

LGBTQ health and wellbeing in China: A trend analysis of English- and Chinese-language
research, 2011-2018

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Abstract

Purpose: Research on LGBTQ populations has dramatically increased in both Western and non-Western countries over the past decades. Attempts to synthesize this research have largely focused on studies conducted in the West. We conducted a review of LGBTQ research in China to elucidate trends and gaps in the literature and to provide a foundation for future research.

Methods: We searched the literature to identify studies that focused on LGBTQ people in China using PsycINFO and reviews of article titles and abstracts in 15 English-language LGBTQ-specific journals published between 2011-2018. We used the *Wanfang* database to identify Chinese-language LGBTQ research articles published in any journal between 2011-2018. Each article was coded by topic, study type, province, and sample.

Results: These searches yielded 798 LGBTQ research studies conducted in China between 2011-2018. HIV/AIDS, sexuality, and LGBTQ-specific issues (e.g., coming out) have been most frequently studied. Most of the articles focused on sexual minority men (69.5%), with smaller proportions focused on sexual minority women (15.5%) or transgender individuals (2.6%). The disparity was reduced after excluding studies on HIV or other sexually transmitted infections. The geographic distribution of studies was uneven; most were conducted in economically developed areas.

Conclusion: This study identified gaps and trends in LGBTQ research in China and highlighted priority and under-researched topics to guide future LGBTQ research. More research on these understudied populations and topics will contribute to understanding of LGBTQ populations.

Keywords: LGBTQ health; Research trends; Sexual Minorities; Gender Minorities; Homosexuality; HIV/AIDS

Introduction

Research on the health needs and concerns of the lesbian, gay, bisexual, transgender, and queer (LGBTQ) population has been increasing over the past 50 years.¹⁻³ However, most of this research has been conducted in Western countries. Yet, LGBTQ individuals in non-Western countries may face challenges to their health and wellbeing due to higher levels of stigma and violence. The International Lesbian, Gay, Bisexual, Trans, and Intersex Association (ILGA) reported that 72 United Nation member states in Africa, Asia, Americas, and Oceania have legal penalties for same-sex sexual activities.⁴ Additionally, according to a study that compared discrimination against LGBTQ people in 175 countries, Asia and Africa had the highest levels of discrimination, whereas Europe and North America had the lowest.⁵ Moreover, although many Western countries have passed anti-discrimination laws to protect sexual minority people's rights (e.g., same-sex marriage, adoption by same-sex couples), some non-Western countries provide few legal protections.^{5,6} For instance, same-sex relationships are not recognized by most African and Asian countries, and same-sex activity may lead to imprisonment or the death penalty in some countries.⁴ Since 1981, LGBTQ acceptance in 174 countries has become more polarized, with the most accepting countries showing improvements in acceptance and the least accepting countries becoming even less accepting.⁷ Because discrimination and lack of protections at the structural-level (e.g., country, state, or province-level) may contribute to poorer mental and physical health outcomes, it is important to understand regional trends in LGBTQ research, particularly in non-Western countries.

China is an important country in which to examine LGBTQ research trends for several reasons. First, given its large population and thus large number of LGBTQ individuals,⁸ China is ideal for illustrating the trends and gaps in LGBTQ research in a non-Western country. Second,

although the level of acceptance of sexual minorities increased in 131 countries from 1981 to 2017, China is not one of those countries.⁷ In comparison to 174 other countries, China's acceptance of sexual minorities ranked at 101 in 2017.⁷ Chinese LGBTQ research may provide unique perspectives on wellbeing among LGBTQ people living in less accepting countries, thus further contributing to our understanding of global trends in LGBTQ research. Additionally, characterizing the Chinese LGBTQ research literature can provide a roadmap for future research that can help improve the lives of LGBTQ people in China. Our goals were to synthesize research trends and delineate gaps in LGBTQ-related research in China to identify health concerns of LGBTQ subpopulations that are understudied and to help guide future research efforts.

LGBTQ Issues in China

In contemporary China, despite overall low levels of acceptance, there are some signs that attitudes towards LGBTQ populations may be shifting. This may lead to changes in levels of stigma, particularly structural stigma, over time and may in turn lead to improvements in the health and wellbeing of LGBTQ people in China. Structural stigma is defined as “societal-level conditions, cultural norms, and institutional policies that constrain the opportunities, resources, and wellbeing of the stigmatized.”⁹ Records suggest that same-sex relationships existed long before Western influences and also suggest fairly tolerant views of homosexuality in ancient China compared to medieval Europe,^{10–13} where homosexuality was considered sinful and punishable by death¹⁴ This may be due to the discrete influences of religions and religiosity in ancient China and Europe. Although Buddhism views sensual enjoyment, particularly sexual pleasure as a hindrance to enlightenment, Buddhism respects and accepts minority groups, including LGBTQ people, and may be less homophobic than other religions.^{6,15}

However, intolerance of lesbian and gay individuals is prevalent in modern-day China,¹¹ and may be attributed to several factors. First, the tradition of “having children and continuing the family line”¹⁶ is a major stressor for LGBTQ people in China. Homosexuality is viewed as a violation of social norms and a failure to fulfill one’s filial duty to parents and families.¹¹ Second, due to the threat of AIDS and the high prevalence of HIV infection and syphilis among men who have sex with men (MSM),¹⁷ the public tends to associate HIV with LGBTQ people, resulting in higher levels of stigma and discrimination. Cultural and family-oriented values are absorbed by Chinese gay men and lesbian women and lead to high levels of internalized homophobia,^{18,19} the negative attitudes that LGBTQ people hold toward themselves.²⁰

Even though historically no laws have explicitly banned same-sex sexual behavior, in 1979, the Chinese government enacted the Hooligan Law, which identified same-sex sexual behavior (e.g., kissing) in public as illegal.¹² Further, sodomy was included in the list of “revolting behaviors,” possibly leading to arrest and punishment.²¹ The Hooligan Law was abolished in 1997 during the period of Chinese Economic Reform and was recognized by many as the decriminalization of homosexuality in China.²² Furthermore, homosexuality and bisexuality were declassified as a mental disorder in the third version of the Chinese Classification of Mental Disorders (CCMD-3) in 2001.²³

The abolishment of the Hooligan Law and declassification of homosexuality may have reduced some structural stigma experienced by LGBTQ people.²⁴ However, despite recent progress in recognizing and supporting LGBTQ people in China, they remain highly affected by stigma, discrimination, and violence.^{25–29} According to a national survey assessing public discrimination against LGBTQ people in China,³⁰ over one-tenth of heterosexuals reported that they could not accept an LGBT family member. Rates of rejection were higher when asked

whether they would accept their own children if they were lesbian/gay (18%), bisexual (25%), or transgender (67%). The pervasiveness of negative attitudes towards LGBTQ people amplifies the need to better understand the health of LGBTQ people in China.

LGBTQ-related Research in China

Given the high levels of discrimination toward LGBTQ people, research on LGBTQ people in China is critically important. There have been several attempts to synthesize research findings in China.³¹⁻³³ A review of 178 LGBTQ-related academic articles published between 1986-2006 in Chinese language journals showed that the number of LGBTQ-related articles increased from less than 5 per year in the 1980s to more than 25 per year in the 2000s.³¹ Of the 178 articles identified in the review, only 91 were research studies; the rest were primarily editorials and reviews. The majority were published in psychology ($n = 42$), medicine ($n = 38$), and sociology ($n = 49$) journals. The most frequently studied areas were 1) etiology of homosexuality; 2) attitudes towards LGBTQ people; 3) HIV/AIDS; and 4) treatments to change sexual orientation. Between 2007 and 2012, more research on LGBTQ issues was conducted, with the yearly number of academic papers published in psychological journals reaching 15 between 2007 to 2012.³²

LGBTQ subpopulations are diverse and health behaviors and concerns among individuals in each subgroup differ substantially.² For example, the types, prevalence, and magnitude of effects of sexual-orientation-related discrimination vary across gay, lesbian, and bisexual individuals.³⁴ Transgender individuals also have distinct health care needs (e.g., hormone therapy) and experience higher levels of discrimination.^{30,35} Therefore, it is important to examine each subgroup rather than aggregating them into a monolithic category, as is the case for much of the research in China covered in previous reviews. Most LGBTQ research in China has solely

focused on gay men whereas other subpopulations have been under-studied.^{31,32} Thus, knowledge of subpopulation differences is largely based on Western research and it is unclear if those findings generalize to China or other regions of the world. Research on lesbian women in China, although increasing, is meager. Only 36 studies focusing on lesbian women were conducted between 2003-2012 compared to more than 100 studies focusing on gay men.^{32,33} The most frequently studied topics include: 1) the etiology of lesbian sexual identity; 2) lesbian-specific issues (e.g., lesbian community, culture & identity); and 3) attitudes toward lesbian women. Bisexual men and women have often been combined with gay men and lesbian women and rarely studied as distinct subpopulations.^{31,33} Transgender populations have historically received the least attention in these reviews. These findings suggest that LGBTQ subpopulations have received uneven attention in China, which is consistent with previous reviews on LGBTQ literature in the United States.²

The current review improves upon previous reviews conducted in China by: 1) reporting the inclusion or exclusion criteria for article screening; 2) focusing on empirical studies; 3) examining changes over time; 4) reporting findings on LGBTQ subpopulations (i.e., bisexual, transgender); and 5) reporting specific research topics and the number of studies focusing on each topic. Moreover, previous reviews focused on publications in Chinese-language journals; Chinese LGBTQ-related studies published in English-language journals were not included. These methodological issues limit the representativeness of the results. Considering these limitations and that no reviews have updated the trends of Chinese LGBTQ-related studies in the 2010s, in early 2019 we conducted a literature search to identify LGBTQ research using Chinese samples from 2011 through 2018. To our knowledge, this study is the first comprehensive review of LGBTQ research that includes both Chinese- and English-language articles.

Methods

Identification and Selection of Studies

We reviewed research studies conducted in China that focused on LGBTQ health and were published in either Chinese or English language journals. For the English language articles, we first identified articles published between 2011 and 2018 by combining two clusters of search terms (China and sexual orientation/gender identity; see the full list in Appendix 1) in PsycINFO, which resulted in 1,734 articles. We conducted a keyword search in *WanfangData*—one of the most comprehensive databases in China—to identify Chinese-language research articles published between 2011-2018. The Chinese versions of homosexuality (同性恋), transgender (跨性别), sexual minority (性少数群体), bisexual (双性恋), queer (酷儿), heterosexual (异性恋), same-sex intercourse (同性性行为), and sexual orientation (性取向) were used as keywords. The initial search yielded 2,727 Chinese-language articles. Additionally, we conducted a manual search of 15 LGBTQ health-specific journals to identify additional studies that may have been missed in the database searches. Eight additional articles were found, resulting in 4,466 unique Chinese LGBTQ-related articles.

The inclusion criteria for the current study were: 1) empirical study (i.e., quantitative, qualitative, psychometric study, systematic review, or case study); 2) LGBTQ-related (focus on LGBTQ-related topics or including LGBTQ populations); and 3) conducted in China. Literature reviews were excluded. We identified 798 articles (326 English-language and 472 Chinese-language) that met the inclusion criteria. The screening process is illustrated in Appendix 2.

Data Coding

The abstract and methods section of each article were examined and coded using a three-step process to identify: 1) the study type (e.g., quantitative, qualitative) and the geographic

region in which the study was conducted; 2) the study sample (e.g., lesbian women, gay men, transgender individuals, bisexual women and/or men); and 3) the research topics focused on in the study. The total sample sizes ranged from less than 10 to as large as 150,822 and the distribution was positively skewed ($M = 1328.33$; $SD = 8066.01$; $Mdn = 402$). Similar to the classification of sample sizes in previous review of LGBTQ research,³⁶ we classified sample sizes based on five categories: small ($N \leq 99$), moderate ($N = 100-499$), large ($N = 500-999$), very large ($N = 1,000-4,999$), and extremely large ($N \geq 5,000$).

We also recorded whether the study made comparisons between LGBTQ subpopulations (e.g., comparisons between lesbian and gay) or comparisons of LGBTQ and heterosexual samples. The geographic region of each study was coded to reflect the location where the study was conducted. The study was coded as “national” if the sample population was recruited from all provinces in China.

We coded research topics using the full list of terms derived from similar previous LGBTQ health research.^{1,2} During the coding process, we first coded article content using existing codes in the list. If the topic of the study was not represented by any of the existing codes, it was added as a new category. If a study covered multiple topics, we coded based on the primary research focus. By using existing, pre-determined coding from previous studies, we were able to adhere to a consistent and reliable coding process and identify cultural differences in research topics. By adding new codes, we were able to highlight unique research topics in Chinese LGBTQ research.

The range of topics was broadened to reflect more current research (e.g., transgender health) and were aggregated into 14 broad categories. Topics that were unique to Chinese studies, for example the influence of social norms (e.g., rural-urban differences in attitudes

toward LGBTQ people), were identified and discussed to determine if they represented a new category.³⁷ The definitions of each code and modifications of the code list were discussed among authors until consensus was reached. The first two authors received training from the senior author on the coding process and definitions of each code. The senior author coded 10 articles to demonstrate each step of the coding process. Then the three authors coded five articles each and the senior author compared the coding to ensure the coders had high concordance. All studies were then coded by the first two authors; 10% of studies were coded twice to test interrater reliability, and a high level of concordance was found. The Cohen's kappa (κ) values were .90 ($p < .001$) for codes related to study type, .80 ($p < .001$) for codes related to LGBTQ subgroup identities, and .85 ($p < .001$) for codes related to research topics. The discrepancies of coding were resolved via discussions between the first two authors; if consensus was not reached, the senior author was consulted to determine the final code.

Results

Table 1 provides a summary of the 798 studies by LGBTQ subgroup and other characteristics. A sizable proportion of studies ($n = 356$; 44.6%) focused on HIV or other sexually transmitted infections (STIs). Over two-thirds (69.5%) of studies focused on sexual minority men (SMM) whereas less than one-sixth (15.5%) focused on sexual minority women (SMW); 2.6% focused on transgender individuals. One hundred and twelve (14.0%) studies included comparisons between or among groups of different sexual or gender identities. Of these, 67 compared LGB and heterosexual individuals; 55 examined differences across LGB subgroups; and 31 compared heterosexual men to heterosexual women (e.g., attitudes toward LGBTQ people). Only two studies included transgender individuals as a comparison group.

Study Type and Sample Size

Most studies ($n = 583$; 73.1%) used quantitative research designs; 67 (8.4%) used qualitative designs (e.g., interview, diary). The remainder were mixed methods studies ($n = 54$; 6.8%), case studies ($n = 29$; 3.6%), psychometric studies ($n = 16$; 2.0%), or systematic reviews ($n = 37$; 4.6%). Most studies used convenience samples ($n = 590$; 73.9%); 99 (12.4%) recruited study samples via the internet, and 103 (12.9%) studies used clinical samples. The total sample sizes of qualitative studies exhibited positively skewed distributions ($M = 33.78$; $SD = 59.20$; $Mdn = 22$; $N = 59$). Fifty-six studies had small ($N \leq 99$), and three studies had moderate ($N = 100$ –499) sample sizes. For quantitative and mixed methods studies with a reported sample size, the distribution of total sample sizes was also positively skewed ($M = 1328.33$; $SD = 8066.01$; $Mdn = 402$; $N = 606$). Two hundred and ninety-three studies had moderate and 70 had small sample sizes. Large ($N = 500$ –999), very large ($N = 1,000$ –4,999), and extremely large ($N \geq 5,000$) sample sizes accounted for 20.2%, 17.7%, and 2.3% respectively of 606 samples. The proportions of sample size did not differ significantly by year.

Growth of LGBTQ Studies

Figure 1 summarizes the number of LGBTQ studies published between 2011 and 2018. In general, the number of studies has been increasing except for two declines in 2015 and 2017. Studies focusing on HIV/AIDS or other STIs ranged from 34.8% to 60.5% of the total LGBTQ studies published per year during this period. Notably, the percentage of LGBTQ studies focusing on mental health increased between 2011 ($n = 4$; 7.3%) and 2018 ($n = 33$; 25.2%).

Research Topics

Table 2 summarizes topics covered in the 798 studies. HIV/AIDS was the most frequently studied topic; 346 (43.4%) articles published between 2011 and 2018 focused on this topic. Studies on sexuality were the second largest category ($n = 280$; 35.1%), with the majority

focusing on sexual behaviors, STIs and sexual health, prostitution/sex work, and sex education. Nearly one quarter ($n = 189$; 23.7%) of studies investigated LGBTQ-specific issues including sexual or gender identity, LGBTQ culture and community, or disclosure of sexual or gender identity. One-fifth ($n = 160$; 20.1%) of articles focused on health and healthcare, most on health screening, healthcare education, psychotherapy/mental health, and treatment efficacy/effectiveness. One hundred and thirty-nine (17.4%) studies investigated attitudes towards, or knowledge about, LGBTQ people—most of these were conducted in educational institutions. A small number of studies ($n = 8$) examined attitudes of health professionals toward LGBTQ people. One hundred and twenty-nine (16.2%) studies examined relationships (e.g., couple/intimate relationships, familial relationships) and social support. A total of 127 (15.9%) studies examined the mental health of LGBTQ people, whereas physical health ($n = 19$; 2.4%) received less attention. One hundred and two (12.8%) studies focused on minority stress. Studies on psychosocial topics ($n = 101$; 12.7%) mainly focused on level of education, rural-urban differences, socioeconomic status, and tradition/culture. Other topics received less attention, including research-related issues (e.g., measurement validation or testing; $n = 44$; 5.5%), health behaviors (e.g., substance use; $n = 38$; 4.8%), and violence/stressors ($n = 26$; 3.3%). Only 19 (2.4%) studies addressed life course. Of these, 13 focused on youths and 3 focused on older adults. There were several topics that did not fit the 14 categories: media ($n = 37$), internet ($n = 30$), cognitive ability/brain structure ($n = 14$), and rights/legal aspects ($n = 12$).

LGBTQ Subpopulations

Figure 2 shows changes over time in research that included and/or focused on LGBTQ subgroups. As mentioned above, studies that focused on gay men far outnumbered studies focusing on other subpopulations. For each year included in the review, more than 60% of the

studies focused on gay and/or bisexual men. The proportion of studies on lesbian and bisexual women never exceeded 20%; the proportion of published studies on transgender-related issues was consistently lower than 5%. After excluding the 356 articles on HIV/AIDS or other STIs, the number of studies focusing on SMM remained disproportionately higher than the number focusing on other LGBTQ subpopulations (Figure 2).

Geographic Region

Figure 3 summarizes the number of LGBTQ-related studies by province. The distribution was extremely uneven, with over 60% of studies conducted in 7 of the 34 provinces (Beijing, Guangdong, Sichuan, Hong Kong, Chongqing, Jiangsu, & Shanghai). Only 26 of the 798 (3.3%) articles included national samples. Most studies were conducted in economically developed urban areas including Beijing, Sichuan, Chongqing, and southeast China. There was a paucity of LGBTQ research in underdeveloped areas, particularly in western and northern China.

Discussion

Compared with the time periods covered in previous reviews,^{31,32} the number of published LGBTQ-related research studies is increasing in China, suggesting a growing interest in LGBTQ health and wellbeing. However, a large proportion of the studies continues to focus on HIV/AIDS or other STIs. The proportion of research focused on mental health has been increasing gradually but remains insufficient, whereas the attention to physical health has been consistently meager. Yet, extant research indicates that sexual minorities in China experience poorer physical and mental health than heterosexuals,^{38,39} including higher levels of depression, anxiety and stress, and lower levels of quality of life.⁴⁰ Further, trends in public attitudes toward sexual minority people in China are cause for concern.⁴¹ Chinese sexual minority people often encounter prejudice in daily life and have high levels of internalized homophobia.⁴² These

factors are associated with mental and physical health disorders.^{26,38} Furthermore, prejudice exists not only among the general public but also among mental health professionals.⁴² Such attitudes may make LGBTQ people reluctant to seek care. Considering the high risk for poor mental and physical health among sexual minority people,⁴³ the large gaps in understanding the mental and physical health of LGBTQ people in China need to be addressed through an intensified focus in research.

Gaps in knowledge about SMW and transgender individuals are particularly large. Similar to reviews of LGBTQ studies in the US,^{1,2} after excluding studies focusing on HIV/AIDS or other STIs, differences in the number of studies focusing on SMM and SMW were attenuated somewhat, but the number of studies on SMM remained strikingly higher than the number of studies on SMW. Given distinct difference across LGBTQ subpopulations regarding health risk behaviors, discrimination, and stressors,⁴⁴ and given the limited research focused on SMW relative to SMM, more research is needed to better understand health risk and protective factors and how such factors are similar to, or different from, those of SMM. Thus, more attention to SMW's health is needed. Additionally, very little research in China has focused on transgender individuals. Transgender individuals in China are at even higher risk of discrimination than gay, lesbian, or bisexual individuals,³⁰ which is likely exacerbated by limited access to gender-affirming and culturally competent care.⁴⁵ The prevalence of mental health problems among the Chinese transgender population is also high (e.g., depression [32%], anxiety [28.5], suicidal ideation [46.3%]).⁴⁵ Given that transgender individuals in China have distinct

health needs and yet face greater obstacles in accessing care,³⁵ research focusing on this subpopulation is greatly needed.

Our review of the Chinese LGBTQ-related literature reveals culture-specific research foci not identified in previous reviews, such as rural-urban differences and the influence of Chinese traditions or culture (e.g., the pressure to have children, and the effects of being an only child). As mentioned above, LGBTQ groups in China are pressured to get married and continue the family line.⁴⁶ The One-Child Policy, which began in 1980 and was discontinued in 2015, has had a detrimental impact on LGBTQ people. Children without siblings born during that period experienced greater familial pressure to produce offspring⁴⁷ and only heterosexual couples are allowed to adopt children in China. As a result, a large proportion of gay and lesbian individuals may conceal their sexual identities and marry heterosexual partners to fit social norms, maintain their personal and family reputations, and avoid distress.¹¹ Although LGBTQ people and same-sex relationships are increasingly accepted among younger generations, the tradition of having children is strongly entrenched in China, especially in rural areas.

Like many other non-Western countries, LGBTQ rights in China lag behind Western countries. LGBTQ nondiscrimination laws are not only a tool to advocate for LGBTQ people's rights but also serve to promote social justice and reduce structural stigma.⁴⁸ Same-sex marriage has been permitted in about 30 countries or regions,⁴⁹ mostly in the Western world. However, the government in China maintains an approach of "no approval, no disapproval, no promotion" to same-sex marriage.⁵⁰ There are no official anti-LGBTQ laws, yet there are also no legal protections for LGBTQ people. The lack of legal status and widespread stigmatizing social norms render LGBTQ people invisible and more vulnerable to social stigma. Although they likely encounter barriers and discrimination related to their sexual orientation (e.g., employment

discrimination, healthcare discrimination),³⁰ they lack the means to advocate for their rights, or even the venues through which to do so. The lack of legal protections has posed great challenges to disclosure of sexual identities and increased the risks for mental health issues among LGBTQ people in China.⁵¹

Our findings highlight understudied topics and population groups that need greater attention. Only a small proportion of the LGBTQ studies in China addressed the health of adolescents or older adults. As most Chinese LGBTQ research has focused on sexual behaviors, these groups may have been presumed to be sexually inactive and thus may have been excluded from these studies. Additionally, adolescents may be undecided about their identities and both adolescents and older adults may be hesitant to disclose sexual identities. Together with the stigmatizing climate in China, these likely pose greater challenges for inclusion of these groups.⁵¹ However, these underrepresented groups are often more vulnerable to discrimination and stigma and may have poorer health outcomes.^{52,53} Although a large proportion of Chinese LGBTQ students are at risk for depression and suicidal ideation, there is a lack of LGBTQ-specific school policies, teacher training, and curricula.⁵¹ Similarly, LGBTQ older adults in China are largely invisible.⁵⁴ Although these individuals often live at the intersection of multiple stigmatized identities and experience various stigma from different sources, most services for LGBTQ people in China have focused on young and middle-aged adults.⁵⁴ To inform prevention and intervention efforts—and to amplify the unique needs of these populations, more research is needed on the health and wellbeing of adolescents and older adults in China.

We also found a highly uneven geographical distribution of LGBTQ research, indicating that the understanding of LGBTQ wellbeing in China varies by region. The distribution of studies was highly consistent with the level of economic development across different provinces.

Economic development is associated with societal values and attitudes and may foster more tolerant attitudes toward same-sex relationships.⁵⁵ Additionally, more developed areas have higher numbers of LGBTQ people and more universities and research institutions—all of which provide greater support for LGBTQ research.^{56,57} Compared to underdeveloped areas, inhabitants in developed areas are more diverse in terms of their cultural and religious backgrounds and are thus more likely to be accepting of LGBTQ people.^{58,59} For example, Chengdu, one of the most inclusive cities in China, is also called the Gay City because of the large number of LGBTQ people and its inclusive culture.⁵⁹ Not surprisingly, many LGBTQ people choose to migrate to such inclusive areas.⁵⁶ The majority of studies, even those conducted in the most economically developed provinces, recruited samples of sexual minority people from urban areas. LGBTQ people living in rural areas may experience greater stigma and intolerance yet have limited resources for support,^{60,61} which may in turn lead to greater health risks and poorer health outcomes. Given the great regional income inequity in China,^{62,63} more research with LGBTQ people in rural and economically disadvantaged areas is needed.

Several limitations should be considered when evaluating the findings of this study. First, our review did not include LGBTQ articles published in Taiwan. The Chinese literature came from one database, which does not include academic journals in published in Taiwan. Another limitation is that we only included literature published between 2011-2018. Future researchers might consider expanding the scope of reviews and the time frame to obtain a more comprehensive and representative sample of LGBTQ research studies. Additionally, our inclusion criteria were limited to peer-reviewed publications; we did not include unpublished articles or conference papers. Thus, results may reflect the trends and gaps in what has been

published rather than what has been studied. Potential publication bias needs to be considered when interpreting the results.

Conclusions

Our findings highlight areas where most research has been conducted, as well as gaps in the recent literature. Although the number of LGBTQ studies has increased between 2011-2018, the distribution of studies by topic, LGBTQ subpopulations, and geographic regions was uneven. In comparison to research on gay and bisexual men, there is a dearth of research on lesbian and bisexual women and on transgender individuals. Similarly, more attention on the health and well-being of LGBTQ adolescents and older adults is needed. Research focusing on these understudied subpopulations can improve understanding of variations in health risks, which is necessary for the development of targeted prevention and intervention strategies. Additionally, most studies were conducted in economically developed regions. Researchers should strive to include individuals from underdeveloped provinces and rural areas to reduce the gaps in knowledge about LGBTQ people in China.

To our knowledge, this is the first study to examine and summarize Chinese LGBTQ research published in both English and Chinese languages. The fact that over one-half of the LGBTQ-related studies we reviewed were Chinese-language articles highlights the challenges for scholars outside of China in accessing or evaluating existing research. To enhance knowledge of LGBTQ people across the globe, we encourage researchers in China and other non-Western countries, particularly those in non-English-speaking countries, to publish their research in English journals or to provide translations of their papers to make them accessible.

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