

ORIGINAL ARTICLE

FAMILY PROCESS

HIV disclosure and intimate partner violence among HIV-infected men who have sex with men in marriage of convenience in China

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Abstract

Marriage of convenience is a unique phenomenon in China where a gay man and a lesbian get married to fulfill social expectations while retaining their homosexual identities. Men who have sex with men (MSM) are at increased risk of HIV infection and intimate partner violence (IPV) following HIV disclosure. A sample of 232 HIV-infected MSM in the marriage of convenience was recruited online and completed questionnaires about experiences of IPV, HIV disclosure, and their sociodemographic, clinical, and psychosocial characteristics. Our results showed that over half (57.3%) of HIV-infected MSM had disclosed their HIV status to their lesbian spouses. Bisexual men, having children with their lesbian spouse, HIV diagnosis time >24 months, having a current fixed gay partner, having disclosed HIV to their current fixed gay partners, higher levels of social support, lower levels of self-stigma related to HIV infection, no depression, and no suicidal ideation were all independently associated with an increased likelihood of disclosing to lesbian spouses. Approximately 61.6% of participants experienced at least one type of IPV from either a gay partner, a lesbian spouse, or both in the past 12 months. HIV disclosure to lesbian spouses was associated with an increased risk of IPV. Our findings reveal the high prevalence of IPV among HIV-infected MSM in the marriage of convenience and its association with HIV disclosure, which warrants policy, clinical, and research efforts to design targeted and comprehensive interventions to improve HIV disclosure while preventing IPV among this population.

KEYWORDS

HIV disclosure, HIV-infected men who have sex with men, intimate partner violence, marriage of convenience

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INTRODUCTION

Marriage of convenience

Marriage of convenience is a Chinese term. In China, marriage of convenience is defined as a mutually beneficial marital relationship established among lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals in response to social, cultural, family, and political pressures (Ren et al., 2021). In contemporary China, LGBTQ are still considered abnormal, immoral, and unnatural (Chang & Ren, 2017). Some LGBTQ enter marriages of convenience to help them meet social conventions by switching between their “heterosexual” and LGBTQ identities in different contexts (Liu, 2013). Marriage of convenience has been considered a feasible way to find a compromise among law, custom, and the true sexual orientation of individuals. For example, in a marriage of convenience, both husband and wife know each other's sexual orientation and cover each other's LGBTQ sexual relationships while meeting the expectations of parents and society (Ren et al., 2021). Previous studies have shown that couples can help each other in a marriage of convenience so that the concept of filial piety and traditional gender roles can be maintained (Yu & Xiao, 2008). Perhaps most importantly, the marriage of convenience allows the partner's private LGBTQ sexual identity and public social identity to coexist (Hu & Wang, 2013; Liu, 2013). However, a marriage of convenience based on mutual utilization may also bring about some problems. As a legal marriage with corresponding rights and obligations, the couple may have to share multiple responsibilities, such as property management, childcare, elderly support, and debts, which may lead to conflict (Ren et al., 2021). When both parties get married only under pressure from the family and society, the husband and wife may have no feelings for each other and lack communication, making them more prone to violent conflicts under multiple pressures (Cai, 2023).

HIV Disclosure

HIV poses a significant public health threat to China. By June 2023, 1.26 million people were living with HIV (PLHIV), including 30,997 newly confirmed cases of HIV infection in the second quarter of 2023 alone (China CDC, 2023). Sexual intercourse is the main route of transmission, and an increasing number of men who have sex with men (MSM) are infected with HIV (China CDC, 2023). Most HIV-infected MSM are at the marriage and childbearing age and have the desire to marry and procreate, which may be realized through the marriage of convenience (Souza et al., 2022; Tran et al., 2018). Whether an HIV-infected MSM should disclose his HIV status to his lesbian spouse is controversial in the marriage of convenience. On the one hand, the marriage of convenience is essentially a contractual relationship where each party wants to keep HIV status private. On the other hand, marriage of convenience still has legal effects and may involve children; for instance, some couples may even have sex to have children, and it is important to disclose one's HIV status to prevent further HIV transmission.

HIV disclosure has received increasing research attention in China, with most studies focusing on HIV disclosure to sexual partners (Yin et al., 2019; Yan et al., 2019; Sun et al., 2021, 2021). The disclosure rate varies significantly across studies, ranging from 11.4% (Xiao et al., 2015) to 72.4% (Sun et al., 2021, 2021). A recent literature review and meta-analysis of 44 studies showed that the pooled proportion of HIV disclosure to sexual partners was 65% (95% CI: 56%–75%) (Peng et al., 2022). There are also a few studies investigating HIV disclosure to their spouses among married HIV-infected MSM.

The proportion of HIV-infected MSM who disclosed their HIV status to their married heterosexual spouses was reported to be 57.8% in Huang et al.'s study (Huang et al., 2018) and only 31.1% in Chi et al.'s study (Chi et al., 2022). However, to our knowledge, no study has ever reported HIV-infected MSM's HIV disclosure to their lesbian spouses in the marriage of convenience. HIV disclosure is a complicated process that may be affected by multiple factors. An extensive body of research has identified a wide range of influencing factors of HIV disclosure, which may be generally classified into three categories: sociodemographic factors (such as gender and sexual orientation), disease factors (such as diagnosis time and comorbidity), and social-psychological factors (such as social support, stigma, and depression) (Smith, Rossetto, & Peterson, 2008; Adeoye-Agboola et al. 2016; Yu et al., 2022). However, whether these influencing factors apply to HIV-infected MSM in the marriage of convenience remains unknown.

IPV

Although HIV disclosure is a crucial factor in reducing HIV transmission by promoting HIV counseling and testing (Ma et al., 2023), it has also been identified as a significant contributor to intimate partner violence (IPV) (Sulstarova et al., 2015). IPV refers to “any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship” and is mainly reflected in physical, psychological, and sexual aspects (WHO, 2012). IPV is a public health issue in both heterosexual and homosexual couples, and being infected with HIV has been shown to be a significant risk factor for IPV (Burke & Follingstad, 1999; Greenwood et al., 2002; Owen & Burke, 2004; Brown et al., 2016). A study in South Africa on young women living with HIV in the perinatal period showed that one-third of them experienced IPV in the past 12 months (Kidman and Violari, 2018). Another study in the US on HIV-infected MSM showed that 6.2% of them experienced IPV in the past 30 days after HIV disclosure to their partners (Brown et al., 2016). In China, the lifetime prevalence of physical, psychological, and sexual violence in heterosexual couples was estimated to be 2.5%–5.5%, 17.4%–24.5%, and 0.3%–1.7%, respectively (Yang et al., 2019). IPV was more prevalent in homosexual populations. A recent meta-analysis reported that the pooled prevalence of IPV was 33% across all recall periods among MSM populations, and the prevalence of physical, psychological, and sexual violence was 17%, 33%, and 9%, respectively (Liu et al., 2021). However, IPV of HIV-infected MSM in the marriage of convenience has never been investigated and reported.

The current study

In summary, although HIV disclosure to sexual partners and its association with IPV have been well documented in the literature, no study has ever reported HIV-infected MSM's HIV disclosure to their lesbian spouses in the marriage of convenience and its relationship to IPV. To fill in the research gap, we conducted the current study to comprehensively examine HIV disclosure and IPV among HIV-infected MSM in the marriage of convenience. Specifically, we aimed to (1) investigate HIV-infected MSM's disclosure to their lesbian spouses and compare the differences in sociodemographic factors, disease factors, and social-psychological factors between the disclosure group and non-disclosure group; (2) explore the influencing factors of HIV disclosure to lesbian spouses; (3) examine HIV-infected MSM's experiences of IPV; and (4) analyze the correlation between HIV disclosure and various types of IPV.

METHOD

Participants and procedure

This study was conducted through WeChat, a Chinese social media platform among the most popular and widely used social apps worldwide, with over one billion monthly active users (Tencent, 2018). WeChat is a multipurpose application that enables real-time communication through text, images, voice, and video calls (Montag et al., 2018). In addition to its social media function, WeChat offers various services, such as mobile payment, taxi services, and voting (Montag et al., 2018). WeChat protects user privacy and security; government agencies do not track user content in real time. The WeChat official account is an essential function, serving as a platform to disseminate information, articles, images, and media to its followers. It has been increasingly used by many organizations as an important channel to provide education, training, and interaction (Montag et al., 2018). In this study, all participants were enrolled via a WeChat official account named Li Hui Time and Space, established and managed by the Center for Disease Control and Prevention in Shizhong District, Jinan City, Shandong Province, China, in July 2014. It offers HIV/AIDS education, psychological counseling, and medication guidance for people living with HIV (PLHIV) and those affected by HIV/AIDS. As of June 2020, the official WeChat account had over 140,000 users covering almost all parts of China, 90% of whom were PLHIV.

From June to December 2020, participants were openly recruited through Li Hui Time and Space. Inclusion criteria were as follows: (a) being infected with HIV, (b) men who have sex with men (MSM), (c) in a marriage with convenience and legally married with a self-identified lesbian, and (d) willing to participate in the study with written informed consent. Exclusion criteria included (a) unregistered marriage ceremonies with lesbians and (b) severe physical or mental conditions impeding participation. During recruitment, 239 met the inclusion criteria, of whom 232 completed our voice call surveys via WeChat, resulting in a response rate of 97.1%. Ethical approval was granted by the Ethics Committee of Guangxi Normal University (Approval No. 20200508001). Informed consent was obtained from all individual participants included in this study.

Measures

Demographics and disease characteristics

Participants provided both demographic and HIV-related information. Demographics included age, sexual orientation, residential status, education level, income, whether living with a lesbian spouse, and whether having any child with a lesbian spouse. HIV-related information included transmission route, time of diagnosis, comorbidity with other chronic illness, whether having normal results in the latest medical check-up, recent infections with other STIs (e.g., syphilis, gonorrhea, genital warts, genital herpes, chlamydia) in the past 12 months, whether having sex with their lesbian spouses, whether having a fixed gay partner, and whether disclosing HIV status to the fixed gay partner. Additionally, participants were asked about their use of sexualized drugs in the past year, including substances like Rush (isoamyl nitrite, commonly known as Rush among MSM), methamphetamine, Magu (a processed crystal methamphetamine tablet), ecstasy, marijuana, No. 0 capsule (the primary component is 5-MeO-DiPT, a Schedule I psychoactive substance.), K powder (ketamine), and happy water (a combination of methamphetamine, ecstasy, ketamine, and other drugs).

HIV disclosure

HIV disclosure was assessed by asking the participants whether they have personally disclosed their HIV status to their lesbian spouses and current fixed gay partners since a positive HIV diagnosis.

Depression and anxiety

Two brief screening tools were used, namely, the Patient Health Questionnaire for Depression (PHQ-2) (Kroenke et al., 2003) and the Generalized Anxiety Disorder Scale (GAD-2) (Spitzer et al., 2006) to assess depression and anxiety symptoms. Both scales utilize a 4-point Likert scale to evaluate symptom frequency over the past two weeks. Scores range from 0 to 6, with a cutoff score of 3 to distinguish between depression/non-depression for PHQ-2 and anxiety/non-anxiety for GAD-2. Both scales showed good internal consistency with Cronbach's alpha coefficients of 0.87 for PHQ-2 and 0.89 for GAD-2.

Suicidal ideation

Suicidal ideation was assessed by the Beck Scale for Suicide Ideation–Chinese Version (BSI-CV) (Li et al., 2011). The BSI-CV consists of 19 items under two dimensions: suicidal ideation and suicidal tendency. Each item is scored on a 3-point Likert scale from 0 to 2. A higher total score indicates stronger suicidal ideation and a higher risk of suicide. In this study, the BSI-CV showed good internal consistency with a Cronbach's alpha coefficient of 0.87. For this research, we extracted item 4: “To what extent do you actively wish to attempt suicide?” and item 5: “To what extent do you wish to end your life externally, i.e., have a ‘passive suicidal desire’? (e.g., wish to stay asleep and not wake up and die unexpectedly)” to screen for suicidal ideation. Participants who answered “weak” or “moderate to strong” to either question were defined as having suicidal ideation.

Social support

Social support was assessed using the Perceived Social Support Scale (PSSS) (Shi, 2022). PSSS contains 12 items under three dimensions: family support, friend support, and other support. Each item is scored on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The total score ranges from 12 to 84, with higher scores indicating higher levels of perceived social support. The cutoffs of 36 and 60 were used to distinguish between low, moderate, and high social support. In this study, the PSSS demonstrated good internal consistency with Cronbach's alpha coefficients of 0.94 for the total scale and 0.84, 0.90, and 0.92 for the three subscales.

Self-stigma

Self-stigma was evaluated utilizing the Self-Stigma Scale-Short Form (SSS-SF) developed by Mak and Cheung (Mak & Cheung, 2010) to assess internalized stigma due to infection with HIV, that is, the extent to which PLHIV adopt stigmatized and devalued views of themselves. The SSS comprises nine items across three dimensions: cognitive (SSC), affective (SSA), and behavioral (SSB). Each item is rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The total score ranges from 9 to 45, with higher scores indicating more pronounced self-stigma. Cutoff scores of 20 and 33 were used to distinguish between low, moderate, and high levels of stigma. The internal consistency of the SSS in this study was robust, as indicated by a Cronbach's alpha coefficient of 0.91.

IPV

The Dating Violence Questionnaire (DVQ) (Yu et al., 2013) was employed to assess experiences of IPV over the past 12 months. The questionnaire comprises six items to investigate the following six forms of violence: (1) Control: “A lover or partner has tried to control most of your daily activities, such as where you can go and who you can talk to”; (2) Emotional abuse: “A lover or partner always belittles or humiliates you in front of others, causing you emotional distress.” (3) Security threats: “You have felt threatened by a lover or partner due to their anger, leading you to fear for your safety.” (4) Physical abuse: “A lover or partner has inflicted physical harm upon you, such as slapping, punching, kicking, strangling, burning, or stabbing”; (5) Sexual abuse: “A lover or partner has sexually assaulted you or forced you into unwanted sexual activity”; and (6) Threats to disclose their identity: “Have you had a lover or partner who has threatened to disclose your sexual orientation to others?” Each item has four response options, including (1) None; (2) Yes, from a gay partner; (3) Yes, from a lesbian spouse; (4) Yes, from both a lesbian spouse and a gay partner. The DVQ demonstrated good internal consistency in this study, with a Cronbach's alpha coefficient of 0.82. Additionally, to explore participants' help-seeking behavior following experiences of IPV, we included the question: “Have you sought assistance from public security authorities, other organizations, or other agencies after experiencing violence?”

Data analysis

We established a database using Epidata 3.1 and performed statistical analysis using SPSS 24.0. Since all data were collected through WeChat voice calls by our research interviewers, there were no missing values in each completed questionnaire. Categorical variables were presented with frequencies and percentages, while continuous variables were summarized using means and standard deviations. Pearson's chi-square tests were employed to compare sociodemographic, clinical, and psychosocial factors between the disclosed and undisclosed groups. Subsequently, a binary logistic regression was conducted to explore the influencing factors of HIV disclosure to lesbian spouses in convenience marriages. In order to investigate whether HIV disclosure to lesbian spouses was associated with IPV, we conducted six multivariate logistic regressions to explore the associations between HIV disclosure and various types of IPV while controlling for a comprehensive set of sociodemographic, clinical, and psychosocial factors as covariates. Those covariates were carefully selected based on previous literature to control for their potentially confounding effects between HIV disclosure and IPV and enhance this key association's precision. Similarly, to further analyze the intricate connections between HIV disclosure and IPV from various sources, we executed additional sensitivity analyses through analogous binary logistic regressions. A significance level of $p < 0.05$ was used to determine statistically significant differences, and all alpha coefficients were adjusted for multiple testing.

RESULTS

Sample characteristics

Table 1 presents the sample characteristics encompassing sociodemographic, clinical, and psychosocial attributes. The participants had an average age of 41.1 ± 7.2 years, with a majority self-identified as gay men (65.1%). More than half resided in urban areas (55.6%), had below bachelor's degrees (63.4%), and had monthly income exceeding 4000 yuan (61.6%). About 16.4% of participants cohabitated with their lesbian partners, and 23.7% had children with their lesbian partners. In terms of disease-related attributes, close to half received an HIV diagnosis

TABLE 1 Comparisons of sample characteristics by HIV disclosure to lesbian spouses ($n=232$).

Variables	<i>n</i> (%)	Disclosed <i>n</i> (%) (<i>n</i> = 134)	Not disclosed (<i>n</i> = 98)	χ^2	<i>p</i> -Values
Age/year					
≤40	121 (52.2)	49 (40.5)	72 (59.5)	30.89	<0.001
>40	111 (47.8)	85 (76.6)	26 (23.4)		
Sexual orientation					
Gay men	151 (65.1)	68 (45.0)	83 (55.0)	28.71	<0.001
Bisexual men	81 (34.9)	66 (81.5)	15 (18.5)		
Household registration					
Rural areas	103 (44.4)	55 (53.4)	48 (46.6)	1.44	0.230
City	129 (55.6)	79 (61.2)	50 (38.8)		
Education level					
Below bachelor's degree	147 (63.4)	71 (48.3)	76 (51.7)	14.72	<0.001
Bachelor's degree or above	85 (36.6)	63 (74.1)	22 (25.9)		
Monthly income/RMB					
≤4000	89 (38.4)	63 (70.8)	26 (29.8)	10.05	0.002
>4000	143 (61.6)	71 (49.7)	72 (50.3)		
Living with spouse					
Yes	38 (16.4)	22 (57.9)	16 (42.1)	0.00	0.985
No	194 (83.6)	112 (57.7)	82 (42.3)		
Whether have a child with their lesbian spouse					
Yes	55 (23.7)	47 (85.5)	8 (14.5)	22.67	<0.001
No	177 (76.3)	87 (49.2)	90 (50.8)		
HIV-infected diagnosis time/month					
≤24	128 (55.2)	52 (40.6)	76 (59.4)	34.36	<0.001
>24	104 (44.8)	82 (78.8)	22 (21.2)		
Other chronic diseases					
Yes	64 (27.6)	37 (57.8)	27 (42.2)	0.00	0.992
No	168 (72.4)	97 (57.7)	71 (42.3)		
Normal physical examination					
Yes	166 (71.6)	94 (56.6)	72 (43.4)	0.31	0.582
No	66 (28.4)	40 (60.6)	26 (39.4)		
Other STIs					
Yes	26 (11.2)	16 (61.5)	10 (38.5)	0.17	0.679
No	206 (88.8)	118 (57.3)	88 (42.7)		
Whether ever have sex with each other					
Yes	51 (22.0)	27 (52.9)	24 (47.1)	0.62	0.430
No	181 (78.0)	107 (59.1)	74 (40.9)		

(Continues)

TABLE 1 (Continued)

Variables	<i>n</i> (%)	Disclosed <i>n</i> (%) (<i>n</i> = 134)	Not disclosed (<i>n</i> = 98)	χ^2	<i>p</i> -Values
Whether have a current fixed gay partner					
Yes	163 (70.3)	119 (73.0)	44 (27.0)	52.22	<0.001
No	69 (29.7)	15 (21.7)	54 (78.3)		
Whether disclosed HIV status to the current fixed gay partner					
Yes	110 (47.4)	91 (82.7)	19 (17.3)	53.45	<0.001
No	122 (52.6)	43 (35.2)	79 (64.8)		
Sexualized drug abuse					
Yes	92 (39.7)	52 (56.5)	40 (43.5)	0.10	0.757
No	140 (60.3)	82 (58.6)	58 (41.4)		
Social support					
Low	67 (28.9)	30 (44.8)	37 (55.2)	8.39	0.015
Medium	105 (45.3)	62 (59.0)	43 (41.0)		
High	60 (25.9)	42 (70.0)	18 (30.0)		
Self-stigma					
Low	59 (25.4)	43 (72.9)	16 (27.1)	25.69	<0.001
Medium	42 (18.1)	34 (81.0)	8 (19.0)		
High	131 (56.5)	57 (43.5)	74 (56.5)		
Depression					
No	148 (63.8)	99 (66.9)	49 (33.1)	13.98	<0.001
Yes	84 (36.2)	35 (41.7)	49 (58.3)		
Anxiety					
No	143 (61.6)	97 (67.8)	46 (32.2)	15.50	<0.001
Yes	89 (38.4)	37 (41.6)	52 (58.4)		
Suicidal ideation					
No	135 (58.2)	90 (66.7)	45 (33.3)	10.50	0.001
Yes	97 (41.8)	44 (45.4)	53 (54.6)		

within the last 24 months (44.8%), while 27.6% reported comorbidity with other chronic conditions. The majority had normal results in their recent physical examinations (71.6%), 11.2% reported having other STIs (mainly syphilis), and 22.0% engaged in sexual activities with their lesbian partners to conceive. Most respondents were currently in committed same-sex relationships (70.3%), and 47.4% disclosed their HIV status to their current partners. Regarding psychosocial attributes, 56.5% experienced high self-stigma, and 45.3% reported moderate social support. The prevalence rates for depression, anxiety, and suicidal ideation were 36.2%, 38.4%, and 41.8%, respectively.

Comparisons of sample characteristics by HIV disclosure status

Approximately 57.3% (133/232) of participants disclosed their HIV status to their lesbian spouses, among whom 74.4% (99/133) were infected and disclosed their HIV infection after

TABLE 2 Logistic regression of disclosure to lesbian spouses.

Independent variables	<i>B</i>	<i>SE</i>	Wald χ^2	<i>aOR</i> (95% CI)	<i>p</i> -Values
Sexual orientation					
Bisexual men	1.50	0.50	8.85	4.47 (1.68–11.93)	0.003
Gay men				1	
Whether having a child with their lesbian spouse					
Yes	1.61	0.62	6.79	5.02 (1.49–16.87)	0.009
No				1	
HIV-infected diagnosis time/month					
>24	1.58	0.53	9.00	4.85 (1.73–13.60)	0.003
≤24				1	
Whether having a current fixed gay partner					
Yes	1.51	0.57	7.00	4.55 (1.48–13.97)	0.008
No				1	
Whether having disclosed HIV status to the current fixed gay partner					
Yes	1.42	0.56	6.45	4.13 (1.38–12.37)	0.011
No				1	
Social support					
High	1.32	0.64	4.27	3.73 (1.07–13.02)	0.039
Medium	0.80	0.28	1.88	2.22 (0.71 ~ 6.96)	0.171
Low				1	
Self-stigma					
Low	1.74	0.54	10.23	5.68 (1.96–16.46)	0.001
Medium	0.37	0.74	0.25	1.44 (0.34–6.11)	0.619
High				1	
Depression					
No	1.06	0.49	4.72	2.90 (1.11–7.56)	0.030
Yes				1	
Suicidal ideation					
No	1.31	0.49	7.22	3.72 (1.43–9.71)	0.007
Yes				1	

marriage. Another 34 (25.6%) were infected before marriage, including 14 disclosing before marriage and 20 disclosing after marriage.

Table 1 also shows the comparisons of sociodemographic, clinical, and psychosocial factors between the disclosure and non-disclosure groups. The characteristics of HIV-infected MSM who were more likely to disclose HIV status to their lesbian spouses ($p < 0.05$) were as follows: older, bisexual men, below bachelor's degree education, lower income, having a child with their lesbian spouse, long HIV infection duration, having a current fixed gay partner, having disclosed HIV status to the current fixed gay partner, lower self-stigma, higher social support, and screened negative for depression, anxiety, and suicide ideation.

Multivariate analysis of influencing factors of disclosing lesbian spouses

Table 2 shows the results of a binary logistic regression to explore the independent influencing factors of HIV disclosure to lesbian spouses. Bisexual men (*aOR*: 4.47, 95% CI: 1.68–11.93), having a child with their lesbian spouses (*aOR*: 5.02, 95% CI: 1.49–16.87), HIV diagnosis time > 24 months (*aOR*: 4.85, 95% CI: 1.73–13.60), having a current fixed gay partner (*aOR*: 4.55, 95% CI: 1.48–13.97), having disclosed HIV status to their current fixed gay partners (*aOR*: 4.13, 95% CI: 1.38–12.37), higher levels of social support (*aOR*: 3.73, 95% CI: 1.07–13.02), lower levels of self-stigma (*aOR*: 5.68–3.28, 95% CI: 1.96–16.46), no depression (*aOR*: 2.90, 95% CI: 1.11–7.56), and no suicidal ideation (*aOR*: 3.72, 95% CI: 1.43–9.71) were all independently associated with an increased likelihood of HIV disclosure to lesbian spouses.

Prevalence of IPV

In the past 12 months, 61.6% (143/232) of participants experienced at least one type of IPV. Among the 232 participants, 34.9% (81/232) had experienced IPV from a gay partner, 44.4% (103/232) had experienced IPV from a lesbian spouse, and 61.6% (143/232) had experienced IPV from both a gay partner and a lesbian spouse. The incidences of six types of IPV were displayed in descending order as follows: threatening to disclose the identity of HIV/MSM (34.5%), control (26.7%), physical abuse (22.0%), emotional abuse (19.0%), security threat (17.2%), and sexual abuse (10.8%). See Table 3 for details. Despite the highly prevalent IPV, 90.2% (129/143) had never sought help.

HIV disclosure and IPV

We further conducted several binary logistic regressions to explore the relationships between HIV disclosure and IPV while controlling for all potential confounders. As shown in Table 4, HIV disclosure to lesbian spouses was associated with an increased likelihood of IPV

TABLE 3 Prevalence and type of abuse by a date or partner reported in a sample of gay and heterosexual men (*n* = 232).

	Types of abuser		
	Abused by current fixed gay partner	Abused by a lesbian spouse	Abused by the current fixed gay partner and lesbian spouse
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Any abuse ^a	81 (34.9)	103 (44.4)	143 (61.6)
Type of abuse			
Control	45 (19.4)	37 (15.9)	62 (26.7)
Emotional abuse	31 (13.4)	34 (14.7)	44 (19.0)
Security threat	29 (12.5)	27 (11.6)	40 (17.2)
Physical abuse	39 (16.8)	30 (12.9)	51 (22.0)
Sexual	25 (10.8)	0	25 (10.8)
Threats to disclose your identity	44 (19.0)	55 (23.7)	80 (34.5)

^aExperience of one or more of the six types of abuse: control, emotional abuse, security threats, physical abuse, sexual abuse, and threats to disclose their identity.

TABLE 4 Logistic regressions of IPV among HIV-infected MSM with the marriage of convenience.^a

Model	Dependent variables	Independent variables		B	SE	Wald, χ^2	aOR (95% CI)	p	
Model 1	Experienced at least one type of IPV (total)	Yes	Disclosure to lesbian spouse	Yes	1.45	0.46	9.91	4.27 (1.73–10.53)	0.002
		No		No				1	
		Yes	Disclosure to current fixed gay partner	Yes	0.87	0.40	4.72	2.38 (1.09–5.22)	0.030
		No		No				1	
Model 2	Control	Yes	Disclosure to lesbian spouse	Yes	1.28	0.52	6.02	3.59 (1.29–9.94)	0.014
		No		No				1	
Model 3	Emotional abuse	Yes	Disclosure to lesbian spouse	Yes	1.50	0.61	6.13	4.47 (1.37–14.64)	0.013
		No		No				1	
Model 4	Security threat	Yes	Disclosure to current fixed gay partner	Yes	1.37	0.61	5.10	3.95 (1.20–13.00)	0.24
		No		No				1	
Model 5	Physical abuse	Yes	Disclosure to lesbian spouse	Yes	1.27	0.63	4.06	3.58 (1.04–12.35)	0.044
		No		No				1	
		Yes	Disclosure to current fixed gay partner	Yes	1.62	0.54	9.10	5.03 (1.76–14.38)	0.003
		No		No				1	
Model 6	Threats to disclose your identity	Yes	Disclosure to lesbian spouse	Yes	1.03	0.51	4.11	2.81 (1.04–7.64)	0.043
		No		No				1	
		Yes	Disclosure to current fixed gay partner	Yes	1.17	0.44	7.23	3.22 (1.37–7.60)	0.007
		No		No				1	

^aThe beta parameters of each regression model were estimated after controlling for the following factors: age, household registration, education level, monthly income, HIV-infected diagnosis time, other chronic diseases, normal physical examination, syphilis, sexual orientation, living with a spouse, whether they have a child with their lesbian spouse, whether they ever have sex with each other, whether they have a current fixed gay partner, sexualized drug abuse, depression, anxiety, suicidal ideation, social support, and self-stigma related to HIV infection, timing of disclosure.

(*aOR*: 4.27, 95% CI: 1.73–10.53), reflected in four dimensions, with *aOR*s ranging from 2.81 (95% CI: 1.04–7.64) for threats to disclose your identity to 4.47 (95% CI: 1.37–14.64) for emotional abuse. In addition, HIV disclosure to current fixed gay partners was associated with an increased likelihood of IPV (*aOR*: 2.38, 95% CI: 1.09–5.22), reflected in three dimensions, with *aOR*s ranging from 3.22 (95% CI: 1.37–7.60) for threats to disclose your identity to 5.03 (95% CI: 1.76–14.38) for physical abuse.

Table 5 shows further sensitivity analysis results by repeating similar binary logistic regressions to explore the relationships between HIV disclosure and IPV from different sources. HIV disclosure to lesbian spouses was associated with an increased likelihood of IPV from lesbian spouses (*aOR*: 4.24, 95% CI: 1.79–10.06), and IPV from both the current fixed gay partner and lesbian spouse (*aOR*: 4.27, 95% CI: 1.73–10.53). Similarly, HIV disclosure to current fixed gay partners was associated with an increased likelihood of IPV from fixed gay partners (*aOR*: 2.43, 95% CI: 1.07–5.52), and IPV from both (*aOR*: 2.38, 95% CI: 1.09–5.22).

DISCUSSION

Summary of the findings

This study represents the first comprehensive investigation on HIV disclosure and IPV among HIV-infected MSM involved in convenience marriages. The rates of HIV disclosure to lesbian spouses and experiences of IPV were observed at 57.3% and 61.6%, respectively. Bisexual men, having a child with their lesbian spouse, HIV diagnosis time > 24 months, having a current fixed gay partner, having disclosed HIV status to their current fixed gay partners, higher levels of social support, lower levels of self-stigma, no depression, and no suicidal ideation were associated with an increased likelihood of HIV disclosure to lesbian spouses. Furthermore, HIV disclosure was associated with an increased likelihood of experiencing IPV.

HIV disclosure rate

Our study showed that 57.8% of participants disclosed their HIV status to their lesbian spouses, which was comparable to the reported 58.4% (59/101) in another study in China (Huang et al., 2018). HIV disclosure is a complex and challenging process. PLHIV often disclose their HIV status to their families and friends to seek care and social support, and the person they choose to disclose to is based on the intimacy of the relationship (Mao et al., 2018; Mi et al., 2020). The theory of HIV disclosure states that PLHIV are more likely to disclose to their partners if the benefits or rewards of disclosure outweigh the costs or risks (Brown et al., 2016). In a marriage of convenience based on a contractual relationship, some HIV-infected MSM may choose not to disclose to their lesbian spouses, thinking it is not their obligation or worrying about the potential harms from disclosure, such as accusations, abandonment, discrimination, relationship damage, and physical and emotional abuse (Brown et al., 2016).

Influencing factors of HIV disclosure to lesbian spouses

Our study has identified a variety of influencing factors of HIV disclosure to lesbian spouses, including sexual orientation, whether having a child with their lesbian spouse, HIV diagnosis time, whether having a current fixed gay partner, whether having disclosed their HIV status to their current fixed gay partners, and psychosocial factors such as social support, self-stigma, depression, and suicidal ideation, each described below:

TABLE 5 Logistic regressions of IPV experiencing from lesbian spouses, current fixed gay partners, and both.^a

Model	Dependent variables	Independent variables		B	SE	Wald χ^2	aOR (95% CI)	p-Values
Model 7	Experiencing IPV from lesbian spouses	Yes	Disclosure to lesbian spouse	Yes	1.44	0.44	4.24 (1.79–10.06)	0.001
		No		No			1	
		Yes	Disclosure to current fixed gay partner	Yes	0.48	0.39	1.62 (0.76–3.46)	0.212
		No		No			1	
Model 8	Experiencing IPV from current fixed gay partner	Yes	Disclosure to lesbian spouse	Yes	1.05	0.54	2.85 (0.99–8.18)	0.052
		No		No			1	
		Yes	Disclosure to current fixed gay partner	Yes	0.89	0.42	2.43 (1.07–5.52)	0.034
		No		No				
Model 9	Experiencing IPV from both the current fixed gay partner and lesbian spouse	Yes	Disclosure to lesbian spouse	Yes	1.45	0.46	4.27 (1.73–10.53)	0.002
		No		No			1	
		Yes	Disclosure to current fixed gay partner	Yes	0.87	0.40	2.38 (1.09–5.22)	0.030
		No		No			1	

^aThe beta parameters of each regression model were estimated after controlling for the following factors: age, household registration, education level, monthly income, HIV-infected diagnosis time, other chronic diseases, normal physical examination, syphilis, sexual orientation, living with a spouse, whether they have a child with their lesbian spouse, whether they ever have sex with each other, whether they have a current fixed gay partner, sexualized drug abuse, depression, anxiety, suicidal ideation, social support, and self-stigma related to HIV infection, timing of disclosure.

Sexual orientation

Compared to gay men, bisexual men were more likely to disclose their HIV status to their lesbian spouses, which may be explained by the relatively higher social acceptance and lower stigma related to their sexual identities in Chinese culture. In China, it is much easier for bisexual men to enter into heterosexual marriages and conceal their sexual orientations, and they are more likely to be labeled as “normal” once they have girlfriends or marry and have children (Liu et al., 2018, 2015; Wang et al., 2013). In contrast, gay men experience more social stigma related to their sexual identities, which, combined with stigma toward their HIV status, forms an intersectional stigma with a double burden that hinders further HIV disclosure (Adeoye-Agboola et al., 2016; Maiorana et al., 2023). Here, intersectionality refers to the different social categories of disadvantage, in this instance, HIV infection and gay sexual identity that may overlap and contribute to the experience of social discrimination and rejection in a particular sociocultural context (Maiorana et al., 2023). Intersectional stigma related to HIV and sexual orientation cannot be separated, and some participants may choose to hide their HIV status to protect themselves from the anticipated intersectional stigma (Maiorana et al., 2023). Applying an intersectional perspective is essential in understanding the relationship between HIV and sexual orientation stigma and HIV disclosure.

Procreation

MSM who had children with their lesbian spouses were more likely to disclose their HIV status to their lesbian spouses, which may be related to the highly valued childbearing responsibilities in Chinese family culture. As an old Chinese saying goes, “The more sons, the more blessings.” In China, especially in rural China, childbearing has been considered an ultimate goal of marriage to carry on the family line; in this respect, only children face even greater pressure, especially families with only male children (Yu & Xiao, 2008). Some HIV-infected MSM get married and have children because of family or social pressure. Procreation is an important goal for LGBTQ seeking a marriage of convenience (Yu et al., 2022). In the marriage of convenience, once the husband and wife have children, their relationship may not be limited to only “convenience.” The child may become an essential bond between them, which makes the marriage of convenience more intimate. This may be an important reason why MSM who had children with their lesbian spouses chose to disclose their HIV status. To reduce HIV transmission while supporting the reproductive goals of PLWH, a range of safe conception strategies and interventions have been developed, including ART, pre-exposure prophylaxis (PrEP), male circumcision, limiting condomless sex to peak fertility, home insemination, semen processing, and fertility care (Matthews et al., 2018). However, access to these services is limited by stigma, lack of guidelines, and insufficient provider knowledge and training (Matthews et al., 2018). It is suggested that safe conception care should be strengthened and integrated into HIV and reproductive health programs to help them meet reproductive goals safely.

HIV-infection diagnosis time

Longer time since HIV-infection diagnosis was associated with an increased likelihood of HIV disclosure to lesbian spouses; this may be due to better control of viral load after long time treatment and better coping abilities over time. HIV infection is a major negative life event, and it is a long process for PLHIV to accept the diagnosis, initiate and continue ART treatment, and adapt to their identities of PLHIV. At the early stage of HIV infection, PLHIV

may choose to conceal their HIV diagnosis due to a lack of understanding of the disease and emotional stress caused by the diagnosis. Over time and with ART progression, their CD4 cells may be gradually restored, and their viral loads may be suppressed to undetectable levels; in other words, they become “undetectable=untransmissible” (UNAIDS 2018). As a result, PLHIV with longer diagnosis time are better adaptive to their status as PLHIV and are more likely to disclose their HIV status to others.

Fixed gay partner

MSM with fixed gay partners were more likely to disclose their HIV status to their lesbian spouses, which may be explained by the higher levels of social support they got from their fixed gay partners. Current fixed gay partners are important and sometimes the only sources of social support on HIV disclosure. For MSM in a marriage of convenience, MSM's lesbian spouses are viewed as contract partners who may not be able to provide the needed social support to MSM. By contrast, current fixed gay partners are MSM's true partners, both emotionally and in life. They rely on and support each other more than lesbian spouses. Having current fixed gay partners indicates more support and encouragement for HIV disclosure. Some HIV-infected MSM may even seek support from their current fixed gay partners before disclosing their HIV status to their lesbian spouses.

Social psychological factors

Our study has identified several common social psychological factors, such as higher social support, lower self-stigma, no depression, and no suicidal ideation, that were associated with an increased likelihood of HIV disclosure to lesbian spouses, which was consistent with the bulk of previous literature (Smith et al., 2008; Adeoye-Agboola et al. 2016; Yu et al., 2022). Social support is an important protective factor in HIV disclosure, and studies show that PLHIV mainly choose the object of disclosure according to the degree of intimacy (Mao et al., 2018; Mi et al., 2020). PLHIV with lower levels of social support may have fewer trusted people to disclose to and are thus less likely to have HIV disclosure. HIV/AIDS-related stigma is one of the most well-established barriers to HIV disclosure among PLHIV (Adeoye-Agboola et al., 2016). Among various types of transmission routes, HIV infection through MSM is the most stigmatized one (Mo et al., 2020). PLHIV who are MSM may experience double stigma and thus be less likely to disclose their HIV status under high perceived self-stigma (Kennedy et al. 2013). In addition, our study showed that depression and suicide ideation were common among PLHIV and were associated with a decreased likelihood of HIV disclosure, which was also in line with previous studies showing negative associations between depression, suicidal ideation, and HIV disclosure (Abler et al., 2015; Yu et al., 2022).

HIV disclosure and IPV

Our study showed that over 60% of participants experienced at least one type of IPV and that disclosing their HIV status to lesbian spouses was positively correlated with IPV. The prevalence of IPV among HIV-infected MSM in the marriage of convenience in our study was much higher than that reported in other studies on either the general populations (Yang et al., 2019) or MSM (Liu et al., 2021). The HIV-IPV syndemic has disproportionately affected MSM in the marriage of convenience and is shaped by sociocultural experiences within their social contexts (Ren et al., 2021). A marriage of convenience is established as a reciprocal relationship

between a gay man and a lesbian to meet social expectations while maintaining their homosexual identities (Ren et al., 2021). Although a marriage of convenience can help gay men and lesbians cope with social, cultural, family, and political stress related to their sexual identities, it may also cause potential conflicts and IPV in these marriages due to the ambiguity of the relationship, family unit, roles, and responsibilities (Ren et al., 2021). Our findings indicate that IPV is highly prevalent among HIV-infected MSM in the marriage of convenience, which warrants more political and research attention. Future research is needed to explore and develop more effective family therapy modalities targeting this population and clarify the ambiguities in their marriage to reduce and prevent IPV.

The consistently significant associations between HIV disclosure and various types of IPV from various sources in our study align with previous studies showing disclosure to fixed gay partners or spouses was associated with an increased risk of IPV (Brown et al., 2016; Siemieniuk et al., 2013). The relationship between HIV status, HIV disclosure, and IPV in a marriage of convenience is complicated and dynamic, which may be explained by the relational-cultural theory focusing on growth-fostering relationships (Joe et al., 2020). Based on this theory, relationships and connections are at the core of human development and well-being (Joe et al., 2020). A marriage of convenience serves the purpose of building and maintaining relationships and connections both within and outside the family by helping gay men and lesbians meet social expectations and roles (Ren et al., 2021). HIV infection and disclosure may disturb the relationship equilibrium by introducing significant health risks related to HIV infection as well as the social stigma and social isolation following HIV disclosure, thus leading to further IPV (Wang et al., 2020). On the other hand, IPV represents a chronic disconnection that may result in social withdrawal and decreased well-being, which may encourage MSM to find strategies such as not disclosing HIV status to avoid relationship conflicts and potential IPV (Joe et al., 2020). The manner in which HIV disclosure may exacerbate IPV and the influence of IPV on hindering HIV disclosure among HIV-infected MSM in a marriage of convenience should be further evaluated.

Although HIV disclosure is an effective way to promote HIV counseling and testing, it may also render MSM to external control in their relationships, and they may even face threats during conflicts (Sullivan, 2019). As shown in our study, threatening to disclose the identities of HIV/MSM was the most prevalent among the six types of IPV, which may also explain why, among those who experienced IPV, over 90% refrained from seeking assistance from individuals or organizations. Although couples may not be emotionally attached to each other in a marriage of convenience, their marriages are still protected by law and recognized by their families and society. In a legal marriage, rights and obligations are granted to both married parties and sometimes to their relatives. HIV infection and disclosure may cause significant panic, stress, shame, blame, and relationship breakdown not only within the couples but also in the big families, leading to further conflicts and IPV.

Limitations

The study had several limitations. First, the study was conducted during the COVID-19 pandemic when China implemented strict social distancing measures to control the spread of COVID-19, which may result in decreased social support, increased psychological distress, and increased IPV (Hong et al., 2022). However, we did not collect data on pandemic-related life changes such as employment and COVID-19 illness to control for their impacts on IPV. Future studies should explore further the impact of COVID-19 on HIV disclosure and IPV among HIV-infected MSM in marriage of convenience in China. Second, the cross-sectional study design may preclude any causal inferences among variables, which need to be tested in future longitudinal studies. Third, the timing of measures may be another limitation to

prevent the establishment of causal relationships between independent and dependent variables; for instance, depression and anxiety were assessed for the previous 2 weeks, IPV was evaluated for the last 12 months, and disclosure was any time since HIV diagnosis. However, the measurement timing does not necessarily mean these problems only exist during that period; they are likely to persist over a longer period beyond our measurement period. As a cross-sectional study, our results only provide inferences of associations, not causations. Future longitudinal studies with strict timing control are needed to corroborate causal relationships. Fourth, all participants were recruited through a WeChat official account named Li Hui Time and Space, which may not represent those not using the WeChat official account and thus limit its external validity. In addition, our sample was unique, focusing on HIV-infected MSM in a marriage of convenience and did not include MSM who were married to heterosexual spouses in a normal marriage that may present different patterns of IPV. Future studies may consider recruiting a more diverse sample and utilizing multiple sampling methods to get a more comprehensive sample and increase the external validity of the findings. Fifth, there was a lack of data on IPV-related details such as when the IPV occurred, the reasons for IPV (HIV infection or other issues in life), the number of perpetrators, and the frequency of IPV. IPV is deemed illegal by the current Chinese law, and our investigation of IPV may result in underreporting and information bias. Future research should try to add as much data about IPV as possible to capture a complete picture of IPV in the marriage of convenience. Sixth, depression and anxiety were assessed using brief 2-item screening tools instead of standardized psychological measures, potentially introducing measurement bias. Future research should use more robust psychological assessment tools to evaluate psychological distress accurately. Finally, in our exploration of the relationship between HIV disclosure and IPV, we controlled for a series of covariates, some of which may act as mediators, which need to be further explored in future research.

Implications

Despite these limitations, our study provides a framework for understanding HIV disclosure and IPV among HIV-infected MSM in the marriage of convenience. It highlights how programs and policies should consider the specific needs of this population when designing HIV and IPV prevention and care services. Our findings have policy, clinical, and research implications in designing and implementing future interventions to increase HIV disclosure and decrease IPV among HIV-infected MSM in the marriage of convenience. At the policy level, the Chinese government is already initiating important policies and research to provide care and support to improve HIV and IPV prevention services of MSM; findings from this research should be incorporated into the national HIV and IPV response. At the clinical level, healthcare providers and social workers should closely monitor HIV disclosure and IPV among their clients, as well as assess their psychosocial well-being, such as the availability of social support, the experience of self-stigma, and the presence of depression and suicidal ideation. For those who have not disclosed their HIV status, the providers should encourage appropriate HIV disclosure by assisting with the necessary steps and providing all needed resources and support. For those who have experienced IPV, the providers should encourage appropriate reporting and help-seeking by providing legal and professional resources and help. At the research level, interventions to improve HIV disclosure, strengthen social support, reduce stigma and discrimination, alleviate depression and suicide ideation, and prevent IPV among HIV-infected MSM in the convenience of marriage are needed. Also, future research focusing on IPV among HIV-infected MSM in the convenience of marriage should try every effort to collect as much data as possible to gain comprehensive and deep information on IPV, which may involve both qualitative and quantitative research methods.

CONCLUSION

This study increases our understanding of HIV disclosure and IPV among HIV-infected MSM in a marriage of convenience. Our findings demonstrate that over half of HIV-infected MSM have disclosed their HIV status to their lesbian spouses, and HIV disclosure is influenced by multiple sociodemographic, clinical, and psychosocial factors. In a marriage of convenience, IPV is highly prevalent among HIV-infected MSM, and HIV disclosure is positively correlated with IPV. Our study reveals the high prevalence of IPV among HIV-infected MSM in the marriage of convenience and underscores the critical role of HIV disclosure in IPV. Our findings provide important policy, clinical, and research implications for the design and implementation of targeted and comprehensive interventions to improve HIV disclosure and prevent IPV to ensure adequate and continuous support for HIV-infected MSM within a marriage of convenience.

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DATA AVAILABILITY STATEMENT

The datasets generated and/or analyzed during the current study are not publicly available, but are available from the corresponding author on reasonable request

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REFERENCES

- Abler, L., Sikkema, K. J., Watt, M. H., Hansen, N. B., Wilson, P. A., & Kochman, A. (2015). Depression and HIV serostatus disclosure to sexual partners among newly HIV-diagnosed men who have sex with men. *AIDS Patient Care and STDs*, 29(10), 550–558. <https://doi.org/10.1089/apc.2015.0122>
- Adeoye-Agboola, D. I., Evans, H., Hewson, D., & Pappas, Y. (2016). Factors influencing HIV disclosure among people living with HIV/AIDS in Nigeria: A systematic review using narrative synthesis and meta-analysis. *Public Health*, 136, 13–28. <https://doi.org/10.1016/j.puhe.2016.02.021>
- Brown, M. J., Serovich, J. M., & Kimberly, J. A. (2016). Depressive symptoms, substance use and partner violence victimization associated with HIV disclosure among men who have sex with men. *AIDS and Behavior*, 20(1), 184–192. <https://doi.org/10.1007/s10461-015-1122-y>
- Burke, L. K., & Follingstad, D. R. (1999). Violence in lesbian and gay relationships: Theory, prevalence, and correlational factors. *Clinical Psychology Review*, 19(5), 487–512. [https://doi.org/10.1016/s0272-7358\(98\)00054-3](https://doi.org/10.1016/s0272-7358(98)00054-3)
- Cai, M. (2023). For the sake of parents? Marriages of convenience between lesbians and gay men in China. *LGBTQ+ Family: An Interdisciplinary Journal*, 19(3), 211–227. <https://doi.org/10.1080/27703371.2023.2172509>
- Chang, J., & Ren, H. (2017). Keep silent, keep sinful: Mainstream newspapers' representation of gay men and lesbians in contemporary China. *Indian Journal of Gender Studies*, 24(3), 317–340. <https://doi.org/10.1177/0971521517716765>
- Chi, Y., Huang, D., Lindgren, T., Goldsamt, L., Zhou, J., Ren, Y., Zhang, L., & Li, X. (2022). The association between HIV disclosure, spousal testing and unprotected vaginal intercourse within marriage among HIV positive married MSM in China. *AIDS Care*, 34(1), 127–134. <https://doi.org/10.1080/09540121.2021.2008859>
- Greenwood, G. L., Relf, M. V., Huang, B., Pollack, L. M., Canchola, J. A., & Catania, J. A. (2002). Battering victimization among a probability-based sample of men who have sex with men. *American Journal of Public Health*, 92(12), 1964–1969. <https://doi.org/10.2105/ajph.92.12.1964>

- Hong, C., Stephenson, R., Santos, G. M., Garner, A., Howell, S., & Holloway, I. (2022). Intimate partner violence victimization during the COVID-19 pandemic among a global online sample of sexual minority men. *Journal of Family Violence*, 4, 1–10. Advance online publication. <https://doi.org/10.1007/s10896-022-00461-y>
- Hu, X., & Wang, Y. (2013). LGB identity among young Chinese: The influence of traditional culture. *Journal of Homosexuality*, 60(5), 667–684. <https://doi.org/10.1080/00918369.2013.773815>
- Huang, C. C., Mao, X., Zhang, W., Hu, Q. H., Zhang, J., Chu, Z. X., Gen, W. Q., Jiang, Y. J., & Xu, J. J. (2018). Resistance factors influencing HIV serostatus disclosure to spouses among married men who have sex with men (MSM) in Shenyang. *Chinese Journal of AIDS & STD*, 24(3), 250–253. <https://doi.org/10.13419/j.cnki.aids.2018.03.10>
- Joe, J. R., Norman, A. R., Brown, S., & Diaz, J. (2020). The intersection of HIV and intimate partner violence: An application of relational-cultural theory with black and Latina women. *Journal of Mental Health Counseling*, 42(1), 32–46. <https://doi.org/10.17744/mehc.42.1.03>
- Kennedy, C. E., Baral, S. D., Fielding-Miller, R., Adams, D., Dlodlu, P., Sithole, B., Fonner, V. A., Mnisi, Z., & Kerrigan, D. (2013). “They are human beings, they are Swazi”: Intersecting stigmas and the positive health, dignity and prevention needs of HIV-positive men who have sex with men in Swaziland. *Journal of the International AIDS Society*, 16(Suppl 3), 18749. <https://doi.org/10.7448/IAS.16.4.18749>
- Kidman, R., & Violari, A. (2018). Dating violence against HIV-infected youth in South Africa: Associations with sexual risk behavior, medication adherence, and mental health. *Journal of Acquired Immune Deficiency Syndromes (1999)*, 77(1), 64–71. <https://doi.org/10.1097/QAI.0000000000001569>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2003). The patient health Questionnaire-2: Validity of a two-item depression screener. *Medical Care*, 41(11), 1284–1292. <https://doi.org/10.1097/01.MLR.0000093487.78664.3C>
- Li, X. Y., Phillips, M. R., Zhang, Y. L., Dong, X., Tong, Y. S., & Yang, F. D. (2011). Reliability and validity of the Chinese version of beck scale for suicide ideation (bsi-cv) among university students. *Chinese Mental Health Journal*, 25(11), 862–866. <https://doi.org/10.3969/j.issn.1000-6729.2010.04.003>
- Liu, M., Cai, X., Hao, G., Li, W., Chen, Q., Chen, Y., & Xiong, P. (2021). Prevalence of intimate partner violence among men who have sex with men: An updated systematic review and meta-analysis. *Sexual Medicine*, 9(6), 100433. <https://doi.org/10.1016/j.esxm.2021.100433>
- Liu, L., Na, J., Li, Y. X., Mu, H. J., Yang, X. L., Li, S., & Pan, G. W. (2015). Investigation on the marital intention with women among men who have sex with men in the urban of Liaoning Province. *Chinese Journal of AIDS & STD*, 21(10), 858–860. <https://doi.org/10.13419/j.cnki.aids.2015.10.09>
- Liu, M. (2013). Two gay men seeking two lesbians: An analysis of Xinghun (formality marriage) ads on China's tianya.cn. *Sexuality and Culture*, 17(3), 494–511. <https://doi.org/10.1007/s12119-012-9164-z>
- Liu, S., Yang, Z., Zhao, J., Tan, W., Xie, W., & Zhang, Y. (2018). Analysis on marital status of HIV positive msm from 2015 to 2017 in Shenzhen city. *Chinese Journal of AIDS & STD*, 24(9), 905–907. <https://doi.org/10.13419/j.cnki.aids.2018.09.12>
- Ma, J., Jiao, K., Liao, M., Wang, C., Kang, D., Lin, Y., Yan, Y., Li, Y., Cheng, C., Jia, W., Meng, J., Wnag, L., Yang, X., Cao, Y., Zhao, Z., Wang, X., & Ma, W. (2023). HIV status disclosure and associated characteristics among HIV-positive msm receiving antiretroviral therapy in Jinan, China. *AIDS and Behavior*, 27(7), 2205–2215. <https://doi.org/10.1007/s10461-022-03952-7>
- Maiorana, A., Zamudio-Haas, S., Santiago-Rodríguez, E. I., Saucedo, J. A., Rodríguez-Díaz, C. E., Brooks, R. A., & Myers, J. J. (2023). HIV disclosure practices to family among Mexican and Puerto Rican sexual minority men with HIV in the continental USA: Intersections of sexual orientation and HIV stigma. *Journal of Homosexuality*, 70(9), 1911–1935. <https://doi.org/10.1080/00918369.2022.2043731>
- Mak, W. W., & Cheung, R. Y. (2010). Self-stigma among concealable minorities in Hong Kong: Conceptualization and unified measurement. *The American Journal of Orthopsychiatry*, 80(2), 267–281. <https://doi.org/10.1111/j.1939-0025.2010.01030.x>
- Mao, Y., Li, X., Qiao, S., Zhao, Q., Zhou, Y., & Shen, Z. (2018). Social support, stigma, and HIV disclosure among parents living with HIV in Guangxi, China. *AIDS Care*, 30(2), 168–172. <https://doi.org/10.1080/09540121.2017.1387639>
- Matthews, L. T., Beyezza-Kashesya, J., Cooke, I., Davies, N., Heffron, R., Kaida, A., Kinuthia, J., Mmeje, O., Semprini, A. E., & Weber, S. (2018). Consensus statement: Supporting safer conception and pregnancy for men and women living with and affected by HIV. *AIDS and Behavior*, 22(6), 1713–1724. <https://doi.org/10.1007/s10461-017-1777-7>
- Mi, T., Li, X., Zhou, G., Qiao, S., Shen, Z., & Zhou, Y. (2020). HIV disclosure to family members and medication adherence: Role of social support and self-efficacy. *AIDS and Behavior*, 24(1), 45–54. <https://doi.org/10.1007/s10461-019-02456-1>
- Mo, P. K. H., Chen, X., Lam, E. H. K., Li, J., Kahler, C. W., & Lau, J. T. F. (2020). The moderating role of social support on the relationship between anxiety, stigma, and intention to use illicit drugs among HIV-positive men who have sex with men. *AIDS and Behavior*, 24(1), 55–64. <https://doi.org/10.1007/s10461-019-02719-x>
- Montag, C., Becker, B., & Gan, C. (2018). The multipurpose application WeChat: A review on recent research. *Frontiers in Psychology*, 9, 2247. <https://doi.org/10.3389/fpsyg.2018.02247>
- National Center for AIDS/STD Control and Prevention, China CDC. (2023). The National AIDS STD Epidemic in the Second Quarter of 2023. https://mp.weixin.qq.com/s/wmR_9SI_2M-OV6EumN77w

- Owen, S. S., & Burke, T. W. (2004). An exploration of prevalence of domestic violence in same-sex relationships. *Psychological Reports*, 95(1), 129–132. <https://doi.org/10.2466/pr0.95.1.129-132>
- Peng, W., Song, X., Zhang, C., Chen, Y., Zhou, Q., Välimäki, M. A., & Li, X. (2022). The proportion of HIV disclosure to sexual partners among people diagnosed with HIV in China: A systematic review and meta-analysis. *Frontiers in Public Health*, 10, 1004869. <https://doi.org/10.3389/fpubh.2022.1004869>
- Ren, Z., Qu, W., & Guo, Z. (2021). A grounded theory exploration of the stages of relationship development in marriages of convenience in China. *Family Process*, 60(4), 1347–1363. <https://doi.org/10.1111/famp.12626>
- Siemieniuk, R. A., Krentz, H. B., Miller, P., Woodman, K., Ko, K., & Gill, M. J. (2013). The clinical implications of high rates of intimate partner violence against HIV-positive women. *Journal of Acquired Immune Deficiency Syndromes* (1999), 64(1), 32–38. <https://doi.org/10.1097/QAI.0b013e31829bb007>
- Shi, Y. (2022). Assessment of effect of perceived social support on school readiness, mental wellbeing, and self-esteem: Mediating role of psychological resilience. *Frontiers in Psychology*, 13, 911841. <https://doi.org/10.3389/fpsyg.2022.911841>
- Smith, R., Rossetto, K., & Peterson, B. L. (2008). A meta-analysis of disclosure of one's HIV-positive status, stigma and social support. *AIDS Care*, 20(10), 1266–1275. <https://doi.org/10.1080/09540120801926977>
- Souza, M. R., Guimarães, R. A., Amaral, W. N. D., Cunha, V. E. D., Moura, B. D. M., Barbosa, M. A., & Brunini, S. M. (2022). Reproductive desire in women living with HIV/AIDS with serodiscordant partners. *International Journal of Environmental Research and Public Health*, 19(21), 13763. <https://doi.org/10.3390/ijerph192113763>
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Sullivan, T. P. (2019). The intersection of intimate partner violence and HIV: Detection, disclosure, discussion, and implications for treatment adherence. *Topics in Antiviral Medicine*, 27(2), 84–87.
- Sulstarova, B., Poglia Milet, F., Mellini, L., Villani, M., & Singy, P. (2015). HIV disclosure and nondisclosure among migrant women from sub-Saharan Africa living in Switzerland. *AIDS Care*, 27(4), 451–457. <https://doi.org/10.1080/09540121.2014.963497>
- Sun, M., Chen, W. T., Yang, J. P., Huang, S., Zhang, L., Shi, M., Li, W., Li, Y., Bao, M., & Lu, H. (2021). Concerns of parental HIV disclosure in China. *Clinical Nursing Research*, 30(6), 830–839. <https://doi.org/10.1177/1054773820932725>
- Sun, M. Y., Gao, Y., Zhang, Q., Zhang, L., & Lu, H. Z. (2021). The current situation of sexual partner notification and its influencing factors among 268 people living with HIV/AIDS in Shanghai. *Chinese Journal of AIDS & STD*, 27(11), 1233–1237. <https://doi.org/10.13419/j.cnki.aids.2021.11.09>
- Tencent. (2018). *Tencent announces 2018 first quarter results*. <https://www.tencent.com/en-us/articles/15000691526464720.pdf>
- Tran, B. X., Duong, H. D., Nguyen, A. Q., Pham, L. D., Tran, T. T., & Latkin, C. A. (2018). Child desire among men and women living with HIV/AIDS in the traditional culture of Vietnam. *AIDS and Behavior*, 22(9), 2888–2894. <https://doi.org/10.1007/s10461-018-2029-1>
- UNAIDS. (2018). *Undetectable = Untransmittable*. <http://www.unaids.org/en/resources/presscentre/featurestories/2018/July/undetectable-untransmittable>
- Wang, N., Huang, B., Ruan, Y., Amico, K. R., Vermund, S. H., Zheng, S., & Qian, H. Z. (2020). Association between stigma towards HIV and MSM and intimate partner violence among newly HIV-diagnosed Chinese men who have sex with men. *BMC Public Health*, 20(1), 204. <https://doi.org/10.1186/s12889-020-8259-y>
- Wang, Y., Liu, L. L., Zhang, G. G., Fang, J., Zhao, X. H., & Zhou, L. (2013). Marriage and marital intention and their influencing factors among men who have sex with men. *Chinese Journal of Public Health*, 29(8), 1205–1208. <https://doi.org/10.11847/zgggws2013-29-08-35>
- World Health Organization. (2012). *Understanding and addressing violence against women: Intimate partner violence* (No. WHO/RHR/12.36). World Health Organization.
- Xiao, Z., Li, X., Qiao, S., Zhou, Y., Shen, Z., & Tang, Z. (2015). Using communication privacy management theory to examine HIV disclosure to sexual partners/spouses among PLHIV in Guangxi. *AIDS Care*, 27(Suppl 1), 73–82. <https://doi.org/10.1080/09540121.2015.1055229>
- Yan, H., Cao, W., Mo, P., Huan, X., Wang, Z., Lin, X., Wang, X., Gu, L., Wang, P., Agudile, E., & Lau, J. (2019). Prevalence and associated factors of HIV serostatus disclosure to regular female sex partners among HIV-positive men who have sex with both men and women in China. *AIDS Care*, 31(8), 1026–1034. <https://doi.org/10.1080/09540121.2019.1612002>
- Yang, T., Poon, A. W. C., & Breckenridge, J. (2019). Estimating the prevalence of intimate partner violence in mainland China—insights and challenges. *Journal of Family Violence*, 34, 93–105. <https://doi.org/10.1007/s10896-018-9989-9>
- Yin, Y., Yang, H., Xie, X., Wang, H., Nie, A., & Chen, H. (2019). Status and associated characteristics of HIV disclosure among people living with HIV/AIDS in Liangshan, China: A cross-sectional study. *Medicine*, 98(31), e16681. <https://doi.org/10.1097/MD.00000000000016681>

- Yu, Y., Cai, H. L., Li, H., Xiao, F. Q., & Li, J. H. (2022). Marriage and childbearing intention and influencing factors on unmarried and childless HIV-infected men who have sex with men in Jinan. *Chinese Journal of AIDS & STD*, 28(9), 1024–1029. <https://doi.org/10.13419/j.cnki.aids.2022.09.06>
- Yu, Y., Xiao, S., & Liu, K. Q. (2013). Dating violence among gay men in China. *Journal of Interpersonal Violence*, 28(12), 2491–2504. <https://doi.org/10.1177/0886260513479028>
- Yu, Y., & Xiao, S. Y. (2008). Sociological problems about homosexuality's marital relationships. *Medicine & Philosophy*, 29(17), 41–42, 67.

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