

ORIGINAL ARTICLE

**Profile of users of the VIVAVOZ telephone service on drugs of abuse\***

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**ABSTRACT**

**INTRODUCTION:** Drug abuse is a major public health problem. Telephone interventions have been used as a treatment method. This study aimed at describing the sociodemographic profile, consumption pattern and dependence on psychoactive substances of individuals seeking help in a telephone service on drugs of abuse. **METHODS:** Data were collected by previously trained consultants using an electronic protocol throughout the first year of the service. Instruments were applied to find the sociodemographic profile, consumption pattern and dependence of drug users. Descriptive statistics was used to estimate distribution of variables, and the data are presented as frequencies. **RESULTS:** Throughout the study period there were 28,257 calls, of which 7,956 were included. In total there was higher prevalence of women, students, single individuals, older than 35 years, with incomplete primary education and family income lower than five minimum wages. Men aged 18-25 years were prevalent in the sample. The most frequently used drugs were tobacco, cannabis, alcohol and cocaine. Tobacco use was similar for both genders. Males used more illicit drugs. Most drug users were dependent, and men had higher rates of addiction to tobacco and solvents. **CONCLUSIONS:** These results outline the profile of individuals who seek care through a

telephone service, showing the importance of these services for the population and guiding preventive actions.

**Keywords:** Psychoactive substances, telemedicine, information services, epidemiology.

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## Introduction

Alcohol abuse has become a major public health problem worldwide. In Brazil systematic surveys have been conducted with the aim of studying prevalence of use of alcohol and other drugs.<sup>1-6</sup> In the last Household Survey, performed in 2005, use of illicit drugs was reported by 22.8% of the respondents; the highest rates were for cannabis (8.8%) and solvents (6.1%). Use of alcohol and tobacco was reported by 77.4 and 44% of respondents, respectively.<sup>2</sup> More recent data on alcohol consumption in the Brazilian population show that 52% of individuals can be classified as drinkers, and nearly half of these (25%) uses alcohol at least once a week.<sup>6</sup> In addition to growing consumption, studies indicate significant difference of drug use between genders. Male individuals, in general, use more alcohol or other drugs, showing an important social pattern of consumption of such substances.<sup>3,6-8</sup>

Development of information technology and telecommunications favored access to an increasingly higher amount of people to distance health services, providing a new form of care: telemedicine.<sup>9</sup> Telephone lines for information, guidance and counseling about health play a major role in telemedicine, providing exchange of clinical information between health professionals and patients.<sup>10</sup> They complement face-to-face and self-help interventions, in addition to being useful as a prevention strategy of drug recurrence.<sup>11</sup> According to Lichenstein et al.,<sup>10</sup> counseling can be proactive, when the first call is performed by the telephone service to the user, and reactive, when the user seeks the service.

Among the advantages presented by this technique is a service that provides help in the client's own house or wherever they are. In addition, benefits are also extended to individuals with physical disabilities, who live in regions with no access to treatment, or who are reluctant to participate in face-to-face interventions, often resulting from lack of time or financial difficulty.<sup>12,13</sup>

International studies show telephone counseling services in many health areas, such as pediatrics,<sup>14</sup> cardiology,<sup>15</sup> emergency,<sup>16</sup> sexology,<sup>17</sup> palliative care to terminal patients,<sup>18</sup> psychiatry,<sup>19</sup> and treatment of chemical dependence.<sup>11,20-22</sup> In Brazil telephone services for health information have also been used. Nowadays, the Brazilian population has the National Information System and Guidance on Prevention of Improper Drug Use (VIVAVOZ), created by the National Antidrug Agency (SENAD) and the Fundação Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA). This service, which can be accessed dialing the number 0800-5100015, provides reactive, free, anonymous telephone counseling, open to the general population and specialized in providing information and guidance on drugs using adequate language and without prejudice. In addition to VIVAVOZ, there are other telephone services in Brazil: The Center of Toxicological Information of Rio Grande do Sul (CIT/RS),<sup>23</sup> the Information Service on Psychoactive Substances (SISP),<sup>24</sup> the Dial Stop Smoking of the National Cancer Institute (INCA),<sup>25</sup> the National Service of Information on Teratogenic Agents (SIAT),<sup>26</sup> the Information Center on Medications (CIM)<sup>27</sup> and Care Centers and Toxicological Information (CEATOX).<sup>28</sup> Each of these services not only provides information, but also uses strategies of contact by telephone. VIVAVOZ offers scientific information on drugs and has a Brief Motivational Intervention (IBM)<sup>29</sup> for users.

Participation of health teams in prevention and use of psychoactive substances in the community, in treatment of dependence and in guidance to users or relatives has been growing each day.<sup>30</sup> Once such professionals have a direct contact with drug users that seek treatment, updated information on different psychoactive substances is necessary. In this sense, it is important to know the situation of drug use, abuse or dependence in the country, as well as the profile of users seeking care, so that actions meeting the real needs of the population can be planned and implemented.

Therefore, this study aimed at describing the sociodemographic profile, consumption pattern and drug dependence of individuals seeking help in a telephone service that provides information and guidance on drugs.

## Methods

This is an exploratory-descriptive retrospective study using a quantitative approach. The VIVAVOZ database was used, generated from a specifically created software program for telephone service.

From June 21, 2005 to June 21, 2006, VIVAVOZ received 172,274 calls, which include all the calls to 0800-510-0015, 24 hours a day, every day of the week. Of these, 144,017 calls were not answered because they were not performed within the service schedule (Monday to Friday, 8 a.m. to 8 p.m.) or put on hold and disconnected. VIVAVOZ consultants answered 28,257 calls over that period. Of these, 7,956 were analyzed, which represented the first call performed by the client, and that had all data completely collected. Data from calls identified as return calls were excluded ( $n = 1,686$ ), as well as calls disconnected before recording the client's sociodemographic information on drug use among users ( $n = 18,615$ ) (Figure 1). Incomplete recording of information was due to several factors, such as prank calls, voluntary interruption by the client, disconnection during service or client's decision not to continue with the protocols. In such cases, the client's desire was respected and collected information were not used.

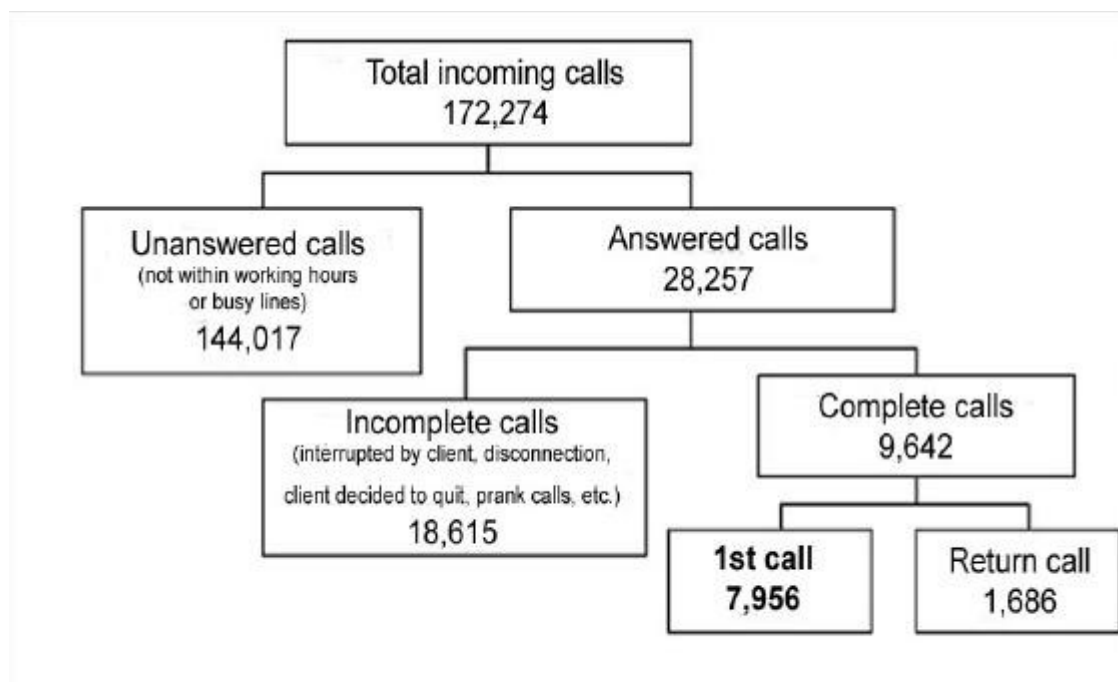


Figure 1 - Flowchart of calls received by VIVAVOZ in its first year

Data were collected by skilled consultants in call center service and to apply IBM to users being supervised by health professionals. Consultants were submitted to a training process, comprised of: a) theoretical lessons in an extension course on the foundations to approach chemical dependence (40 hours); b) theoretical and practical training in the call center to be familiar with the software (20 hours) and training of motivational interview and IBM (20 hours); c) continued training to maintain quality of information. The training model was adapted from the Medical Education Model for the Prevention and Treatment of Alcohol Use Disorders.<sup>31</sup> After this process, consultants were systematically evaluated and supervised during the entire service time at the call center. Calls were answered in a standardized form for all clients, using a flowchart<sup>9</sup> based on the principles of motivational interview.

The instrument used to record sociodemographic data and clients' questions was the general care protocol, which included information on general classification of the question (search for treatment

centers, informative material, information on drugs and others) and client characterization (gender, age group, schooling, marital status, profession and family income). In addition, specific questions on the pattern of substance consumption (alcohol, cocaine, cannabis, solvent, tobacco and others) were applied to drug users. The questionnaire used, proposed and developed by the World Health Organization (WHO),<sup>32</sup> adapted to Brazil, and previously used in other multicenter studies,<sup>1-3,33</sup> includes questions on frequency, amount, time and mode of use of substances. According to the WHO, use of drugs has the following classification: use in life (use at least once in a lifetime), use during past year (use at least once over the past 12 months), use during the past month (use at least once over the past 30 days) and heavy use (daily use over the past month).<sup>33</sup>

Next, the questionnaire to evaluate dependence of the Substance Abuse and Mental Health Services Administration (SAMHSA),<sup>34</sup> adapted to service conditions, was applied. The user was considered dependent when meeting at least two of the following criteria: spent much time using the drug for 1 month or more over the past year; used drugs more frequently or in larger amounts; required higher amounts of the drug; was in situations of physical risk; had a personal problem caused by use of drugs; wanted to reduce or quit using the drug.<sup>34</sup>

To ensure ethical aspects in this study a consent term was orally applied to all clients, authorizing use of data. Anonymity of telephone service users was ensured and the telephone number of clients was not provided by the service, which prevented completion of the profile of lost calls. The project was approved by the Research Ethics Committee at UFCSPA.

The data were analyzed using SPSS 15.0. Descriptive statistics was used to estimate distribution of variables, which were presented as tables of absolute and relative frequencies. The chi-square test was applied to compare characteristics between user and non-users of drugs and dependence between genders.  $P < 0.05$  was considered statistically significant.

## Results

During the study period, 7,956 calls were analyzed; drug users had the highest number of calls (2,600 - 32.8%). Among non-users of drugs are relatives (12.8%), friends (10.8%) and mothers (5.8%); the others (fathers, treatment centers, health professionals and other professionals) accounted for 37.8% of calls.

Sociodemographic profile of non-users of drugs was significantly different from users ( $p < 0.05$ ), except in relation to family income, which had income lower than five minimum wages as the most frequent for both groups. Sociodemographic characteristics of users and non-users of drugs are shown in [Table 1](#).

**Table 1** - Sociodemographic characteristics of service clients (n = 7,956), of drug users (n = 2,600) and of non-drug users (n = 5,333) that used the VIVAVOZ service from 2005 to 2006

	Service clients, n* (%)	Drug users, n* (%)	Non-users, n* (%)	p
<b>Gender</b>				
Male	3,542 (44.7)	1,590 (61.2)	1,952 (36.7)	< 0.001 <sup>†</sup>
Female	4,382 (55.3)	1,010 (38.8)	3,372 (63.3)	
<b>Age group</b>				
12-17 years	1,327 (22.5)	309 (15.1)	1,017 (26.0)	< 0.001 <sup>†</sup>
18-25 years	1,586 (26.9)	735 (35.9)	851 (22.0)	
26-34 years	1,110 (18.8)	435 (21.2)	672 (17.0)	
> 35 years	1,878 (31.8)	569 (27.8)	1,307 (35.0)	
<b>Schooling level</b>				
Illiterate	16 (0.3)	9 (0.6)	7 (0.2)	< 0.001 <sup>†</sup>
Incomplete primary school	1,697 (35.0)	468 (31.0)	1,229 (36.7)	
Incomplete high school	951 (19.6)	280 (19.0)	671 (20.0)	
Technical course	83 (1.7)	22 (1.5)	61 (1.8)	
Complete primary school	538 (11.1)	222 (15.0)	316 (9.4)	
Complete high school	1,108 (22.9)	378 (25.0)	730 (21.8)	
Incomplete higher education	455 (9.4)	118 (7.9)	337 (10.1)	
<b>Marital status</b>				
Single	1,999 (56.1)	972 (56.0)	2,295 (56.4)	< 0.001 <sup>†</sup>
Married	458 (34.3)	588 (34.0)	1,411 (34.7)	
Separated	3,267 (7.9)	172 (9.8)	286 (7.0)	
Widower	98 (1.7)	18 (1.0)	80 (2.0)	
<b>Profession</b>				
Retired	171 (2.9)	74 (4.2)	97 (2.4)	< 0.001 <sup>†</sup>
Liberal professional	207 (3.5)	94 (5.4)	113 (2.7)	
Unemployed	378 (6.4)	226 (12.9)	152 (3.7)	
Housewife	448 (7.6)	127 (7.3)	321 (7.8)	
Student	1,887 (32.1)	363 (20.8)	1,524 (36.9)	
Health professional	158 (2.7)	22 (1.3)	136 (3.3)	
Professional of other areas	2,624 (44.7)	841 (48.1)	1,783 (43.2)	
<b>Family income</b>				
1-5 minimum wages	4,174 (81.6)	1,234 (83.0)	2,940 (81.2)	NS
5-10 minimum wages	672 (13.1)	179 (12.0)	493 (13.6)	
More than 10 minimum wages	267 (5.2)	78 (5.2)	189 (5.2)	

\* Sample size for each criterion evaluated varied according to client answers.

<sup>†</sup> Statistical significance in chi-square test (p < 0.05).

Analysis of the reasons that led clients to seek the service showed that 64.2% were searching information on drugs, 28% required informative material, 13.2% wanted guidance about treatment centers, and 13.2% needed other information. Most drug users (63.2%) had never sought help regarding problems related to the situation that motivated the phone call.

Cannabis, cocaine, tobacco and alcohol are among the most frequently asked questions by service users. On the other hand, among drug users, the most frequently used drugs in life, year, month and daily were tobacco, cannabis, alcohol, cocaine and solvents, respectively. [Table 2](#) shows the prevalence of drug consumption among men and women according to categories of use. In general, there is a higher percentage of use of alcohol and illicit drugs among men, accounting for more than 60% of users in each of these substances. There is a distribution of 2 men: 1 woman for users of these drugs. Tobacco is an exception, as there is nearly a 1 man: 1 woman ratio.

**Table 2 - Prevalence of drug consumption in male and female drug users (n = 2,600) that used the VIVAVOZ service from 2005 to 2006 according to SAMHSA criteria**

Drug*/Gender	Use in life <sup>†</sup> , n (%)	Use in year <sup>‡</sup> , n (%)	Use in month <sup>§</sup> , n (%)	Heavy use <sup>¶</sup> , n (%)
Tobacco (n = 1,706)				
Male	854 (50.1)	808 (50.7)	804 (50.6)	784 (50.9)
Female	852 (49.9)	785 (49.3)	786 (49.4)	755 (49.1)
Cannabis (n = 910)				
Male	620 (68.1)	578 (67.8)	569 (68.1)	412 (70.5)
Female	290 (31.9)	275 (32.2)	266 (31.9)	172 (29.5)
Alcohol (n = 828)				
Male	557 (67.3)	528 (67)	509 (66.5)	162 (67.2)
Female	271 (32.7)	260 (33)	256 (33.5)	79 (32.8)
Cocaine (n = 814)				
Male	556 (68.3)	531 (69.1)	504 (68.8)	214 (70.9)
Female	258 (31.7)	237 (30.9)	229 (31.2)	88 (29.1)
Solvent (n = 60)				
Male	37 (61.7)	33 (58.9)	30 (60)	13 (56.5)
Female	23 (38.3)	23 (41.1)	20 (40)	10 (43.5)

\* Sample size for each drug evaluated varied according to client answers.

<sup>†</sup> Percentage in relation to all individuals that used the drug at least once in a lifetime.

<sup>‡</sup> Percentage in relation to all individuals that used the drug at least once in the past year.

<sup>§</sup> Percentage in relation to all individuals that used the drug at least once in the past month.

<sup>¶</sup> Percentage in relation to all individuals that used the drug daily in the past month (heavy use).

As to time of drug use, 68.5% of tobacco users, 67.8% of alcohol users, 49.8% of cannabis users, and 35.2% of cocaine users reported use of the drug for more than 5 years, and 28.3% of solvent users reported less than 6 months of use. As to administration, 48.8% of cocaine users consumed it as powder, aspirated, and 45% inhaled or smoked, the latter characterizing use of crack.

Analysis of men and women responses regarding the criteria of substance dependence of SAMHSA<sup>34</sup> showed that part of users that called were already drug dependent; men had significantly greater dependence on tobacco or solvents than women ([Table 3](#)). Therefore, it was detected that many drug users that called had no sufficient criteria to characterize possible dependence. In addition, of all users (2,600), 24.7% were tobacco dependent. Such relation was 10.4% of alcohol dependence, 12.1% for cannabis, 7.0% for cocaine, and 0.7% for solvents.

**Table 3 - Prevalence of dependents in male and female drug users (n = 2,600) that used the VIVAVOZ service from 2005 to 2006 according to SAMHSA criteria**

Drug*/Gender	Dependents		p
	n	% <sup>†</sup>	
Tobacco (n = 1,706)			
Male (869)	514	59.1	< 0.001 <sup>‡</sup>
Female (860)	437	50.8	
Cannabis (n = 910)			
Male (620)	323	52.1	0.257
Female (290)	143	49.3	
Alcohol (n = 828)			
Male (557)	268	48.1	0.515
Female (271)	132	48.7	
Cocaine (n = 814)			
Male (556)	185	33.3	0.502
Female (258)	85	32.9	
Solvent (n = 60)			
Male (37)	21	56.8	0.042 <sup>‡</sup>
Female (23)	7	30.4	

\* Sample size for each drug evaluated varied according to client answers.

<sup>†</sup> Percentage in relation to number of individuals that used the drug at least once in a lifetime.

<sup>‡</sup> Statistical significance in chi-square test (p < 0.05).

## Discussion

Characterization of clients using the national service showed that most calls were performed by women, students, single individuals, aged more than 35 years, with incomplete elementary school and low family income. Search for information on abuse drugs had the highest demand of calls, and questions on cocaine and cannabis were the most frequent. Such data are similar to those obtained many years ago by another Brazilian service of regional application relative to information on psychoactive substances.<sup>24</sup>

Predominance of women in search of health services has been well documented.<sup>35,36</sup> In terms of services dealing with drugs, such predominance may be justified by the influence of family and its responsibility in socialization of children,<sup>37</sup> taking into account that different Brazilian surveys showed that women are not the most frequent users of these substances.<sup>3,6-8</sup> The mother's role starts at early pregnancy, by taking responsibility for child care. Women see their children as an extension of themselves, dedicating to them and feeling responsible for their actions.<sup>37</sup> In addition, women seem to be more affected by family dysfunction due to consumption of psychoactive substances, and they are often victims of violence by partners or even by their own children, as use of drugs starts increasingly earlier and adolescents imitate adults' model in frequency of drug consumption.<sup>39</sup> All these associations justify a more frequent search for drug-related services by women.

Verification of a higher demand for explanations on drugs of abuse can also show a lack of specialized services, as they are scarce in Brazil.<sup>9</sup> The fact that the Brazilian population sought more information on cocaine and cannabis, to the detriment of alcohol and tobacco, as could be expected by their epidemiological importance, is because the latter are licit substance, not considered as drugs by many individuals. On the other hand, the media has been increasingly discussing the damage caused by use of alcohol and tobacco. However, information on illicit drugs is rarer. In such context, licit and illicit drugs are seen differently by the public opinion, generating extremely incoherent postures under the health perspective.<sup>40</sup> Although the WHO considers effectiveness of communication, cooperation and exchange of information and experiences is crucial to prevent use of drugs,<sup>41</sup> and that the importance of media's role in society is undeniable, purely informative preventive interventions on use of drugs are limited, as, when performed irresponsibly, can even influence increased consumption.<sup>40</sup>

Access of the population with lower educational level and purchasing power to services that provide information on drugs reflects the public utility of free telephone services and easy access to their users. The telephone is a communication form that favors clarifications on questions that could hardly be asked in a face-to-face contact. Furthermore, the motivating nature of the service is important, from the therapeutic perspective, helping drug users search for specialized treatment.<sup>24</sup> The highest number of clients that searched help at VIVAVOZ reported low schooling level and low family income, and had no conditions to search specialized or private treatments due to their high cost. However, it should be considered that use of drugs is not exclusive of a given socioeconomic class; it is regularly distributed in all classes.<sup>3</sup>

On the other hand, although the problem of chemical dependence is widely distributed and discussed in all society levels, prejudice and discrimination are still among the main obstacles to the treatment and care of individuals with drug dependence and associated problems.<sup>42</sup> The fact that VIVAVOZ is an anonymous and free service that can be accessed from any location can justify the large number of individuals that had never sought help for problems related to drug consumption, and that chose telephone counseling. Thus, the telephone can be seen as an alternative to increase the effectiveness of clinical interventions and quality of patient care.<sup>43</sup>

The highest percentage of individuals searching the service included drug users and, differently from the other VIVAVOZ clients, men aged 18-25 years were predominant. There was also a significant pattern of use and a high incidence of licit and illicit drug dependence, with differences between genders for some substances. Probably because it is a service focused on the population of drug users, prevalence of drug users searching telephone help at VIVAVOZ was higher than that found in another telephone service providing information on psychoactive substances,<sup>24</sup> reflecting a sensitization of the target-population. Similarly, data from a Brazilian face-to-face care service for drug users,<sup>44</sup> and from a telephone service of information on doping in Sweden<sup>22</sup> also showed a more

intense drug consumption in male individuals and in young adults. Drug dependence is more frequent in this age group, and has lower intensity after 45 years of age.<sup>7</sup>

Studies characterizing clients of reactive telephone services providing information on drugs of abuse are rare. However, international studies evaluating efficacy of this type of program have been conducted and show that chemical dependents can remain several weeks in withdrawal through intervention with telephone lines proving help.<sup>45-47</sup> Patients may also require fewer intensive cares than after face-to-face interventions.<sup>48</sup> In addition, patients that were given telephone intervention were more likely to continue treatment of chemical dependence than those that were not given any intervention.<sup>49</sup> Women have the highest continuity rates in this type of treatment.<sup>50</sup> Evaluation of effectiveness of telephone lines providing drug support shows that more than 40% of the information provided by call centers on alcohol, cocaine and heroin was considered useful by clients.<sup>51</sup> Therefore, a telephone service for users and non-users of drugs searching for support, information or effective help to interrupt drug use proves to be relevant. In Brazil such support is feasible and socially useful by reaching populations with lower socioeconomic levels.

In summary, although some users wish to abandon drug use,<sup>1</sup> and occasionally attempt to, few are successful.<sup>52</sup> Reasons for that include many factors, such as lack of support to reach objectives. In this sense, telephone interventions can be useful to provide support in the attempt to abandon drug use or prevent recurrences.<sup>10,53</sup>

Results relative to consumption of most frequent drugs used by VIVAVOZ clients show that the frequency profile of drug consumption in users of the telephone service is different from the profile of epidemiological studies in Brazil<sup>1-5,54</sup> and in other countries,<sup>8,34</sup> as previously discussed for search of information. There was a proportionally higher number of drug users seeking treatment and, among such users, a larger proportion of dependents than what was found for the general population.<sup>1,2</sup> The data in this study revealed that approximately half of drug users were classified as dependent, except for cocaine, in which proportion of dependents was lower, about 30%. There was a greater proportion of male dependents for tobacco and solvents, showing that the female gender seeks more services for dependences than males, similar to what occurs for other health problems,<sup>35</sup> as women use to have a population representativeness for dependence lower than men.<sup>55</sup>

Results of this study provided the profile of users of a telephone service for use and abuse of licit and illicit drugs, which can be accessed at national level, describing proportions of users that use drugs and that are drug dependent. Such data are relevant to health professionals, since knowing the reality of drug use allows knowing on which substances prevention should focus, which ideal drug should be used to start prevention activities, which gender is more likely to use certain drugs, and the influence of socioeconomic level on drug use, in addition to creating conditions in health services for a planning of number of patients that seek treatment for each type of drug. Moreover, data show that such telephone service is another alternative to supply the lack of information on drugs, and may be a complement in the support of patients in individual face-to-face interventions, or motivating individuals to change their problem-behavior and search of additional aid for problematic use of drugs. Knowing the sociodemographic characteristics of those seeking help can also be important when planning health actions, as more data are collected on the needs of the population regarding real problems related to different substances of abuse.<sup>56</sup>

Results of this study are limited, because they do not represent the epidemiological profile of the Brazilian population, but that of users of a telephone service providing information on drug use. The best comparison for this group of individuals seeking telephone help would certainly be with people seeking other telephone services of health care. However, there is no other nationwide telephone service. For that reason, discussion of drug consumption was based on epidemiological surveys existing in Brazil and in other countries. In addition, the instruments used to collect data are based on clients' responses, not confirmed by laboratory tests. Conclusions can only be applied to clients that ended the interview, and data may differ for those who did not have a complete contact with the service. Further studies should be planned to deal with each of these issues. Therefore, further research on drugs and alternative interventions to the treatment of chemical dependence is strongly relevant, as information can be an important tool to reduce rates of use, abuse and dependence of psychoactive substances.



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