

Dental and periodontal condition of a population in treatment for drug use. Pilot study

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Abstract

Problematic drug use may affect the oral health of consumers. This research was designed to detect the prevalence of dental and periodontal pathology in an adolescent and young adult population in treatment for drug dependence.

A transversal, observational, descriptive study was conducted. It included 72 subjects being treated for drug addiction at Portal Amarillo, a national reference center.

The mean value of the DMF Index was 8.04. When discriminating by age group, in the ages between 15 and 24 the DMF Index was 5.31, while in the ages between 25 and 35 it was 11.27. The periodontal survey showed that 65% of the participants suffered from gingivitis and 18% from periodontitis.

The results showed a greater prevalence of oral disease in patients who are drug addicts than in the rest of the population. First level health services should take special prevention and early detection measures when treating patients who are drug addicts.

Keywords: oral health, drugs, addiction.

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Introduction

Various factors can impact the oral health of patients. For example, some studies have shown that illegal drug use has a negative effect on hygiene habits and on the prevalence of decay and periodontal disease (1, 2). Injection drug users in particular, of drugs such as heroin, appear as a high-risk group in a recent study conducted in Bosnia and Herzegovina (3). Additionally, a study conducted among heroin consumers in China showed a higher prevalence of decay, gingivitis and periodontitis than the general population (4). The withdrawal period during drug addiction treatment is critical for oral health, mainly due to poor oral health behavior (OHB) (5). Substance abuse by pregnant women can increase the incidence of decay and periodontal disease during gestation as oral hygiene is neglected, among other things (6).

Drug use is a social phenomenon that has existed since the beginning of humankind. Both the people who decide not to use drugs and those who face problematic drug use need information (7). Drugs have been used throughout history in religious ceremonies, to improve resistance, to alleviate hunger and fatigue, for medical purposes, as anesthetics, for social or recreational uses, etc. (8). Psychotropic or psychoactive drugs are substances whose main effect is on the central nervous system (CNS). They change the user's mood, behavior, consciousness and perceptions. They are classified into depressants, stimulants and hallucinogens according to their effect on the CNS. Following the method of use, drugs can enter the body through intranasal inhalation (cocaine, glue) smoking (tobacco, marijuana, cocaine paste); or orally or by ingestion (alcohol and synthetic drugs); intravenous injection (heroin), and other less frequent methods like via the rectum and submucosa (9). In February 2007, the National

Program for Problematic Drug Users stated that: 'Substance use should be detected early in all users of health services, particularly in the case of children, adolescents and pregnant women' (10). Portal Amarillo has been the National Focal Point of the Drugs Network since 2006. It combines three care methods for State Health Services (ASSE) users: outpatient, day and inpatient treatments (11). There is scarce epidemiological information regarding the possible connection between illegal drug use and dental and periodontal health in Uruguay. The aims of this study were to detect the prevalence of these pathologies in an adolescent and young adult population in treatment for drug dependence, and to achieve oral rehabilitation seeking to improve the patients' health and social reintegration process.

Materials and methods

This was a transversal, observational, descriptive study conducted on a population of males and females aged between 15 and 35. Consecutive individuals attending Portal Amarillo in Montevideo, Uruguay, in treatment for problematic drug use in the 2012-2013 period were evaluated. The sample included 72 subjects: 57 males and 15 females (average age of 24). The study was conducted by examiners calibrated with Kappa coefficient 0.9 in diagnosis of decay and periodontal disease. Questionnaires and examinations were held with the patient sitting on a regular chair in a well-lit environment. Examiners used a disposable dental mirror and a sterile metallic periodontal probe with round tip approved by the WHO. The DMF index was used to indicate decayed (D), missing (M) and filled (F) teeth.

The complete prosthetic rehabilitation of patients was coordinated with ASSE institu-

tions (Centro Hospitalario Regional Norte Gustavo Saint Bois, Centro Giordano and Hospital Maciel).

Ethical issues

The protocol was evaluated by the Ethics Committee of the School of Dentistry, Universidad de la República. Authorization from the Board of the Portal Amarillo was obtained. The participants, who volunteered for

the study, or their legal representatives signed the corresponding informed consent.

Results

Table 1 shows socio-demographic information and table 2 the oral health of participants. Figure 1 shows information about the drugs used by patients.

SEX	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (%)
MALE	57	79.2
FEMALE	15	20.8
TOTAL	72	100.00
AGE GROUP	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (%)
Group 1: 15-24	39	54.17
Group 2: 25-35	33	45.83
TOTAL	72	100.00
EDUCATION	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (%)
Primary school dropout	4	5.6
Secondary school unfinished	60	83.6
Currently in the formal education system	8	10.8
CURRENT EMPLOYMENT STATUS	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (%)
DOES work	14	19.7
DOESN'T work	58	80.3

Table 1: Demographic characteristics of population under study

POPULATION	AGE GROUP	DMF Index
72 individuos	15 to 35	8,04
39 individuos	15 to 24	5,31
33 individuos	25 to 35	11,27
GINGIVAL HEALTH	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (%)
Health	12	16,6
Gingivitis	47	65,3
Periodontitis	13	18,1

Table 2: Oral health of population under study

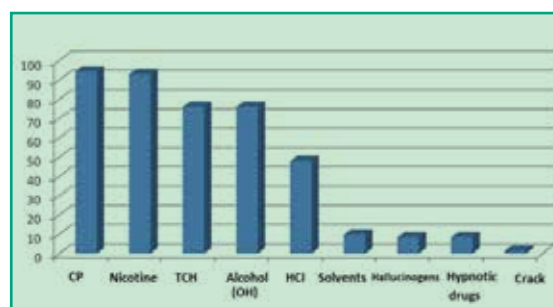


Figure 1: Distribution of drugs used by population under study CP: Cocaine Paste, HCl: Cocaine hydrochloride, THC: Tetrahydrocannabinol

The periodontal survey based on the Community Periodontal Index (CPI) shows that of the 72 individuals examined, 12 (16.6%) have good gum health, 47 (65.3%) suffer from gingivitis, and 13 (18.1%) have periodontitis. The 25-35 age group has a smaller number of individuals with good gum health (4 to 8) compared to the 15-24 group, as well as a greater number of individuals with periodontitis (12 to 1).

Regarding the total sample, 18 needed prosthetics: 25% of the population.

Discussion

This work provides new information about the oral health of patients in treatment for drug dependence in Uruguay. Studies with similar objectives conducted in other countries reported a higher prevalence of various indicators of dental disease compared to the general population (1, 2, 12-14). The results of this study show a higher prevalence of disease than in the general population compared to the results of the 2010-2011 First National Survey on Oral Health conducted among Uruguayan young people and adults (15).

These data show that the use of psychoactive substances among adolescents and young adults may have a major impact on the health of the stomatognathic system. For example, studies conducted in Córdoba, Argentina, with 61 drug-addicted adolescents and young people in recovery reported gingival and periodontal alterations in 81.7% of the cases (12). Another study on an adolescent population attending the Hospital of Mental Health San Francisco de Asís, Corrientes, Argentina, in rehabilitation for the use of multiple drugs, found that 65% of the sample (n=30) suffered from gingivitis (13). Through the comprehensive approach of the male individuals in a Recovery Institution (n=102) in Bauru,

Sao Paulo, 29.17 years of age on average, a DMF index of 14.88 was recorded (16). This trend is also observed in countries considered more developed. A study conducted in San Francisco (US) reported a significant increase in the prevalence of dental disease (decay, radicle remains, etc.) in a population of young drug-addicts (n=58) compared to the general population of the United States (2).

Apparently, not all illegal drugs have the same potential to harm patients' general and orofacial health. In an interesting study conducted in the 1970s, the "paired samples" test was used to compare heroine and opium users. It was observed that heroin addicts used more substance per day, required higher doses of methadone during detox and sought treatment earlier than opium addicts. In brief, the study concluded that heroin is more "pathogenic" than opium (17). Additionally, regarding oral health, a more recent comparative study did not find differences between heroin addicts and methamphetamine addicts (2).

This study showed that 25% of the participants needed dental rehabilitation by means of prosthetics. Satisfying this demand is crucial for the social integration of drug addicts. As the aim of this study was to make contributions in this regard, the complete prosthetic rehabilitation of some patients in the sample was coordinated with ASSE institutions (Centro Hospitalario Regional Norte Gustavo Saint Bois, Centro Giordano and Hospital Maciel). Funding was obtained from the 2012 Competitive Funds offered by the National Drug Secretariat.

Conclusions

The DMF Index value for the 15-24 age group is higher than that of the general population as reported in the 2010-2011 First

National Survey on Oral Health conducted among Uruguayan young people and adults from outside the capital (18). The data obtained from the periodontal examination show values that are similar to those of regional studies, as well as a higher prevalence of gingival and periodontal alterations compared to the general population of Uruguay (19).

The study of two age groups from individuals attending Portal Amarillo showed that years of drug use increase the prevalence of the most frequent oral pathologies: decay and periodontal disease.

Addictive behavior linked to drug use affects the development and health of adolescents. First level health services should take special actions regarding promotion, prevention, early detection, care, referral, follow-ups and support.

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