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Smoking Knowledge, Attitudes, and Behaviors Among Rural- to- Urban Migrant Women in Beijing, China

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Abstract

Background—China has the largest population of cigarette smokers worldwide; surveys suggest rising prevalence among young women. Migratory lifestyles may confer increased susceptibility.

Objectives—we aimed to understand how migration relates to smoking among young women.

Methods—we implemented a cross-sectional behavioral survey of rural-to-urban Chinese women (n = 206) working in restaurants and commercial sex venues, assessing smoking attitudes, behaviors, and health-risk knowledge.

Results—rates of ever smoking and current smoking among restaurant workers were high compared with the rates in general population surveys (16.1% and 6.5%, respectively); rates were much higher among sex workers (54.9% and 33.3%, respectively). Multivariate analysis revealed education to be protective, whereas exposure to female-branded cigarettes was a risk for ever smoking.

Conclusions—Chinese migrant women appear to be smoking at higher rates than nonmigrant women. Priorities for future research include representative studies in multiple cities examining reasons for uptake and stimuli to quit.

Keywords

China; migrants; smoking; vulnerable populations; women

China is the largest producer and consumer of tobacco worldwide, thus, bearing a substantial portion of the global burden of smoking-related disease. Of China's 1.3 billion inhabitants, more than 300 million men and 20 million women are smokers, making China the world's largest actual and potential market for cigarettes.¹ A recent World Health Organization study projects that by 2030 tobacco is expected to kill 10 million people globally—more than any single disease, surpassing even the HIV epidemic. Of this, 70% of tobacco-attributable deaths will be in developing countries, and 2 million deaths are expected in China alone.²

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The 1996 Chinese National Prevalence Survey found that 3.8% of Chinese women and 63% of Chinese men were identified as current smokers.¹ Little research has focused on Chinese women because of the historic low prevalence of tobacco use among them. The differential rate of smoking between the sexes is thought to represent restrictions found in traditional Chinese society. With the opening up of the Chinese economy and membership in the World Trade Organization, multinational tobacco companies aggressively seek a piece of the prized Chinese market.^{3,4} Furthermore, as western culture grows fashionable among Chinese women, China is now at risk for the globalizing effects of western tobacco imagery—imagery that associates tobacco use with gender equality and attractive body image.⁵ Although a more recent National Prevalence Survey has not been conducted, studies from other parts of Asia suggest that such marketing may result in increased smoking behavior. For instance, after aggressive promotional campaigns targeting women and girls, smoking among women in Japan jumped from 8.6% in 1986 to 18.2% in 1991.⁶ Similarly, when South Korea opened its markets to American cigarettes, the rate of smoking among teenage girls quintupled in 1 year.⁷ Not all societies respond in similar ways when exposed to similar influences⁸; gender norms may continue to strongly endure in Chinese society, and given the lack of more recent smoking behavior data among women, we can only guess that rates are rising among them.

A preliminary review of tobacco industry documents showed recurrent themes, including event sponsorship, venue advertising, and market segmentation focusing on women.⁹ Previously, we reported results from a pilot study that gathered information on knowledge, attitudes, and behaviors that may lead to smoking initiation among young Chinese women. Many of the factors that led to the explosion of smoking rates in the United States in the 1950s are in fact evident in China.¹⁰

Despite some insights gained thus far regarding smoking among women in China, further characterization of specific subgroups is necessary. One subgroup frequently identified as vulnerable to acquiring health risk behaviors is rural-to-urban migrants. These are individuals who move to urban areas for economic reasons; they may or may not obtain permanent urban residency status.¹¹

Migration in China has historically been restricted by the *hukou* system, which assigns people either a rural or urban residence permit. As China became a global economic player, greater disparities between rural and urban economies followed.¹² This situation has led to 147.35 million rural-to-urban migrations in China as of November 2005.¹³ Although recent economic changes in China now discourage rural–urban migration, it was recently estimated that the migrant population in China would grow at the rate of 5 million per year over the next 5 to 10 years; with economic recovery, this pattern may be reestablished.¹⁴ Discrimination, rapid mobility, instability of living and employment conditions, and increased influence of urban lifestyle are all factors that likely contribute to increased vulnerability to tobacco use and other risk behaviors.¹⁵

Behavioral research on this new subgroup of the Chinese population has primarily dealt with risky sexual behavior, alcohol use, and mental health. Women in China, similarly to women elsewhere, have become the fastest growing population of those newly infected with HIV,¹⁶ and many of China's HIV-infected population are rural-to-urban migrants.¹⁷ In addition, alcohol abuse and psychological adjustment problems have been found to be associated with migration.¹⁸ Suicidal ideation and attempts were found to be high among female migrant sex workers (SWs) in China.¹⁹ These findings support the notion that the process of acculturation and adaptation in urban areas may be so stressful that young migrants are likely to resort to substance abuse, including smoking, as a coping strategy.¹⁹

Given the aforementioned facts, we believe that smoking initiation will be increasingly common among rural-to-urban migrant women. To date, no studies published in English have directly investigated cigarette use among these vulnerable women. One previous study on HIV/STD prevention among rural-to-urban migrants in China reported levels of and factors associated with cigarette smoking as a secondary outcome.¹⁴ The authors of this study suggest that in-depth studies are needed to examine the relationship between smoking and migration.

Methods

Sampling Frame

We selected Beijing, the capital city of China located in the northeast of the country, as our study site. This city of 13.82 million people covers 16 800 square kilometers and is host to about 3 million rural–urban migrants (70% male and 30% female).²⁰

Migrant women are the target population for our study. They tend to be employed by one of several occupational clusters: restaurants, hotels, beauty salons, massage parlors, nightclubs/bars, small retail shops, domestic services, street stalls, and factories. We chose women working in restaurants (restaurant workers [RWs]) and commercial sex venues (SWs) as our sample populations because of established access points and anticipated susceptibility to risk behavior. Women working at restaurants are required to present a certificate of good health, which is obtained by passing a routine physical examination at Beijing Centers for Disease Control and Prevention (BCDC) facilities. The sampling sites included the BCDC physical exam facilities for RWs, and in the case of SWs, the sampling sites were workplaces that have been previously accessed by BCDC personnel in the context of HIV risk assessment and behavioral surveillance. We recruited a consecutive convenience sample of 237 migrant women in the 2 occupational settings: 165 RWs and 72 SWs. Eligible participants were defined as those who (1) were 18 to 24 years old if a RW worker and 18 to 30 years old if a SW, (2) were not in possession of a Beijing residence permit, and (3) were working as a waitress or commercial SW during the time of interview.

Survey Methods and Measures

The Institutional Review Boards at the University of California, San Francisco, and Peking Union Medical College approved the protocol used in this study. RWs were surveyed at the BCDC physical examination facility, and SWs were surveyed at workplaces. BCDC senior public health officials introduced the study and guided interested RWs to 1 of 3 interviewing stations in the physical exam hall. Survey administrators (n = 3) received extensive training prior to commencement of the fieldwork and explained the purpose and process of the survey to the women. Participants were informed of the voluntary nature of the study and were assured that refusal to participate would have no bearing on employment status or health certification. Verbal consent was obtained prior to administration of the survey. Surveys took place over the course of 4 morning sessions. To reduce nonresponse and assist those with literacy difficulties, all interviews were conducted face-to-face on an individual basis. The survey took approximately 20 minutes to complete. A small gift mug was provided to participants as a gesture of thanks, according to Chinese custom.

To access SWs, public health professionals from the BCDC visited commercial sex venues located in Chaoyang District, which have been used on a yearly basis to provide health education on STD/HIV prevention and other basic health issues. Permission to conduct the study was first obtained from the venue's manager. Recruitment took place at a single known SW employment site following the BCDC's health education presentation. Potential participants were approached by trained outreach surveyors from the BCDC; trained

interviewers (n = 5) introduced the study to participants, informed them of the voluntary nature of the study, and obtained verbal consent. Logistic difficulties related to the sampling of the sensitive SW population allowed only a single window of time during which we could administer our survey, either individually or in small groups under the supervision of the trained surveyors. Questionnaires were checked for completeness on-site, and a small gift package was provided to respondents.

The survey collected the following information from both RWs and SWs: (1) social and migratory demographic data; (2) health-related behaviors, including alcohol use, and life and job satisfaction; (3) smoking-related behaviors, including ever smoker, intention to smoke, age at initiation, and 30-day history of smoking; (4) smoking attitudes and environments, including perceptions regarding female smoking; (5) exposure to smoking and antismoking advertisements and marketing, including knowledge of female brands and cigarettes; (6) knowledge of health risks and attitudes toward antismoking policies.

Data Analysis

Following data cleaning, variables were recoded to adhere to the aforementioned definitions. Descriptive statistical analyses were used to compute frequency distributions of the sample characteristics; migratory, living, and working conditions; and cigarette smoking prevalence. Smoking behavior was categorized into 3 groups: ever smoker, current smoker, and nonsmoker. Ever smoker was defined as respondents who had tried smoking and stopped or who had tried smoking and continued to smoke. Current smokers were those respondents who reported smoking within the past 30 days. Nonsmokers included participants who had not tried cigarettes and who did not intend to smoke. The chi-square test was applied to categorical variables to determine significant associations. Variables significantly associated with smoking behavior were then included in logistic regression models. All statistical analyses were conducted using SPSS 11.5.

Attitudes toward smoking by women were categorized as positive, negative, or neutral. Our questionnaire included 6 statements that respondents either agreed or disagreed with. A composite score was created based on responses. A “Y” to statements with favorable impressions of female smoking was given a +1, and each “Y” to the 2 statements that reflected unfavorable impressions of female smoking was given a -2. A positive sum indicates a positive attitude, a negative score indicates a negative attitude, and a zero score indicates a neutral attitude.

Results

Completed questionnaires were obtained for a total of 237 participants, including 165 RWs and 72 SWs. Of these, 10 RWs and 21 SWs were excluded because of missing data and/or illogical answers, yielding a final sample of 206. The mean age for RWs was 20.9 years, whereas the mean for SWs was slightly more (25.5 years; Table 1). The majority (94.8% and 60.8%, respectively) of RWs and SWs identified themselves as single. Regarding educational attainment, nearly half the RWs reported some postsecondary education, whereas the majority of SWs, 70.6%, reported only primary/middle school level. The majority of RWs reported their duration as a migrant worker to be 3 years or less, whereas among the SWs, roughly half the women reported 3 years or less. Median monthly salary for RWs and SWs were similar—\$221 and \$294, respectively. (Monthly income reported in Chinese RMB was converted to US dollar based on the conversion 6.8 RMB:1 US dollar at the time of analysis).

In all, 40.7% of RWs reported being satisfied with their lives compared with 9.8% of SWs (Table 2). This tendency was even more apparent for job satisfaction: 45.8% of RWs

reported being satisfied or very satisfied with their jobs compared with 5.9% of SWs. Although only 16.1% of RWs were identified as ever smokers, the rate was much higher among SWs (54.9%; $P = .001$). Prevalence of current smoking was 6.5% among RWs and 33.3% among SWs ($P = .001$).

Negative attitudes toward female smoking were 56.1% among RWs and 45.1% among SWs. SWs had slightly more positive attitudes toward female smoking—21.6% compared with 16.8% among RWs. As regards cigarettes made for women (CMFW), both groups had heard of them overwhelmingly (83.2% among RWs and 76.5% among SWs). SWs, however, reported having tried CMFW in greater numbers—33.3% compared with 9.0% of RWs. Regarding health risks, the majority in both groups stated that smoking is very harmful (72.9% RWs and 77.6% SWs). Whereas the vast majority in both groups agreed that smoking increases the risk of lung cancer, just more than half agreed that smoking increases the risk of heart disease (60.7% RWs and 56.9% SWs). (We included a bogus question on health risks associated with smoking, asking whether smoking was associated with hepatitis. Responses to this test were similar, with 56.8% of RWs and 60.8% of SWs agreeing with this false association.)

In bivariate analyses, significant factors associated with ever smoking and current smoking included occupation ($P < .01$), age ($P = .01, .012$), primary or middle school education attainment ($P < .01$), income ($P = .01, .02$), alcohol use ($P < .01$), and job satisfaction ($P < .01$; Table 3).

Significant predictors of smoking behavior for RWs included positive attitudes toward female smoking ($P < .01$), having seen or tried CMFW ($P < .01$), and a belief that smoking is not harmful to one's health ($P < .05$; Table 4).

Significant predictors of smoking behavior for SWs included having tried CMFW ($P < .01$) and, among current smokers compared with nonsmokers, a belief that women smoking CMFW are more charismatic ($P < .05$; Table 5).

Multivariate analysis to evaluate ever smoking controlled for several determinants (age, education, occupation, monthly income, marital status, life satisfaction, job satisfaction, alcohol use, attitudes toward smoking, have heard of CMFW, and having seen CMFW). Primary school education (odds ratio [OR] = 0.16; 95% confidence interval [CI] = 0.04–0.57, compared with less than primary school education) appeared to be protective against ever smoking. A higher level of education was also protective against ever smoking but did not reach statistical significance (OR = 0.40; 95% CI = 0.13–1.2). Having seen CMFW (OR = 7.9; 95% CI = 1.49–41.74) was a significant predictor for ever smoking when adjusted for all other variables.

Discussion

Findings from this study suggest that young rural-to-urban migrant women are more susceptible to smoking initiation compared with Chinese women nationally. Our study found that 16.1% of RWs reported ever smoking, as well as 54.9% of SWs. According to national data collected in the 1996 China National Prevalence Survey, 3.8% of women sampled were current smokers, whereas we found 6.5% and 33.3% current smoking among RWs and SWs, respectively.¹ The unique social situation of these young migrant women may facilitate increased susceptibility to cigarette smoking. Moreover, 16.8% of RWs and 21.6% of SWs had a positive attitude toward smoking among women. Both groups of women overwhelmingly reported having heard of cigarettes especially made for women, indicating that market segmentation by multinational tobacco companies is indeed occurring in this population. Logistic regression models indicate that education was protective against

smoking, whereas having seen female-branded cigarettes was most predictive of smoking behavior when controlling for other determinants.

Migration is associated with greater risks for poor health in general.²¹ This may be because of situational and psychosocial factors, such as economic and cultural transitions, as well as reduced access to health care.¹¹ Several theories on migration may prove relevant in this discussion. The first is social control theory, which maintains that once individuals are detached from their social control structure, they may behave differently than they would in their original homes.²² The separation that migrant women experience from their communities and families may make them more prone to peer or urban influences, ultimately leading them to engage in health-adverse behaviors.²³

Another theory on migration and behavior change is that of social isolation. Social isolation is characterized by a lack of sustained interaction with the mainstream society because of social, economic, and residential separations.²⁴ On arrival in urban areas, many migrants live with fellow migrants at their place of work in temporary housing provided by employers, or they may concentrate in the city's fringe areas, characterized by poverty, overcrowding, and a lack of law enforcement and health services.^{23,25} Such living environments do not encourage social assimilation, and many migrants in them may be prone to greater health-risk behaviors such as substance use and risky sexual behaviors.²⁶

Migrant women face tremendous risks for economic and psychological poverty. Disconnected from social norms and supports, alienated from the larger urban landscape in which they reside, prone to life and job dissatisfaction, the propensity for adverse health risk behaviors is great. The high smoking prevalence observed in this study may in part be a result of the selected sampling of SWs, who may face even greater stigma and isolation, given that sex work is illegal in China. In an environment characterized by a lack of social control and markedly isolated from mainstream society, the implications for tobacco susceptibility are further compounded by the multinational tobacco companies' aggressive campaign to capture the Chinese women's market. Our research suggests that young migrant women are smoking at much greater rates than their nonmigrant counterparts. These migrant women may represent the canary in the coalmine of smoking among Chinese women, predicting what may be set to occur in the future on a grander scale if no action is taken to prevent smoking initiation in this vulnerable group.

Limitations

Limitations of this pilot study are related to a small sample size and convenience sampling in a single city, and the difficulties inherent in sampling migrant populations. The conventional risk factors found to be significant in this study may not be generalizable, given the small sample size, differential sampling, and lack of comparability with national surveys. Although the questions used in our survey are similar to those used in the 1996 National Prevalence Survey, they are not identical, and the smoking behavior definitions differ slightly as well. In the 1996 prevalence survey, a current smoker is defined as someone who has smoked daily for at least 6 months during his or her life and who also smokes at the time of the survey. This definition eliminates occasional smokers who have not smoked daily. We hypothesized that many new smokers in our sample may in fact be occasional smokers and, therefore, chose to define ever smokers as those who had ever smoked and current smokers as those who reported smoking within the past 30 days, regardless of how many cigarettes they had smoked. Our study may not be representative of migrant women in these 2 groups, but it suggests the need for more detailed, representative studies of migrant women and smoking. Second, although surveyors emphasized the importance of providing honest information at each interview, the reliance on self-reported smoking behavior is another limitation common to behavioral surveys. The lack of a self-

administered questionnaire may have caused participants to underreport smoking behaviors and beliefs because they were at the BCDC to receive a mandatory physical exam that they must pass to maintain employment. Fieldwork was conducted in June 2008 among the SWs, and with the 2008 Beijing Summer Olympics imminent, we were only able to sample in 1 SW venue, with limited time for fieldwork. Efforts were made to conduct interviews individually, but many were conducted in small groups given these logistical constraints. The differential sampling procedures among RWs and SWs may have influenced response differences.

Recommendations for Tobacco Use Prevention Among Migrant Women

Findings from this study suggest the need for expanded research on this vulnerable population. Priorities for future research include more detailed, representative studies of migrant women and smoking in multiple cities as well as an investigation into reasons for smoking uptake and stimuli to quit. May 2003 marked the beginning of the World Health Organization's FCTC (Framework Convention on Tobacco Control), the first treaty designed to reduce tobacco-related deaths and disease around the world. China signed and ratified this document, indicating a commitment to restrict tobacco advertising and sponsorship, establish new packaging of tobacco products, establish clean indoor air controls, and strengthen legislation to clamp down on tobacco smuggling. Our research highlights the importance of advocating for the right to occupational health through venue-based policy enforcement and the creation of smoke-free workplaces. The multinational tobacco companies fully understand the psychosocial vulnerabilities that permeate gender norms and openly exploit them in an effort to expand their markets in Asia. Our multivariate analysis suggests that familiarity with the cigarette products of this brand segmentation is independently associated with smoking behavior. Educational approaches that counteract these marketing effects and globalization of the smoking epidemic are more necessary than ever. Injecting gender concepts into the FCTC and ultimately removing gender-based marketing segmentation from tobacco products would be important strides in reducing smoking uptake by young Chinese women. Interventions targeting these migrant women, nearly equivalent in size to the entire population of the United Kingdom, present an unmatched opportunity to influence the health of a young and extremely vulnerable population.

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Table 1

Sample Demographics, Including Migratory Characteristics for Restaurant Workers (RWs) and Commercial Sex Workers (SWs): Beijing, 2008

	RWs	SWs
Sample size (n)	155	51
Age (in years)		
Minimum	18	19
Maximum	24	30
Median	21	26
Mode	20	26
Mean	20.9	25.5
Standard deviation	1.8	3.3
Marital status (%)		
Single	94.8	60.8
Married	5.2	23.5
Divorced	0	15.7
Educational attainment (%)		
Primary/Middle school	21.3	70.6
High school/Vocational school	31.0	27.5
Postsecondary	47.7	0
Living with (%)		
Alone	14.1	33.3
Others (including coworker/friend/boyfriend)	71.2	56.9
Family member	14.2	7.8
Years as migrant worker (%)		
≤3 Years	78.1	45.1
>3 Years	21.9	47.1
Years as migrant worker in Beijing (%)		
≤3 Years	83.2	76.5
>3 Years	15.5	23.5
No. of cities worked in (%)		
1 city	70.3	45.1
> city	29.7	52.9
Monthly income (USD)		
Minimum	59	44
Maximum	662	735
Median	221	294
Mode	221	294
Mean	217	321
Standard deviation	87	166

Table 2

Response Frequencies (%) Regarding Smoking Knowledge, Attitudes, and Practices; Life and Job Satisfaction; and Support for Restrictive Smoking Laws Among RWs and SWs: Beijing, 2008

	RWs	SWs
Sample size (n)	155	51
Satisfaction (%)		
Life satisfaction (%)		
Very dissatisfied or dissatisfied	8.4	23.5
Just OK	49.0	66.7
Satisfied or very satisfied	40.7	9.8
Job satisfaction (%)		
Very dissatisfied or dissatisfied	6.4	23.5
Just OK	46.5	70.6
Satisfied or very satisfied	45.8	5.9
Smoking behavior (%)		
Ever smoker	16.1	54.9
Current smoker	6.5	33.3
Nonsmoker	83.9	45.1
Median age of smoking initiation for ever smoker and current smoker (in years)	19.0	21.5
Attitudes toward female smoking (%)		
Positive attitude toward female smoking	16.8	21.6
Negative attitude toward female smoking	56.1	45.1
Neutral attitude toward female smoking	27.1	33.3
Knowledge regarding cigarettes made for women (CMFW) (%)		
Heard of CMFW	83.2	76.5
Tried CMFW	9.0	33.3
Believe CMFW make women trendier	46.5	25.5
Believe CMFW make women charismatic	33.6	13.7
Believe fewer health risks associated with CMFW	30.3	25.5
Health-risk knowledge (%)		
Believe smoking is moderately harmful	21.9	14.3
Believe smoking is very harmful	72.9	77.6
Believe smoking increases risk of cardiovascular disease	60.7	56.9
Believe smoking increases risk of lung cancer	91.6	86.3
Believe smoking increases risk of hepatitis	56.8	60.8
Obtain smoke health-risk information via (%)		
Parents	61.9	54.9
Doctor	71.0	58.8
TV	85.8	80.4
Internet	71.0	49.0
Knowledge of Chinese law prohibiting cigarette sales to minors < 18 (%)	84.5	66.7
Support for law (%)		

	RWs	SWs
Strongly support or support	97.4	70.6

NOTES: RW = restaurant worker; SW = sex worker.

Table 3
Comparison of Ever Smokers (ES) and Current Smokers (CS) With Nonsmokers (NS)

Item	ES	NS	P Value	CS	NS	P Value
Overall (n)	53	153		27	153	
Occupation (%)						
RW	47.2	85.0	<.01	37.0	85.0	<.01
SW	52.8	15.0		63.0	15.0	
Age (%)						
18–19	13.2	22.2	=.01	7.4	22.2	=.012
20–21	17.0	34.6		22.2	34.6	
22–23	26.4	25.5		22.2	25.5	
24–25	15.1	8.5		18.5	8.5	
26–27	9.4	2.6		14.8	2.6	
28–30	15.1	6.5		11.1	6.5	
Educational attainment (%)						
Primary/Middle	52.8	26.8	<.01	55.6	26.8	<.01
High school/Vocational school	30.2	30.1		33.3	30.1	
Postsecondary	15.1	43.1		11.1	43.1	
Marital status (%)						
Single	71.7	91.5	<.01	66.7	91.5	<.01
Married	18.9	6.5		22.2	6.5	
Divorced	9.4	2.0		11.1	2.0	
Years as migrant worker (%)						
≤3 Years	60.4	73.2	>.05	55.6	73.2	>.05
>3 Years	32.1	26.8		40.7	26.8	
Years as migrant in Beijing (%)						
≤3 Years	75.5	83.7	>.05	70.4	83.7	>.05
>3 Years	22.6	15.7		29.6	15.7	
Living with (%)						
Alone	22.6	17.6	>.05	29.6	17.6	>.05
Others	60.1	70.6		55.6	70.6	
Family	17.0	11.1		14.8	11.1	

Item	ES	NS	P Value	CS	NS	P Value
Monthly income in USD (%)						
<150	22.6	28.8	=.011	25.9	28.8	=.016
150–350	20.1	39.2		14.8	39.2	
250–350	28.3	20.9		29.6	20.0	
>350	22.6	9.2		25.9	9.2	
30-Day alcohol use (%)						
Positive	50.1	20.9	<.01	74.1	20.9	<.01
Negative	49.0	79.1		25.9	79.1	
Life satisfaction (%)						
Very dissatisfied	1.9	2.6	<.05	3.7	2.6	>.05
Dissatisfied	17.0	7.2		22.2	7.2	
Just OK	62.3	50.3		55.6	50.3	
Satisfied	15.1	34.0		14.8	34.0	
Very satisfied	1.9	4.6		3.7	4.6	
Job satisfaction (%)						
Very dissatisfied	0	2.0	<.01	0	2.0	<.01
Dissatisfied	17.0	6.5		22.2	6.5	
Just OK	62.3	49.0		66.7	49.0	
Satisfied	17.0	40.5		3.7	40.5	
Very satisfied	3.8	0.7		3.7	0.7	

NOTES: RW = restaurant worker; SW = sex worker.

Attitudes and Knowledge Regarding Female Smoking and Health Risks and Comparison of Ever Smokers (ES) With Nonsmokers (NS), and Current Smokers (CS) With Nonsmokers (NS) for Restaurant Workers: Beijing, 2008

Table 4

Item	ES	NS	P Value	CS	NS	P Value
Overall (n)	25	130		10	130	
Attitudes toward female smoking (%)						
Positive	28.0	14.6	<.01	20.0	14.6	<.01
Negative	28.0	61.5		10.0	61.5	
Neutral	44.0	23.8		70.0	23.8	
Knowledge regarding cigarettes made for women (CMFW) (%)						
Have heard of	92.0	81.5	>.05	90.0	81.5	>.05
Have seen	88.0	57.7	<.01	90.0	57.7	>.05
Have tried	56.0	0	<.01	80.0	0	<.01
Believe women smoking CMFW are trendier	68.0	42.3	=.018	50.0	42.3	>.05
Believe women smoking CMFW are more charismatic	48.0	30.8	>.05	30.0	30.8	>.05
Believe CMFW have fewer health risks	40.0	28.5	>.05	60.0	28.5	>.05
Knowledge of smoking health risks (%)						
Believe smoking is not harmful	16.0	2.3	<.05	20.0	2.3	<.05
Believe smoking increases the risk of the following:						
Cardiovascular disease	52.0	62.3	>.05	50.0	62.3	<.05
Lung cancer	96.0	90.1	>.05	90.0	90.1	>.05
Hepatitis	60.0	56.1	>.05	70.0	56.1	>.05
Bronchitis/Pneumonia	92.0	91.5	>.05	80.0	91.5	>.05

Table 5

Attitudes and Knowledge Regarding Female Smoking and Health Risks, and Comparison of Ever Smokers (ES) With Nonsmokers (NS), and Current Smokers (CS) With Nonsmokers (NS) for Sex Workers: Beijing, 2008

Item	ES	NS	P Value	CS	NS	P Value
Overall (n)	28	23		17	23	
Attitudes toward female smoking (%)						
Positive	3.5	13.0	>.05	47.1	13.0	=.052
Negative	42.8	47.8		23.5	47.8	
Neutral	28.5	39.1		29.4	39.1	
Knowledge regarding cigarettes made for women (CMFW) (%)						
Have heard of	67.8	87.0	>.05	88.2	87.0	>.05
Have seen	60.7	73.9	>.05	82.4	73.9	>.05
Have tried	53.5	8.7	<.01	76.5	8.7	<.01
Believe women smoking CMFW are trendier	25.0	26.1	>.05	35.3	26.1	>.05
Believe women smoking CMFW are more charismatic	21.4	4.3	>.05	29.4	4.3	<.05
Believe CMFW have fewer health risks	35.7	13.0	>.05	47.1	13.0	>.05
Knowledge of smoking health risks (%)						
Believe smoking is not harmful	10.7	4.3	>.05	17.6	4.3	>.05
Believe smoking increases the risk of the following:						
Cardiovascular disease	60.1	52.2	>.05	52.9	52.2	>.05
Lung cancer	85.7	87.0	>.05	76.5	87.0	>.05
Hepatitis	67.9	52.2	>.05	58.8	52.2	>.05
Bronchitis/Pneumonia	100.0	91.3	>.05	100.0	91.3	>.05