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Brief Non-Commercial Sexual Encounters Among Patrons of Entertainment Venues in Liuzhou, China

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Abstract

Introduction—Brief sexual encounters among consenting adults who patronize social venues such as karaoke bars are occurring more frequently in China, however, little is known about the characteristics of those who engage in “one-time-sex” with a non-commercial partner or the risk of sexually transmitted infection associated with a high rate of short-term non-commercial partnerships.

Methods—We surveyed and tested for evidence of syphilis 797 men and women at randomly selected social venues in urban Liuzhou, China and three surrounding counties.

Results—The proportion of respondents reporting recent non-commercial one-time-sex ranged from 14.5% of county women to 24.8% of urban men. More urban men reported one-time-sex with a noncommercial than with a commercial partner (24.8% vs. 14.2%). Approximately 5% of all respondents reported engaging in both non-commercial and commercial one-time-sex in the past year. Among men, 2.4% has a positive rapid syphilis test. Men reporting non-commercial one-time-sex were significantly more likely to have a positive rapid syphilis test than other men (7.4% vs. 0.9%). Among women, 3.7% has a positive syphilis test. A higher proportion of women reporting commercial sex had a positive test than those reporting non-commercial one-time-sex (6.0% vs 0.7%).

Conclusions—Recent one-time sex was common among persons socializing at entertainment venues. Venue-based HIV/STI prevention methods may be warranted among persons who do not engage in commercial sex, but frequently engage in one-time sex.

Background

Patronage of public entertainment venues, such as bars, clubs, and karaoke television (KTV) bars, is increasing in China [1, 2], possibly reflecting larger disposable incomes among a growing middle class [3, 4]. In addition to providing a place to socialize with friends, family or business partners, these venues historically afforded opportunities for male patrons to pay for sex. [5, 6]. Business entertaining could include dinner, karaoke, networking, and commercial sex with an employee of the karaoke or KTV. Today these places may also afford opportunities for non-commercial sexual partnerships to emerge among persons visiting the venues.

In China, part of the shift away from traditional cultural norms around sexual partnerships has included an increase in the number of pre-marital and extra-marital romantic relationships, some of which are brief [7]. Previously, brief sexual encounters were likely to include payment for sex; increasingly, brief sexual relationships are not commercial. In a recent national sexual behavior survey, 6 percent of adults reported ever having had a one-night sexual relationship with a partner that did not involve sex work [8]. Of those reporting a one night partner, 12% reported meeting the partner in a social venue. Limited evidence is available regarding the risk of acquiring an STI from brief non-commercial sexual partnership. Prevention programs to prevent the spread of HIV and other STI at social venues have focused on venue-based education and condom distribution programs for female employees of entertainment venues rather than for patrons of the venues [2, 9–11].

This study aims to contribute to the understanding of changing sexual norms in China among persons who visit entertainment venues by describing the sociodemographic characteristics of people who patronize social venues, the extent of one-time sexual partnerships (unpaid and commercial) among patrons of social venues, and the characteristics of persons who engage in one time non-commercial sexual partnerships compared with those who engage in commercial sex. We define “one-time-sex” as sexual contact between two people who do not subsequently have sex with each other again. One-time-sex can either be commercial, that is where one partner is a sex worker or non-commercial, where neither partner is paying for or receiving payment for the sexual contact. We also assess the prevalence of syphilis and compare syphilis risk among those with commercial one-time-sex versus non-commercial one-time sex.

Liuzhou, in Guangxi Province, is an industrial city and regional transportation hub with a population of 3.5 million living in its four urban districts and six surrounding counties. This study complements other studies conducted in Liuzhou reported in this journal issue and is the third investigation in Liuzhou based on the PLACE method. In the first PLACE study in Liuzhou, we found that women working as sex workers in the counties surrounding Liuzhou had a higher prevalence of syphilis than those working in the urban districts [12]. In the second, we found that the prevalence of syphilis was higher among women working in service venues such as massage parlors, saunas, and hair salons than in entertainment venues [13]. We define entertainment venues as public places such as bars, clubs, and discos where people socialize with friends and drink alcohol. Entertainment venues do not include private homes, private workplaces, internet sites, or street sites where sexworkers solicit but may

include outdoor venues such as parks where people socialize. In this study we limit our investigation to patrons of entertainment venues in Liuzhou.

Methods

Sampling of Urban and County Venues

The initial sampling frame of venues was constructed for a previous study [12]. As described elsewhere, a stratified random sample of 385 venues was selected from a sampling frame of 971 venues identified by 400 community informants using the PLACE protocol. Of the 385 sampled venues, 322 were in an urban district and 63 were in one of the six counties of Liuzhou. For the urban sample of venues for this study, we revisited each of the selected 322 urban venues, characterized 74 as entertainment venues, and selected 21 of these with probability proportional to the expected number of patrons at the venue at a busy time based on information obtained during the site re-visit. Four urban venues that were no longer operational were excluded. For the county sample, we excluded venues in the three furthest counties from this study and included all 29 venues in the three counties bordering urban Liuzhou that met the study definition of an entertainment venue. Replacement venues were identified in the event of refusal at urban venues. Replacement venues were not available in the counties because we selected all eligible venues.

Sampling of Respondents within Venues

Because urban venues were randomly selected with the probability of selection proportional to size, in order to obtain self-weighted urban samples of male and female venue patrons, we selected an equal number of respondents (10 male and 10 female) at each urban venue. To obtain self-weighted samples at county venues, the number of men and women interviewed at each venue was proportional to the number at the venue at the time the interviewers arrived. The method for randomly selecting respondents varied based on the characteristics of the venue. In some venues such as parks, a large “X” was drawn through the venue and persons interviewed at intervals along the “X”. In venues where people were entering over time, every third person entering was interviewed until the target was reached. In venues with private party rooms, such as in many KTVs, the number of rooms was counted and two rooms were randomly selected. All persons in the selected rooms were offered the opportunity to participate. A related qualitative study was also conducted to further describe the opportunities for one-time-sex among patrons at these venues[14].

Prior to data collection, the study team asked permission of the site manager or owner to conduct the survey and arranged to rent a private room in which to conduct the interviews. All interviews were conducted during busy times at the site, usually in the evening. Laptop computers were set up on separate tables and arranged to ensure privacy for the respondents. When a participant was recruited, he or she would be asked to participate using the informed consent protocol. Those who agreed were given an identification number and introduced to the doctor conducting the pre-testing counseling and specimen collection for the syphilis rapid test (the Wantai anti-TP (Syphilis) Antibody Rapid Test, manufactured by Wantai Bio-Pharm located in Beijing, China). Trained medical doctors provided pre-test and post-test counseling and conducted the tests on-site. The syphilis testing protocol is the approved

standard protocol used in previous studies in China. After providing the specimen, interviewers showed respondents how to answer the survey on a computer. Those with problems using the computer were assisted by interviewers as necessary. At the end of the survey, the respondent was given the results of the syphilis test and 100 RMB (~14 USD). The results and interpretation of results were given privately by the team leader. Respondents were given the phone number of the hospital, in case they had any questions or needed treatment. Persons with a positive test were asked, but not required, to provide their phone number so that they could be followed up if they did not seek treatment.

Ethical Review and Training

The protocol was reviewed and approved by the Institutional Review Boards at UNC and at the National STD Control Center in Nanjing, China. 29 interviewers were trained.

Analysis

Data were analyzed using SAS software. Confidence intervals were estimated taking into account the clustering of respondents by venue. No weights were applied to sub-group analyses, as every person within our four analysis groups (urban men, county men, urban women, county women) had an equal chance of selection. When sub-group data are combined, weights were assigned reflecting each respondent's probability of selection taking into account the sampling both at the venue level and within each venue.

Results

Fieldwork and Refusals

Interviews were conducted in October and November, 2011. In urban Liuzhou, two of the 21 sampled venues refused to participate and were replaced. In the counties, nine of the 29 venues had closed and 8 refused to fully participate, although some allowed a few interviews to occur. The target number of interviews per venue was increased at the fully participating 12 county venues in order to reach the overall target sample size. The main reason for refusal was that the manager did not want to the study team to interrupt patrons while they were socializing.

Almost half of the patrons were interviewed at large KTVs, and an additional fourth at bars and discos (Table 1). One fourth of patrons in the counties were interviewed at outdoor socializing sites. There is no accurate count of the number of patrons who avoided interviewers or otherwise eluded participation. Among those who agreed to undergo the informed consent process, only two persons refused.

Sociodemographic Characteristics (Table 1)

More than one third of the total sample was younger than 25 year including 47% of urban women. The proportion currently in school ranged from 12% of the county women to 17% of urban men. Most patrons lived in the area where they were interviewed. Approximately half of the respondents (ranging from 43% of the county men to 62% of urban men) reporting having a full-time job. Monthly income was highest among men in urban areas and lowest among women in the counties. Although most of the patrons were employed, there

was some evidence of economic and social hardship, particularly among men interviewed in the counties where 19% reported having slept outdoors because they were homeless; 28% having been arrested; and 28% having spent a night in a jail or prison.

Venue Visiting Behaviors and Drug and Alcohol Use (Table 2)

Patrons reported frequently visiting venues and often more than one per day. Over 80% of respondent reported that they had been to the venue where they were interviewed previously; more than one fourth reported visiting weekly or more. Almost half reported already visiting or planning to visit additional venues that day. The most common reasons given for visiting the venue were to socialize, meet new friends, and drink alcohol. About 9% or urban men explicitly reported that they came to look for a new girlfriend.

Use of drugs and alcohol was more common among men. Over 70% of men reported smoking one or more cigarettes per day. About 30% of men reported drinking alcohol more than four times per week. Injecting drug use was reported by 4% of respondents. Of those, 24% reported sharing a needle the last time they injected. Ecstasy use was common, ranging from 13% of urban women to 25% of county men.

Sexual Behavior (Table 3)

Almost 95% of respondents reported having had sex. The mean number of lifetime sexual partners was highest among men in urban areas (6.5) and lowest among women in the counties (2.6). Thirty percent of respondents reported having had at least one new sexual partner in the past four weeks.

Eighteen percent of all respondents reported having a one-time non-commercial sexual encounter in the past 12 months, ranging from 25% of men in urban venues to 14% of women in county venues. One third of those who had a non-commercial one time partner also reported a commercial one-time partner in the past 12 months. Slightly more urban men reported a non-commercial than commercial one time partner (25% vs 17%).

Anal sex with another man was reported by 4% of men in the urban venues and 1% in the county venues. Approximately 16% of all patrons reported that they had previously met a sexual partner at the venue.

Syphilis Infection

There were 20 positive rapid tests for syphilis, with an equal number coming from urban and county sites. The percent with a positive rapid test ranged from 1% of county women to 4.3% of urban women. Seven of the 20 persons with positive tests went to the recommended hospital for further intervention; whether the remaining 13 received treatment is unknown. Most of the persons who tested positive did not provide a telephone number and could not be followed up by study staff.

Factors associated with syphilis varied somewhat by gender, although being interviewed at a large KTV was strongly associated with a positive test for both men and women. Among men, one-time sex with a non-commercial partner was strongly associated with a positive test (7.4% vs 0.9%); sex with a commercial partner was not (2.3% vs 2.5%). Among

women, however, engaging in non-commercial one-time-sex was protective. Women engaging in non-commercial one-time-sex were less likely to have a positive syphilis test (0.7% vs 4.2%) than women who did not. Six percent of women reporting commercial sex had a positive test. Factors strongly associated with a positive test among women but not among men were urban residence, injecting drug or ecstasy use, and whether the respondent had been arrested, jailed or slept outdoors because of homelessness.

Discussion

We found that people who patronize entertainment venues such as KTVs in Liuzhou, China often engage in new sexual partnerships that frequently include one-time partnerships that cannot be characterized as commercial. Approximately 30% of venue patrons interviewed reported having a new sexual partnership in the past year, and over half of these reported a non-commercial one-time-sexual partnership in the past 12 months. Among women, the prevalence of a positive syphilis test was higher among those who reported a commercial one-time-sex partner than among those reporting a casual one time partnership, but among men this was reversed: men reporting casual partnerships were more likely to have a positive test than those reporting commercial one time encounters. The implication of these findings is that HIV and syphilis prevention programs at entertainment venues should include an audience beyond those engaged in commercial sex. Some male and female patrons are at risk from commercial sex partnerships, but a substantial number of men are at risk based on non-commercial sexual contact with other visitors to the venue. The findings suggest that one-time non-commercial partnerships may be protective for women. Further research is needed to assess whether this finding can be replicated in other settings. Further research should be done to identify the most effective messages for increasing condom use among sexual partners who meet at entertainment venues.

This study has several limitations. There was not sufficient statistical power to detect differences in syphilis prevalence by partnership type among male/female urban/county sub-groups. The findings, however, suggest that casual non-commercial sex may be an important risk factor for syphilis acquisition among men at entertainment venues. Men engaged in non-commercial sex may be less aware of the risk of infection and less likely to use a condom.

Other limitations are the cross-sectional design of the study and the rapid syphilis test which only indicates whether the person has ever been infected. Persons may have a positive syphilis test result based on behavior that occurred more than 12 months previously.

In addition, the study is limited by the number of county venues who refused to participate. In retrospect, this is not surprising, as business objectives may be compromised by a survey team asking personal questions of venue patrons. The refusal rate among county venues suggests that prevention efforts tailored to venue guests is likely to meet more opposition from venue managers in comparison to current efforts to promote safe sex among venue workers. We expected that the percentage of patrons with evidence of syphilis would be higher in the counties than in the urban districts, based on our earlier work [15]. It is

possible that the venues that refused were more likely to have patrons with evidence of syphilis.

The study provided some insights into the population of people socializing at venues that invite additional inquiry. There is evidence of social and economic vulnerability among people at venues. For example, almost 20% of county men reported that they had slept outdoors because they were homeless and 28% of county men reported having been arrested or spending a night in jail or prison. We expected alcohol consumption to be high in this population, but did not expect approximately 4 percent to report they had injected drugs or almost 20 percent to report they currently use ecstasy.

This study provided insight into the demographic and behavioral characteristics of people attending social venues in China, and identifies sexual risk factors that could be addressed by local syphilis and injecting drug use interventions. The prevalence of a positive syphilis test among venue patrons reporting casual or commercial one-time-sex was much higher than the prevalence in the general population. Although the focus for syphilis and HIV prevention must remain in China among those most at risk—street-based sex workers, persons who inject drugs, and men who have sex with men—outreach and prevention efforts may be neglecting patrons and workers of entertainment venues.

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Table I

Sociodemographic Characteristics of Patrons of Social Venues in Liuzhou

	Patron Groups, by Gender and Venue Location			
Characteristics	Male Urban	Male County	Female Urban	Female County
Number of respondents (N)	198	197	208	194
Mean age	28.2	29.9	26.9	30.1
Type of venue				
Large KTV > 100 Patrons	56.1	41.1	51.9	42.8
Small/Medium KTV	14.6	4.1	13.5	4.1
Bar/Disco	28.8	28.9	32.7	25.8
Outdoor Site	0.5	25.9	1.9	27.3
Age distribution				
15–24	39.9	31.0	46.6	32.0
25–34	39.9	39.1	37.5	38.1
35+	20.2	29.9	15.9	29.9
Residence				
Urban Liuzhou	91.4	15.7	92.3	11.9
County Surrounding Liuzhou	3.5	80.7	4.3	84.5
Outside Liuzhou	5.1	3.6	3.4	3.6
Education				
Currently a student	17.2	16.8	12.5	15.5
Less than high school education	31.3	74.1	33.7	55.2
Employment				
Full-time job	61.6	42.6	56.3	40.2
Part-time job	24.2	24.4	23.1	32.0
Retired	2.5	1.0	1.4	3.1
In school, not working	1.0	0.0	2.4	2.6
Unemployed	5.6	9.1	13.5	10.3
Never worked	0.0	3.6	2.4	1.5
Peasant	5.1	19.3	1.0	10.3
Mean income past month in yuan	3054.9	1614.3	1878.0	1172.6
Adverse events				
Ever slept outdoors because homeless	13.1	18.8	5.8	6.7
Ever arrested	17.7	28.4	2.9	8.2
Ever spent a night in jail or prison	18.7	27.9	3.8	5.7

Table II

Venue Behaviors and Drug and Alcohol Use

	Patron Groups, by Gender and Venue Location			
	Male Urban	Male County	Female Urban	Female County
Number of Respondents (N)	198	197	208	194
Venue visiting behaviors				
Frequency of visiting this venue				
4–7 times per week	7.6	16.8	9.6	10.8
1–3 times per week	16.7	15.7	10.1	18.0
2–3 times per month	20.2	24.9	17.8	16.5
1 time per month	16.2	13.7	12.5	14.4
< 1 time per month	11.1	6.6	12.0	13.4
< 1 every 6 months	13.1	10.7	17.8	16.0
This is first visit	15.2	11.7	20.2	10.8
Mean times visited in past month	3.4	4.3	2.9	3.4
Has already or plans to visit two or more social venues tonight	56.6	43.7	49.5	35.6
Purpose of visit to this venue				
To socialize and meet new friends	45.5	61.4	62.5	73.2
To drink alcohol	61.6	51.3	49.0	34.5
To eat food and drink tea	16.2	9.6	22.1	20.1
To look for a new boy/girl friend	9.1	2.0	5.3	4.6
To look for a sex worker	1.5	0.5	0.0	0.0
To sell sex	1.0	0.0	1.4	0.0
Drug and Alcohol Use				
Smokes one or more cigarettes/day	71.7	72.1	17.3	10.3
Frequency of drinking alcohol				
Never	3.5	9.6	22.1	36.1
< 1 time per week	22.2	17.8	37.0	28.9
1 time per week	16.2	16.8	8.2	10.3
2–3 times per week	26.3	25.9	14.9	15.5
4–6 times per week	16.2	17.8	8.7	4.1
Daily	15.7	12.2	9.1	5.2
Number of drinks with alcohol per day				
0	3.5	9.6	22.1	36.1
1	80.3	75.6	67.3	60.8
2	12.6	12.7	7.2	2.6
3	3.5	2.0	3.4	0.5
Ever injected drugs	3.5	3.0	3.4	5.2
Ever injected and shared a needle last time	2.0	0.0	1.0	0.5
Currently uses ecstasy	20.2	24.9	13.0	20.6

Table III

Sexual Behavior Reported by Patrons of Social Venues in Liuzhou, China, and Percentage with a Positive Rapid Test for Syphilis

	Patron Groups, by Gender and Venue Location			
	Male Urban	Male County	Female Urban	Female County
Number of Respondents (N)	198	197	208	194
Number and Gender of Sex Partners				
Number new partners past 4 weeks				
0	68.7	62.4	71.6	77.3
1	22.7	30.5	22.6	19.6
2	5.1	4.1	4.8	2.1
3+	3.5	3.0	1.0	1.0
Mean number of partners past 4 weeks	1.2	1.2	1.1	1.3
Mean number lifetime sex partners	6.5	5.9	3.0	2.6
Ever had anal sex with a man	3.0	1.0	0.5	0.0
One-Time Sexual Partnerships in the Past 12 months				
None (Never had sex)	7.6	6.1	4.3	3.1
None (Among sexually active)	58.1	60.9	71.6	73.7
Commercial one time sex	17.2	18.8	14.9	14
Non-commercial one time sex	24.8	18.3	13.9	14.5
Both non-commercial and commercial	7.6	4.1	4.8	5.2
Type of Sexual Partnerships in past 12 months				
Has met a sex partner at this venue	17.2	20.8	13.0	12.4
Received gifts for sex	6.6	7.1	12.0	8.2
Received cash for sex	5.1	8.6	13.0	9.3
Gave gifts for sex	13.1	10.2	7.7	4.1
Paid cash for sex	14.1	15.7	6.7	7.2
Gave or received gifts/cash for sex	23.7	23.9	23.6	19.6
Condom Use				
Used condom at last sex	50.0	47.2	42.8	37.6
Received cash for sex and did not use a condom the last time	4.0	4.6	9.1	8.8
Paid cash for sex and did not use a condom the last time	8.6	7.6	3.4	4.1
Number of men with whom had anal sex				
Missing	0.5	0.0	0.5	0.0
0	96.5	99.0	99.0	100.0
1	1.5	0.5	0.0	0.0
2	1.0	0.0	0.5	0.0
4	0.0	0.5	0.0	0.0
12	0.5	0.0	0.0	0.0
Rapid syphilis test results	2.5	2.0	4.3	1.0

	Patron Groups, by Gender and Venue Location			
	Male Urban	Male County	Female Urban	Female County
Positive				
Negative	97.5	98.0	95.7	99.0

Table IV

Association between A Positive Rapid Syphilis Test and Other Factors including One Time Sex By Gender Among Patrons of Social Venues in Liuzhou, China

	Men				Women			
	N	%	95% CI	p-value	N	%	95% CI	p-value
All	395	2.4%	0.4, 4.5		402	3.7	1.4, 6.0	
Age								
15–24	140	2.6	0.0, 6.8		159	2.9	0.0, 5.9	
25–34	156	3.1	0.0, 6.5		152	4.4	0.3, 8.6	
35+	99	0.9	0.0, 2.1	0.64	91	4.3	0.0, 10.2	0.82
Interviewed at Large KTV								
Yes	192	4.2	0.7, 7.7		191	5.8	2.1, 9.6	
No	203	0.4	0.0, 1.0	<0.001	211	1.6	0.0, 3.7	0.04
Urban residence								
Yes	183	2.7	0.0, 5.3		215	4.6	1.6, 7.5	
No	212	1.7	0.2, 3.2	0.49	187	0.8	0.0, 2.0	0.01
Less than high school education								
Yes	208	1.0	0.1, 1.9		177	6.8	1.4, 12.2	
No	187	3.4	0.0, 6.7	0.05	225	1.9	0.0, 4.1	0.06
Social vulnerability*								
Yes	135	3.4	0.0, 8.8		45	11.5	0.0, 23.1	
No	260	2.0	0.1, 4.0	0.57	357	2.8	0.4, 5.2	0.03
Injected drugs or uses ecstasy								
Yes	94	4.6	0.0, 11.5		72	10.0	1.0, 19.0	
No	301	1.8	0.0, 3.7	0.30	330	2.6	0.1, 5.0	0.04
Non-commercial one-time sex								
Yes	85	7.4	0.0, 14.8		57	0.7	0.0, 2.0	
No	310	0.9	0.0, 2.1	.002	345	4.2	1.7, 6.8	0.02
Commercial one- time sex								

	Men			Women		
	N	%	95% CI	p-value	N	%
Yes	70	2.3	0.0, 7.0		58	6.0
No	324	2.5	0.6, 4.3	0.95	344	3.3
						0.8, 5.9
						0.4

* A respondent was deemed to have a social vulnerability risk factor if he or she had less than a high school education, had slept outside due to homelessness, or had been jailed or arrested.

Note that the n's are the actual number of respondents. The percentages are weighted based on the probability of selection. In total there were 20 persons with a positive rapid test for syphilis.