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Xi Sheng Date

Sexual-risk Related Practices and Health-care Utilization of a Sample of Self-identified Male-to-Female Transgender Individuals in Shanghai, China

By

Xi Sheng

Master of Public Health

Epidemiology

_____

Frank Y. Wong, PhD

Faculty Thesis Advisor

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By

Xi Sheng

Bachelor of Arts

Beijing University of Chinese Medicine

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Thesis Committee Chair: Frank Y. Wong, PhD

An abstract of

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Abstract

Sexual-risk Related Practices and Health-care Utilization of a Sample of

Self-identified Male-to-Female Transgender Individuals in Shanghai, China

By Xi Sheng

Importance: The majority of research on transgender (TG) individuals are conducted in Western countries, however, little is known about the lives of TG individuals in developing countries.
Objective: To characterize sexual-risk related practices and health-care utilization of self-identified male-to-female (MTF) TG individuals in Shanghai, China.
Design: Using Respondent-driven Sampling methodology, data for this brief report were drawn from a study on TG health in Shanghai, China.
Setting: The study was sponsored by the Shanghai Municipal Center for Disease Control and Prevention.
Participants: All participants (N = 81) completed a tablet-administered survey. All were tested for HIV and syphilis.
Results: Only 17 (21%) out of the 81 TG individuals had some form of sex re-assignment surgery (12 breast augmentation only and 5 breast augmentation and vaginoplasty construction). Little differences between individuals with or without sex re-assignment were observed on most socio-demographic characteristics and sexual-risk related practices. All but one of the surgeries were performed in government-owned clinics in China, and were paid by out-of-pocket expenses. Hormone use was extremely low – only 4 of 17 (24%) used hormones prescribed by their doctors before surgeries, and only 2 out of 17 used hormones without a prescription before surgery. Of the 64 individuals who did not have sex re-assignment surgery, 6 planned to have some form of surgery done in the next 12 months. Seven 7 (8.6%) and 9 (11.1%) individuals, respectively, out of 81 tested positive for HIV (8.6%) and syphilis (11.1%). Six of the 7 no-sex re-assignment individuals had dual infections. Preventive health practices such as yearly check-up was alarming low (18.5% only would visit a doctor when having an illness).
Conclusions and Relevance: There is a surprising lack of hormone therapy given its importance as part of the physical transition process. Therefore, it is of great urgency that the Chinese government makes a concerted effort to update national sex re-assignment guidelines to align with international best practices, including putting in place a realistic regulatory system to monitor development and implementation of hormone therapy.

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INTRODUCTION

Transgender (TG) individuals may want to use hormones, undergo sex re-assignment surgery, or both to align with their gender identity. Those who do not choose a medical alternative can still by expressing their gender identity through clothing, hairstyles, etc.(1).

A majority of the global TG literature comes from Western countries, and thus little is known about the lives of TG people in developing countries. There are only six published scientific studies on this population in China(2-7). These studies reveal that TG individuals have low rates of HIV and syphilis testing(2); high levels of depression(3); high levels of anxiety symptoms(4); high levels of intimate partner violence(5), and high rates of unprotected receptive anal sex(6). Those who have multiple sexual partners tend to have poorer mental health(7).

In 2009 the Chinese Ministry of Health has established guidelines on sex re-assignment surgery to tackle issues such as unqualified and expensive health service(8, 9), however, there are noticeable gaps in these guidelines. Specifically, the overall framework is not aligned with international best practices on hormone therapy(1).

To expand the knowledge on TG people in China, we provide data from a TG study (MTF individuals who have male sexual partners) in Shanghai, China to characterize their sexual-related risk practices and health-care utilization as part of their TG identity.

METHODS

Procedures

Between June 2016 and March 2017, we collected data for this study using Respondent-driven Sampling methodology(10). Eight self-identified TG individuals served as "seeds," with each seed tasked to recruit up to 3 peers, and with each successful recruitee continuing the process, yielding an 8-wave RDS sample. For each successful recruit the recruiter and the enrollee received an incentive of 100RMB (U.S.$14.50). All interviews were conducted by a trained field staff at the office of our NGO (non-governmental organization) partner, which is located in the same building as the Shanghai Municipal Center Disease Control and Prevention (SCDC), where participants were tested for HIV and syphilis. The study has been approved by SCDC (IORC: 0000630; FWA: 0000090).

Sample

To be eligible, participants must *(1)* be ages 18 and above; *(2)* be born as a biological male; *(3)* self-identify as TG; *(3)* have had anal and/or oral sex with another man in the last 12 months; *(4)* presently residing in the Shanghai metropolitan area; and *(5)* plan to reside in Shanghai for the next 12 months. The sample size was 81.

Measures

Four types of measures were collected: (1) socio-demographic characteristics (e.g., age, education) (2) sexual-risk related practices (e.g., receptive anal intercourse in the past 6 months); (3) TG health care practices (e.g., type of sex re-assignment surgery); and (4) self-reported depressive symptoms as assessed by the 12-item "Center for Epidemiologic Studies Depression Scale" - short form (CES-D)(11).

Analytic Strategies

Chi-square (χ^2) or Fisher's exact test were used to determine significant differences in proportions between socio-demographic characteristics and sexual-risk related practices; *t*-tests were used to assess differences in continuous variables (age-related and CES-D). All analyses were conducted with SAS 9.4. As we had minimal missing data and we used the complete-subject analysis procedure. All *p*-values set at .05 were derived from 2-sided tests.

RESULTS

A majority of the sample (95.1%) were of Han ethnicity (the majority in China) with an average age of 35.5; had their first male sexual contact at aged 21; were not from Shanghai; were single (not married); did not disclose their gender identity to family members and/or friends. Individuals who had sex re-assignment surgery were significantly more likely to under-employed or having occupational activities associated with commercial sex than those who did not have any sex-assignment ($p = .04$). In addition, those who had sex re-assignment done was significantly more likely to disclose their gender identity (29.4% vs. 1.6%) than those who had no sex re-assignment ($p = .02$) (see Table 1).

There were few differences between TG individuals with or without sex re-assignment on sexual-risk related practices. Seven out of 81 individuals tested positive for HIV (8.6%), whereas 9 out of 81 individuals tested positive for syphilis (11.1%). We did not find any significant association between testing positive and type of sex re-assignment participants. Though not statistically significant, proportionately more elevated self-reported depressive symptoms (with CED-D between 12-20) were observed

in TGs individuals with sex re-assignment (58.8%) than those without sex re-assignment (39.1%) (see Table 2).

Seventeen (21%) out of 81 individuals had sex re-assignment surgery done, with 12 breast augmentation only and 5 breast and vaginoplasty construction. All but one of the surgeries was performed in government-owned clinics in China, and participants paid for the procedures themselves. Of the 64 individuals who did not have sex re-assignment surgery done, 6 planned to have some form sex re-assignment surgery in the next 12 months.

Hormone use prescribed by doctor before sex re-assignment surgery (1 breast augmentation and 3 full sex re-assignment; 4 out 17 or 24%) was very low. In general, self-use of hormone before sex re-assignment surgery (1 breast augmentation and 1 full sex re-assignment; 2 out 17 or 12%) was also very low (see Table 3).

A little over half of the total sample had health insurance. Preventive health-care practices such as yearly check-ups in this sample were low (18.5%), most visit a doctor only when having an ailment. However, among those who had surgery, most visited their doctor at least once a year. While disclosure of gender identity to doctors was less than 50% for the total sample, however, all but one of participants with some form of sex re-assignment surgery disclosed their status to their doctors (see Table 3).

DISCUSSION

Our study is one of a few to quantitatively describe self-identified MTF TG individuals in China regarding their sexual-risk related practices and health-care utilization, including hormone use. Although we found only few differences between individuals with and without sex re-assignment surgery on a range of characteristics,

those who had some form of surgical transition are more open about their sexual identity than those who have not. In general, self-identified MTF TG individuals are at high-risk for acquisition of HIV and syphilis (8.6% and 11.1% prevalence in this sample), lacking health insurance -- findings similar to those in Western and most countries.

The extremely low rate of hormone uses among those who had sex re-assignment surgery is alarming. This disconnect has enormous negative physical health impact, given that hormone use is associated with better mental health(12). It is unclear if the lack of use is due to lack of health literacy, cultural beliefs, and/or institutional practices. In addition, it seems that there is little oversight regarding hormone procurement. Therefore, it is of great urgency that the Chinese government makes a concerted effort to update national sex re-assignment guidelines to align with international best practices(1), including putting in place a realistic regulatory system to monitor development and implementation of hormone therapy.

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TABLES

Table 1. Socio-demographic Characteristics of Self-identified Male-to-Female Transgender Individuals (N = 81) in Shanghai, China

Variables		Sex Re-assignment		
		Yes (N=17)	No (N=64)	*p*-value
		Mean (SD)		
Age (years)	35.1 (9.4)	36.9 (10.2)	34.6 (9.2)	0.38[b]
		Sex Re-assignment		
	Total (N=81), %	Yes (N=17), %	No (N=64), %	
City of birth				0.39[c]
Shanghai	26 (32.1)	4 (23.5)	22 (34.4)	
Other[a]	55 (67.9)	13 (76.5)	42 (65.6)	
Ethnic				0.19[d]
Han	77 (95.1)	15 (88.2)	62 (96.9)	
Other	4 (4.9)	2 (11.8)	2 (3.1)	
Education level				1.00[d]
Middle school	15 (18.5)	3 (17.7)	12 (18.7)	
High school/technical/GED	21 (25.9)	4 (23.5)	17 (26.6)	
College and above	45 (55.6)	10 (58.8)	35 (54.7)	
Occupation				0.04[d]
Student (not employed)	4 (4.9)	0 (0.00)	4 (6.2)	
White-collar	15 (18.5)	1 (5.9)	14 (21.9)	
Worker	18 (22.2)	2 (11.8)	16 (25.0)	
Government	6 (7.4)	0 (0.0)	6 (9.4)	
Freelance	32 (39.5)	11 (64.7)	21 (32.8)	
Sex worker	6 (7.4)	3 (17.6)	3 (4.7)	
Living situations past 12 month				0.89[d]
Alone	47 (58.0)	10 (58.8)	37 (57.8)	
With strangers (not permanent)	7 (8.6)	1 (5.9)	6 (9.4)	

Friends or colleagues	10 (12.4)	3 (17.7)	7 (10.9)	
Family	17 (21.0)	3 (17.7)	14 (21.9)	
Income per month				1.00[d]
≤4900 RMB ($712)	3 (3.7)	0 (0.0)	3 (4.7)	
5000-7999 RMB	19 (23.5)	4 (23.5)	15 (23.4)	
≥8000 RMB ($1,160)	59 (72.8)	13 (76.5)	46 (71.9)	
Marital Status				0.70[d]
Single	64 (79.0)	15 (88.2)	49 (75.6)	
Married	4 (4.9)	1 (5.9)	3 (4.7)	
Divorced /widowed	7 (8.6)	1 (5.9)	6 (9.4)	
Cohabiting with a significant other	6 (7.4)	0 (0.0)	6 (9.4)	
Gender identity disclosure[e]				
Openly	6 (7.4)	5 (29.4)	1 (1.6)	0.02[d]
Closeted	75 (92.6)	15 (70.6)	63 (98.4)	

[a]Other refers to cities or provinces in China (Beijing, Heilongjiang, Zhejiang, Hangzhou etc.).
[b]The two-sample *t*-test was used.
[c]Associations were assessed using Chi-square ($\chi 2$) test.
[d]Associations were assessed using Fisher's exact test;
[e]All study participants answered this question regarding their gender disclosure, that is, to family members, friends, co-workers, and/or acquaintances.

Table 2. Sexual-risk Related Practices of Self-identified Male-to-Female Transgender Individuals (N = 81) in Shanghai, China

Variables		Sex Re-assignment		*p*-value
		Yes (N=17)	No (N=64)	
		Mean (SD)		
Age when had the first sexual contact with men (years)[a]	20.9 (3.0)	20.4 (4.1)	21.1 (2.7)	0.49[b]
		Sex Re-assignment		
	Total (N=81), %	Yes (N=17), %	No (N=64), %	
No. of male sexual partners, past 30 days				0.14[c]
None	19 (23.5)	4 (23.5)	15 (23.4)	
1-3	54 (66.7)	9 (52.9)	45 (70.3)	
4-6	2 (2.5)	1 (5.9)	1 (1.6)	
10+	6 (7.4)	3 (17.7)	3 (4.7)	
Lifetime sexual contact with women				1.00[c]
Yes	12 (14.8)	2 (11.8)	10 (15.6)	
Unprotected sex with primary partner, past 6 mo				0.07[d]
Yes	32 (39.5)	10 (58.8)	22 (34.4)	
Sex with casual partner, past 6 mo				0.51[c]
Yes	18 (22.2)	5 (29.4)	13 (20.3)	
Unprotected sex with casual partner, past 6 mo				0.46[c]
Yes	13 (16.1)	4 (23.5)	9 (14.1)	
Insertive anal sex, past 6 mo				0.11[c]

Yes	61 (75.3)	10 (58.2)	51 (79.7)	
Receptive anal sex, past 6 mo				0.09[c]
Yes	72 (88.9)	13 (76.5)	59 (92.2)	
Unprotected anal sex, past 6 mo				0.36[c]
Yes	60 (74.1)	11 (64.7)	49 (76.6)	
Unprotected oral sex, past 6 mo				0.53[c]
Yes	62 (76.5)	12 (70.6)	50 (78.1)	
Lifetime HIV testing				0.66[d]
Yes	56 (69.1)	11 (64.7)	45 (70.3)	
Lifetime Syphilis testing				0.08[d]
Yes	24 (29.6)	8 (47.1)	16 (25.0)	
HIV testing result				1.00[c]
Yes	7 (8.6)	1 (5.9)	6 (9.4)	
Syphilis testing result				1.00[c]
Yes	9 (11.1)	2 (11.8)	7 (10.9)	

[a]All study population reported sexual contact with men (an inclusion criterion).
[b]The two-sample *t*-test was used.
[c]Associations were assessed using Fisher's exact test.
[d]Associations were assessed using Chi-square (χ^2) test.

Table 3. Health-care Utilization of Three Types of Self-identified Male-to-Female Transgender Individuals (N = 81) in Shanghai, China

Characteristics	Breast Augmentation only (N = 12)		Breast Augmentation & Vaginoplasty Construction (N = 5)		No Sex Re-assignment (N = 64)	
	Yes, %	*p*-value[d]	Yes, %	*p*-value[d]	Yes, %	*p*-value[d]
Clinic or doctor visit		0.04		<0.01		<0.001
At least once a year for preventive check-up	5 (41.7)		4 (80.0)		6 (9.4)	
Only when having an illness or being sick	7 (58.3)		1 (20.0)		58 (90.6)	
Sources of payment for doctor visits[a]		--		--		--
Myself	12 (100.0)		5 (100.0)		62 (96.9)	
Insurance	3 (25.0)		3 (60.0)		33 (51.6)	
Family and friends	--		--		2 (3.1)	
Doctor's knowledge about your gender identity		0.01		0.07		<0.001
Yes	11 (91.7)		5 (100.0)		31 (48.4)	
No	1 (8.3)		--		33 (51.6)	
Country where re-assignment done[b]		--		--		--
China	11 (91.7)		5 (100.0)		NA	
Other country	1 (8.3)		--		NA	
Type of institution where re-assignment done[b]		--		--		--
A government-owned clinic or hospital	11 (91.7)		5 (100.0)		NA	
A privately-owned clinic or hospital	1 (8.3)		--		NA	
Who pay for your re-assignment surgery		--		--		--
Myself	12 (100.0)		5 (100.0)		NA	

Price for surgery (RMB), Mean (SD)[b, c]						
Breast Augmentation	6,625 (1,208)		--		NA	--
Vaginoplasty Construction	--		11,4000 (11,402)		NA	
Self-use of hormone before sexual re-assignment surgery		0.28		0.12		--
Yes	1 (8.3)		1 (20.0)		NA	
No	11 (91.7)		4 (80.0)		NA	
Use of hormone provided by doctor before surgery		0.48		<0.001		--
Yes	1 (8.3)		3 (60.0)		NA	
No	11 (91.7)		2 (40.0)		NA	
Depression: CES-D score		0.11		1.00		0.17
Non-depressed (< 11)	4 (33.3)		3 (60.0)		39 (60.9)	
Somewhat elevated (12-20)	8 (66.7)		2 (40.0)		25 (39.1)	

[a]Sources of payment to doctor visits were not mutually exclusive.
[b]Only 17 participants out of 81 had some form of sex re-assignment surgery and were eligible to answer the question
[c]The Two-sample *t*-test was used.
[d]*p*-values are associated with Fisher's exact test.