Early and non-consensual sexual debut among Chinese men who have sex with men: a cross-sectional study

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Abstract

Background

Early sexual debut and non-consensual sex have been linked to higher sexual risk and STI infection among men who have sex with men (MSM) in high-income countries. This study aimed to examine early and non-consensual sexual debut among Chinese MSM and to evaluate factors associated with early sexual debut and non-consensual sex.

Methods

A cross-sectional study was conducted in 2016 among Chinese men born biologically male, ≥ 18 years old, and who had ever engaged in anal sex with a man. Participants answered questions regarding socio-demographics, condomless sex, age at anal sexual debut with a man, and whether the first anal sex was consensual sex. Factors associated with an early sexual debut (< 18 years old) and non-consensual sex at sexual debut were evaluated.

Results

Overall, 2031 eligible men completed the survey. The mean age of sexual debut was 20.7 (SD = 4.3) years old. 17.6% (358/2031) of men reported early sexual debut, and 5.0% (101/2031) reported a non-consensual sexual debut. Early sexual debut was associated with having more male sexual partners (adjusted OR 1.10, 95% CI 1.06–1.15) and condomless anal sex in last three months (AOR = 1.71, 95% CI 1.34–2.18) in last three months. MSM whose sexual debut was non-consensual were more likely to have condomless anal sex (AOR = 1.76, 95% CI 1.17–2.66), and to have reported an early sexual debut (AOR = 2.72, 95% CI 1.75–4.21).

Conclusions

Many Chinese MSM reported early sexual debut and non-consensual sex, both of which are associated with sexual risk behaviors and drive STI transmission. These findings highlight the need for improving sexual health education among young people.

Background

Early sexual debut and non-consensual sex among men who have sex with men (MSM) may contribute to adulthood high-risk behaviors and sexually transmitted infection (STI) transmission.(1, 2) Previous MSM research suggests that early sexual debut is associated with riskier sexual behaviors such as more partners, group sex, and recreational drug use.(1, 3) Previous studies have also
indicated that non-consensual sex is associated with HIV infection, alcohol abuse and poor health-seeking behaviors. (2, 4-6) However, most research on sexual debut and non-consensual sex among MSM has been focused on high-income countries (1, 7), less is known about these phenomena in low- and middle-income countries where social taboos regarding same-sex behaviors is strong and public awareness of non-consensual sex is limited. (3, 8) Though non-consensual sex in MSM has been explored, (9, 10) limited studies to date have assessed this issue in the context of early sexual debut. The intersection of these two factors is important because sex may become a traumatic experience. (1, 3)

Due to social and cultural pressures of the local environment, MSM in China are often subject to stigma and social discrimination. (11, 12) As a result, they are receiving limited sexual health education from guardians or in schools, potentially leaving them with limited knowledge of safer sex practices. (13, 14) Without correct knowledge, early sexual experiences of individuals, may further impact their subsequent behaviors. This may even be true among men who reported early or non-consensual sexual debut, who may also suffer from psychological problems. (2) For example, a study of Latino MSM in the US found that those experiencing childhood sexual abuses were more likely to report depressive symptoms and heavy drinking. (10) However, the studies on early sexual debut and non-consensual sex among Chinese MSM are very limited (3, 15), and knowing these may guide the designing of future sexual health education and interventions for Chinese MSM.

China provides a strong environment for this study. First, with the popularization of gay dating apps (16), researchers in China can easily reach hard-to-reach MSM through online surveys, and these participants are willing to report sensitive personal information anonymously. (17) This may provide an opportunity to disclose information that they would not reveal in clinic-based surveys. Second, Chinese MSM tend to be stigmatized and discriminated, and lack sexual health education and awareness of health care. (12) Third, the social norms and attitudes toward sexuality among Chinese MSM have rapidly changed in the past decade, and Chinese MSM are more open to having sex at an earlier age. (18, 19)

This study aimed to examine early and non-consensual sexual debut among Chinese MSM and to
evaluate factors associated with early sexual debut and non-consensual sex.

Methods
This study is a secondary analysis of baseline data from a stepped wedge randomized controlled trial (RCT) evaluating the efficacy of a crowdsourced intervention in promoting HIV testing among MSM in eight Chinese cities.(17)

Study design and sampling methods
The nationwide, online, cross-sectional study was conducted by University of North Carolina Project-China between July 2016 and August 2017. We collaborated with a gay partner seeking internet company (Blued) to recruit participants from eight cities in China (Guangzhou, Jiangmen, Shenzhen, and Zhuhai in Guangdong Province, Jinan, Jining, Qingdao and Yantai in Shandong Province, China). For the recruitment, banner advertisements linking to the online survey were sent to registered Blued users in the eight cities. Participants who clicked on the survey link were directed to the online survey hosted by Sojump (Shanghai, China, http://www.sojump.com), a widely used online survey platform in China.(20) The inclusion criteria included: biologically male at birth, at least 16 years of age, ever having had anal sex with another man, and current residing in one of the designated study cities. Eligible participants were provided electronically written informed consent. We followed a checklist for reporting results of Internet e-surveys (CHERRIES) throughout the process to improve the quality and reporting of our web survey.

Measures
The anonymous online survey collected information on socio-demographics, sexual behaviors, HIV testing history and HIV status from all participants. Socio-demographic information included age (as a continuous variable and further categorized into four groups: less than 20, 20–29, 30–39 or 40 and above), marital status (never married, currently married, and divorced or widowed), education (high school or below, some college, college/bachelors, and masters or above), Household registration (Hukou, the hukou refers to China’s national household registration system; it was categorized into the sampling city, other cities in the sampling province, or other provinces in China), and annual income (≤ $1500 USD, $1501–3000, $3001–5000, $5001–8000, or more than $8000). Every participant was asked to self-report their sexual orientation (gay or bisexual), whether they
disclosed their sexual orientation to non-male sexual partners (yes or no), and whether they self-identified as transgender women (yes or no). Participants answered whether they had a stable male partner (yes or no), casual male partner (yes or no), stable female partner (yes or no), and casual female partner (yes or no) in the last three months. We also asked the number of male partners they had in the last three months (continuous), whether they engaged in anal sex with a stable male partner in the last three months (yes or no), whether they engaged in anal sex with a casual male partner in the last three months (yes or no), whether they engaged in condomless sex with man in the last three months (yes or no), and the type of the last partner (stable or casual partner). Survey questions also covered HIV testing history. Each participant answered whether he had ever tested for HIV (yes or no) and the results from their last HIV test (positive, negative or unknown). With regards to male-to-male sexual debut, the participants were asked the age of when they first engaged in anal sex with a man. We defined early sexual debut as having anal sex with another man at 17 years old or younger, as 18 years old was considered to be adult in China. In addition, the participants were asked whether their first male-to-male sex was non-consensual (coerced or unwilling to have the sex with the partner).

Statistical Analysis
For the descriptive analysis, we presented the distribution of socio-demographic characteristics and HIV-related behaviors of the participants. Univariate and multivariable logistic regressions were used to evaluate factors associated with the early sexual debut and non-consensual sex at sexual debut. Age, residence, educational level, and annual income were adjusted in the multivariable logistic regressions. All data analysis was completed using SAS 9.4 (SAS int. Cary, NC, USA).

Results
Socio-demographics and sex behaviors
Overall, 2031 eligible MSM who participated in the baseline survey were included in the current study. Their median age was 26.3 (SD = 6.3) years old, while about three-quarters of participants were less than 30 years old (75.8%). In addition, the majority of the participants had the Hukou of Guangdong or Shandong provinces (68.0%), never married (85.4%), and had attended at least some college
Most participants reported an annual income of $5,000 USD or below (70.5%, considered as median income in China).

About 5% of the participants (5.1%) reported that they are transgender women. Close to three-quarters of the participants self-identified themselves as gay (72.5%), and about two-thirds of the participants reported that they ever disclosed their sexual orientation to others beyond their partners (68.0%). Overall, two thirds of the participants reported having a regular male partner in the last three months (66.4%), and about two-fifth of the participants reported having a casual male partner in the last three months (40.7%). In addition, less than 10% of the participants reported having a female partner in the last three months (8.3%) (Table 1).

### Table 1

| Variables                                | Frequency | Percent (%) |
|------------------------------------------|-----------|-------------|
| Age group (years)                        |           |             |
| <20                                      | 185       | 9.1         |
| 20–29                                    | 1355      | 66.7        |
| 30–39                                    | 397       | 19.6        |
| ≥40                                      | 94        | 4.6         |
| Household registration (Hukou)           |           |             |
| The sampling city                        | 627       | 30.9        |
| Other cities in the sampling province    | 754       | 37.1        |
| Other provinces                          | 650       | 32.0        |
| Marital Status                           |           |             |
| Never married                            | 1735      | 85.4        |
| Currently married                        | 187       | 9.2         |
| Divorced or widowed                      | 109       | 5.4         |
| Education                                |           |             |
| High school or below                     | 679       | 33.4        |
| Some college                             | 578       | 28.5        |
| College/Bachelors                        | 695       | 34.2        |
| Masters or above                         | 79        | 3.9         |
| Annual income (USD)                      |           |             |
| =<1500                                   | 337       | 16.6        |
| 1501–3000                                | 409       | 20.1        |
| 3001–5000                                | 687       | 33.8        |
| 5001–8000                                | 383       | 18.9        |
| =>8001                                   | 215       | 10.6        |
| Self-identified as transgender individuals|         |             |
| Yes                                      | 104       | 5.1         |
| No                                       | 1927      | 94.9        |
| Sexual orientation                       |           |             |
| Gay                                      | 1473      | 72.5        |
| Bisexual                                 | 558       | 27.5        |
| HIV status                               |           |             |
| HIV positive                             | 62        | 3.1         |
| HIV negative                             | 986       | 48.5        |
| Unknown                                  | 61        | 3.0         |
| Never tested                             | 922       | 45.4        |
| Sexual orientation disclosure            |           |             |
| Disclosed                                | 1381      | 68.0        |
| Non-disclosed                            | 650       | 32.0        |
| Age at sexual debut                      |           |             |
| <18 years old                            | 358       | 17.6        |
| 18 years old or elder                    | 1673      | 82.4        |
| Non-consensual sex at sexual debut †     |           |             |
| No                                       | 1930      | 95.0        |
| Yes                                      | 101       | 5.0         |

Note: † Non-consensual sex was defined as “where a person had anal sex with you when you did not want them to.”

Over 60% of the participants self-reported that they had ever tested for HIV (63.9%). About half of the participants reported that they did not know their HIV status (48.4%, either never tested before or did
not get a test result). Of those who knew their HIV status, 5.9% reported that they were living with HIV (62/1048).

**Sexual debut and non-consensual sex**

The median and the mean age of reported sexual debut are close to each other, so we only reported mean age in the current study. Overall, 17.6% (358/2031) of men reported early sexual debut (< 18 years old). The mean ages at sexual debut for participants in the age groups of < 20, 20–29, 30–39 and 40 or above were 17.1 (SD = 1.4), 19.8 (SD = 2.8), 23.2 (SD = 4.4) and 29.7 (SD = 7.5) years old, respectively.

In addition, 5.0% of the participants self-reported that they experienced non-consensual sex at sexual debut (101/2031). The mean ages at sexual debut for participants who experienced and who did not experience non-consensual sex were 15.8 (SD = 1.5) and 21.8 (SD = 4.0) years old, respectively. The proportion of participants experiencing non-consensual sex at sexual debut with another man was higher in those whose sexual debut happened before age 18 (10.1%), as compared to those for whom it happened at 18 or later (3.9%, p < 0.001).

**Factors associated with early sexual debut**

Results from multivariable regression analysis revealed higher odds of early sexual debut in men who disclosed sexual orientation to others (adjusted odds ratio [aOR], 1.84; 95% confidence interval [CI], 1.40–2.43) compared to men who did not disclosed their sexual orientation. In addition, men reporting early sexual debut with a male tended to have two or more sexual partners in the last three months (aOR = 1.10, 95% CI: 1.06–1.15), were more likely to engage in condomless sex with a male partner in the last three months (aOR = 1.71, 95% CI: 1.34–2.18), and to report that their most recent sexual partner being a casual partner (aOR = 1.29, 95% CI: 1.02–1.63) (Table 2).
Table 2
Factors associated with early sexual debut among Chinese men who have sex with men (MSM), 2016 (N = 2031)

| Variables                                      | Crude OR (95% CI)† | Adjusted OR (95% CI) † |
|------------------------------------------------|--------------------|------------------------|
| Sexual Orientation                             |                    |                        |
| Bisexual                                       | 0.88 (0.58, 1.14)  | 0.97 (0.74, 1.27)      |
| Gay                                            | Ref.               |                        |
| Ever disclosed sexual orientation to others    | Yes                | 1.90 (1.45, 2.49)      | 1.84 (1.40, 2.43) |
| No                                             | Ref.               |                        |
| Transgender individuals                         | No                 | 0.84 (0.51, 1.37)      | 0.84 (0.51, 1.40) |
| Ever                                             | Yes                | 0.84 (0.51, 1.37)      | 0.84 (0.51, 1.40) |
| Ever disclosed sexual orientation to others     | No                 | 0.84 (0.51, 1.37)      | 0.84 (0.51, 1.40) |
| Transgender individuals                         | No                 | 0.84 (0.51, 1.37)      | 0.84 (0.51, 1.40) |
| Number of male partners in the last three months| Yes                | 1.09 (1.04, 1.14)      | 1.10 (1.06, 1.15) |
| Anal sex with stable male partners in 3 months  | No                 | 1.49 (1.17, 1.89)      | 1.58 (1.24, 2.02) |
| Anal sex with stable male partners in 3 months  | Yes                | 1.61 (1.27, 2.05)      | 1.71 (1.34, 2.18) |
| Anal sex with casual male partners in 3 months  | No                 | 1.99 (1.15, 3.46)      | 2.06 (1.18, 3.59) |
| Stable or casual partner as your last sex partner| Casual partner     | 1.29 (1.03, 1.63)      | 1.29 (1.02, 1.63) |
| Stable partner                                   | Ref.               |                        |
| Ever tested for HIV                              | Yes                | 0.99 (0.78, 1.26)      | 1.08 (0.85, 1.38) |
| HIV status‡                                      | No                 | Ref.                   |
| Positive                                        | 1.36 (0.73, 2.52)  | 1.30 (0.69, 2.46)      |
| Unknown                                         | 0.60 (0.27, 1.35)  | 0.59 (0.26, 1.34)      |
| Negative                                        | Ref.               |                        |

Note †Models were adjusted for participants’ marital status, household registration, and education level. Due to high collinearity, age was not adjusted; ‡among people who ever tested for HIV.

Factors associated with non-consensual sex at sexual debut with a male

Results from multivariable logistic regression model demonstrated that men report non-consensual sex at sexual debut had higher odds of reporting early sexual debut (aOR = 2.72, 95% CI: 1.76–4.21) and engaged in condomless sex with a male partner in the last three months (aOR = 1.76, 95% CI: 1.17–2.66). In addition, Men whose sexual debut with a male was non-consensual were more likely to have ever tested for HIV (aOR = 1.56, 95% CI: 1.01–2.42) (Table 3).
Table 3
Factors associated with non-consensual sex at sexual debut among Chinese men who have sex with men (MSM), 2016 (N = 2031)

| Variables                              | Crude OR (95% CI) | Adjusted OR (95% CI) |
|----------------------------------------|-------------------|----------------------|
| Sexual orientation                     |                   |                      |
| Bisexual                               | 1.12 (0.72, 1.74) | 1.10 (0.70, 1.72)    |
| Gay                                    | Ref.              |                      |
| Ever disclosed sexual orientation to others | 1.07 (0.69, 1.65) | 1.11 (0.72, 1.73)    |
| No                                     | Ref.              |                      |
| Transgender individuals                | 1.04 (0.41, 2.61) | 1.04 (0.41, 2.63)    |
| Yes                                    | Ref.              |                      |
| Early sexual debut                     | 2.77 (1.81, 4.23) | 2.72 (1.76, 4.21)    |
| No                                     | Ref.              |                      |
| Number of male partners in last 3 months | 1.00 (0.96, 1.04) | 1.00 (0.97, 1.04)    |
| Anal sex with stable male partners in 3 months | 0.78 (0.46, 1.30) | 0.78 (0.46, 1.31)    |
| Yes                                    | Ref.              |                      |
| No                                     | Ref.              |                      |
| Condomless sex in 3 months             | 1.70 (1.13, 2.57) | 1.76 (1.17, 2.66)    |
| Yes                                    | Ref.              |                      |
| No                                     | Ref.              |                      |
| Anal sex with casual male partners in 3 months | 0.77 (0.37, 1.59) | 0.80 (0.39, 1.67)    |
| Yes                                    | Ref.              |                      |
| Stable or casual partner as your last sex partner | 0.70 (0.47, 1.04) | 0.80 (0.47, 1.05)    |
| Stable partner                         | Ref.              |                      |
| Casual partner                         | Ref.              |                      |
| Ever tested for HIV                    | 1.43 (0.92, 2.22) | 1.56 (1.01, 2.42)    |
| Yes                                    | Ref.              |                      |
| No                                     | Ref.              |                      |
| HIV status‡                            |                   |                      |
| Positive                               | 1.44 (0.50, 4.15) | 1.33 (0.46, 3.88)    |
| Unknown                                | 3.16 (1.42, 7.03) | 2.97 (1.33, 6.65)    |
| Negative                               | Ref.              |                      |

Note †Models were adjusted for participants’ marital status, household registration, and education level. Due to high collinearity, age was not adjusted; ‡among people who ever tested for HIV

Discussion

Early sexual debut and non-consensual sex at sexual debut with a male were closely correlated with subsequent risky sexual behaviors among Chinese MSM. Our findings indicate that 5% of MSM in the study experienced a non-consensual sexual debut. This study adds to the current literature by providing data on sexual debut and non-consensual sex at sexual debut with a male and identifying the correlates of early sexual debut and non-consensual sex among Chinese MSM, and it is a rare example of research on early and non-consensual sexual debut among MSM in an low- and middle-income countries (LMICs) context.

We found that about 18% of the participants experienced early sexual debut, and the mean age at sexual debut was 20.7 years old. The mean age at sexual debut among the participants in our study was similar to two studies in China,(3, 15) However, the mean ages of debut in this study were older than those reported among MSM in the US.(5) Similar to a study conducted in China in 2012–2013, our study also indicated that the age at sexual debut for Chinese MSM were lower among younger participants, which may partially explain the younger age of debut in our study as compared to the
2012–2013 study conducted in multiple cities in China. The decreasing age at sexual debut may reflect the sexual revolution and changing pattern for a partner seeking in China. Before 2008, the main settings where Chinese MSM identified male partners were public parks, bars or bathhouse. (22) Considering that many Chinese MSM reported discomfort with visiting gay bars or bathhouses due to fears of being identified in public as a gay man, (23) challenges identifying potential male partners may have delayed their age at sexual debut. However, the rise in popularity of the internet and social media (i.e., gay dating apps) sites for MSM in China has reduced challenges associated with sexual partner seeking, potentially facilitating sex initiation at earlier ages. In addition, as the result of the rapid cultural change, the social norms about sex among Chinese MSM have also rapidly changed in the past decade, which may also make MSM more likely to initiate male-to-male annual sex early.

We found that about 5% of the participants reported a non-consensual sexual debut. The proportion of non-consensual sex in our study was lower than a previous small study from China. (15) This proportion was much lower than studies conducted in Ecuador (26.7%) (24) and Myanmar (15%). (25) The limited literature on non-consensual sex among MSM also indicated that a higher proportion of MSM experienced non-consensual sex than other men and men who experienced non-consensual sex usual suffer a range of long-term health effects. (2, 8) While previous studies reported that MSM who experienced sexual abuse were more likely to report later depression, problematic alcohol use, more partners, more frequent condomless sex, and higher HIV prevalence (10, 26), on-time supportive services that can help them to overcome their problems are needed. However, the availability of services for victims of rape in is very limit, especially in LMICs.

We also found that many men with early sexual debut also reported non-consensual sex. Due to the limited literature on this topic, we did not find a similar study on this topic. However, the strong association between early sexual debut and non-consensual sex in our study suggests that some young gay men are being assaulted or coerced. One potential reason for this phenomenon is that there is a lack of legal protection for gay men, and in the event of a same-sex assault, the perpetrators were rarely made accountable, and victims unprotected in China. Thus, strategies such as providing community support and protective services (i.e., psychological counseling) to people who
experienced non-consensual would be important. Legal aid and psychological counseling would also be useful, especially in China where the current criminal law does not recognize men being victims of rape. (27)

We found that men who reported both early and non-consensual sexual debut were more likely to engage in condomless sex. This finding is consistent with the limited literature on early sexual debut. (7, 15, 28, 29) The script theory and life-course models indicate that the early sexual experience of a man could shape their preferences of the characteristics of certain partners, and impact their subsequent sexual behavior with different partners. (15, 30) Another potential explanation for this phenomenon is that both early and non-consensual sexual debut are associated with psychological problems and self-harm, while these issues are highly correlated with condomless sex. However, we did not collect this information in our study, and further studies on understanding the mechanism of this phenomenon among Chinese MSM are needed. Approaches for promoting condom use during and after sexual debut among MSM would be essential.

Our study has several limitations. First, the cross-sectional nature of this study means that all the correlations identified in this study should be inferred with caution. Second, we did not collect information on violence, mental health, alcohol and substance abuse from the participants, while these variables are considered to be highly correlated with the early sexual debut and non-consensual sex. Third, as an online survey conducted in eight Chinese cities, our results cannot represent the overall situation among Chinese MSM, as the online recruited participants tend to be young and well-educated. Fourth, as all data collected were self-reported, a social desirability bias may be present. However, we anticipate that this bias is small since the survey was online and no face-to-face meeting was involved. Regardless, our study provided useful information for a glimpse of the whole picture of early sexual debut and non-consensual sex among Chinese MSM.

Conclusion
A substantial proportion Chinese MSM reported early sexual debut, and 5% of MSM reported non-consensual sex at sexual debut. In addition, both early sexual debut and non-consensual sex were associated with current risk behaviors. These findings highlight the needs for evidence-based sex
education and intervention to protect the sexual autonomy of young men in the rising male-to-male sex culture in contemporary China. The findings of this study also have implication for expanding research about sexuality among youth. For example, studies on evaluating the lifetime and recent non-consensual sex events, law or legal support needs, and health service needs would be very useful for providing tailored services for MSM.

**Abbreviations**

CI
confidence interval

MSM
who have sex with men

LMIC
low- and middle-income countries

RCT
randomized controlled trial

STI
sexually transmitted infection

**Declarations**

**Authors' contributions**

WT drafted this manuscript, WH, DW, BY, CW (Cheng Wang), WM, CW(Chongyi Wei) and JT collected the data, WH, YW helped the data analysis, YW, DW, FY, JO, HF, BY, CW (Cheng Wang), KS, CW(Chongyi Wei), WM and JT reviewed this manuscript, and WT and JT conceived this study. All the listed authors approved the final version of the manuscript for submission.

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**Ethics approval and consent to participate**

Ethical approval was obtained from the ethics review committees at the Guangdong Provincial Center for Skin Diseases and STI Control (Guangzhou, China, #LS2016012604), and the University of North Carolina at Chapel Hill (Chapel Hill, North Carolina, #IGHID 11413).

**Consent for publication**

Not applicable

**Availability of data and materials**

The datasets used and/or analysed during the current study are available from the corresponding
author on reasonable request

Competing interests

The authors declare that they have no competing interests

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