school: n = 8	Depression: Screened positive for depression: n = 38, 70% Currently depressed: n = 33, 66% Suicidality: Never had suicidal thoughts: n = 21, 39% Passing thoughts of suicide: n = 8, 15% Suicidal plan with no attempt: n = 3, 6% Previous suicide attempt: n = 25, 46% Correlates of suicidal attempts: History of attempted suicide was significantly associated with lower social support (p = .002), lower social integration (p = .004), lower peer support (p = .006), being more open about transgender identity (p = .050), and hormonal use (p = .028). While depression was not significantly associated with suicide attempts, 55% of those with a history of suicidal attempts had depressive symptoms as compared to 33% in those without attempts.

(Continued)

Table 2. (Continued).

Study & country	Sample size & Age	Gender, identity, and orientation	Demographics	Mental health-related outcomes
Wagner et al. (2019) Lebanon	N = 226 23.9 ± 3.1	Sexual orientation: Homosexual: n = 187 Bisexual: n = 26 Heterosexual: n = 3 Other: n = 9	Education: University: n = 193 High school: n = 22 Less than high school: n = 11 Residency status: Legal residency status in Lebanon: n = 195	Depression: Screened positive for depression: n = 92, 40.7% Met criteria for major depression: n = 36, 15.9% Suicidality: Any history of suicidal ideations: n = 75, 33.2% Any history of having a plan to attempt suicide: n = 33, 14.7% Correlates of depression: Being unemployed (p = .026) and having no legal resident status (p = .000) were significant correlates of having major depression. Among sexual minority-related stressors, the sum of numbers of sexual minority-related discrimination experiences (p = .019) and discomfort with one's sexual orientation (p = .013) were associated with major depression. Social support was negatively correlated with major depression (p = .021). In the regression model taking all the above variables into a single model, the sole independent correlate of depression was discomfort with one's sexual orientation (OR = 1.60, 95% CI 1.12, 2.30).

suicide, 55% of those with a history of suicidal attempts had depressive symptoms compared to 33% of those without such attempts (Wagner et al., 2019).

When reviewing results related to trauma, Alessi et al. found that 64.9% of participants met criteria for post-traumatic stress disorder, with the precipitating traumatic event being secondary to sexual orientation and/or gender identity in 39.47% of cases (Alessi et al., 2018). El-Khoury et al. found that 17.3% had experienced childhood sexual abuse and 18.6% had been taken advantage of by someone threatening to spread information about sexual orientation (El Khoury et al., 2019). Another study reported high rates of abuse among this population with 67.9% and 49.1% reporting being physically and sexually abused respectively, and two-thirds reporting being physically abused because of their gender identity (Kaplan, McGowan et al., 2016).

Lastly, in terms of substance use disorders, Farhan and Shakir noted that nicotine, alcohol dependency, and substance misuse were highly prevalent in males belonging to the LGBTQ community (17%) (Farhan & Shakir, 2014). Along the same lines, in the study by El Khoury et al., men who have sex with men reported at least weekly misuse of alcohol (55%), marijuana (12%), and club drugs (2%). Those with a history of sexual abuse were at increased risk of substance misuse (El Khoury et al., 2019).

Discussion

This is the first systematic review to assess mental health outcomes among LGBTQ individuals who are Arab or of Arab descent. Our results indicate that depression was the most common psychiatric disorder in this vulnerable group, with up to half of individuals experiencing suicidal ideations. Suicidality was particularly noted among trans women, a finding also described in a recently published cross-sectional study targeting 28 Arab transgender adults residing in Lebanon (Khoury et al., 2021). The second most commonly reported mental disorder was post-traumatic stress; the majority of precipitating traumatic events were found to be related to sexual orientation and/or gender identity. Lastly, substance use disorders were observed in homosexual men.

The results of our study go along with international data reporting a high prevalence of mental health disorders in the LGBTQ population, including mood disorders, anxiety, post-traumatic stress, and substance use. Indeed, a systematic search of 199 studies showed an elevated risk of depression, anxiety, suicide attempts, and substance-related problems in sexual minorities throughout all age groups and geographic regions (Plöderl & Tremblay, 2015). In a previous meta-analysis of mental health outcomes of sexual minorities in the US, the United Kingdom, Netherlands, and Austria, similar results were noted, with homosexual males being up to four times more likely to experience

different psychiatric disorders (Lewis, 2009). Likewise, transgender individuals have been shown to suffer from high rates of depression, self-harm, and eating disorders compared to their cisgender counterparts (Connolly, Zervos, Barone, Johnson, & Joseph, 2016).

The elevated prevalence of mental health disorders in the LGBTQ population has several explanations. First, according to the minority stress theory, LGBTQ individuals suffer from both personal and social stressors, including victimization, expectations of discrimination, concealment of sexual orientation, and internalized homophobia (Mongelli et al., 2019). This puts them at disharmony with their general community and in constant anticipation of social rejection (Meyer, 2003). Another culprit of worsened mental health outcomes is the lack of family acceptance; this was shown to double the risk of depression, suicidal ideations and attempts, as well as substance use in members of the LGBTQ population (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Moreover, even though some family members might be supportive, openly expressing sexual orientation or gender identity is generally discouraged (Katz-Wise, Rosario, & Tsappis, 2016; Roe, 2016). Both societal and familial factors are of particular relevance in the Arab countries where stigma toward the LGBTQ community is rampant and sexual health awareness is lacking (Plackett, 2019). In this part of the world, sexual minorities are faced with hardship and persecution, whether from the government, law enforcement, surrounding community, friends, or even family members (Carroll & Ramón Mendos, 2017; HRW, 2018; Muth, 2019). Repercussions include different forms of abuse, rejection and eviction from home and the workplace, constant marginalization and judgment, and even religious conflicts (HRW, 2018; Meyer, 2003; Muth, 2019). These stressors result in emotional dysregulation, heightened internalized conflicts, and distorted cognitive processes, making LGBTQ individuals more vulnerable to mental health challenges (Hatzenbuehler, 2009). This only emphasizes that poor mental health outcomes in the LGBTQ community might be secondary to the social construct; the availability of a supportive nondiscriminatory environment would therefore be vital to face barriers toward adequate healthcare access and improve mental wellbeing (Kim, Fredriksen-Goldsen, Bryan, & Muraco, 2017; McClain, Hawkins, & Yehia, 2016). When it comes to seeking help, members of the LGBTQ community have been found to avoid health care services due to past negative homophobic reactions and anticipation of similar future experiences (Romanelli & Hudson, 2017). For example, a study by the Lebanese Medical Association for Sexual Health showed that transgender individuals in Lebanon often avoid seeking health care due to anticipated discrimination, unethical practices, and other negative attitudes from healthcare providers (Naal, Abboud, Harfoush, & Mahmoud, 2020). Poor access to proper care services (Alencar Albuquerque et al., 2016) not only has detrimental effects on

this population's mental well-being but also leads to comorbid medical conditions including a higher risk of stroke, coronary artery disease, and lung cancer (Romanelli & Hudson, 2017; Veltman & Chaimowitz, 2014).

Many of the analyzed studies included refugees and the study of Alessi et al. looked at the mental health of LGBTQ migrants exclusively. Recently, several studies have examined mental illness and service provision among LGBTQ refugee communities (Gerena, 2022; Mulé, 2021). Most literature has looked into the complex trauma experienced by this subgroup: trauma at the home country, in transit while fleeing, and in the "new home" while acclimatizing to the lives. This trauma typically manifests through symptoms of post-traumatic stress, depression, and anxiety (Messih, 2016). LGBTQ asylum seekers also have a high incidence of sexual violence and suicidal ideation (Hopkinson et al., 2017). A recent systematic review assessing interventions for conflict-related sexual violence among LGBTQ individuals in low- and middle-income countries noted a major gap in the field (Kiss et al., 2020). These findings suggest that LGBTQ refugees have unique mental health challenges that require more personalized interventions.

Over the past ten years, several efforts have been put to overcome the abovementioned challenges. Activism has been growing in the Arab region, with the evolution of several organizations to cater to the needs of the LGBTQ community. These include Alouen and MantiQitna in Tunisia, IraQueer in Iraq, alQaws in Palestine, and Helem, Marsa Sexual Health Center, and the Arab Foundation for Freedoms and Equality in Lebanon (HRW, 2018). Even though many organizations faced challenges in fulfilling their outreach, they have been able to provide some support to maintain the rights of LGBTQ individuals, including those pertaining to proper access to basic medical and mental health care (HRW, 2018). For instance, the Lebanese Medical Association for Sexual Health created an online guide, LebGUIDE, for individuals to help them find LGBTQ affirming providers (LebMASH, 2022a). The same association developed an LGBTQ Mental Health Training module to educate healthcare workers on sexual health (LebMASH, 2022b). Another organization called Rainbow Street, an international association for the protection of LGBTQ individuals in the Middle East and North Africa, has been providing safe shelters for those in need and connecting them with service providers and peer support groups (RainbowStreet, 2020). With more education on the rights and needs of the LGBTQ population, the attitudes of healthcare workers toward this vulnerable group have been changing. In Lebanon, the percentage of practitioners considering homosexuality as a disease that needs treatment decreased from 73% (El-Kak, 2010) to 17% (Naal et al., 2020) over the past 10 years. These findings can be partially attributed to methodological differences between studies: compared to the former one, the latter had more females, physicians who received postgraduate medical training in Lebanon, physicians who received foreign postgraduate

medical education in France and the US versus Eastern Europe, and more healthcare workers practicing in an urban area (Naal et al., 2020). However, the shift in findings was also attributed to increased activism and awareness efforts from medical associations and non-governmental organizations (Naal et al., 2020).

Limitations

The limitations of this systematic review partially stem from the scarcity of research related to the topic. The included studies were heterogeneous in terms of assessed participants and mental health outcomes, limiting our ability to compare results and conduct meaningful meta-analyses. Despite being socioculturally diverse, we lumped individuals living in the Arab world and those of Arab descent together. We also grouped the LGBTQ community under one category, even though transgender individuals have specific healthcare needs that might differ from the needs of lesbian, gay, and bisexual individuals (Lim, Brown, & Justin Kim, 2014). Furthermore, few studies included immigrants as participants, whose experiences can differentially impact mental wellbeing (Alessi et al., 2018; Cerezo, Morales, Quintero, & Rothman, 2014; Redcay, Luquet, & Huggin, 2019; Valentín-Cortés et al., 2020). Alternatively, assessed mental health outcomes were varied and diagnosed using different scales and versions of the DSM. Studies also suffered from low sample sizes and emanated from a few Arab countries, mostly Lebanon, limiting external validity. However, besides the novelty of the topic, our systematic review was based on an extensive search of both academic and non-academic literature, thereby ensuring adequate retrieval of data. In addition, most identified studies had a very low or low risk of bias.

Conclusion

LGBTQ individuals living in the Arab world or of Arab descent face numerous mental health challenges including mood disturbances, anxiety disorders, suicidality, trauma, and substance use. With the relentless efforts of activists in the Arab world, some attempts have been made to fight discrimination against sexual minorities and to promote their medical and mental wellbeing. Although painstakingly slow, change is happening. However, there is still a long way to go. Several steps are needed to ensure the provision of LGBTQ individuals for their right to the highest attainable standard of health. Our findings inform healthcare service providers in the Arab world about the necessity of screening LGBTQ individuals for mental health conditions, including the presence of suicidal thoughts. There is also a dire need for improving their access to general physical and mental wellbeing services.

The integration of sexual health education in the curriculum of healthcare providers would be one helpful milestone to minimize disparities and encourage healthcare seeking among the LGBTQ community. Once education is provided, community-based clinics where primary care treatment and psychosocial services are provided can become an important safe space for sexual minorities. Sexual education should also cover younger generations attending school and college and should include general educational material, such as those about safe sexual practices and sexually transmitted diseases. Further research into the mental health needs of the LGBTQ population is of utmost need while taking into consideration the socio-cultural Arab context and societal norms. Future studies should focus on identifying evidence-based culturally appropriate prevention and intervention programs designed to support the positive development and mental health of LGBTQ individuals who are Arab or of Arab descent.

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Authors contributions

SEH conceptualized and formulated the systematic review. SEH, GK, MC, MM, MS, and CZ contributed to systematically screening the articles of relevance. SEH, GK, MC, MM, MS, and CZ contributed to preparing and writing the manuscript. SEH and GK reviewed the manuscript. BK supervised the project and contributed to revising and providing feedback on the manuscript.

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Appendices

Appendix A.

Detailed search strategy with MESH terms in different search engines. **Medline:** N = 97

1	Homosexual or bisexual or bisexuality or Gay or Lesbian or MSM or Transgender or transsexual or transsexualism or transman or transwoman or transmen or transwomen or Queer or Intersex or intergender or nonbinary or gender fluid or pansexual or LGBTQ or drag	38,965
2	Sexual and gender minorities	3350
3	Exp Transgender Persons/	3030
4	Exp Transsexualism/	3738
5	Exp Bisexuality/	4088
6	Exp Homosexuality, Female/ or exp Homosexuality/ or exp Homosexuality, Male/	29,478
7	1 or 2 or 3 or 4 or 5 or 6	50,147
8	Algeria or Bahrain or Djibouti or Egypt or Iran or Iraq or Israel or Jordan or Kuwait or Lebanon or Libya or Malta or Morocco or Oman or Qatar or Saudi Arabia or Syria or Tunisia or United Arab Emirates or Palestine or Yemen or MENA.	150,243
9	Arab.mp. or exp Arabs/	12,337
10	Arab world.mp. or exp Arab World/	859
11	Middle east.mp. or exp Middle East/mp.	137,750
12	Middle east.mp. or exp Middle East/mp.	137,750
13	North africa.mp. or exp Africa, Northern/	37,052
14	8 or 9 or 10 or 11 or 12 or 13	200,098
15	Mental disorder.mp. Or exp Mental Disorders/	1,232,105
16	Mental health.mp. Or exp mental health/	161,994
17	Mental illness or psychiatric disorder or psychiatric diagnosis or psychiatric disease or psychiatric illness or behavioral disorder.mp.	42,677
18	Depression or mania or mood disorder or suicide.mp	420,290
19	Anxiety or dissociative disorder or personality disorder.mp.	227,386
20	Psychosis or trauma.mp.	262,002
21	Somatoform disorder.mp	588
22	Exp Substance-Related Disorders/ or substance disorder.mp.	276,769
23	15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	1,846,703
24	7 and 14 and 23	97

SCOPUS: N = 1

KEY (homosexual OR bisexual OR bisexuality OR gay OR lesbian OR msm OR transgender OR transsexual OR transsexualism OR transman OR transwoman OR transmen OR transwomen) OR TITLE-ABS-KEY (queer OR intersex OR intergender OR nonbinary OR gender AND fluid

OR pansexual OR lgbtq OR drag OR sexual minority OR gender minority) AND TITLE-ABS-KEY (Algeria OR Bahrain OR Djibouti OR Egypt OR Iran OR Iraq OR Israel OR Jordan

OR Kuwait OR Lebanon OR Libya OR Malta OR Morocco OR Oman OR Qatar OR Saudi Arabia OR Syria) OR TITLE-ABS-KEY (Tunisia OR united AND Arab AND Emirates OR palestine

OR Yemen OR mena) OR TITLE-ABS-KEY (arabs OR Arab AND world OR middle AND east

OR north AND Africa OR Mediterranean AND region) AND TITLE-ABS-KEY (mental AND disorders OR mental AND health OR mental AND illness OR psychiatric AND disorder OR psychiatric AND diagnosis OR psychiatric AND disease OR psychiatric AND illness OR behavioral AND disorder OR depression OR mania OR mood AND disorder OR suicide OR anxiety OR dissociative AND disorder) OR TITLE-ABS-KEY (personality AND disorder OR somatoform AND

disorder OR psychosis OR trauma OR substance AND use AND disorder)

PsycInfo: N = 58

(AB (Homosexual OR bisexual OR bisexuality OR Gay OR Lesbian OR MSM OR Transgender OR transsexual OR transsexualism OR transman OR transwoman OR transmen OR transwomen OR Queer OR Intersex OR intergender OR nonbinary OR gender fluid OR pansexual OR LGBTQ OR drag OR sexual minority OR gender minority) OR TI (Homosexual OR bisexual OR bisexuality OR Gay OR Lesbian OR MSM OR Transgender OR transsexual OR transsexualism OR transman OR transwoman OR transmen OR transwomen OR Queer OR Intersex OR intergender OR nonbinary OR gender fluid OR pansexual OR LGBTQ OR drag OR sexual minority OR gender minority)) AND (AB (mental disorders OR mental health OR mental illness OR psychiatric disorder OR psychiatric diagnosis OR psychiatric disease OR psychiatric illness OR behavioral disorder OR depression OR mania OR mood disorder OR suicide OR anxiety OR dissociative disorder OR personality disorder OR somatoform disorder OR psychosis OR trauma OR substance use disorder) OR TI (mental disorders OR mental health OR mental illness OR psychiatric disorder OR psychiatric diagnosis OR psychiatric disease OR psychiatric illness OR behavioral disorder OR depression OR mania OR mood disorder OR suicide OR anxiety OR dissociative disorder OR personality disorder OR somatoform disorder OR psychosis OR trauma OR substance use disorder)) AND (AB (Algeria OR Bahrain OR Djibouti OR Egypt OR Iran OR Iraq OR Israel OR Jordan OR Kuwait OR Lebanon OR Libya OR Malta OR Morocco OR Oman OR Qatar OR Saudi Arabia OR Syria OR Tunisia OR United Arab Emirates OR Palestine OR Yemen OR MENA OR Arabs OR Arab world OR Middle East OR North Africa OR Mediterranean region) OR TI (Algeria OR Bahrain OR Djibouti OR Egypt OR Iran OR Iraq OR Israel OR Jordan OR Kuwait OR Lebanon OR Libya OR Malta OR Morocco OR Oman OR Qatar OR Saudi Arabia OR Syria OR Tunisia OR United Arab Emirates OR Palestine OR Yemen OR MENA OR Arabs OR Arab world OR Middle East OR North Africa OR Mediterranean region))

Embase: N = 76

(homosexual OR bisexual OR bisexuality OR gay OR lesbian OR msm OR transgender OR transsexual OR transsexualism OR transman OR transwoman OR transmen OR transwomen OR queer OR intersex OR intergender OR nonbinary OR 'gender fluid' OR pansexual OR lgbtq OR drag OR ((sexual OR gender) AND minority)) AND (Algeria OR Bahrain OR Djibouti OR Egypt OR Iran OR Iraq OR Israel OR Jordan OR Kuwait OR Lebanon OR Libya OR Malta OR Morocco OR Oman OR Qatar OR 'Saudi Arabia' OR Syria OR Tunisia OR 'united Arab Emirates' OR Palestine OR Yemen OR mena OR arabs OR 'Arab world' OR 'middle east' OR 'north Africa' OR 'mediterranean region') AND ("mental disorders" OR 'mental health' OR 'mental illness' OR 'psychiatric disorder' OR 'psychiatric diagnosis' OR 'psychiatric disease' OR 'psychiatric illness' OR 'behavioral disorder' OR depression OR mania OR 'mood disorder' OR suicide OR anxiety OR 'dissociative disorder' OR 'personality disorder' OR 'somatoform disorder' OR psychosis OR trauma OR 'substance use disorder')

Appendix B.

Risk of bias assessment of the thirteen included studies following GRADE 4 guidelines.

Study	Failure to develop and apply appropriate eligibility criteria	Flawed measurement of exposure and/or outcome	Failure to control confounding and measure prognostic factors	Incomplete follow-up	Bias level
Alessi et al. (2018)	N	N	Y	N/A	1/3 Low
El Khoury et al. (2019)	N	N	N	N/A	0/3 Very low
Farhan and Shakir (2014)	Y	Y	Y	N/A	3/3 High
Ibrahim et al. (2016)	N	N	Y	N/A	1/3 Low
Kaplan, McGowan, et al. (2016)	N	N	Y	N/A	1/3 Low
Kaplan, Nehme, et al. (2016)	N	Y	N	N/A	1/3 Low
Wagner et al. (2019)	N	N	N	N/A	0/3 Very low

Bias level: 3/3 high, 2/3 moderate, 1/3 low, very low 0/3.