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Oral Changes for Poly Drug Users: Multicenter Study

ORIGINAL

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Abstract

Background: This consumption of drugs is linked to serious problems in several ways, including effects on oral health.

Objective: To investigate the association between oral changes and the time of consumption of drugs by polyusers treated at the Psychosocial Alcohol and Drugs Care Center of the Piauí State.

Method: This is a multicenter, cross-sectional study, conducted with 331 poly drug users of five community-based services for people addicted to alcohol and other drugs in the cities of Teresina, Parnaíba, Picos and Piripiri, in the State of Piauí, Brazil. The data was collected from March 2012 to June 2013. We performed a descriptive statistics, calculation of central tendency measures, Pearson's Chi-square test and odds-ratio.

Results: The polyusers are men aged between 18 and 70 years old, single, brown, evangelical, public school students, with incomplete primary education and no income. The most prevalent disorders in their oral mucosa were caries (53.7%), dental losses (29.7%), oral mucosa blisters (12%), gingivitis (11.7%) and oral pruritus (6.3%). It is possible to infer that the caries are associated to drug use time (p-value = 0.021), those who use drugs for over a year have a higher chance of having this oral amendment.

Conclusion: It was found that the presence of caries is linked to time and use of drugs. Therefore, the need for multidisciplinary performance in tracking these issues is emerging, as well as the development of strategies to face this problem, especially in educational and therapeutic perspective.

Keywords
Illicit Drugs; Oral Health; Drug Users.

Introduction

The drug abuse has been the focus of major concern worldwide. Although it is a phenomenon, historically discussed in society, it is a serious public health problem by virtue of its magnitude and consequences [1].

Worldwide data estimates 246 million people - about 5% of the population - aged between 15 and 64 years old, have consumed any drugs only in 2013 [2]. This consumption is linked to serious problems in several ways, including biological, physical, mental and social dimensions [3]. Moreover, as most extreme consequence of this problem, a stable number - but still unacceptably large - of drug users is found, who continue to lose their lives prematurely worldwide.

When this outcome does not materialize, it is common to see numerous localized or even systemic health consequences that may even generate effects on oral health [4]. Drugs, such as marijuana and crack, for example, can have a connection to periodontal disease as these are smoked drugs and come into direct contact with the gingiva and periodontium [5].

Other oral manifestations, such as erosions in the dental enamel, bruxism, myofascial pain and temporomandibular joint pain, necrotic lesions of the tongue and epiglottis, mucosal and laryngeal burns can also be associated with the use of drugs considering its irritative and vasoconstrictor effect, and also due to increased temperature of the combustion smoke of the drug [6].

Regardless of the substance used, the user has an increased risk of oral diseases [7]. The adoption of a lifestyle characterized by deficiencies in dietary habits and changes in the pattern of behavior, negatively impacts on self-esteem and influences the actions of self-care, above all, the general and oral hygiene, and may appear as major risk factors for the development of changes in the oral cavity [8]. Drug users, in general, maintain a behavior of poor body and oral hygiene.

Also, it is associated with low demand for dental care, which can also have a causal link with the occurrence of oral health problems in this group [9]. Therefore, in this perspective it is considered that the search of dental care by these users is a major challenge, since they offer resistance to self-care over the compulsive consumption of drugs.

The objective of this study is to investigate the association between oral changes and the time of consumption of drugs by polyusers treated at the Psychosocial Alcohol and Drugs Care Center of the Piauí State.

Method

This is a multicenter, cross-sectional study, conducted at Psychosocial Alcohol and Drugs Care Centers (CAPSad) of Piauí State, located in Teresina, Parnaíba, Picos and Piripiri.

The reference population of the study was composed of 2,807 poly drug users registered in four CAPSad. For the sample calculation, were considered a tolerable error of 5% and a significance level of 95% [10], obtaining a sample of 331 users. In order to ensure the representativeness of the population in these four cities, we proceeded to proportional stratification. Therefore, 302 poly drug users were recruited from Teresina, 18 from Parnaíba, 14 from Picos and 8 from Piripiri.

The inclusion criterion was to be poly drug user and older than 18 years. The data was collected from March 2012 to June 2013. At the time of the evaluation, the recruited polyusers reported data on the demographic and economic condition. It was also applied a standardized form containing information on the use of tobacco, alcohol, illicit drugs, and extra and intraoral physical examination [11].

The exams of oral and periodontal conditions were carried out by a single previously trained examiner. In this evaluation, their teeth were dried and the exam was visual, conducted with the aid of a flat mirror. The diagnosis of caries was carried out based on the criteria recommended by the World

Health Organization (WHO) to determine the decayed, missing and filled teeth index (CPOD).

For statistical analysis, we used the program *Statistical Package for the Social Science* (SPSS, version 20.0). The association between variables was made by means of contingency tables, being employed the Chi Square test for comparison of proportions. When one of the expected frequency was less than one, or 20% of cells were less than five, we adopted the Fisher's exact test.

Statistical significance level of 5% was established. So, when the value of p corresponding to these tests was less than or equal to this value, the null hypothesis was rejected. It is important to note that some variables have been recoded in relation to original options to facilitate analyses [12]. The strength of the associations between variables was measured by *odds-ratio* (OR) and confidence intervals (CI 95%). In the data discussion, an interlocution was held with the authors of the subject area.

The principles of ethics, confidentiality and secrecy were obeyed. Participants were invited to participate, and after the presentation of the study objectives, they signed a Term of Consent, pursuant to Resolution No. 466/2012 of the Brazilian National Health Council. The study was approved by the Committee of Ethics in Research of the Federal University of Piauí, which obtained approval through the Opinion No. 254,420.

Results

The sample consisted of poly drug users, aged between 18 and 70 years old (Average = 30.12 and DP = 8.48) being 88.58% male and 11.5% female. 57.1% of them are brown and 67.1% are single. Most users studied in public school (85.2%) and have incomplete primary education (41.7%). As for the religion, 44.1% are evangelicals. The individual monthly income ranges from 50.00 to 3600.00 Reais, although 64% reported not having any kind of financial source (Average = 822.23 and DP = 512.98) **(Table 1)**.

Table 1. Sample characterization according to sociodemographic and economic variables. Teresina, 2014. (n = 331).

Variables	N	%
Age group		
18-34 years old	248	74.9
35-52 years old	78	23.6
53-70 years old	5	1.5
Gender		
Masculine	293	88.5
Feminine	38	11.5
Race		
White	66	19.9
Black	56	16.9
Medium brown	189	57.1
Indigenous	9	2.7
Yellow	11	3.4
Marital Status		
Single	218	67.1
Legally married	31	9.3
Stable union	43	12.1
Divorced	38	11.2
Widower	1	0.3
Education		
Incomplete Elementary School	138	41.7
Complete Elementary School	48	14.5
Incomplete high school	67	20.2
Complete High School	57	17.2
Incomplete Higher Education	17	5.1
Complete Higher Education	4	1.3
Religion/Doctrine		
Catholic	127	38.4
Evangelical	146	44.1
Spiritualist	7	2.1
Another	6	1.8
Does not have one	45	13.6
Individual monthly income		
Does not have one	212	64.0
Up to 1 MW*	55	16.6
From 1 to 3 MW	62	18.8
From 3 to 6 MW	2	0.6
Does not have one	45	13.6

Source: Research data. *: MW (Minimum Wage) = R$ 678.00.

It was found that the most prevalent alterations were cavities and tooth loss. Regarding the data related to the association between oral problems and the use of drugs time, it was found that only cavities are related to drug use time (p-value = 0.021), and those who use drugs for over a year have a higher chance of having these oral changes **(Table 2)**.

Table 2. Association between oral problems and drug use time. Teresina, 2013. (n = 331).

	Time of use				p-value	OR	IC
	<1 year		> 1 year				
	n	%	n	%			
Blisters on buccal mucosa							
Yes	7	22.6	36	12	0.088	2.139	0.860-5.320
No	24	77.4	264	88			
Oral itching							
Yes	2	6.5	19	6.3	0.606	1.020	0.226-4.600
No	29	93.5	281	93.7			
Gingivitis							
Yes	3	9.7	35	11.7	0.512	1.233	0.356-4.267
No	28	90.3	265	88.3			
Cavities							
Yes	23	74.2	161	53.7	0.021	0.403	0.175-0.929
No	8	25.8	139	46.3			
Dental losses							
Yes	10	32.3	89	29.7	0.454	0.886	0.401-1.957
No	21	67.7	211	70.3			
Total	31	100	300	100			

Source: Source: Research data. X^2 : Fisher's exact test; OR: odds-ratio; *IC*: Confidence Interval.

Discussion

The addicts profile was of young adults aged 17 to 34 years (74.9%), men (88.5%), brown (57.1%), single (67.1%), with incomplete primary education (41.7%) and evangelical religion (44.1%). A survey conducted in São Paulo with 45 former crack addicts identified a profile similar to this study, and the sample at that time consisted mostly by young men, single, with low education, without formal employment ties, of low socioeconomic status [13]. The same situation was reported in other studies, which indicate low monthly income, in general[14].

Another survey also found that the age group in which more people are involved with the use of drugs is between 18 to 30 years old (65%), 26 to 30 years old (27%) and 31 to 45 years old (8%), showing a gradual decrease in the percentage of users served in these age groups [15].

Drug abuse was significantly more prevalent among male users, with 612 (86.68%) individuals, presenting a statistically significant difference compared to females. Most of them have completed the elementary education (56.80%) and only two of them (0.28%) have postgraduate level. Of total users, 2.83% were still in elementary school (05), high school (06) and higher education (09) [16].

Regarding the high percentage of evangelicals (44.1%), the authors believe this is because the Church is a recognized partner of the Government to deal with drug use problems, using the bias of spirituality, which enables the effectiveness in health promotion and dignified life [17].

The size of drugs effects in the oral region has been investigated in an attempt to broaden the understanding of the impact of drugs and to identify the modifying factors that can interfere in the occurrence and severity of oral diseases. The clarification of these issues is necessary for the development of preventive and therapeutic approaches, emphasizing harm reduction strategies, which might allow better prognosis for these individuals [18].

This research found in the studied sample the poor oral health of users, demonstrated by problems such as blisters on the oral mucosa, oral itching, gingivitis, caries and tooth loss, corroborating the findings of another study with former crack and cocaine users, which identified a high number of CPOD [19].

Similar results have also been identified in other studies, where there was high prevalence of dental caries, erosion and tooth loss [20]. It was found also that drug users had poor periodontal health

compared to non addicts groups (Molendijket et al., 1996). Corroborating these findings, a study that evaluated the oral health condition of 52 cocaine and / or crack users found periodontal pockets of 4 to 5 mm in 25% of the individuals and insertion loss of 4 to 5 mm in 46% of the sample [21].

It is noteworthy that, added all these plausibility, crack users also seems to present a decreased self-esteem and carelessness with personal hygiene, therefore, generating a poor oral hygiene, as well as little demand for dental care. We also have to highlight the association between the use of crack and the low socioeconomic status of the users, which probably influence the increased occurrence of periodontal disease [9, 22].

Regarding the association between oral diseases and drug use time, the dental cavities identified in this study were sensitive to the influence of drug usage time. A study that evaluated the risk of caries among addicts who used only alcohol (n = 363) and those who use alcohol together with other drugs, especially marijuana, heroin and cocaine (n = 300), found that the group using alcohol and other drugs had 38% higher risk of having carious teeth compared to the group that consumed only alcohol ($p<0.05$) [23].

In a survey conducted in China with 520 users who were aged between 14-56 years, and most men, the authors found a high presence of dental cavity, and 28% of users used drugs orally and nasally, and that the average CPOD was 4.2%, and in greater numbers for missing teeth. By using multivariate analysis, the time of heroin use was considered a risk factor for CPO-D [11].

A cross-sectional study evaluated the oral health of methamphetamine users in South Africa, where the majority (93%) reported that smoking methamphetamine was the first form of drug use, and that the average time of use was 6.5 years. The authors found CPO-D equal to 10 and that most of the individuals had carious lesions, in addition, the time of drug use influenced the CPO-D, because the shorter the time of drug use, the lower the CPO-D [24].

In this way, users of psychoactive drugs are considered a vulnerable group to the onset of oral diseases such as dental cavity, a group that needs care and special attention by the dentist, to be identified, monitored and treated, so that these effects are reduced. Moreover, the dental surgeon must be able to refer the individuals to other professionals, so that a multi-professional work can be made [25].

Given this discussion, harm reduction has been presented as a way out, becoming a larger strategy that has concrete offers of serving and caring for people who use drugs in co-management arrangements, and as one of the main challenges to building health production networks that include the caring services of Unified Health System, Hospital Emergencies and brief hospitalizations, Health Centers, Family Healthcare Strategies and CAPS AD [26].

Thus, more important than to investigate the association between the conditions of oral health and the time / standard of drug users consumption, is to invest in health education and preventive and incentive measures to abandon the drug. It is important to intervene since childhood, in the sociocultural environment where this individual lives, interacts, has relationships, influences and is influenced, by exposing their strengths and vulnerabilities, which are dynamic and variable, intervening preferably at school for being the place where the child spends most of the day, and being a responsible place for the exchange of experience and adoption of good practices.

Conclusion

Based on the results and studied literature, we may conclude that men aged between 18 to 70 years, single, brown, evangelicals, public school students, with incomplete primary education, that do not have any kind of financial income, are more vulnerable to exaggerated consumption of drugs and consequently to the emergence of problems related to oral health.

It was found that the most prevalent alterations were cavities and tooth loss. There is a clear vulnerability of this group to develop oral problems, for various reasons, such as the devastating action of the drug in the oral mucosa, decreased self-esteem, carelessness with personal hygiene, low demand for dental care, and also for their low socioeconomic status.

The information set will be essential to improve the dental treatment of drug users and increase efficiency. However, within the limitations of this study, we may also come to the conclusion that further studies should be conducted to understand features not defined yet, which may have relevance in the treatment of these diseases.

The performance of nursing professionals in the treatment of chemical dependencies is based on two fundamental aspects: the education (prevention) and care (treatment). Knowing concepts, classifications and the effect of drugs in the body is essential for nurses to play their social role in the community, aiming to promote awareness and prevention to drug use and abuse. When this issue is respected, the nurse can develop a care plan for the prevention and treatment, according to the need of each intervention, offering individualized care for patients on drug abuse or addiction.

The implementation, involvement and commitment of the nurse is binding for the successful completion of nursing activities, willing to face barriers and difficulties, and especially the developments of drugs issues, which are violence and healthcare, specifically oral healthcare.

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