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Health conditions, health literacy, access to care, and health care experiences among lesbian, gay, bisexual, transgender and queer adults in Lebanon

Wassim Daoud Khatoun[1], Ali Slim[2†], Jana Makhlouf[1†], Sam S. S. Lau[3,4], Marco C. H. Cheng[3], Alissa Chebat[1], Michel Boustany[1], Elio Tahan[1] and Carmel Bouclaous[1*]

Abstract

Background This study aims to assess the physical health of individuals belonging to the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community, considering health system challenges like access to care and patient experiences and community-specific attributes like health literacy and self-acceptance.

Methods This cross-sectional study was conducted in January-June 2022 using non-probabilistic sampling. The survey collected sociodemographic characteristics, information on access to care and patient experiences, prevalence of chronic conditions, sexually transmitted infections (STIs), and health literacy levels. The inclusion criteria required participants to be of Lebanese nationality, at least 18 years old, and to identify as part of the LGBTQ community. Descriptive statistics summarized the data. Two sample t-tests and chi-square tests were used to examine associations between variables.

Results A total of 496 participants took the survey, with a majority identifying as bisexual (38.5%) or gay (35.1%). Around 41.1% reported at least one chronic condition. Difficulty accessing healthcare was experienced by 37.7%, with 11.1% reporting a negative patient experience. Participants who reported experiencing discrimination were significantly more likely to delay seeking health services ($p < 0.001$), with transgender-identifying participants experiencing significantly more discrimination that non-transgender-identifying participants. Regarding sexual health, 15.7%, of those who tested, reported at least one STI. Their preferred testing sites were Non-Governmental Organizations (59.3%). Adequate health literacy level was significantly associated with STI testing ($t = 3.34$, $p < 0.01$) and chronic disease ($t = 3.76$, $p < 0.01$).

Conclusion Our findings underscore the importance of inclusive healthcare policies that address discriminatory experiences in healthcare settings and the need for targeted evidence-based interventions to improve health outcomes among LGBTQ individuals.

†Ali Slim and Jana Makhlouf contributed equally to this work.

*Correspondence:
Carmel Bouclaous
carmel.bouclaous@lau.edu.lb

Full list of author information is available at the end of the article

Keywords LGBTQ, Access to care, Health literacy, Chronic diseases, Sexually transmitted infections, Patient experience

Background

Healthcare needs of the lesbian, gay, bisexual, transgender and queer (LGBTQ) population garnered attention in recent years. The LGBTQ community was shown to experience significant disparities in access to care, with poorer mental and physical health than cis-heterosexual counterparts [1]. Poor health outcomes were linked to continuous stress exposure related to minority marginalization and prejudice [2, 3]. Discrimination, concerns about confidentiality, and traditional heteronormative and cis-normative frameworks of health have played a major role in preventing LGBTQ individuals from seeking care, thus contributing to poorer health [4] and increased engagement in risky behaviors [5].

In Lebanon, article 534 of the penal code criminalizes sexual acts "against nature" [6]. Despite the undefined nature of these sexual acts, it was selectively used against LGBTQ individuals. Legal challenges are often accompanied by discrimination and stigmatization ranging from verbal ridicule to violent attacks and harassment [7]. Societal attitudes towards homosexuality impact LGBTQ members' sexual identity development and the ways in which they deal with stigma, contributing to chronic stress [7]. Studies on the effect of such attitudes on LGBTQ members' physical health in the Middle East and North Africa (MENA) region are limited, with most studies mainly addressing sexual health [8]. Evidence from the region, however, shows discrimination and lack of social safety to be among the drivers of risky sexual behaviors and increased substance use in transgender women [9, 10]. Stigma and negative experiences with healthcare workers were also cited as the main barriers to HIV testing among men who have sex with men [11, 12].

The difficulty in healthcare access, faced by members of the LGBTQ community, has been well documented in the literature [4], owing to existing heteronormative health frameworks, in addition to the prejudice and discrimination on the part of healthcare staff and facilities. Recently, access to healthcare became severely restricted to the general population due to the ongoing economic crisis in Lebanon with over 82% of the population facing multidimensional poverty, an index that considers income, education, public utilities, and health access [13]. The Beirut port explosion in August 2020 caused more than 200 deaths and thousands of injured, and correlated with increased mental strain, reduced wellbeing, and anxiety about the future [14]. These circumstances, alongside the COVID-19 pandemic, may have worsened disparities, particularly in healthcare, among minority populations including the LGBTQ community compared to the general population.

This is the first study in Lebanon that aims to assess, on a large scale, the physical health of the LGBTQ community while considering health system issues such as access to care and patient experiences, as well as community-specific attributes like health literacy (HL), self-acceptance, and prevalence of non-communicable diseases and sexually transmitted infections (STIs) [15, 16]. The study plans to compare transgender to non-transgender identifying participants, in addition to investigating differences between cisgender gay, lesbian and bisexual members of the community. Findings can help healthcare professionals and relevant stakeholders better understand the health needs of members of the LGBTQ community. This insight can guide improvements in medical care services, enhance the overall experience within the healthcare system, identify ways to raise health literacy levels, and increase access to care.

Methods

Definitions

Sexual orientation is defined as an enduring pattern of emotional, romantic, and/or sexual attractions to men, women, or both sexes [17]. Gender identity, on the other hand, refers to a person's deep felt, inherent sense of being a woman, or female; a man or male; a blend of male or female; or another gender [18].

Recruitment strategy

This cross-sectional study involved Lebanese members of the LGBTQ community, who were at least 18 years old. Non-probabilistic convenience sampling was used to recruit participants between January and June 2022. Survey links were shared through social media platforms, university servers, LGBTQ-supportive NGOs (Society for Inclusion and Development in Communities and Care for All (SIDC), and Proud), and student clubs at different universities in Lebanon. Posters were placed on campuses (including restrooms for added confidentiality), in restaurants, clubs, and pubs across Lebanon. There was no collection of IP addresses and other personal identifiers.

Institutional Review Board (IRB) approval was obtained from the Lebanese American University and from Universite Saint-Joseph de Beyrouth. The study was conducted in accordance with the ethical standards of the institutional research committee, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Description of survey

Informed consent was obtained from all participants. Questions developed by the authors on

sociodemographic characteristics like age, nationality, area of residence, self-reported degree of religiosity, highest attained educational level, socioeconomic and employment status were included. Participants were asked to provide information about their sex assigned at birth, their gender identity, and LGBTQ category they identify with. For sex assigned at birth, the options included "male," "female," or "other." For LGBTQ categories, participants could select from "lesbian," "gay," "bisexual," "transgender," "queer," or "other," with the option to choose multiple responses to accurately reflect their identity, as some individuals may identify with more than one category simultaneously. Gender identity options included "man," "woman," "non-binary," and "other" with the option selected by participants according to the gender identity they most closely identified with.

Those who selected "other" in any of these categories were given the opportunity to provide a written response that more precisely described their identity, acknowledging that some individuals may not fully align with predefined categories and may require space to self-identify in a way that better reflects their personal experience.

Moreover, the survey covered thirteen items related to healthcare access, use, and experiences [19]. This included questions about past negative encounters or discrimination, such as denial of service, unequal treatment, or verbal harassment/disrespect in an emergency department, mental health clinic, or doctor's office/hospital. Information on participants' history of chronic conditions was adapted from the National Health Interview Survey (NHIS) [20]. Additional yes/no items, designed by the authors, explored participants' sexual activity status, history of STI testing and diagnoses, acceptance of their sexual orientation and gender identity (SOGI), and knowledge of LGBT-friendly services available in the country.

The Calgary Charter for Health Literacy (HL) [21], consisting of five 4-point Likert questions, assesses the cognitive and social skills that influence one's ability to find, understand, evaluate, communicate, and use health-related information. Each item is scored between 0 for Never and 3 for Always, with a total score between 0 and 15. Higher total score indicates higher HL level. In our study, Cronbach's alpha was 0.88, indicating high reliability, construct validity, and internal consistency.

The survey was translated to Arabic by authors fluent in both languages. It was then back translated to English by an independent bilingual translator, blinded to the original survey. Discrepancies were resolved through discussion amongst the team. The survey was shared, using Google Forms, in English and Arabic.

Statistical analysis

Data was analyzed using IBM SPSS version 27.0 (IBM Corp: Armonk, NY). Descriptive statistics were presented with frequency and percentages for categorical data (sociodemographic characteristics, sex assigned at birth, sexual orientation, gender identity, chronic conditions, sexual health, access to health services and interaction with healthcare personnel), in addition to mean and standard deviation for continuous data (age, health literacy score). Two questions included the option 'refuse to answer' alongside 'yes' and 'no': history of sexual activity, and the perception that identifying as LGBTQ is a source of distress. For these questions, cases selecting 'refuse to answer' were excluded from analysis examining association with covariates. Two-sample t-test was used to explore the correlation between health literacy and history of chronic conditions or STI testing, and between willingness to disclose SOGI and religiosity. Chi-square test was used for analysis, with Fisher's exact test applied when expected cell counts were less than five, to examine associations between whether or not participants report acceptance of SOGI, history of chronic conditions, health-seeking behavior (including STI testing, delay in seeking care, and having at least one primary physician), negative experiences in healthcare settings, disclosure of SOGI to healthcare providers, and participant perception that their SOGI contributes to personal distress or difficulty in accessing medications. Chi-square tests were also used to compare between transgender and non-transgender identifying participants. Comparisons between cisgender bisexual and cisgender homosexual participants, either men or women were analyzed after applying the Bonferroni correction ($\frac{\alpha}{2}$).

In terms of gender identity, participants were categorized into cisgender, transgender and non-transgender individuals according to the following criteria:

- Cisgender: participants whose primary gender identity corresponds to their sex assigned at birth; participants who were assigned male at birth identifying as a man and participants who were assigned female at birth identifying as woman.
- Transgender: participants who selected "transgender" as an identity they identify with when asked about the LGBTQ category(ies) they identified with.
- Non-transgender identifying: participants who do not identify with the transgender category as part of their LGBTQ identity regardless of whether their primary gender identity corresponds to their assigned sex at birth.

Table 1 Characteristics of study participants (*N* = 496)

Variables	*n* (%)
Age	
18–24	364 (73.4)
24–34	99 (20.0)
34–44	26 (5.2)
44 or above	7 (1.4)
Nationality	
Lebanese only	469 (94.6)
Lebanese with another nationality	27 (5.4)
Governate	
Mount Lebanon	247 (49.8)
Beirut	165 (33.3)
North Lebanon	37 (7.5)
South Lebanon	19 (3.8)
Beqaa	16 (3.2)
Nabatieh	7 (1.4)
Akkar	3 (0.6)
Baalbek – Hermel	2 (0.4)
Sex assigned at birth	
Male	289 (58.3)
Female	207 (41.7)
Primary gender identity	
Male/Man	267 (53.8)
Female/Woman	172 (34.7)
Other*	57 (11.5)
Best description of LGBTQ categories	
Bisexual	191 (38.5)
Gay	174 (35.1)
Queer/Questioning/Pansexual/Unlabeled	68 (13.7)
Lesbian	38 (7.7)
Transgender only	12 (2.4)
Transgender and another category**	13 (2.6)
Educational level	
Bachelor's degree	268 (54.0)
Master's degree or above	136 (27.4)
High school or below	92 (18.5)
Employment status	
Student	277 (55.8)
Employed	147 (29.6)
Unemployed/retired	72 (14.5)
Able to meet monthly basic needs	
Yes	232 (46.8)
Yes, with difficulties	188 (37.9)
No	76 (15.3)

*Other includes non-binary, genderqueer, genderfluid, queer, agender, questioning, not sure, shemale

** Participants who selected another LGBTQ category (like gay, lesbian, bisexual) in addition to transgender

Results

Demographics

Table 1 presents the general characteristics of the participants. The sample size was 496 participants (mean age 23.4 years ± 6.24). Due to the recruitment method relying on posters and social media, the non-response rate could not be estimated. Participants were primarily Lebanese, with 5.4% holding a second nationality. Most resided in Mount Lebanon (49.8%) and Beirut (33.3%) with 81.4% holding a bachelor's degree or above, and 29.6% employed. Male was the assigned sex at birth in 58.3% and the primary gender identity in 53.8% of participants. Of the 82 participants whose primary gender identity did not correspond to their sex assigned at birth and those reporting a primary gender identity outside the man/woman binary, only 30.5% identified as transgender. Among the non-transgender identifying participants, the majority identified as bisexual (40%) or gay (37%), while 15% identified as queer and 8% as lesbian.

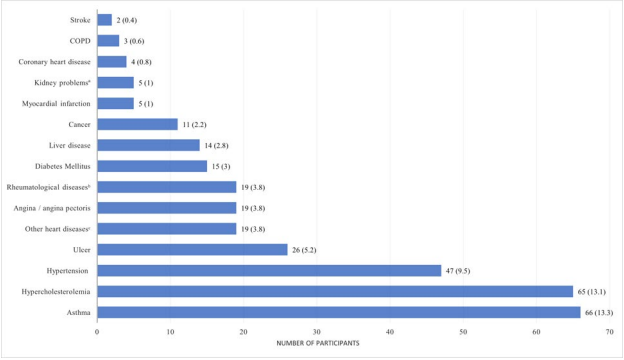

Fig. 1 Prevalence of chronic conditions in 496 members of the Lesbian, Gay, Bisexual and Transgender community in Lebanon expressed as n (%). **a**. Kidney problems include kidney dysfunction, stones, cystitis, and incontinence. **b**. Rheumatological diseases include arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia. **c**. Other heart diseases except myocardial infarction, angina/angina pectoris, or coronary heart disease

The vast majority (87.5%) reported accepting their sexual orientation and/or gender identity (SOGI). Data showed that 53.2% found it difficult or were completely unable to meet their basic needs. The overall mean for HL was 7.73 ± 3.81 (out of 15) and was significantly correlated with having a university degree as opposed to not ($t = 1.98$, $p < 0.05$).

Chronic conditions

Chronic conditions were reported by 41.1% of the sample, with asthma (13.3%), hypercholesterolemia (13.1%), and hypertension (9.5%) being most prevalent (see Fig. 1 for prevalence of chronic conditions).

However, there was no significant association between chronic conditions and acceptance of SOGI ($\chi^2 = 0.025$, $p > 0.05$), nor with delayed care ($\chi^2 = 0.07$, $p > 0.05$) or discrimination ($\chi^2 = 1.96$, $p > 0.05$). Additionally, there was no significant difference in the presence of chronic disease diagnoses between transgender and non-transgender identifying individuals ($\chi^2 = 0.286$, $p > 0.05$). Among cis-gender participants, there was also no significant association between bisexual men, gay men, bisexual women and lesbian women with respect to presence of

chronic diseases ($\chi^2 = 2.97$, $p > 0.05$). Health literacy was found to correlate positively with the presence of chronic diseases ($t = 3.76$, $p < 0.01$).

Sexually transmitted infection (STI) and sexual activity

Among the participants, 51.2% reported being sexually active, 33.5% stated they were not, and 15.5% declined to respond. Of those who reported sexual activity, 54.7% got tested for STIs on at least one occasion. There was no statistical difference between transgender and non-transgender participants. Among sexually active cisgender participants, no significant difference in STI testing was found between bisexual and lesbian women after Bonferroni correction. Gay men, however, were significantly more likely to get tested compared to bisexual men ($\chi^2 = 0.286$, $p = 0.017$).

Regarding STI prevalence, 15.7% of the total sample ($N = 496$) reported at least one STI. The most common STIs were pubic lice, HIV/AIDS and chlamydia as outlined in Fig. 2.

Our data showed that increased health literacy was significantly associated with STI testing ($t = 3.34$, $p < 0.01$). Preferred testing sites were NGOs (59.3%), followed by private hospitals (15.9%), laboratories (13.8%) and pharmacies (2.6%).

Access to healthcare

Difficulty accessing healthcare was reported by 37.7% of respondents, with 51.6% of all individuals having no primary provider. Difficulty accessing healthcare was significantly more likely to be reported by unemployed non-student participants than the employed ($\chi^2 = 9.27$, $p = 0.002$). Delayed medical treatment was reported by 24% of participants due to fear of discrimination based on their LGBTQ status, while 36.7% attributed such delay to financial difficulties. Delaying medical care out of fear of discrimination was, however, not significantly related to familiarity with LGBTQ-supportive NGOs ($\chi^2 = 0.539$, $p > 0.05$) and LGBTQ-friendly practitioners ($\chi^2 = 3.228$, $p > 0.05$). Moreover, 28.2% reported a difficulty in securing medications, with 9.3% believing that belonging to the LGBTQ community was at the root of this difficulty. Additionally, 76.4% reported nondisclosure of their SOGI to their provider, with the majority (54.2%) not expressing any willingness to do so. Table 2 displays the findings related to healthcare access and patient experiences.

The data showed that 11.1% of participants had a negative experience in healthcare settings, mostly in the form of verbal harassment or disrespect (Table 2). Participants who identified as transgender were significantly more likely to experience discrimination compared to non-transgender members of the LGBTQ community ($p = 0.000$) (Table 3). Additionally, participants who had experienced discrimination based on their SOGI were significantly more likely to delay seeking treatment ($\chi^2 = 15.498$, $p < 0.001$). Participants who experienced discrimination in healthcare were also significantly more likely to report that their SOGI was a source of distress

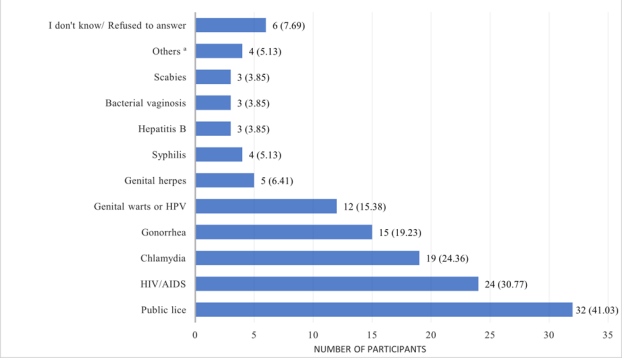

Fig. 2 Prevalence of sexually transmitted infections among Lesbian, Gay, Bisexual and Transgender people in Lebanon expressed as n (%). **a**. Others included EBV, CMV, Hepatitis A and Hepatitis C with one case for each disease reported

Table 2 Access to healthcare and patient experiences of members of LGBTQ community in Lebanon ($N = 496$)

Access to Healthcare	*n* (%)
Obtaining medical care when needed	
Somewhat easy	303 (61.1)
Somewhat difficult	147 (29.6)
Very difficult	40 (8.1)
Very easy	6 (1.2)
Disclosed their sexual orientation or gender identity to a treating physician or other medical professional	
Yes	117 (23.6)
No	379 (76.4)
Willing to disclose their sexual orientation or gender identity to a treating physician or other medical professional	
Yes	227 (45.8)
No	269 (54.2)
Deferred necessary medical care due to:	
Financial constraints	182 (36.7)
Perceived disrespect or discrimination from doctors or other health providers	119 (24.0)
Negative experiences in healthcare facilities	55 (11.1)
Doctor's office/hospital	
Denial of service	6 (1.2)
Denial of equal treatment	6 (1.2)
Verbal harassment or disrespect	17 (3.4)
Mental health clinic	
Denial of service	3 (0.6)
Denial of equal treatment	15 (3.0)
Verbal harassment or disrespect	25 (5.0)
Emergency room	
Denial of service	4 (0.8)
Denial of equal treatment	3 (0.6)
Verbal harassment or disrespect	9 (1.8)

Table 3 Negative healthcare experiences reported by LGBTQ members in Lebanon and associations with other covariates

	Had at least one negative experience in healthcare facilities		
	Yes	No	*p*-value
Self-identified as a transgender individual			
Transgender	10	15	0.000*
Non-transgender	45	426	
Delayed necessary medical care due to fear of discrimination			
Yes	27	92	< 0.001*
No	28	349	
Perceived their SOGI as a source of distress			
Yes	27	152	0.019*
No	24	269	

than those who did not ($\chi^2 = 5.237$, $p < 0.02$). Of note, 24 (4.8%) participants selected 'refuse to answer' when asked whether they considered their SOGI a source of distress; these were therefore excluded from this analysis.

Those who accepted their SOGI status did not believe that their health would have been better had they not belonged to the LGBTQ community ($\chi^2 = 40.243$, $p < 0.001$). However, no significant difference was obtained between disclosure of SOGI and self-acceptance ($\chi^2 = 1.347$, $p > 0.05$), or religiosity (t = -1.341, $p > 0.05$).

Discussion

This study presents novel findings on LGBTQ community-specific attributes such as chronic health conditions, prevalence of STIs, health literacy levels and self-acceptance as well as health system challenges including access to care and treatment, and patient experiences. Although mainly young adults, chronic diseases were prevalent in more than a third of our participants. LGBTQ community members are more susceptible to chronic conditions, including asthma, arthritis, cardiovascular events and strokes than the general population [1]. The literature suggests that increased non-communicable disease is related to chronic marginalization and stigma experienced by sexual minority individuals over their life span [1, 22], this manifests as fear of accessing healthcare, discrimination by health providers, and internalized stigma, all of which can exacerbate the risk of worsening physical health.

Difficulty accessing healthcare among the general population in Lebanon ranged between 27% and 50% in 2021–2022 [23, 24], a significant increase from previous years driven by the worsening economic crisis and mounting financial constraints. These barriers would be more pronounced for marginalized groups, as international studies indicate that sexual minorities are disproportionately affected by unemployment, lack of insurance, and lower socioeconomic status [25]. Reflecting this trend, over one-third of our sample reported difficulties accessing or affording healthcare, with difficulty being significantly increased among unemployed participants. While direct comparisons with the general population are limited due to differing data sources, our findings provide a rough basis for contextual analysis and are consistent with prior research linking socioeconomic disadvantage to reduced access to care [25].

In our sample, participants who experienced discrimination were more likely to delay seeking treatment because of fear of discrimination. This aligns with previous research that reported discrimination and heteronormative attitudes of healthcare professionals as a major barrier to healthcare access [4, 26]. Both anticipation of discrimination and actual previous experiences of discrimination led to delaying or refusing to seek healthcare. Among other barriers, there is a lack of trust and an absence of anti-discrimination policies [26]. This underscores the importance of LGBTQ cultural competency training, which has potential to improve health professionals' attitudes and behaviors towards LGBTQ individuals, deepen their understanding of LGBTQ culture and health, and enhance their ability to effectively serve the LGBTQ community; these models however still need to be thoroughly evaluated [27].

Our analysis demonstrated that SOGI acceptance significantly decreased the perception that LGBTQ status was responsible for poorer health outcomes. Self-acceptance, or the state of being comfortable with one's sexuality, was found to be protective against difficult experiences, and helpful in maintaining well-being [28]. It can be argued that self-acceptance has a positive effect in individuals who attribute their health challenges to external factors rather than taking on self-blame. Our analysis showed that participants who accepted their SOGI were not necessarily more willing to disclose their SOGI to healthcare providers, whereas those with higher health literacy did.

The decision to disclose one's LGBTQ status to healthcare providers is influenced by various factors. Discussions surrounding sexual orientation in healthcare settings are infrequent and inadequate [29, 30], with reasons ranging from healthcare providers not deeming sexual orientation relevant or lacking the necessary skills and knowledge to engage in such conversations. Initiating a discussion, however, did not always lead to disclosure by our participants; even when specifically asked about their SOGI.

Mistrust of healthcare providers emerges as a common theme contributing to non-disclosure, in addition to anticipation and fear of negative experiences, especially a breach in confidentiality, homophobic and transphobic attitudes, and negative comments [31]. That could explain why most of our participants sought STI testing at NGOs rather than other facilities since such organizations are

branded as queer-friendly spaces. Additionally, despite the scarcity of studies, it has been reported that increased health literacy among LGBTQ patients significantly predicted SOGI disclosure to healthcare workers [32], a conclusion consistent with our findings.

Our results suggest a positive association between health literacy and chronic conditions. This contrasts with previous work in which chronic illness was associated with limited HL [33]. In the general Lebanese population, a positive correlation was reported between HL levels and factors such as good self-perceived health, ability to pay for treatment, and income. It is possible that heightened attention to personal health increases participants' likelihood of seeking care and receiving a medical diagnosis. Additionally, the presence of chronic conditions may prompt frequent interaction with the health system, thus increasing awareness of health-related matters and ability to comprehend and use health information in the management of their complaints [33]. In general, sufficient HL and numeracy skills enhance self-efficacy and allow better self-management of chronic conditions, which often require motivation and persistence [34].

Health literacy was also positively associated with STI testing in our sample, consistent with prior observations [35]. One study involving 2238 men who have sex in men in Lebanon reported that only 19% of participants obtained sexual health information from reliable sources (school, university, healthcare workers) [16]. Along these lines, early exposure to sexuality education fosters adoption of protective behaviors at first sexual experience and subsequent STI testing [36]. Moreover, health counseling and behavioral interventions have shown evidence of increased disease prevention screening [37] and decreased risky sexual behavior [38, 39]. Furthermore, since the internet is often used to seek information on sensitive topics (including sexual health and STIs), it is essential to build users' digital health literacy to enable them to evaluate the reliability and trustworthiness of online health information [40].

Strengths and limitations

The article offers an exploration of LGBTQ health in Lebanon, where such research is often limited due to sociopolitical challenges and cultural sensitivities. One notable strength is its exploration of health system challenges like access to care and patient experiences, and community-specific attributes like health literacy and self-acceptance. The inclusion of participants from different segments of the LGBTQ community, particularly gay and bisexual individuals, provides initial insights into their health experiences. Additionally, the use of online surveys enabled access to a hard-to-reach population in a region where LGBTQ individuals may be hesitant to participate in research due to stigma or fear of discrimination.

Some limitations, however, should be noted. The relative predominance of certain participant characteristics in terms of geographic location, age, and educational level, indicates that key subgroups within the LGBTQ community, like those in rural areas or without higher education, are underrepresented. This may lead to biased results that overlook the health disparities faced by less privileged individuals within the LGBTQ population. It is possible that LGBTQ individuals who did not accept their SOGI were also less likely to complete a survey discussing challenges faced by LGBTQ individuals. Additionally, the use of an online survey may have resulted in the exclusion of individuals who lack digital competency and/or access, which could lead to an incomplete understanding of LGBTQ health disparities and needs.

Moreover, despite the large sample size, the limited number of transgender participants reduces statistical power and limits the ability to draw strong conclusions regarding health disparities and discrimination faced by transgender individuals in Lebanon.

The reliance on self-reported data may have introduced a social desirability bias whereby respondents would report answers they believe are viewed favorably by others, or a potential recall bias when it comes to past health experiences. Furthermore, the cross-sectional nature of the study restricts the ability to infer causal relationships between health conditions and specific determinants such as discrimination or access to care. The survey items, which were developed by the authors to assess reported self-acceptance, and knowledge of LGBTQ-friendly services, may limit the conclusions drawn from their associations with other covariates as their validity was not tested.

Despite these limitations, the study establishes a foundational framework for future research and policy development, advocating for a more inclusive healthcare environment. We recommend wider sampling to further explore the health experiences and health-seeking behaviors among the different subgroups of the community.

Conclusion

This is the first study to assess health-related variables of Lebanese LGBTQ individuals including health conditions, health literacy, and their interaction with the healthcare system. Our results underscore the need to build trust between the LGBTQ community and healthcare providers. Aiming to increase the health literacy of members of the LGBTQ community is an actionable area that can increase proactive health behaviors leading to better health outcomes. Additionally, health curricula integrating LGBTQ health and cultural competency might be essential to strengthen future practitioners'

knowledge, awareness, and skills in dealing with sexual minority patients and eliminating health inequities caused by assumptions, stigma and discrimination.

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Author contributions
WDK- Conceptualization, Data curation, Formal Analysis, Interpretation, Investigation, Writing-original draft AS- Conceptualization, Data curation, Formal Analysis, Interpretation, Investigation, Writing-original draft, Writing-Review & Editing JM: Conceptualization, Formal Analysis, Investigation, Writing original draft SL- Formal Analysis, Interpretation, Writing original draft MC- Formal Analysis, Interpretation, Writing original draft AC- Conceptualization, Investigation, Writing-original draft MB- Conceptualization, Investigation, Writing original draft ET- Conceptualization, Investigation, Writing-original draft CB: Conceptualization, Data curation, Formal Analysis, Interpretation, Investigation, Methodology, Project administration, Supervision, Visualization, Writing-original draft, Writing-Review & Editing.

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Data availability
Data available upon request.

Declarations

Ethics approval and consent to participate
The study was approved by the Institutional Review Board at the Lebanese American University (IRB#LAU.SOM.CB2.11/Jan/2022) and Universite Saint-Joseph de Beyrouth (IRB#USJ-2022- 132). Informed consent was obtained from all study participants.

Consent for publication
Informed consent was obtained from all study participants.

Competing interests
The authors declare no competing interests.

Author details
[1]Gilbert and Rose-Marie Chagoury School of Medicine, Lebanese American University, P.O. Box 36, Byblos, Lebanon
[2]Faculty of Medicine, American University of Beirut, Beirut, Lebanon
[3]Research Centre for Environment and Human Health, School of Continuing Education, Hong Kong Baptist University, Hong Kong, China
[4]College of International Education, School of Continuing Education, Hong Kong Baptist University, Hong Kong, China

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