

Patterns of alcohol, tobacco, and illicit drug use among transsexuals

Patrones de consumo de alcohol, tabaco y drogas ilegales en personas transexuales

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Abstract

This study evaluated the patterns of substance use in a large sample of male-to-female (MtoF) and female-to-male (FtoM) transsexuals. A total of 251 transsexual subjects (163 MtoF and 88 FtoM) attended in the Gender Identity Unit of Catalonia completed self-administrated questionnaires on consumption of alcohol, tobacco, cannabis, cocaine, opioids, and designer drugs. Results were compared with the general population in Catalonia using data from the National Health Service (EDADES 2013 study). Current consumption of alcohol (70.1%), tobacco (46.2%), and cannabis (16.3%) among transsexuals was similar when compared with men (72.1%, 42.1%, 12.8%) and increased when compared with women (57.6%, 35.2%, 5%); the consumption between MtoF and FtoM subgroups was similar. The use of cocaine was almost ten times more prevalent in the MtoF subgroup than in the FtoM subgroup (1.1%), and in general population (less than 1%). Only a few reported uses of opioids and designer drugs. In conclusion, the substance use among transsexuals, except for the use of cocaine, was similar between MtoF and FtoM subgroups, and resembled the consumption prevalence among men in the general population. The proportion of cocaine consumers in the MtoF subgroup was up to ten times higher than in other subgroups.

Keywords: Transsexual; Transsexualism; Gender Dysphoria; Alcohol use; Consumption patterns; Alcohol; Tobacco; Drugs.

Resumen

Este estudio evalúa los patrones de consumo de sustancias en personas transexuales de hombre a mujer (H-M) y de mujer a hombre (M-H). Un total de 251 personas transexuales (163 H-M y 88 M-H), atendidas en la Unidad de Identidad de Género de Cataluña, completaron un cuestionario autoadministrado sobre el consumo de alcohol, tabaco, cannabis, cocaína, opiáceos y drogas de diseño. Los resultados se compararon con datos del Servicio Nacional de Salud en población general en Cataluña (estudio EDADES 2013). La prevalencia del consumo de alcohol (70,1%), tabaco (46,2%) y cannabis (16,3%) actual en el total de personas transexuales de ambos sexos fue similar al de hombres en población general (72,1%, 42,1%, 12,8%) y mayor que la prevalencia en mujeres (57,6%, 35,2%, 5%); no se encontraron diferencias en dicho consumo entre H-M y M-H. El consumo de cocaína en H-M (9,8%) fue casi diez veces más prevalente que en el subgrupo M-H (1,1%) y que en ambos sexos en población general (menor del 1%). Sólo unos pocos referían consumo de opiáceos y drogas de diseño. En conclusión, el patrón de consumo de sustancias en personas transexuales, excepto para la cocaína, es similar entre ambos sexos, y se asemeja al patrón de consumo masculino en población general. El consumo de cocaína es hasta diez veces mayor en el grupo de mujeres transexuales (H-M) con respecto a los otros grupos.

Palabras clave: Transexual; Transexualismo; Disforia de género; Patrones de consumo; Alcohol; Tabaco; Drogas.

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Transsexualism (ICD-10, World Health Organization, 1993), gender identity disorder (DSM-IV-TR, American Psychiatric Association, 2000), gender dysphoria (DSM-5, American Psychiatric Association, 2013), or gender incongruence (Drescher, Cohen-Kettenis & Winter, 2012) is a condition in which individuals experience discrepancy between the sex assigned at birth and the gender they identify with, often leading to extensive personal distress (The World Professional Association for Transgender Health (WPATH), 2011). The intensity of gender discrepancy is extreme when using the first two terms (DSM-IV-TR, American Psychiatric Association, 2000; ICD-10, World Health Organization, 1993), and more dimensional when using the recent term of gender dysphoria (DSM-5, American Psychiatric Association, 2013).

Despite increasing scientific interest in people with gender dysphoria, their alcohol, tobacco, and illicit drug abuse or consumption habits still lack thorough research. In studies carried out in specialized gender units, data of prevalence of previous alcohol and/or drug abuse varied depending on gender and country: from 11.3% to 50% among male-to-female (MtoF) and from 3.8% to 61.5% among female-to-male (FtoM) transsexuals (Cole, O'Boyle, Emory & Meyer, 1997; De Cuypere, Janes & Rubens, 1995; Gómez-Gil, Trilla, Salamero, Godás & Valdés, 2009; Haraldsen & Dahl, 2000; Hepp, Kraemer, Schnyder, Miller & Delsignore, 2005; Landen, Walinder & Lundstrom, 1998; Verschoor & Poortinga, 1988). Whereas in the Netherlands (Verschoor & Poortinga, 1988), Switzerland (Hepp et al., 2005), and the USA (Cole et al., 1997) it was higher among MtoF than FtoM transsexuals, in Belgium (De Cuypere et al., 1995) and Sweden (Landen et al., 1998) it was higher in the FtoM subgroup; however, none of these differences were found to be statistically significant. A Spanish study of our work group (Gomez-Gil et al., 2009) showed the current prevalence of abuse or dependence among MtoF transsexuals to be higher than among FtoM both for alcohol (10.7% vs. 1.4%) and other substances (14.5% vs. 1.4%).

Data on substance consumption is even more limited than data on abuse in this population. In the USA, data on substance use can be obtained from studies on HIV prevalence and risk behaviors among transgender women (MtoF transgender individuals). A systematic review (Herbst et al., 2008) showed the prevalence of alcohol consumption to be 43.7%, marijuana 20.2%, injected street drugs 12%, and other illicit drugs 26.7%. In later studies the proportion of consumers was similar (Reback & Fletcher, 2014; Santos et al., 2014; Sevelius, Reznick, Hart & Schwarcz, 2009) or even higher (Rowe, Santos, McFarland & Wilson, 2015). In two of them (Reback et al., 2014; Santos et al., 2014) the prevalence of alcohol and illicit drug use among transwomen was found to be higher

than in the general population. A recent Canadian study found higher prevalence of amphetamine and cocaine use among transgenders than in the non-transgender population (Scheim, Bauer & Shokoohi, 2017). Most of these studies, however, did not include transgender men (FtoM transgender individuals) and, as their participants were mainly recruited on the streets, transgender-specific social service agencies, or through respondent-driven sampling, comparisons with studies carried out in clinical settings should be done with caution.

Even less is known about the smoking habits of people with gender dysphoria. In two studies active smokers comprised one third of transgender participants (Conron, Scott, Stowell & Landers, 2012; Shires & Jaffee, 2016); they were also more likely to smoke than the nontransgender individuals with odds ratio of 2.7 (Conron et al., 2012).

The aims of this study were: (1) to evaluate self-reported consumption patterns of alcohol, tobacco, cannabis, cocaine, opioids, and designer drugs in a large sample of Spanish MtoF and FtoM transsexuals attending a Gender Identity Unit in Catalonia, Spain and (2) to compare this sample with the general population.

Method

Participants

A total of 300 consecutive transsexuals were offered to participate in the study during a psychiatric visit at the Gender Identity Unit of the Hospital Clínic of Barcelona from 2010 to 2014. A written informed consent was obtained from the participants. Transsexualism or gender identity disorder in adulthood or adolescence was diagnosed by two experts on gender identity disorder management, a psychologist and a psychiatrist, using the ICD-10 (World Health Organization, 1993) or the DSM-IV-TR (American Psychiatric Association, 2000) criteria. The study was approved by the Ethics Committee of the hospital and was conducted in accordance with the Declaration of Helsinki (World Medical Association, 2013).

This study formed part of a larger research project with a focus on psychiatric comorbidity (Gomez-Gil et al., 2009), social distress, anxiety and depression (Gomez-Gil et al., 2012), personality (Gomez-Gil et al., 2013), quality of life (Gomez-Gil, Zubiaurre-Elorza, de Antonio, Guillaumon & Salamero, 2014), and sexual quality of life (Bartolucci et al., 2015) of Spanish transsexuals.

Measurements

This was a descriptive cross-sectional study. A researcher-designed questionnaire was used to record information on participants' age, gender, and status of hormone treatment. A Spanish version (Rubio Valladolid, Bermejo Vicedo, Caballero Sanchez-Serrano & Santo-Domingo Carrasco, 1998) of The Alcohol Use Disorders Identification Test

(AUDIT) (Saunders, Aasland, Babor, de la Fuente & Grant, 1993) was used to assess drinking habits and to detect possible hazardous and harmful alcohol consumption. A cut-off score of 8 was used to detect hazardous drinking, with sensitivity ranging from 81.4% to 90% and specificity from 90% to 94.6% (de Torres et al., 2009; Gomez, Conde, Santana & Jorrián, 2005; Rubio Valladolid et al., 1998). To assess smoking habits a multiple-choice question was used: How many cigarettes do you smoke per day? (I do not smoke; 1-15; 16-25; 26 or more). Finally, a researcher-designed questionnaire assessed the use of other addictive substances. The questionnaire contained four questions aimed at evaluating current use of four types of drugs: (1) Do you consume cocaine? (Yes, No); (2) Do you consume cannabis or its derivatives? (Yes, No); (3) Do you consume designer drugs (ecstasy or liquid ecstasy)? (Yes, No); (4) Do you consume opioids (heroin, morphine, codeine, methadone, tramadol, fentanyl, buprex)? (Yes, No).

Prevalence of alcohol, tobacco, cannabis, cocaine, ecstasy, and heroin use in the last 30 days among women, men and in the total sample taken from EDADES 2013 survey (data collected between 2013 and 2014) was used to compare the study sample with the general Catalan population (Generalitat de Catalunya Departament de Salut, 2015). EDADES is a household survey that biennially evaluates consumption of alcohol, tobacco and drugs among residents in Spain. Participants are asked by a trained interviewer "In the last 30 days, in how many days have you consumed alcohol [smoked tobacco, consumed cannabis, consumed cocaine]?" and "Have you consumed ecstasy or other designer drugs in the last 30 days?". The Catalan sample of EDADES 2013 consisted of 2019 male and female individuals aged between 15 and 64 years and was chosen due to a similar time-frame of data collection.

Statistical analysis

Data of our sample were analyzed using the Statistical Package for the Social Sciences (SPSS)-version 18. Frequencies, means, and standard deviations were calculated to describe the sample. Data were checked for normality of distribution and outliers. P-values below 0.05 were regarded as statistically significant. To compare quantitative variables the two-sided t-Student test was used. The chi-square test was used to compare the prevalence between MtoF and FtoM participants; Fisher's exact test was used when necessary. Multivariate logistic regression analysis was used to control for age, sex, and hormonal treatment when statistically significant differences were found with the t-Student test. To compare the prevalence of alcohol and illicit drugs use between our sample and the sample of the general Catalan population we used the one-sample two-sided z-test for a population proportion (available online at <http://epitools.ausvet.com.au/content.php?page=z-test-1>).

Results

Participants

Of the 300 transsexual subjects who were invited to participate, 22 (7.3%) refused to participate and 27 (9%) were excluded due to incomplete answers on the scale questionnaires. A total of 251 (83.7%) subjects (163 MtoF and 88 FtoM) were finally included (age range 14-63 years, Mean age = 29.9, SD = 10.26). The MtoF subgroup was older than the FtoM subgroup (age range 14-63 years, Mean age = 31.47, SD = 10.91 vs. age range 18-51 years, Mean age = 26.99, SD = 8.23; $t(222.76) = 3.656$, $p < 0.05$). Of all the participants, 111 (44.2%) were on hormone treatment at the time of participation in the study. The difference between the proportion of patients being on hormone treatment in the MtoF subgroup ($n = 87$; 53.4%) and the FtoM subgroup ($n = 24$; 27.3%) was statistically significant ($z = 2.035$, $p = 0.042$). Other socio-demographic characteristics, are described in subsamples of this study. More than 50% of the sample had low educational level and low-qualified jobs (Gomez-Gil et al., 2013; Gomez-Gil et al., 2012).

Patterns of substance use and differences between the MtoF and FtoM subgroups

The only statistically significant difference between the MtoF and the FtoM subgroups was found in cocaine consumption: the percentage of cocaine consumers in the MtoF subgroup was almost ten times higher (Table 1). No statistically significant differences were found between MtoF and FtoM patients (Table 2) neither in the proportions of hazardous or harmful drinkers nor in the average score of the AUDIT ($M = 2.6$, $SD = 3.33$ vs. $M = 2.52$, $SD = 3.52$). The results of multivariate logistic regression analyses when controlling for age, sex, and hormonal treatment found an association between cocaine consumption and MtoF sex ($OR = 7.8$; $p = 0.05$). The model accounted for the 10.5 % of the variance according to Nagelkerke R^2 .

Differences of substance use among transsexual subjects compared with the general Catalan population

Table 1 shows the prevalence of alcohol, tobacco, cannabis, cocaine, opioids, and designer drugs use among the transsexual sample and the general population sample taken from the EDADES 2013 survey. As shown in Table 2, comparisons between total samples showed no statistically significant differences in alcohol consumption but the percentage of tobacco and cannabis consumers was higher among transsexual subjects. However, in comparisons between the subgroups the prevalence of alcohol, tobacco and cannabis use among both MtoF and FtoM transsexuals did not differ when compared with men and was only increased when compared with women.

Even though a statistical comparison was not possible, the use of cocaine in the MtoF subgroup (9.8%) was

Table 1. Prevalence of substance use among male-to-female (MtoF) and female-to-male (FtoM) transsexuals, and in Catalanian general population taken from EDADES 2013 survey (Generalitat de Catalunya Departament de Salut, 2015)

	Total Transsexuals (n=251)	MtoF (n=163)	FtoM (n=88)	Total General Population (n=2019)	Men (n = 1027)	Women (n = 992)
	N (%)	n (%)	n (%)	N (%)	n (%)	n (%)
Alcohol consumers (AUDIT Score)	176 (70.1%)	114 (69.9%)	62 (70.5%)	65.0%	72.1%	57.6%
Low-risk drinkers (1-7)	159 (63.3%)	103 (63.2%)	56 (63.6%)			
High risk drinkers (8-19)	15 (6%)	10 (6.1%)	5 (5.6%)			
Probable alcohol dependence (≥20)	2 (0.8%)	1 (0.6%)	1 (1.1%)			
Hazardous or harmful drinkers (≥8)	17 (6.8%)	11 (6.7%)	6 (6.8%)			
Tobacco consumers	116 (46.2%)	71 (43.6%)	45 (51.1%)	38.7%	42.1%	35.2%
1-15 per day	89 (76.7%)	52 (73.2%)	37 (82.2%)			
16-25 per day	22 (19%)	16 (22.5%)	6 (13.3%)			
26 or more per day	5 (4.3%)	3 (4.2%)	2 (4.4%)			
Cannabis consumers	41 (16.3%)	24 (14.7%)	17 (19.3%)	8.9%	12.8%	5.0%
Cocaine consumers	17 (6.8%)	16 (9.8%)	1 (1.1%)	1.6%	2.5%	0.7%
Opioids consumers	1 (0.4%)	0 (0%)	1 (1.1%)	*	*	*
Designer drugs consumers	4 (1.6%)	4 (2.5%)	0 (0%)	0.1%	0.2%	0.1%

Note. * No data available for a comparison

Table 2. Comparison of substance use in male-to-female (MtoF) and female-to-male (FtoM) transsexuals, and in Catalanian men and women population taken from EDADES 2013 survey (Generalitat de Catalunya Departament de Salut, 2015)

	MtoF vs. FtoM		Total Transsexuals vs. Total General Population		MtoF vs. Men		MtoF vs. Women		FtoM vs. Men		FtoM vs. Women	
	χ^2	p	z	p	z	p	z	p	z	p	z	p
Alcohol consumers	0.007	n.s.	1.7	n.s.	0.6	n.s.	3.2	0.0015	0.3	n.s.	2.4	0.0143
Tobacco consumers	1.32	n.s.	2.4	0.0147	0.4	n.s.	2.2	0.0247	1.7	n.s.	3.1	0.0018
Cannabis consumers	0.883	n.s.	4.1	<0.0001	0.7	n.s.	5.7	<0.0001	1.8	n.s.		**
Cocaine consumers	6.818	0.009		**		**		**		**		**
Opioids consumers	0.351*	n.s.										
Designer drugs consumers	0.301*	n.s.		**		**		**		**		**

Note. *Fisher's exact test was used; ** Comparison not reliable due to low effectives; n.s.: not statistically significant

noticeably more prevalent than among FtoM (nine-times higher) and both men (almost four-times higher) and women (fourteen-times higher) (Table 1).

Discussion

To our knowledge, our study was the first to examine the patterns of substance use in a large transsexual sample of both genders in Catalonia, Spain, and to compare the consumption prevalence with the general population. Evaluating patterns of alcohol, tobacco and illicit drug use among transsexual individuals is important for

making preventive care policies, as substance misuse is associated with other risk factors, such as elevated risk of social exclusion (Hyde et al., 2014; Scheim et al., 2017), involvement in sex work (Sausa, Keatley & Operario, 2007) and HIV infection (Reback et al., 2014; Sausa et al., 2007), especially among MtoF transsexuals.

The proportion of transsexual subjects consuming alcohol, tobacco, cannabis, opioids and designer drugs was surprisingly similar between MtoF and FtoM individuals; it seems that gender dysphoria reduces the gender differences in consumption often observed in the general population in which men tend to consume more substances than women.

The only statistically significant difference was found in cocaine consumption and it was considerably higher in the MtoF subgroup. One of the plausible reasons of this difference in cocaine use could be frequent involvement in sex work among MtoF transsexual in Spain rather than being linked to the sex assigned at birth and the gender identification. In a previous study of our team (Gomez-Gil et al., 2009) 33% of MtoF transsexuals reported current or previous involvement in prostitution and sex-shows. Use of drugs can mitigate the negative emotional impact of sex work and might be required by the customers (Sausa et al., 2007). On the other hand, illicit substances might be used to increase sexual excitation or to decrease the pain threshold (Dolengevich-Segal, Rodriguez-Salgado, Bellesteros-Lopez & Molina-Prado, 2017).

Compared with the scarce data of consumption from the existing literature, transwomen in the USA (Herbst et al., 2008; Reback et al., 2014; Santos et al., 2014; Sevelius et al., 2009) reported less alcohol consumption, yet more use of cannabis than the MtoF subgroup in our study. The consumption of other illicit drugs is impossible to compare due to distinct categories used. The prevalence of tobacco smoking (Conron et al., 2012; Shires et al., 2016) was lower than in our study (36.2% and 27.2% vs. 46.2%). Nevertheless, it must be taken into account that the prevalence of smokers (17.3%) in a nontransgender control group (Conron et al., 2012) was as well lower than in the general Catalan population (38.7%).

Interestingly, when compared by subgroups, the proportion of alcohol, tobacco and cannabis consumers among both MtoF and FtoM transsexuals resembled the prevalence among men and was higher than among women. Even though a statistical comparison was not possible, the prevalence of cocaine use in the MtoF subgroup was remarkably increased when compared with both men and women of the general Catalan population; this increase could be related to the marginal and socioeconomically poor environment of MtoF transsexuals involved in prostitution. Further research is needed to determine the causes of the rather masculine consumption of alcohol, tobacco and cannabis. Identification and understanding of different patterns of consumption would benefit prevention and treatment strategies.

This study has several limitations. First of all, its participants were recruited through a Gender Unit when requiring assessment for diagnosis and treatment. Due to fear of negative consequences on the assistance, the consumption prevalence might be underreported. Secondly, we estimated the current substance use without taking into account the lifetime prevalence of substance dependence or abuse, possibly minimizing the extent of the problem. Moreover, most of the questions used to assess drug consumption did not consider the quantity and the frequency of consumption. Thirdly, we used a control

group from another study for comparisons (EDADES 2013) and the original data files of the control group were not available. Finally, since the participants were attending specialized medical services, it is uncertain whether these results can be applied to those who do not have access to clinical facilities. We hypothesize that transsexuals who have never received medical attention or those who are taking hormones without a prescription may experience poorer quality of life than those attending specialized services. Therefore, the consumption of alcohol, tobacco, and illicit drugs might be underestimated.

In conclusion, the substance use among transsexuals was similar between MtoF and FtoM subgroups, except for the use of cocaine. When compared with the general Catalan population, transsexual subjects resembled men in the use of alcohol, tobacco and cannabis but the prevalence was higher than among women. The proportion of cocaine consumers in the subgroup of MtF was increased when compared with both men and women in the general population. Only a few reported uses of opioids and designer drugs. Further research is needed to investigate the causal relationships of our findings. Considering the risks associated to substance use, any intervention aimed at improving the health of people with gender dysphoria should consider the particular patterns of alcohol, tobacco and illicit drug use.

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Conflict of interest

No conflict of interest to report.

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