

Navigating Stigma and Survival: A Phenomenological Study of HIV Risk Among MSM in Palu, Indonesia

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ARTICLE INFO	ABSTRACT
Manuscript Received: 17 May, 2025 Revised: 06 Aug, 2025 Accepted: 11 Oct, 2025 Date of Publication: 20 Oct, 2025 Volume: 8 Issue: 10 DOI: 10.56338/mppki.v8i10.8105	Introduction: This study aimed to explore the multidimensional social determinants influencing HIV vulnerability among men who have sex with men (MSM) within the context of stigma and exclusion in Palu, Indonesia. With high HIV prevalence among men who have sex with men and persistent social discrimination, the study examined how social, economic, and structural factors contribute to health risks and hinder access to HIV prevention and care services. Methods: This qualitative study employed a phenomenological approach conducted in Palu, Central Sulawesi, Indonesia, over a three-month period. A total of 15 participants were recruited through purposive sampling, and data were collected via in-depth semi-structured interviews. Thematic analysis was applied using Braun and Clarke's six-phase framework, guided by the social-ecological model and syndemic theory, both of which describe how multiple social and structural factors intersect to shape health vulnerability. Results: The study identified multiple structural and psychosocial barriers shaping HIV vulnerability among men who have sex with men, including fear of discrimination, familial rejection, and economic precarity. Additionally, digital platform engagement and inconsistent condom use emerged as significant behavioral determinants. A thematic analysis produced five intersecting themes structured around individual, interpersonal, community, institutional, and policy levels, in alignment with the social-ecological model and syndemic theory. Conclusion: This study enhances understanding of HIV vulnerability among men who have sex with men in Palu, Indonesia, by highlighting the intersecting impacts of stigma, poverty, and systemic exclusion. The findings underscore the importance of community-led, culturally responsive, and stigma-free interventions, including economic empowerment and digital outreach initiatives tailored to local contexts. These insights advance the international public health discourse by challenging urban-centric paradigms and emphasizing the value of localized, inclusive strategies
KEYWORDS	
Men who Have Sex with Men (MSM); HIV Vulnerability; Stigma; Social Determinants; Palu; Indonesia; Digital Intervention	
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INTRODUCTION

The global HIV/AIDS epidemic remains one of the most pressing public health challenges of the 21st century, persisting not only as a biomedical crisis but also as a social, cultural, and structural phenomenon. Since its identification in the early 1980s, HIV/AIDS has disproportionately affected specific key populations, with men who have sex with men (MSM) among the most impacted worldwide. By the end of 2023, the World Health Organization (WHO) reported that approximately 39 million people were living with HIV and 630,000 AIDS-related deaths occurred globally (1). These figures highlight the urgent need for inclusive, equity-based, and context-sensitive responses to the epidemic.

One of the defining features of the HIV epidemic is its unequal distribution across populations. While HIV affects individuals across diverse social strata, men who have sex with men face an especially high risk due to intersecting biological, behavioral, and structural determinants. According to UNAIDS (2023), men who have sex with men are 22 times more likely to acquire HIV than the general population (2). In several countries, they account for more than 50% of new infections, driven by high transmission efficiency, social exclusion, and violence that perpetuate the epidemic among this community. (3,4).

Globally, men who have sex with men remain at the epicenter of the epidemic. In Southeast Asia, the burden is compounded by socio-cultural stigma, restrictive norms, and limited access to prevention and care. In Indonesia, national data from the Ministry of Health (2022) indicate that men who have sex with men account for a significant share of new HIV cases, with same-sex behavior representing 27.2% of known transmission risks. The national prevalence among this group has increased from 5.3% (2007) to 17.9% (2019), reflecting a concerning trajectory driven by stigma, service gaps, and inadequate sexual health education (5).

Particularly in urban centers such as Palu, Central Sulawesi, HIV incidence among men who have sex with men has increased sharply in the past five years. According to the Provincial Health Office (2024), Palu recorded the highest number of HIV cases in Central Sulawesi, with 326 cases attributed to this group. (6). Most were young males aged 15–29, reflecting active social and digital networks. The Central Sulawesi Commission on AIDS estimates that men who have sex with men constitute 5.2–7.5% of the HIV-positive population, though many remain hidden due to stigma and fear of rejection.

This trend reflects more than a biomedical crisis—it exposes a deeply entrenched social inequity. Men who have sex with men in Indonesia, especially in Palu, face multiple layers of stigma intersecting with religious, cultural, and legal frameworks. Although the government promotes condom use and provides free antiretroviral therapy, these programs often fail to reach key populations due to fear of discrimination and the lack of culturally safe, confidential healthcare spaces (7). As a result, individuals often seek healthcare in secrecy or avoid it altogether, delaying diagnosis and compromising adherence.

Empirical evidence consistently identifies stigma as a central barrier to HIV-related healthcare among men who have sex with men. Internalized stigma (self-blame and shame), enacted stigma (discrimination by others), and institutional stigma (biased systems or policies) collectively discourage testing and treatment engagement (8,9). Structural barriers—such as criminalization, inadequate outreach, and policy neglect—further marginalize this community (10,11). These forces perpetuate the epidemic despite the availability of biomedical tools such as Pre-Exposure Prophylaxis (PrEP) and antiretroviral therapy (ART) (12).

Cultural and familial dynamics—including heteronormative expectations, patriarchal values, and religious condemnation—intensify the exclusion of men who have sex with men. Many experience familial rejection and social isolation, leading to psychological distress and high-risk coping behaviors (13,14). In the absence of support, online platforms become vital for identity affirmation and peer connection. Yet, these digital spaces also facilitate misinformation and risky encounters, underscoring the need for digital literacy and evidence-based interventions (15,16).

The local dynamics in Palu further complicate this situation. Men who have sex with men often report isolation and exclusion from both family and health institutions. Access to HIV services is constrained not only by infrastructure limitations but also by untrained, judgmental, or heteronormative healthcare providers. Economic precarity drives some individuals toward transactional sex, heightening exposure to infection (17,18). These realities emphasize the importance of addressing the entire continuum of social determinants—economic, familial, digital, and institutional—in local HIV programming.

Furthermore, Indonesia's current HIV strategies often neglect the unique needs of men who have sex with men in smaller cities such as Palu. While metropolitan centers like Jakarta have adopted community-led outreach programs, these models are rarely localized or culturally adapted. Consequently, there remains limited evidence on effective interventions for smaller, conservative, or resource-limited regions (15,19). Addressing this urban-centric research bias is essential for developing contextually grounded public health responses.

To address these limitations, this study provides a multidimensional analysis of the social determinants shaping HIV vulnerability among men who have sex with men in Palu, Indonesia. Drawing on qualitative interviews with participants, healthcare workers, and community advocates, it explores how stigma, knowledge, economic conditions, family rejection, and digital behaviors intersect to influence risk. The study's bottom-up, phenomenological design offers empirical grounding beyond urban-centric theory, representing a marginalized population often excluded from national discourse.

This study advances scholarship by integrating micro-level experiences (stigma, family rejection), meso-level factors (healthcare and community systems), and macro-level structures (policy and economy) into a holistic model of HIV vulnerability among men who have sex with men in Indonesia. In doing so, it challenges dominant urban frameworks and provides actionable guidance for designing inclusive, culturally sensitive, and community-led interventions that align with current national and UNAIDS (2023–2024) policy frameworks.

METHODOLOGY

Research Design

This study adopted a phenomenologically informed qualitative design with reflexive thematic analysis, to understand the lived experiences of men who have sex with men (MSM) in Palu, Indonesia, regarding HIV vulnerability. Phenomenological approaches are well-suited to capture subjective meanings attached to health behaviors among marginalized groups (20,21). Positioning phenomenology as the epistemic lens and reflexive thematic analysis as the analytic method enabled exploration of both external determinants (e.g., healthcare access, policies) and internal dimensions (e.g., stigma, fear, self-perception) (22). The study followed COREQ-aligned reporting and reflexive memoing throughout.

The primary objective was to explore multidimensional social determinants—including stigma, economic conditions, knowledge, family influence, policy environment, and digital behavior—that shape MSM's HIV vulnerability. To enhance interdisciplinary clarity, we operationalized stigma along three axes: internalized, enacted, and institutional. By using a phenomenological lens, the study centered participants' narratives and constructed a grounded understanding of their realities, explicitly situating Palu as a non-metropolitan context to advance and critique urban-centric paradigms in HIV scholarship, thereby informing culturally responsive public health interventions.

Conceptual Framework and Operational Definitions

The conceptual framework draws on the social-ecological model (SEM)—individual, interpersonal, community, institutional, and policy levels—and syndemic theory—co-occurring social/health conditions that interact to exacerbate vulnerability. We mapped domains relevant to men who have sex with men: (1) Stigma and discrimination (internalized, enacted, institutional); (2) Knowledge (HIV transmission, condom/PrEP use, ART adherence); (3) Policy (local health regulations and implementation quality); (4) Economic factors (precarity, employment, access to resources); (5) Family dynamics (acceptance/rejection, emotional support, disclosure); and (6) Media and technology (social media, dating apps, telehealth/mHealth engagement). These constructs guided the interview protocol and subsequent coding.

These categories served as guiding constructs for coding and analysis, organized within a framework matrix (domains × SEM levels) and depicted in a coding tree diagram to substantiate theme development and analytic rigor. We report theme prevalence qualifiers (e.g., “most,” “several,” “a few”) and provide counts where informative to strengthen interpretive validity.

Study Site and Participants

The study was conducted in Palu (Central Sulawesi, Indonesia), a non-metropolitan urban center experiencing a recent increase in HIV cases among men who have sex with men. Palu's socio-cultural conservatism and resource constraints create a distinctive setting where MSM are both visible and stigmatized, offering a critical counterpoint to Jakarta-centric evidence.

Participants were selected purposively based on inclusion criteria: adult (≥ 18 years), biologically male, identifying as men who have sex with men, residing in Palu, and providing informed consent. The sample also included healthcare providers, public health officials, and NGO representatives to triangulate perspectives.

Recruitment used snowball sampling via trusted community networks—effective for hidden populations (23,24). Community-based organizations facilitated rapport and safe contact. Ethical approval was obtained from the relevant institutional review board; all participants provided written informed consent. Given the sensitivity of sexual identity disclosure in high-stigma settings, procedures prioritized confidentiality (pseudonyms, secure data storage), voluntary participation, and safety protocols throughout fieldwork.

Data Collection Procedures

Primary data were collected via in-depth, semi-structured interviews in confidential settings. The guide probed stigma (internalized/enacted/institutional), healthcare access/quality, sexual health practices, socio-economic challenges, and digital engagement (social media, dating apps, telehealth/mHealth use). Interviews lasted ~60–90 minutes, were conducted primarily in Bahasa Indonesia, and were audio-recorded with consent.

Supplementary data included participant observation and institutional documents from NGOs and the local health department. Field notes and analytic memos captured non-verbal/contextual cues. Given participant vulnerabilities, anonymity and confidentiality were ensured (de-identification, password-protected files); participation was voluntary with the right to withdraw. On-site referral information for psychosocial support was provided where needed (25,26).

Data Analysis Techniques

Data were transcribed verbatim and analyzed using NVivo 12 Plus with reflexive thematic analysis. The process followed Braun and Clarke's six-phase framework: (1) Familiarization; (2) Generating initial codes; (3) Constructing themes; (4) Reviewing themes; (5) Defining and naming themes; and (6) Producing the report. Coding combined inductive insights with sensitizing concepts from SEM and syndemic theory; stigma was coded as internalized, enacted, and institutional.

This systematic process identified key themes—e.g., fear of disclosure, economic constraints, family rejection, digital risk/affordances—that shape HIV risk. NVivo enhanced analytic rigor and auditability (27). To strengthen credibility, a subset of transcripts was double-coded; discrepancies were resolved through consensus meetings and peer debriefing. We also generated a coding tree diagram and a framework matrix (themes $\times$ SEM levels), and we report prevalence qualifiers (and counts where informative) to convey the breadth of perspectives.

Triangulation integrated interview narratives with documentary and observational data to enhance trustworthiness. Credibility and dependability were reinforced via peer debriefing, member reflections on preliminary themes, reflexive memoing, and an audit trail of analytic decisions, consistent with qualitative best practices (28,29).

RESULTS

Stigma and Discrimination

The findings revealed that three forms of stigma—internalized, enacted, and institutional—significantly influenced men who have sex with men (MSM) participants' willingness to engage with HIV-related healthcare services in Palu. Internalized stigma manifested as self-blame, fear of judgment, and reluctance to disclose sexual identity, leading to delayed testing and irregular treatment adherence. As one respondent noted, "I felt ashamed to go to the clinic because people there might recognize me and judge me." This fear was compounded by enacted stigma, including derogatory labeling, gossip, and exclusion from family or community events, which intensified psychological distress. Approximately two-thirds of participants described these experiences as barriers to accessing care.

A recurring narrative highlighted institutional stigma within the healthcare system. Participants recounted that nurses or doctors sometimes displayed judgmental attitudes, refused care, or breached confidentiality. One participant shared, “When I tested positive, the nurse whispered about me to another staff member. I never went back.” Such experiences discouraged repeat visits and reinforced perceptions of public clinics as unsafe spaces. ****This pattern—reported by the majority of participants—****underscored how social discrimination and medical mistrust intersect to drive health avoidance behaviors, heightening vulnerability to late-stage HIV diagnosis and transmission (30,31).

Knowledge and HIV/AIDS Risk

Although most participants demonstrated basic HIV prevention knowledge, significant knowledge–behavior gaps persisted. While familiar with transmission routes and the protective role of condoms, many reported inconsistent condom use—particularly in casual or emotionally driven encounters arranged through dating apps. “Sometimes I trust my partner too much,” explained one respondent, “so I don’t use condoms every time.” Factors such as alcohol use, partner persuasion, and the desire for intimacy frequently overrode risk-conscious decision-making.

NGO-led educational initiatives were valued but described as “too generic” and lacking contextual sensitivity to the lived realities of men who have sex with men. Only a few participants (approximately one-fourth) had accessed peer-led or structured health programs, and these individuals showed higher testing frequency and consistent condom use. These findings reinforce the value of community-based, peer-supported, and culturally tailored interventions (32,33).

Policy and Service System

At the policy level, participants highlighted systemic neglect of men who have sex with men in Indonesia’s HIV strategies. Most respondents viewed national and regional policies as “heteronormative” and “punitive.” MSM-specific services were often described as symbolic rather than substantive, lacking confidentiality and trained, empathetic personnel. This reflects institutional stigma embedded in the policy environment.

Healthcare workers often lacked training in inclusive, culturally sensitive practice, and public clinics were rarely perceived as safe or affirming. Policies mandating testing and treatment were weakened by inconsistent enforcement, underfunding, and lack of MSM community collaboration. These ****structural gaps—identified by nearly all key informants—****reinforce alienation from formal care systems and echo national-level disparities (21).

Economic Constraints

Economic precarity was identified as a key driver of HIV vulnerability. Over half of participants reported engaging in transactional or survival-based sexual relationships to meet basic needs after facing family rejection or unemployment. As one participant shared, “I had to choose between eating and saying no to a partner who refused condoms.” Financial dependence often limited condom negotiation, while short-term survival needs outweighed long-term health concerns.

Even participants with stable employment cited economic instability and indirect costs—such as transportation, lost wages, and lack of affordable lubricants—as obstacles to consistent care. Several emphasized the importance of integrated HIV–livelihood programs offering vocational training or small grants alongside health services, aligning with evidence from similar low-resource settings (34,35).

Family Acceptance or Rejection

Family rejection emerged as one of the most emotionally devastating experiences, shaping both mental health and HIV vulnerability. Nearly three-quarters of respondents who disclosed their identity faced eviction, emotional abuse, or forced estrangement. “My father told me I was no longer his son,” one participant recalled. This trauma often resulted in depression, withdrawal, and maladaptive coping, including substance use and unprotected sex.

Conversely, a small minority (three participants) who experienced familial acceptance demonstrated higher engagement in testing and treatment adherence. Family support served as a protective factor, buffering against social

stigma and promoting sustained health-seeking behaviors. These contrasting pathways highlight the critical role of family dynamics in shaping HIV-related outcomes among men who have sex with men (36,37).

Role of Social Media

Digital platforms played a dual and complex role in participants' experiences. Most participants (around two-thirds) described social media and dating apps as vital for connection, identity exploration, and accessing HIV information discreetly. One participant shared, "Through WhatsApp groups, I found others like me and learned where to get tested safely." Such platforms also facilitated community support networks that encouraged condom use and testing.

However, the same platforms also amplified risk exposure. Easy access to anonymous sexual encounters and limited digital literacy contributed to misinformation and unsafe sexual practices. "We talk about sex but not protection," one respondent explained. These findings highlight the need for culturally grounded digital interventions and e-health literacy initiatives, consistent with recent 2022–2024 studies on digital HIV outreach in high-stigma settings (38,39).

DISCUSSION

This study investigated the multidimensional experiences of men who have sex with men (MSM) in Palu, Indonesia, within the broader context of HIV vulnerability. Through a phenomenological approach, the findings elucidate intersecting individual, interpersonal, community, institutional, and policy determinants shaping health behaviors—explicitly organized using the social-ecological model (SEM)—and compounded by syndemic interactions (co-occurring social and health stressors that worsen outcomes). By centering a non-metropolitan site, the analysis advances and critiques urban-centric paradigms by demonstrating how resource constraints, local conservatism, and service fragmentation in Palu condition HIV risk differently than in large cities.

Stigma was among the most pervasive barriers to prevention and treatment. Three distinct forms were salient—internalized (self-stigma), enacted (discrimination by others), and institutional (policies/practices that disadvantage MSM)—each suppressing health-seeking behaviors for most participants (40,41). Reports of breached confidentiality and judgmental clinical encounters reinforced distrust in the health system. This pattern aligns with Baral et al. (2013) and SEM-based analyses that demonstrate multi-level drivers of HIV risk among MSM (42).

The observed knowledge–behavior gap supports syndemic theory, wherein co-occurring psychosocial stressors (e.g., family rejection, poverty, depression) interact to undermine risk reduction despite adequate knowledge (43). Alcohol use, partner persuasion, and intimacy needs frequently overrode condom intentions. Accordingly, single-channel information campaigns are insufficient; multi-level strategies that integrate psychosocial support, economic assistance, and confidential service pathways are required.

The healthcare–policy environment was a decisive structural determinant. Respondents described systemic neglect and limited cultural competence, with heteronormative or punitive framings reducing trust and engagement—a pattern reported by the majority of participants. These findings echo Greenwood et al. (2021) that public-sector marginalization of MSM reflects broader political and social inequalities (29).

Economic precarity and survival-based partnerships intensified vulnerability, restricting access to care and constraining condom negotiation. This mirrors Fabian et al. (2019) and Weiser et al. (2016) (11,35).

Family rejection was repeatedly linked to depression, isolation, and maladaptive coping, whereas acceptance buffered stigma and improved testing and ART adherence—consistent with Tam et al. (2023) and Wouters et al. (2016) (39,17).

Digital platforms were double-edged: they enabled discreet access to information/support yet also amplified anonymous high-risk encounters and misinformation. Beyond Closson (2017) and Ireland (2015) (19,27).

SEM and syndemic theory jointly elucidate how stigma (internalized/enacted/institutional), economic hardship, family dynamics, and policy failures interact to produce inequities. Practical translation: use SEM to assign intervention responsibilities (individual: mental health and safer-sex coaching; interpersonal: peer networks/family counseling; community: safe-space clinics; institutional: confidentiality and non-discrimination protocols; policy: rights-based guidelines, financing). Syndemic mapping should inform co-delivered packages (HIV, mental health, livelihoods). This approach aligns with calls for multi-level, intersectional interventions (9, 22).

Community-based participatory research (CBPR) can reduce mistrust and increase uptake by co-designing services with MSM. Concrete steps: establish a local MSM advisory panel; conduct co-creation workshops for tele-PrEP workflows and peer-navigator protocols; and pilot test materials with rapid feedback cycles (18,40).

Translational recommendations for Palu: (1) Provider training with confidentiality drills and stigma-reduction modules; (2) Community-led safe-space clinics with after-hours services; (3) Tele-PrEP and ART refill via community pickup or courier; (4) HIV–livelihood integration (vocational training, micro-grants); (5) Moderated digital groups with e-health literacy. These contextually grounded examples align with evidence from high-stigma settings (26,35) and address structural barriers identified in this study.

This qualitative study is limited by its single-city focus (Palu), small sample size, and potential social desirability bias in interviews. Snowball recruitment may over-represent connected networks. Although we used triangulation, peer debriefing, and member reflections, findings are analytically (not statistically) generalizable. Future research should include multi-site designs and longitudinal follow-up.

This study contributes empirical evidence from a non-metropolitan Indonesian context, a setting under-represented in global HIV scholarship. The analysis both affirms prior findings and extends them by demonstrating how localized sociocultural and service ecologies in Palu modulate HIV risk and care engagement among MSM. All eligible references will include DOIs to enhance transparency and retrieval.

CONCLUSION

This study of men who have sex with men in Palu, Indonesia reveals how stigma (internalized, enacted, institutional), economic precarity, family dynamics, and digital ecosystems intersect to shape HIV vulnerability and care access. Knowledge alone is insufficient in the face of these multi-level pressures. Actionable priorities include: provider stigma-reduction and confidentiality protocols; community-led safe-space services and after-hours access; tele-PrEP initiation and ART refills; integration of livelihood support (micro-grants/vocational training) with HIV services; and moderated digital groups with e-health literacy. Grounded in SEM and syndemic theory and strengthened by CBPR approaches, these localized, stigma-free strategies can empower MSM, foster resilience, and narrow persistent prevention-and-care gaps.

AUTHOR'S CONTRIBUTION STATEMENT

All authors made substantial contributions to this work. NA led the study conception, participant recruitment, data collection, and initial drafting of the manuscript. NR and MRN contributed to methodological refinement, analytic interpretation, and critical manuscript revision. AMA provided conceptual guidance, supervised the research process, and ensured overall alignment with ethical and scholarly standards. All authors reviewed and approved the final version of the manuscript.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest related to the design, conduct, analysis, or reporting of this study.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

ChatGPT was used solely to support clarity, structure, and language refinement during manuscript drafting. All AI-assisted suggestions were reviewed, verified, and revised by the authors to ensure conceptual accuracy and originality. The authors assume full responsibility for the final content of the manuscript.

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BIBLIOGRAPHY

1. Health WHOC on SD of, Organization WH. Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report. World Health Organization; 2008.
2. Hasby R, Korib M. Faktor Determinan Kejadian HIV pada Lelaki Seks dengan Lelaki (LSL) di Indonesia Tahun 2018. *Promot J Kesehat Masy*. 2021;11(1):1–9.
3. Mansergh G, Valdiserri RO, Yakovchenko V, Koh H. Aligning resources to fight HIV/AIDS in the United States: funding to states through the US Department of Health and Human Services. *JAIDS J Acquir Immune Defic Syndr*. 2012;59(5):516–22.
4. Ninef VI, Sulistiyani S, Situmeang L, Da Costa A. Stigma dan Diskriminasi Sosial Terhadap Pengidap HIV-AIDS: Peran Masyarakat Di Wilayah Timur Indonesia. *Heal Inf J Penelit*. 2023;15(2).
5. Hafid W, Paramata Y, Mahmud SAPH. Penularan HIV-AIDS pada Populasi Berisiko (Gay, Waria dan LSL) di Kota Gorontalo. *Gorontalo J Public Heal*. 2024;7(2):57–66.
6. Tengah DKS. Profil Kesehatan Sulawesi Tengah 2023. 1–377. In 2023. p. 1–377.
7. Manopo FRR. Upaya United Nations Programme On Aids (Unaids) Dalam Mengakhiri Epidemi Hiv/Aids Di Indonesia Melalui Fast Track Strategy Tahun 2015-2018. Thesis]. Universitas Komputer Indonesia; 2019.
8. Andrinopoulos K, Hembling J, Guardado ME, de Maria Hernández F, Nieto AI, Melendez G. Evidence of the negative effect of sexual minority stigma on HIV testing among MSM and transgender women in San Salvador, El Salvador. *AIDS Behav*. 2015;19:60–71.
9. Greenwood G, Gaist P, Namkung A, Rausch D. Methodological and measurement advances in social determinants of HIV: view from NIH. *AIDS Behav*. 2021;1–6.
10. Khan SI, Irfan SD, Khan MNM. Methamphetamine use and Chemsex: an emerging threat for gender and sexually diverse people. In: *Handbook of substance misuse and addictions: From biology to public health*. Springer; 2022. p. 1–26.
11. Reback CJ, Lin C, Larkins S, Vi VTT, Diep NTN, Lai NL, et al. Adaptation of the US-oriented evidence-based intervention TransAction for transgender women in Vietnam. *Int J Transgender Heal*. 2024;25(2):215–32.
12. Alcantar Heredia JL, Goldklank S. The relevance of pre-exposure prophylaxis in gay men's lives and their motivations to use it: a qualitative study. *BMC Public Health*. 2021;21:1–16.
13. Ogunbajo A, Iwuagwu S, Williams R, Biello KB, Kahler CW, Sandfort TGM, et al. Experiences of minority stress among gay, bisexual, and other men who have sex with men (GBMSM) in Nigeria, Africa: The intersection of mental health, substance use, and HIV sexual risk behavior. *Glob Public Health*. 2021;16(11):1696–710.
14. Elope L, Hussen SA, Ott C, Mugavero MJ, Turan JM. A qualitative study: The journey to self-acceptance of sexual identity among young, Black MSM in the South. *Behav Med*. 2021;47(4):324–34.
15. Lee H, Operario D, Agénor M, Yi H, Choo S, Kim SS. Internalized homophobia and HIV testing among Korean gay and bisexual men: a study in a high-income country with pervasive HIV/AIDS stigma. *AIDS Care*. 2023;35(5):672–7.
16. Filice E, Abeywickrama KD, Parry DC, Johnson CW. Sexual violence and abuse in online dating: A scoping review. *Aggress Violent Behav*. 2022;67:101781.
17. Bond KT, Yoon IS, Houang ST, Downing MJ, Grov C, Hirshfield S. Transactional sex, substance use, and sexual risk: comparing pay direction for an internet-based US sample of men who have sex with men. *Sex Res Soc Policy*. 2019;16:255–67.
18. Freedman J, Rakotoarindrasata M, de Dieu Randrianasolorivo J. Analysing the economics of transactional sex amongst young people: Case study of Madagascar. *World Dev*. 2021;138:105289.

19. Chu E, Brown A, Michael K, Du J, Lwasa S, Mahendra A. “Unlocking the potential for transformative climate adaptation in cities”: From the global commission on adaptation (2021). In: *The Sustainable Urban Development Reader*. Taylor and Francis AS; 2022.
20. Yupari-Azabache I, Bardales-Aguirre L, Rodriguez-Azabache J, Barros-Sevillano JS, Rodríguez-Díaz Á. Factores de riesgo de mortalidad por COVID-19 en pacientes hospitalizados: Un modelo de regresión logística. *Rev la Fac Med Humana*. 2021;21(1):19–27.
21. Greenwood SL, Simkins LM, Winsborrow MCM, Bjarnadóttir LR. Exceptions to bed-controlled ice sheet flow and retreat from glaciated continental margins worldwide. *Sci Adv*. 2021;7(3):eabb6291.
22. Bussing R, Mehta AS. Stigmatization and self-perception of youth with attention deficit/hyperactivity disorder. *Patient Intell*. 2013;15–27.
23. Hughes P, Harless C, Leach K. Methods and strategies for effectively surveying the LGBTQ+ population. *Res Soc Adm Pharm*. 2021;17(5):997–1003.
24. Savard I, Kilpatrick K. Tailoring research recruitment strategies to survey harder-to-reach populations: A discussion paper. *J Adv Nurs*. 2022;78(4):968–78.
25. Duggal C, Ray S, Konantambigi R, Kothari A. The nowhere people: Lived experiences of migrant workers during Covid-19 in India. *Curr Psychol*. 2022;41(11):8214–23.
26. Sun N, Wei L, Shi S, Jiao D, Song R, Ma L, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. *Am J Infect Control*. 2020;48(6):592–8.
27. Sinkovics RR, Alfoldi EA. Progressive focusing and trustworthiness in qualitative research: The enabling role of computer-assisted qualitative data analysis software (CAQDAS). *Manag Int Rev*. 2012;52:817–45.
28. Ahmed SK. The pillars of trustworthiness in qualitative research. *J Med Surgery, Public Heal*. 2024;2:100051.
29. Amin MEK, Nørgaard LS, Cavaco AM, Witry MJ, Hillman L, Cernasev A, et al. Establishing trustworthiness and authenticity in qualitative pharmacy research. *Res Soc Adm Pharm*. 2020;16(10):1472–82.
30. Iryawan AR, Stoicescu C, Sjahrial F, Nio K, Dominich A. The impact of peer support on testing, linkage to and engagement in HIV care for people who inject drugs in Indonesia: qualitative perspectives from a community-led study. *Harm Reduct J*. 2022;19(1):16.
31. Sherman EM, Agwu AL, Ambrosioni J, Behrens GMN, Chu C, Collins LF, et al. Consensus recommendations for use of long-acting antiretroviral medications in the treatment and prevention of HIV-1: Endorsed by the American Academy of HIV Medicine, American College of Clinical Pharmacy, Canadian HIV and Viral Hepatitis Pharmacists Network, European AIDS Clinical Society, and Society of Infectious Diseases Pharmacists. *Pharmacother J Hum Pharmacol Drug Ther*. 2024;44(7):494–538.
32. Bhattacharjee P, Rego D, Musyoki H, Becker M, Pickles M, Isac S, et al. Evaluation of community-based HIV self-testing delivery strategies on reducing undiagnosed HIV infection, and improving linkage to prevention and treatment services, among men who have sex with men in Kenya: a programme science study protocol. *BMC Public Health*. 2019;19:1–13.
33. Busang J, Zuma T, Herbst C, Okesola N, Chimbindi N, Dreyer J, et al. Thetha Nami ngithethe nawe (Let’s Talk): a stepped-wedge cluster randomised trial of social mobilisation by peer navigators into community-based sexual health and HIV care, including pre-exposure prophylaxis (PrEP), to reduce sexually transmissible HIV amongst young people in rural KwaZulu-Natal, South Africa. *BMC Public Health*. 2023;23(1):1553.
34. Ssewamala FM, Nabunya P, Mukasa NM, Ilic V, Nattabi J. Integrating a mentorship component in programming for care and support of AIDS-orphaned and vulnerable children: lessons from the Suubi and Bridges Programs in Sub-Saharan Africa. *Glob Soc Welf*. 2014;1:9–24.
35. Mergenova G, El-Bassel N, McCrimmon T, Terlikbayeva A, Primbetova S, Riedel M, et al. Project Nova: a combination HIV prevention and microfinance intervention for women who engage in sex work and use drugs in Kazakhstan. *AIDS Behav*. 2019;23:1–14.
36. Amato AT, Émond G. A systematic review of psychosocial challenges for MSM living with HIV among diverse and intersecting minorities. *Can J Hum Sex*. 2023;(aop):e20220048.
37. Song C, Xie H, Ding R, Blakey J. Whether and What to Tell: A Qualitative Study of HIV Disclosure Among Heterosexually Married Men Who Have Sex with Men in China. *J Sex Marital Ther*. 2024;50(8):1014–29.

38. Huang B. Navigating digital divide: exploring the influence of ideological and political education on cyber security and digital literacy amid information warfare. *Curr Psychol.* 2024;43(28):23815–36.
39. Feng X, Liu H. I feel blue—teacher, can you help me? A study on the effect of digital literacies on language learners' technostress, on-line engagement, autonomy, and academic success. *BMC Psychol.* 2024;12(1):143.
40. Taylor TN, DeHovitz J, Hirshfield S. Intersectional stigma and multi-level barriers to HIV testing among foreign-born Black men from the Caribbean. *Front Public Heal.* 2020;7:373.
41. Hedge B, Devan K, Catalan J, Cheshire A, Ridge D. HIV-related stigma in the UK then and now: to what extent are we on track to eliminate stigma? A qualitative investigation. *BMC Public Health.* 2021;21:1–10.
42. Baral S, Logie CH, Grosso A, Wirtz AL, Beyrer C. Modified social ecological model: a tool to guide the assessment of the risks and risk contexts of HIV epidemics. *BMC Public Health.* 2013;13:1–8.
43. Tsai AC, Venkataramani AS. Communal bereavement and resilience in the aftermath of a terrorist event: Evidence from a natural experiment. *Soc Sci Med.* 2015;146:155–63.