Smoking among female sex workers: prevalence and associated variables

Ligia Lopes Devóglio[1], José Eduardo Corrente[2], Maria Helena Borgato[3], Ilda de Godoy[3]

1. Departamento de Saúde Coletiva, Faculdade de Medicina de Botucatu, Universidade Estadual Paulista, Botucatu (SP) Brasil.
2. Departamento de Bioestatística, Instituto de Biociências de Botucatu, Universidade Estadual Paulista, Botucatu (SP) Brasil.
3. Departamento de Enfermagem, Faculdade de Medicina de Botucatu, Universidade Estadual Paulista, Botucatu (SP) Brasil.

ABSTRACT

Objective: To assess the prevalence of smoking and associated variables in female sex workers (FSWs). **Methods:** This was a quantitative cross-sectional study involving FSWs in the city of Botucatu, Brazil, who completed a sociodemographic questionnaire, including data regarding smoking status, motivational stage of change, and degree of nicotine dependence, as well as the Perceived Stress Scale and the Hospital Anxiety and Depression Scale. **Results:** We included 83 FSWs. The mean age was 26.8 years. Among the participants, 58 (69.8%) had at least a high school education, only 26 (31.3%) resided in the city of Botucatu, 59 (71.1%) were smokers, 5 (6.0%) were former smokers, 74 (89.2%) regularly consumed alcohol, and 43 (51.8%) used illicit drugs. The majority of the women were classified as having an intermediate stress level, and 51 (61.4%) were classified as having possible or probable anxiety, whereas depression was found to be improbable in 57 (68.7%). The level of nicotine dependence was high among the smokers, the majority of whom showed no intention to quit smoking. Smoking was associated with illicit drug use (p = 0.0271) and with alcohol consumption (p = 0.0001), although not with the levels of stress, anxiety, or depression; nor was the age at smoking initiation associated with the length of time as an FSW (p = 0.4651). **Conclusions:** The prevalence of smoking among the FSWs evaluated here was much higher than the 8.3% reported for the overall female population of Brazil. Our findings show that FSWs are exposed to various risk factors inherent to their profession. Therefore, harm reduction is an important strategy to be adopted.

Descriptors: Women, Smoking, Sex workers; Prevalence; Risk factors.

INTRODUCTION

According to the World Health Organization, smoking is no longer considered a habit but rather a disease, a true epidemic, which can be totally preventable. Currently, 5.4 million people die every year from tobacco-related diseases, and it is estimated that, if there are no significant changes, by 2030, this number will reach 8 million and that 80% of smokers will be in (low- and middle-income) developing countries.[1,2]

The current prevalence of smoking is higher among men than among women, given that the latter started smoking later than the former. However, in recent decades, there has been a small decline in the smoking curve for men, whereas, for women, there has been an increase, which contradicts the idea of smoking as a male epidemic.[2-4]

Data indicate that 22% of the world population smoke cigarettes, with approximately 820 million being male and 176 million being female. Tobacco use accounts for up to 34% of deaths among men and 22% of deaths among women; in Brazil, these rates are lower (12.8% and 9.4%, respectively).[2] The World Health Organization estimates that, if nothing is done, smoking among women will double worldwide from 2005 to 2025.[5]

Some developed countries, such as the USA and Australia, have monitored smoking trends by occupation in order to aid in the identification of occupational groups that need to be prioritized in interventions for smoking control and cessation. A study conducted in Brazil aimed to describe this relationship, and, as in the countries mentioned above, it was found that the prevalence of smoking is higher in subjects who occupy positions requiring a lower level of education and greater physical effort.[6]

Although the topic of prostitution is little discussed today, prostitution is a phenomenon that is still present in the Brazilian society and in various countries around the world.[7] There are various factors determining prostitution, whether economic, such as migration to urban centers, a lack of jobs, the large number of single mothers who have difficulty raising their children, subhuman living conditions, a low level of education, a lack of perspective, etc.; or psychological, such as affective issues, trauma exposure in childhood or adolescence, or a lack of family support.[8] These factors may often be associated with smoking and the use of other drugs in this population.

Studies have shown that female SWs are constantly exposed to various risk factors, such as social vulnerability, submission, and especially licit and illicit drug abuse, because they have difficulty maintaining quality of life, ending up adopting behaviors that are detrimental to

their health; this shows the need for interventions that address multiple aspects of health.[7,9]

Profiling tobacco users, by collecting data such as the prevalence and level of smoking by age group, gender, income, etc., is also a very important factor, because it is based on these data that health care professionals will be able to plan prevention interventions that are more efficient in certain populations. For all these reasons, the prevalence of smoking, the profile of smokers, motivations for smoking cessation, and the consequences of smoking have been studied in several countries in the world, because these data provide us with a better understanding of the worldwide epidemic of smoking.[1,10]

Therefore, the objective of the present study was to assess the prevalence of smoking and to analyze the association between smoking and other variables in female sex workers (SWs).

METHODS

This was an exploratory, quantitative, analytical, cross-sectional study conducted in the city of Botucatu, which is located in the central region of the state of São Paulo, Brazil, and has an estimated population of 137,899 people.[11] The area served by the primary health care clinic in the Cecap district, an area characterized by being one of the main prostitution hubs in the city, was used as a reference. Site visits were conducted to two workplaces that are registered with the city.

Forms were administered to 83 female SWs. The sample was calculated on the basis of a study of 102 female SWs conducted in the city of Botucatu in 2008, which showed that the smoking rate in that population was high, corresponding to 68.6% (70 women).[12]

To find the prostitution hubs, we initially contacted the Municipal Sexually Transmitted Diseases/AIDS Program, which is active in the city and conducts site visits to various population groups that are vulnerable to these diseases, such as the group of female SWs. After this contact, and accompanied by the health care workers, we conducted the first site visits to the workplaces of the female SWs. Subsequently, we returned on our own to the prostitution hubs until the sample number was met.

Numerous site visits were conducted to the workplaces of the female SWs, and, since this is a hard-to-reach population, because they are afraid to participate in research, surveys, etc., the interviews were requested and conducted in their work environments. Some female SWs declined to participate in the study for fear of being discovered by their families, even when we explained that their names would not be disclosed.

Data were collected between February and November of 2014. Identification forms and smoking assessment forms were administered to all women who agreed to participate in the study; in addition, motivational stage of change was assessed as per the transtheoretical model of change developed by DiClemente & Prochaska,[13] which describes readiness to change according to the stages that the individual goes through and that are classified as follows: precontemplation—the smoker has no intention to quit in the next six months; contemplation—the smoker has an intention to quit in the next six months but has not set a quit date; preparation—the smoker intends to quit in the next thirty days; action—the individual has been smoke-free for up to six months; and maintenance—the individual has been smoke-free for more than six months. The Perceived Stress Scale[14] and the Hospital Anxiety and Depression Scale[15] were administered to assess the levels of stress, anxiety, and depression in these women.

The female SWs were assessed for smoking characteristics using a specific form, based in other studies, containing questions about smoking history, presence of tobacco-related diseases, social and family history, factors related to smoking initiation, and tobacco intake, in order to determine their smoking profile.[10] In addition, they were asked if they simultaneously used other drugs, whether licit (alcohol) or illicit, in order to avoid our having to interpret possible biases. Tobacco intake was measured in pack-years, calculated by dividing the number of cigarettes smoked per day by 20 (the number of cigarettes in one pack) and multiplying the result by the number of years of smoking. The degree of dependence was assessed by the Fagerström Test for Nicotine Dependence.[16,17]

For data analysis, first, a database was created using Microsoft Excel, and, subsequently, descriptive statistics were calculated for quantitative variables (mean and standard deviations) and qualitative variables (frequencies and proportions). Qualitative variables were tested for associations by the chi-square test or Fisher's exact test. For variables with more than two categories, means were compared by using ANOVA followed by Tukey's test.

In all tests, we used a 5% significance level or the corresponding p value. All analyses were performed with the Statistical Analysis System software, version 9.3 (SAS Institute, Cary, NC, USA), with the aid of the statistician in charge of the study.

The study was approved by the Botucatu Municipal Department of Health and the Research Ethics Committee of the São Paulo State University Botucatu School of Medicine, in accordance with Brazilian National Health Council Resolution no. 466/13 (Protocol no. 711.738).

RESULTS

A total of 83 female SWs participated in the study. The mean age was 26.8 ± 63 years (range, 18-48 years). The majority of the women (n = 58; 69.8%) had at least a high school education, 78 (94.0%) lived alone, and 49 (59.0%) had children (mean, 2.04 ± 1.3 children). The mean length of time as a SW was 3.7 ± 5.0 years. The mean monthly income was R$ 3,708.33 ± R$ 3,001.58 (range, R$ 500.00-R$ 17,000.00), and

some reported not knowing how much they earned because of their short time as a SW. This is a fluctuating population; only 26 (31.3%) were permanent residents of the city of Botucatu, Brazil.

The prevalence of smoking was 71.1% (n = 59), and 6.0% (n = 5) were former smokers. Licit and illicit drug use was found to be prevalent in the female SWs; 74 (89.2%) of the women consumed alcohol, and 43 (51.8%) used illicit drugs, such as marijuana (36.1%), cocaine (34.9%), and crack cocaine (3.6%). In addition, 65 (78.3%) did not engage in physical activity. The distribution of the general characteristics is shown in Table 1.

The mean age at smoking initiation was 16.0 ± 4.5 years among the smokers. Of the 59 smokers, 81.4% reported smoking every day and 88.1% always inhaled the smoke; the mean number of cigarettes smoked per day was 22.3 ± 20.0, corresponding to approximately 8.6 ± 8.2 packs per week, which resulted in a monthly expenditure of R$ 139.56 ± R$ 115.25. The mean tobacco intake in this group of women was 11.9 ± 14.1 pack-years. The prevalence of high or very high dependence, as measured by the Fagerström scale, was 47.4%.

In analyzing age at smoking initiation and length of time as a SW, we found that there was no association between the two (p = 0.4651); therefore, the majority of the women smoked even prior to starting working as a SW.

The most common motivational stage of change was precontemplation, in 40.6%, and all former smokers were in the maintenance stage. These data are shown in Table 2. In the preconception group, all women smoked regular cigarettes; in addition, 11 (18.6%) smoked flavored cigarettes, 5 (8.5%) smoked hand-rolled cigarettes, 5 (8.5%) smoked water-pipe tobacco, and 2 (3.4%) smoked electronic cigarettes.

Of the 32 women (54.2%) who had tried to quit smoking, 21 (65.6%) reported having felt more irritated during the abstinence period and 20 (62.5%) reported increased appetite. Of those 32 women, 30 (93.7%) did not use any smoking cessation aids.

Among the smokers, 43 (72.9%) started smoking because they chose to do so rather than because someone offered them a cigarette, and the influencing factors included parents (in 13.6%), friends (in 55.4%), and curiosity to try a cigarette (in 79.7%). Before buying cigarettes, some SWs reported that they got

Table 1. Distribution of the general characteristics of the female sex workers in the study (N = 83).[a]

General characteristic	Result
Age, years	26.8 ± 6.3 (18-48)
Length of time as a SW, years	3.7 ± 5.0 (0.0027-15.0000)
Monthly income, R$	3,708.33 ± 3,001.58 (500.00-17,000.00)
Number of children	2.04 ± 1.30 (1-7)
Level of education	
< 9 years of schooling	11 (13.3)
9 years of schooling	14 (16.9)
High school (incomplete)	24 (28.9)
High school (complete)	28 (33.7)
College (incomplete)	5 (6.0)
College (complete)	1 (1.2)
Marital status	
Living with a steady partner	4 (4.8)
Married	1 (1.2)
Divorced	3 (3.6)
Single	74 (89.2)
Widowed	1 (1.2)
Smoking status	
Smoker	59 (71.1)
Former smoker	5 (6.0)
Nonsmoker	19 (22.9)
Has children	49 (59.0)
Engages in physical activity	18 (21.7)
Consumes/uses	
Alcohol	74 (89.2)
Cocaine	29 (34.9)
Crack cocaine	3 (3.6)
Marijuana	30 (36.1)
Other drugs	43 (51.8)

SW: sex worker. [a]Values expressed as mean ± SD (range) or n (%).

Table 2. Smoking history of the female smokers in the study (N = 59).[a]

Smoking history	Result
Age at smoking initiation, years	16.1 ± 4.5 (8-30)
Cigarettes/day	22.3 ± 20.0 (2-120)
Packs/week	8.6 ± 8.2 (0.25-42.00)
Monthly expenditure, R$	139.56 ± 115.25 (2.00-675.00)
Number of successful quit attempts	1.6 ± 0.9 (1-3)
Longest time without smoking, years	0.6 ± 0.4 (0.0082-1.0000)
Tobacco intake, pack-years	11.9 ± 14.1 (0.25-27.0)
Type of smoker	
Daily	48 (81.4)
Weekend	0 (0.0)
Occasional	11 (18.6)
Inhales the smoke	
Always	52 (88.1)
Never	2 (3.4)
Sometimes	5 (8.5)
Level of dependence	
Very low	20 (33.9)
Low	5 (8.5)
Medium	6 (10.2)
High	16 (27.1)
Very high	12 (20.3)
Has tried to quit smoking	32 (54.2)
Withdrawal symptoms in those who tried to quit (n = 32)	
Irritation	21 (65.6)
Insomnia	5 (15.6)
Sadness	6 (18.8)
Agitation	12 (37.5)
Slowness	1 (3.1)
Loss of concentration	1 (3.1)
Increased appetite	20 (62.5)
Used smoking cessation aids	30 (6.3)
Motivational stage of change	
Precontemplation	26 (40.6)
Contemplation	15 (23.5)
Preparation	18 (28.1)

Values expressed as mean ± SD (range) or n (%).

Table 3. Smoking history of the female former smokers in the study (N = 5).[a]

Smoking history	Result
Age at smoking initiation, years	14.4 ± 2.5 (12-18)
Duration of smoking, years	11.4 ± 7.4 (0.25-17.0)
Age at smoking cessation, years	25.8 ± 8.0 (16-37)
Length of time as a former smoker, years	4.4 ± 2.7 (1-7)
Cigarettes/day	33.0 ± 29.1 (5-80)
Packs/week	11.6 ± 10.1 (2-15)
Tobacco intake, pack-years	25.0 ± 29.7 (0.25-36.00)

[a]Values expressed as mean ± SD (range).

cigarettes from family members (in 20.3%) or friends (in 42.4%).

The smoking history distribution of the female SWs who smoked is shown in Table 2. Regarding the smoking history of the former smokers, the mean age at smoking initiation was 14 ± 2.5 years, the mean duration of smoking was 11.4 ± 7.4 years, and the mean age at smoking cessation was 25.8 ± 8.0. The mean number of cigarettes smoked per day was 33.0 ± 29.1, corresponding to approximately 11.6 ± 10.1 per week. The mean tobacco intake in this group of women was 25.0 ± 29.7 pack-years. The smoking history distribution of the female SWs who were former smokers is shown in Table 3.

Table 4. Perceived Stress Scale score and Hospital Anxiety and Depression Scale classification in the study sample (N = 83).[a]

Score	Smoking status	Result				p
PSS	Smoker	23.4 ± 4.59				0.4301
	Nonsmoker	22.1 ± 4.34				
	Former smoker	24.8 ± 7.46				
HADS classification		Improbable	Possible	Probable	TOTAL	
Anxiety	Smoker	21 (25.3)	12 (14.5)	26 (31.3)	59 (71.1)	0.3715
	Nonsmoker	10 (12.1)	5 (6.0)	4 (4.8)	19 (22.9)	
	Former smoker	1 (1.2)	1 (1.2)	3 (3.6)	5 (6.0)	
	Total	32 (38.6)	18 (21.7)	33 (39.7)	83 (100)	
Depression	Smoker	43 (51.8)	8 (9.7)	8 (9.7)	59 (71.1)	0.4299
	Nonsmoker	12 (14.5)	5 (6.0)	2 (2.4)	19 (22.9)	
	Former smoker	2 (2.4)	2 (2.4)	1 (1.2)	5 (6.0)	
	Total	57 (68.7)	15 (18.1)	11 (13.2)	83 (100)	

PSS: Perceived Stress Scale; and HADS: Hospital Anxiety and Depression Scale. [a]Values expressed as mean ± SD or n (%).

Table 5. Frequency distribution of dyspnea in the study sample (N = 83).

Smoking status	Dyspnea			p
	Yes n (%)	No n (%)	Total n (%)	
Smoker	27 (32.5)	32 (38.6)	59 (71.1)	0.4515
Nonsmoker	2 (2.44)	17 (20.5)	19 (22.9)	< 0.0001
Former smoker	3 (3.6)	2 (2.4)	5 (6.0)	1.0000
Total	32 (38.5)	51 (61.5)	83 (100.0)	

The stress level, as measured by the Perceived Stress Scale,[14] which ranges from zero to 40 (the latter represents perceived stress), was defined as intermediate among the smokers, former smokers, and nonsmokers, and there were no significant differences among the three groups of women, as shown in Table 4. In addition, there were no statistically significant differences among the three groups of women regarding the Hospital Anxiety and Depression Scale classification[15]; 51 (61.4%) of the women had scores corresponding to possible or probable anxiety, whereas depression was found to be improbable in 57 (68.7%). The data are shown in Table 4.

At the time of the study, the most commonly reported respiratory symptom was dyspnea (in 38.5%), followed by cough (in 26.5%), palpitation (in 25.3%), chest pain (in 22.9%), dizziness (in 22.9%), expectoration (in 20.5%), and wheezing (in 14.5%). Among the women who did not have dyspnea, the associations were significantly different only for those who were nonsmokers (p < 0.0001); therefore, in the present study, smoking was not associated with this respiratory symptom, according to the results shown in Table 5.

The smokers reported higher illicit drug use (p = 0.0271), whereas cocaine non-use was significant among the nonsmokers (p = 0.0094) and former smokers (p = 0.0114), as was lower marijuana use among the nonsmokers (p < 0.0001). There was higher alcohol consumption among the smokers (p < 0.0001) and nonsmokers (p < 0.0001). The data are shown in Table 6.

We believe that, because this is a population that has to consume alcohol, given that nightclub owners impose this condition, alcohol consumption was not related only to the smokers but also to the nonsmokers.

DISCUSSION

The prevalence of smoking in our sample of female SWs (71.1%) was much higher than the 10.4% and 8.3% reported, respectively, for the general and the female population of Brazil in 2014.[18] However, it was equivalent to that reported in another study of female SWs (68.6% of smokers, 84.3% of alcohol users, and 42.2% of illicit drug users).[12] We conclude that, among the smokers, the level of nicotine dependence is high and that the majority of them have no intention to quit smoking.

In Brazil, the mean age at first trying a cigarette is 15.9 years and mean cigarette consumption is 14.1 cigarettes per day,[19] findings that corroborate those of the present study. Among our sample of female SWs who smoked, cigarette consumption was slightly higher, 22.3 cigarettes per day. A study conducted in five countries in Europe found a higher mean age at first trying a cigarette, 18.2 years, among women,[20] showing that, currently, there has been a shift in the smoking epidemic from developed to developing countries.

Dyspnea was the most commonly reported respiratory symptom in our study, but it was not associated with the smokers. A study of smokers and nonsmokers also found a higher prevalence of respiratory symptoms

Table 6. Use of illicit drugs, cocaine, marijuana, and alcohol in the study sample (N = 83).

Illicit drug use				
Smoking status	Yes n (%)	No n (%)	Total n (%)	p
Smoker	36 (43.3)	23 (27.7)	59 (71.1)	0.0271
Nonsmoker	6 (7.2)	13 (15.8)	19 (22.9)	0.0515
Former smoker	1 (1.2)	4 (4.8)	5 (6.0)	0.2019
Total	43 (51.7)	40 (48.3)	83 (100.0)	
Cocaine use				
Smoking status	Yes n (%)	No n (%)	Total n (%)	p
Smoker	24 (28.9)	35 (42.2)	59 (71.1)	0.0656
Nonsmoker	5 (6.0)	14 (16.9)	19 (22.9)	0.0094
Former smoker	0	5 (6.0)	5 (6.0)	0.0114
Total	29 (34.9)	54 (65.1)	83 (100.0)	
Marijuana use				
Smoking status	Yes n (%)	No n (%)	Total n (%)	p
Smoker	27 (32.5)	32 (38.6)	59 (71.1)	0.4615
Nonsmoker	2 (2.4)	17 (20.5)	19 (22.9)	< 0.0001
Former smoker	1 (1.2)	4 (4.8)	5 (6.0)	0.2059
Total	30 (36.1)	53 (63.9)	83 (100.0)	
Alcohol use				
Smoking status	Yes n (%)	No n (%)	Total n (%)	p
Smoker	54 (65.1)	5 (6.0)	59 (71.1)	< 0.0001
Former smoker	16 (19.3)	3 (3.6)	19 (22.9)	< 0.0001
Nonsmoker	4 (4.8)	1 (1.2)	5 (6.0)	0.2059
Total	74 (89.2)	9 (10.8)	83 (100.0)	

among the smokers; however, there were no significant differences between the groups regarding dyspnea.[21]

The most commonly consumed cigarette brand among the female SWs (in 41.4%) is produced in Paraguay and is sold illegally; therefore, this cigarette brand is not taxed and has a price far below the market price, being sold for up to R$ 2.50. This can lead to an increase in consumption in this population: low cost and easy access. As a result of the tobacco control policy in Brazil, taxes on cigarettes increased by 116% between 2006 and 2013, and, as a direct consequence, there was a 32% decrease in cigarette sales.[22] Brazil has currently proposed a protocol for tobacco monitoring in the member countries of the Southern Common Market; the idea is to have control over the amount of cigarettes produced and the places where they are sold, in order to combat the Illegal cigarette trade, which has been flourishing.[23]

Women have experienced several withdrawal symptoms, two of which are irritability and increased appetite; other studies have shown that, in addition to increasing the chances of relapse, these symptoms make smoking cessation difficult in women.[24,25]

Studies have also confirmed the influence of family members and friends as a determinant of cigarette smoking initiation, which usually occurs during adolescence; curiosity also appears as a motivator of smoking initiation.[19,24-26]

We found high consumption of alcohol and illicit drugs in our sample of female SWs. Alcohol consumption was higher among the smokers and former smokers, and, regarding illicit drug use (cocaine, crack cocaine, and marijuana), there was significance in these two groups as compared with the nonsmokers; therefore, we can suggest that smoking is associated with illicit drug use.

Smoking is classified as a risk factor for involvement with other drugs and is seen as a predecessor to involvement with illicit drugs, such as marijuana, cocaine, and crack cocaine. In a review of the literature, we found it possible to identify a positive relationship between cigarette smoking and cocaine use. In smokers, the number of cigarettes smoked is greater when under the influence of cocaine, making it essential that smoking cessation treatment be initiated concomitantly with treatment of dependence on other substances.[27,28]

Studies have been inconclusive regarding the association between smoking and alcohol consumption; some quantitative studies have shown a positive association between the two, reporting that alcohol consumers are more likely to smoke cigarettes and to develop dependence on them in the future, whereas other studies have not shown a correlation between the two.[29-31]

We found no significant differences among the three groups of women regarding anxiety, depression, or perceived stress; therefore, being a smoker was not

associated with any of these symptoms. However, we found that anxiety was a prevalent symptom in the majority of the female SWs and that it may be linked to their profession and work environment, since it is not associated only with the smokers. The association of stress, anxiety, and depression with smoking is quite complex; studies have indicated that smoking is a risk factor for anxiety disorders[32] and that the association between smoking and anxiety disorders is stronger than that between smoking and depression; however, it has been hypothesized that these emotional problems arose even prior to cigarette smoking initiation.[33]

Since female SWs are exposed to various risk factors, such as licit and illicit drug use, we conclude that harm reduction is an important strategy to be adopted in this group of women living in a situation of vulnerability. We conceive harm reduction as a late intervention strategy, at the level of tertiary prevention, that requires little effort, because the initial goal is not abstinence from drug use but rather the minimization of its consequences.[34] Harm reduction consists of individualized interventions aimed at providing information, education, and counseling regarding possible risks and harms related to licit and illicit drug use, prioritizing the quality of life of users,[35] such as the study population.

REFERENCES

1. World Health Organization. WHO Report on the Global Tobacco Epidemic, 2008. The MPOWER package. Geneva: World Health Organization; 2008.

2. Eriksen M, Mackay J, Schluger N, Gomeshtapeh FI, Drope J. The Tobacco Atlas. 5th ed. Atlanta, GA: American Cancer Society; New York, NY: World Lung Foundation; 2015.

3. Silva VL, Romero LC. Programa nacional de combate ao fumo: plano de trabalho para o período 1988-2000. Rev Bras Cancerol. 1988;34(4):245-54.

4. Regueira G, Suárez-Lugo N, Jakimczuk S. Tobacco control strategies from a gender perspective in Latin America [Article in Spanish]. Salud Publica Mex. 2010;52 Suppl 2:S315-20. https://doi.org/10.1590/S0036-36342010000800029

5. World Health Organization. WHO Report on the Global Tobacco Epidemic, 2013. Enforcing bans on tobacco advertising, promotion and sponsorship. Geneva: World Health Organization; 2013.

6. Barros AJ, Cascaes AM, Wehrmeister FC, Martínez-Mesa J, Menezes AM. Tobacco smoking in Brazil: regional inequalities and prevalence according to occupational characteristics [Article in Portuguese]. Cien Saude Colet. 2011;16(9):3707-16. https://doi.org/10.1590/S1413-81232011001000008

7. Passos AD, Figueiredo JF. Risk factors for sexually transmitted diseases in prostitutes and transvestites in Ribeirão Preto (SP), Brazil [Article in Portuguese]. Rev Panam Salud Publica. 2004;16(2):95-101. https://doi.org/10.1590/S1020-49892004000800004

8. Andrade MC. Mulheres prostituídas [monograph on the Internet]. São Paulo: Editora Mandruvá; 2002 [cited 2014 Feb 4]. Available from: http://www.hottopos.com/seminario/sem2/cris1.htm

9. Salmeron NA, Pessoa TA. Sex workers: socioepidemiologic profile and measurements of harm reduction [Article in Portuguese]. Acta Paul Enferm. 2012;25(4):549-54. https://doi.org/10.1590/S0103-21002012000400011

10. Santos JD, Silveira DV, Oliveira DF, Caiaffa WT. Instruments used to evaluate smoking habits: a systematic review [Article in Portuguese]. Cien Saude Colet. 2011;16(12):4707-20. https://doi.org/10.1590/S1413-81232011001300020

11. Instituto Brasileiro de Geografia e Estatística [homepage on the Internet]. São Paulo: IBGE; c2014 [cited 2014 Oct 2]. Cidades@–São Paulo: Botucatu. [about 3 screens]. Available from: http://cidades.ibge.gov.br/xtras/perfil.php?lang=&codmun=350750&search=||infog r%E1ficos:-informa%E7%F5es-completas

12. Dal Pogetto MR. Prevalência das doenças sexualmente transmissíveis em mulheres profissionais do sexo do município de Botucatu/SP [dissertation]. Botucatu: Faculdade de Medicina de Botucatu, Universidade Estadual Paulista; 2010.

13. DiClemente CC, Prochaska JO. Self-change and therapy change of smoking behavior: a comparison of processes of change in cessation and maintenance. Addict Behav. 1982;7(2):133-42. https://doi.org/10.1016/0306-4603(82)90038-7

14. Reis RS, Hino AA, Añez CR. Perceived stress scale: reliability and validity study in Brazil. J Health Psychol. 2010;15(1):107-14. https://doi.org/10.1177/1359105309346343

15. Marcolino JA, Mathias LA, Piccinini Filho L, Guaratini AA, Suzuki FM, Alli LA. Hospital Anxiety and Depression Scale: a study on the validation of the criteria and reliability on preoperative patients. Rev

Bras Anestesiol. 2007;57(1):52-62. https://doi.org/10.1590/S0034-70942007000100006

16. Caram LM, Ferrari R, Tanni SE, Coelho LS, Godoy Id, Martin Rdos S, et al. Characteristics of smokers enrolled in a public smoking cessation program. J Bras Pneumol. 2009;35(10):980-5. https://doi.org/10.1590/S1806-37132009001000006

17. Heatherton TF, Kozlowski LT, Frecker RC, Fagerström KO. The Fagerström Test for Nicotine Dependence: a revision of the Fagerström Tolerance Questionnaire. Br J Addict. 1991;86(9):1119-27. https://doi.org/10.1111/j.1360-0443.1991.tb01879.x

18. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Vigilância de Doenças e Agravos não Transmissíveis e Promoção de Saúde. Vigitel Brasil 2014: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Brasília: Ministério da Saúde; 2015.

19. Instituto Nacional de Câncer José Alencar Gomes da Silva [homepage on the Internet]. Rio de Janeiro: INCA; c2014 [cited 2014 Dec 17]. Agência de notícias: Jovem não está nem aí para cigarro; [about 2 screens]. Available from: http://www2.inca.gov.br/wps/wcm/connect/agencianoticias/site/home/noticias/2013/jovem_nao_esta_nem_ai_para_cigarro

20. Oh DL, Heck JE, Dresler C, Allwright S, Haglund M, Del Mazo SS, et al. Determinants of smoking initiation among women in five European countries: a cross-sectional survey. BMC Public Health. 2010;10:74. https://doi.org/10.1186/1471-2458-10-74

21. Santos LL, Ormond LS, Macedo MC, Dias CM, Macedo LB. Sinais e sintomas respiratórios, grau de dependência ao fumo e nível de atividade física em tabagistas. ASSOBRAFIR Cienc. 2013;4(2):27-37.

22. Instituto Nacional de Câncer José Alencar Gomes da Silva. [homepage on the Internet]. Rio de Janeiro: INCA; c2014 [cited 2014 Dec 17]. Agência de Notícias: Pesquisa internacional constata que elevação de impostos é uma das mais eficazes políticas para diminuir acesso ao cigarro; [about 3 screens]. Available from: http://www2.inca.gov.br/wps/wcm/connect/agencianoticias/site/home/noticias/2014/pesquisa_internacional_constata_que_elevacao_de_impostos_e_uma_das_mais_eficazes_politicas_para_diminuir_acesso_ao_cigarro

23. Instituto Nacional de Câncer José Alencar Gomes da Silva. [homepage on the Internet]. Rio de Janeiro: INCA; c2016 [cited 2016 Aug 2]. Agência de Notícias: Brasil propõe rastreamento do tabaco no Mercosul para evitar comércio ilegal. [internet]. [about 2 screens]. Available from: http://www2.inca.gov.br/wps/wcm/connect/agencianoticias/site/home/noticias/2016/brasil-propoe-rastreamento-do-tabaco-no-mercosul-para-evitar-comercio-ilegal

24. Borges MT, Barbosa RH. Gender signs on female smoking: a sociological approach to women's cigarette smoking [Article in Portuguese]. Cien Saude Colet. 2009;14(4):1129-39. https://doi.org/10.1590/S1413-81232009000400019

25. Lombardi EM, Prado GF, Santos Ude P, Fernandes FL. Women and smoking: risks, impacts, and challenges. J Bras Pneumol. 2011;37(1):118-28. https://doi.org/10.1590/S1806-37132011000100017

26. Eckerdt Nda S, Corradi-Webster CM. Meanings about smoking for women participant in a group for smokers [Article in Portuguese]. Rev Lat Am Enfermagem. 2010;18 Spec No:641-7.

27. Ribeiro-Andrade EH, Gomes GL. Tabaco e drogadição: o cigarro como preditivo a novas e/ou mais graves adicções. In: Proceedings of the II

Congresso Internacional Interdisciplinar em Sociais e Humanidades (Coninter); 2013 Oct 8-11: Belo Horizonte, Brasil; 2013.

28. Güths PB. Prontidão para mudança em usuários de crack e cocaína que consomem tabaco e que estão em tratamento em uma comunidade terapêutica [dissertation]. Porto Alegre: Pontifícia Universidade Católica do Rio Grande do Sul; 2012.

29. Guimarães VV, Florindo AA, Stopa SR, César CL, Barros MB, Carandina L, et al. Alcohol abuse and dependence in adults in the State of São Paulo, Brazil [Article in Portuguese]. Rev Bras Epidemiol. 2010;13(2):314-25. https://doi.org/10.1590/S1415-790X2010000200013

30. Cardoso DB, Coelho AP, Rodrigues M, Petroianu A. Factors related to smoking and its interruption [Article in Portuguese]. Rev Med (Sao Paulo). 2010;89(2):76-82. https://doi.org/10.11606/issn.1679-9836.v89i2p76-82

31. Berto SJ, Carvalhaes MA, Moura EC. Smoking associated with other behavioral risk factors for chronic non-communicable diseases [Article in Portuguese]. Cad Saude Publica. 2010;26(8):1573-82. https://doi.org/10.1590/S0102-311X2010000800011

32. Moylan S, Jacka FN, Pasco JA, Berk M. Cigarette smoking, nicotine dependence and anxiety disorders: a systematic review of population-based, epidemiological studies. BMC Med. 2012;10:123. https://doi.org/10.1186/1741-7015-10-123

33. Mykletun A, Overland S, Aarø LE, Liabø HM, Stewart R. Smoking in relation to anxiety and depression: evidence from a large population survey: the HUNT study. Eur Psychiatry. 2008;23(2):77-84. https://doi.org/10.1016/j.eurpsy.2007.10.005

34. Machado LV, Boarini ML. Drug policies in Brazil: the harm reduction strategy [Article in Portuguese]. Psicol Cienc Prof. 2013;33(3):580-95. https://doi.org/10.1590/S1414-98932013000300006

35. Brasil. Ministério da Saúde. Biblioteca Virtual em Saúde [homepage on the Internet]. Brasília: o Ministério; c2016 [cited 2016 Aug 1]. Portaria Nº 1.028, de 1º de julho de 2005: Determina que as ações que visam à redução de danos sociais e à saúde, decorrentes do uso de produtos, substâncias ou drogas que causem dependência, sejam reguladas por esta Portaria. Available from: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2005/prt1028_01_07_2005.html