

Perception of oral health status of adolescents and young adults undergoing substance abuse treatment.

Percepción del estado de salud bucal de adolescentes y adultos jóvenes en tratamiento por drogadicción.

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Abstract: Objective: to determine the oral health status perception of adolescents and young adults in drug dependence treatment. Material and Method: a qualitative research model was proposed. The theoretical sample by saturation consisted of adolescent population and young adults hospitalized in the Portal Amarillo center (the National Drug Information and Reference Center, Montevideo, Uruguay). *Inclusion criteria:* a) being between 15 and 24 years old. b) being in treatment for drug abuse. *Exclusion criteria:* a) non-lucid patients. b) non-collaborating patients. Results: participants considered oral health as having clean, white and aligned teeth; and oral disease as the presence of caries, bleeding gums and communicable diseases; chewing, aesthetics and taste were seen as altered functions. Before becoming drug consumers, oral hygiene was regular, after meals and as instructed; once addiction began, hygiene was very irregular at best (if they remember to do it), and without reinforcement of the instruction. Prior to drug consumption, participants were students or held a job; they had a good family life, with a partner or in search of one. After consumption, they report self-marginalization, loss of contact with partners and children, isolation from the family and social discrimination. Addiction makes it difficult for them to access dental care, except in urgent situations. Conclusions: Young people in treatment for drug dependence are aware that addiction damages oral health, deteriorating aesthetics, affecting oral functions, self-esteem and quality of life.

Keywords: Oral health; adolescent health; substance-related disorders; adolescent; young adult; self-concept.

Resumen: Objetivo: conocer la percepción de adolescentes y adultos jóvenes vinculados al consumo abusivo de drogas a partir de la situación de dependencia. Materiales y Métodos: se planteó un modelo de investigación cualitativo. La muestra teórica por saturación fue población adolescente y adulta joven que se asistió en régimen de internación en el Portal Amarillo. *Criterios de inclusión:* a) tener entre 15 y 24 años. b) estar en tratamiento por consumo de drogas. *Criterios de exclusión:* a) pacientes no lúcidos. b) pacientes no colaboradores. Resultados: los participantes refieren como salud bucal tener los dientes limpios, blancos y alineados; como enfermedad caries, sangrado de encías y enfermedades transmisibles; y como funciones alteradas la masticación, la estética y el gusto. Antes de la situación de dependencia la higiene bucal era regular, después de las comidas y con instrucción recibida, a partir de la dependencia la higiene fue muy irregular, si se acordaban y sin refuerzo de la instrucción. Previo al consumo eran individuos integrados al estudio o al trabajo, con vida familiar ordenada, con pareja o en procura de tenerla; posteriormente al consumo relatan automarginación con pérdida de contacto con la pareja e hijos, aislamiento de la familia y discriminación social. El consumo dificulta el acceso a la atención odontológica, excepto en situaciones de urgencia. Conclusión: Las personas jóvenes en tratamiento por dependencia a las drogas perciben el deterioro de su salud bucal a partir de la situación de consumo, alterando la estética, las funciones orales, la autoestima y la calidad de vida.

Palabras Clave: Salud bucal; trastornos relacionados con sustancias; adolescente; adulto joven; autoimagen.

INTRODUCTION.

A drug is any therapeutic substance or not that, introduced into the body by any route of administration (inhalation, ingestion, friction, parenteral, intravenous administration), produces an alteration, in some way, of the natural functioning of the central nervous system of the individual, and it is also capable of creating psychological, physical dependence or both.¹

The use of psychoactive substances (PAS), commonly known as psychoactive drugs, can alter consciousness, mood or the thinking processes of an individual.² Many of these substances have been used in the history of mankind for religious, cultural, recreational and medicinal purposes. All substance use, whether legal or illegal, natural or synthetic, carries risks that vary according to age, sex, forms and frequency of use, personal contexts and circumstances.³ Substance abuse refers in general to problems related to the use of PAS.⁴

There are different consumption patterns, including experimental, occasional, and regular; there are even cases of abuse and dependence. Any type of consumption can be problematic.³ Initially, the positive and pleasant effects prevail when consumption is under the user's control.^{5,6} Motivation for consumption changes gradually in some people, and the amount of substance and dose frequency increases as a way to experience pleasure or to avoid discomfort. Finally, a percentage of the population loses control, becomes compulsive and unable to abandon drugs despite being aware of the consequences.

Drug consumption is a form of consumption that poses greater risks due to the combination of various PAS.⁷ Consumption patterns vary according to the supply of the drug market, the search for change and the relational context.⁸ Drug abuse has been defined as *"the persistent or sporadic excessive drug use inconsistent with or unrelated to acceptable medical practice"*.⁴ The term medication dependence was extended to the concept of drug dependence.⁹ The WHO recommended replacing the term drug addiction or drug habit by drug dependence, given the derogatory connotation of the term drug addict.

The global outlook for drug use is unclear because many people, who consume either occasionally or regularly, tend to be using more than one substance simultaneously or alternately.¹⁰ The chain of consumption

in adolescents frequently begins with alcohol and tobacco, followed by illicit drugs.^{11,12} The most commonly used illegal drugs are cannabis, amphetamine-type stimulants, opioids and cocaine-related substances.¹⁰ Drug patterns include injection of opioids, amphetamines and cocaine derivatives, with the risk of contracting and transmitting communicable diseases.¹³

Current epidemiological situation in Uruguay

The Seventh National Survey on Drug Consumption in High School Students conducted in Uruguay in 2016 highlights:

a) the high consumption of alcohol and energy drinks with a high caffeine content, followed by tobacco and marijuana, and to a lesser extent tranquilizers without medical prescription, cocaine, hallucinogens and amphetamine-type stimulants.¹⁴

The risk perception indicators included in this survey, according to student statements, identify the perception of high risk as a protection factor, while a low perception of risk increases the probability of use/abuse of some substances. In general, it was found that the substances associated with lower risk were alcohol, tobacco and marijuana, both in occasional and frequent consumption.¹⁴ The mean age of consumption onset varies with sex, substance and area of residence (Montevideo and inland). (Table 1)

The Sixth National Household Survey on Drug Consumption showed that males had a higher prevalence of consumption than women at all age ranges, although the gap is smaller in the younger population, except for the use of tranquilizers, hypnotics and antidepressants with or without medical prescription.¹⁵

The Government of Uruguay passed a law in 2013 to regulate the growth, production, sale and recreational consumption of cannabis. Since then, the government has enacted other decrees and ordinances concerning the application of regulations on specific elements such as the medicinal use of cannabis, marketing and sale for recreational use in pharmacies and the inclusion of recreational consumers in a register.⁷

People who use substances are mostly young, ranging between 16 and 25 years old, with the onset and public manifestation of that behavior increasingly early, and even before the age of 14. Problematic consumption presents

risk factors and protection factors. Risk factors include the normalization of consumption among youngsters, the limited control of the educational system that leads to dropping out of formal education, the lack of personal projects aggravated by social marginalization.¹⁶

The UNODC World Drug Report of 2009 indicated that most people began using drugs in their youth. Young people could respond to changes in drug availability or social perceptions of consumption to a greater extent than adults. In addition, the early onset of consumption increases the risk of negative social and health consequences along with an increased risk of committing felonies or crime under the influence of drugs or to get money to buy them.¹⁷

The consumption of PAS affects all areas of health: social, biological, psychological, cognitive, emotional and cultural.¹⁸ According to the American Academy of Pediatric Dentistry (AAPD), drug abuse frequently coexists with psychiatric conditions such as depression, anxiety, attention deficit, challenging behavior, bipolar disorder, post-traumatic stress, bulimia nervosa, social phobia and schizophrenia.¹⁹

The use of drugs has a negative effect on oral hygiene habits and on the prevalence of caries, gingivitis and periodontitis, compared to the general population.²⁰⁻²⁵

The protective factors for the regular use and dependence on drugs, include the subject's own qualities (attributes, self-esteem, life projection), which play a significant role; the figure of the family, its constitution and the role of its members; and the stability of social ties (educational-work, cultural, family, partner).¹⁶

Health is considered a dynamic event known as health-disease-care-process (HDCP). The representations of the HDCP in young people include the oral component as part of general health, not only for physical pain but also for its aesthetic importance.²⁶ Oral health is closely related to the general health status and quality of life of people, as it may affect oral functions and social interactions. For example, tooth decay can be the cause of poor chewing, decreased appetite, sleep problems and reduced school and work performance.²⁷

Oral health is multifaceted and includes, among other aspects, the ability to speak, smile, smell, taste, touch, chew, swallow and show a series of emotions through facial

expressions.²⁸

A study conducted in Cartagena de Indias, Colombia, showed a negative impact on the quality of life related to oral health in young adults due to losing teeth, by having less than 19 teeth, presence of root debris, tartar accumulation, and absence of health care services.²⁹

The general objective of this study was to determine the oral health status perception of adolescents and young adults in drug dependence treatment. To achieve this we aimed to determine the knowledge of the health-disease-care process and expectations about the oral health status. Also, we aimed to identify problems of access to dental care services in the target population.

MATERIALS AND METHODS.

A qualitative research model was employed. The techniques used were personal interviews and focus groups of young people who were in-patients at the Portal Amarillo Center during the three months of fieldwork. This institution has been the Uruguayan National Reference Center of the Drug Network since 2006, combining outpatient treatment, daily and residential center for the care of patients covered under the State Health Services Administration (ASSE).³⁰

The COREQ guide (consolidated criteria for reporting and publishing on qualitative research) and the checklist according to the three domains,

- 1) researchers,
- 2) study design and
- 3) analysis and findings were taken into account.

Inclusion criteria were being from 15 to 24 years old, being hospitalized and in treatment for drug abuse.

Exclusion criteria included non-lucid patients, and non-collaborating patients.

A total of 18 interviews were carried out and three discussion groups were formed, with a total of 32 participants.

The interview modality was scripted based on a pilot experience carried out in a previous stage with people treated at the Portal Amarillo Center. In this previous experience the members of the research team were also calibrated in their interviewer or observer roles.

All the activities were recorded without disclosing the names of the participants. Their attitude and interest in

the interview were also registered.

Many times when the subjects' interest turned into boredom, fatigue or silence, it was necessary to resort to a complementary strategy, using another tool since the interviews lasted between 15 and 20 minutes. In this sense they were asked to draw their mouths in a state of health and illness, under the exclusive supervision of educators. The description and categorization of the drawings was in charge of the research team.

For the analysis of the recorded information, the data obtained was transcribed, organized and ordered. Categories and subcategories were constructed from the recorded texts to analyze the statements.

Individual perception of oral health status was studied before and after the drug dependence period according to the memory and representations of each subject.

The categories that emerged after examining the text of the recordings were: hygiene and relationship with the environment. Subcategories are derived from these and are listed in Table 1.

Ethical considerations: the research protocol was approved by the Research Ethics Committee of the School of Dentistry, file number 315/16. Participants were informed about the aims of the research and asked to sign the consent. They were assured of the absolute privacy and anonymity of the data collected.

Table 1. Mean consumption starting age by substance according to sex and area of residence; High school students.; modified from Uruguay Survey 2016 (%).¹⁴

Substance	General	Standard Deviation	Male	Female	Montevideo	Inland
Alcohol	12.75	2.3	12.45	13.03	12.66	12.82
Tranquilizers without prescription	13.40	2.79	12.77	13.75	13.41	13.40
Tobacco	14.14	1.91	13.91	14.30	14.03	14.23
Marijuana	14.84	1.56	14.72	14.95	14.71	14.98
Cocaine	15.50	1.69	15.57	15.39	15.68	15.34
Hallucinogens	15.95	1.9	15.92	15.97	15.91	15.98
Ecstasy	16.18	1.42	16.32	16.01	16.05	16.30

Table 2. Categories and subcategories that emerged after examining the text of the recordings.

Knowledge	Hygiene	Relationship with the environment
Oral health	Performance	works and/or studies
Oral diseases	Frequency	Relationship
Oral functions	Oral Health Education	Relationship with the family and society

Table 3. Results regarding *Knowledge* and *Hygiene* categories and subcategories.

Knowledge			
Oral health	Oral diseases		Oral functions
Clean teeth	Caries associated with pain		Chewing
White teeth	Bleeding gums		Aesthetic
Aligned Teeth	Communicable diseases		Taste
Hygiene			
	Performance	Frequency	Education
Before consumption	Regularly	After meals	Instruction received at school, home, in the medical or dental practice.
After consumption	Irregularly	When they happen to remember	Instruction was not reinforced

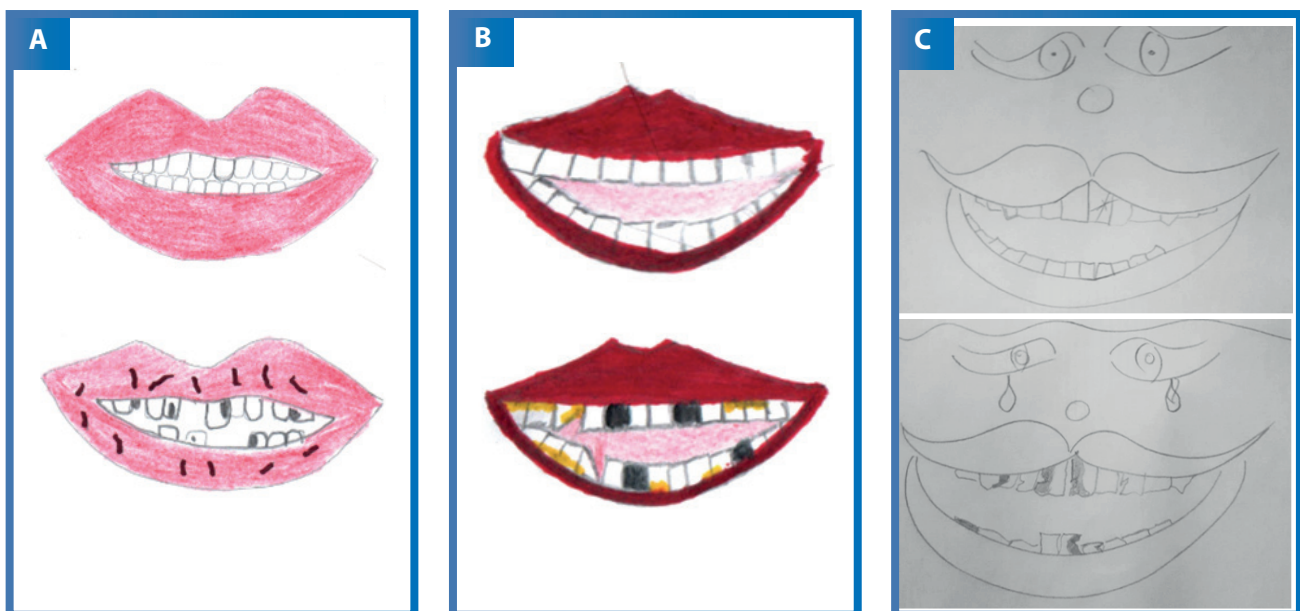
Table 5. Category “relationship with the environment” and its attributes or subcategories.

	Influence on work and study	Relationship with partner	Family relationships	Relationship with society
Before consumption	Incorporation to work and/or study	They used to have a partner or were in search of one	Good family life	They regularly attended teaching centers and/or workplaces, medical and dental practices.
After consumption	Self-marginalization, fear of rejection, low self-esteem.	Break up with partner and no contact with children. They avoid situations of violence.	Isolation to protect their family. Street life or in shelters	Social discrimination, do not study or work, only urgent medical or dental consultations, history of legal problems, suicide attempts.

Table 6. Access to dental care.

	Access to dental care in childhood and adolescence	Limitations of access	Care service used
Before consumption	They go to the dentist for cleaning and treating caries, remember only few traumatic experiences or did not experience them.	They do not visit the dentist for not telling their parents or responsible adults they are feeling pain.	Hospitals or public polyclinics in Montevideo or in other parts of the country, School of Dentistry.
After consumption	They do not visit the dentist except in emergencies. Memory of traumatic tooth extractions.	They do not know where to go. Budget restrictions for performing dental restorations or prosthesis.	They intend to attend ASSE units, Faculty of Dentistry or private practices.

Figure 1. Healthy and sick mouth according to participant.



A: Participant 1. **B:** Participant 2. **C:** Participant 3.

RESULTS.

The following findings were obtained from the qualitative data collected and analyzed as well as the information collected from the medical records of the 32 patients. The mean age of the subjects was 20 years old with a predominance of young men in rehabilitation at the Portal Amarillo center, in agreement with epidemiological data found in the same care center that can probably be extrapolated to other populations of similar characteristics.³⁰⁻³¹

According to data collected from the medical records, the main substances underlying the hospitalization of the study subjects were marijuana and cocaine paste, followed by cocaine hydrochloride, alcohol, nicotine, hallucinogens, psychoactive drugs and “bazuco” (a type of crude cocaine paste).

The interviews conducted individually were shorter than originally planned. The answers were brief, with manifestations of boredom and difficulty in formulating the sentences. In the focus groups consisting of 4 to 5 individuals each, all participants provided contributions and respected each other's intervention. The participation of some subjects was longer and others were shorter, giving rise to convergent responses and comments to those expressed in the individual interviews. Considering the “knowledge” category, the following results on health, disease and oral functions were found. (Table 3)

Considering the “hygiene” category, the results on performance, frequency and education received are listed in Table 3. Considering the category “relationship with the environment”, the following results were found regarding influence in work and study: relationship with partner, family and social relationships before and after consumption. (Table 5)

The knowledge that the participants had of oral health-disease was related to whiteness, correct alignment and cleaning of teeth. The best-known oral diseases were dental caries, bleeding gums and communicable infectious diseases such as HIV and syphilis. The most affected oral functions according to their stories were chewing, aesthetics and taste from the usual consumption PAS.

Regarding oral hygiene, it was noted that before drug dependence they performed it regularly after the main meals and that they received oral and dental

hygiene instructions at home, in school or in medical or dental practices. After drug dependence, hygiene became irregular, only done when remembered, and their knowledge regarding the subject was not reinforced.

Regarding relationship with the environment before the onset of problematic consumption, subjects were in school or had a job; they had a partner or were in search of one. They regularly attended teaching centers and/or workplaces, and visited medical and dental practices. After abusive substance consumption, they manifested events of self-marginalization due to fear of rejection, low self-esteem, break-ups with their partner or no contact with their children, if they had them, to avoid situations of violence. They also opted for isolation from their family to protect their loved ones, living in the streets or in shelters, in addition to giving up medical or dental care when feeling marginalized or discriminated against, having suicide attempts and legal problems that could lead to be under police custody.

Regarding access to dental care, differences are recognized before and after PAS addiction. (Table 6)

Before drug consumption, access to dental care was done on a regular basis and based on preventive criteria, possibly curative, preferably in public health care services or in the School of Dentistry. Once they became dependent on PAS, health care became sporadic and only in cases of emergency, with sedative or surgical therapies, often traumatic for the patient. They report desires to improve their oral health status although costs and lack of resources are obstacles. In the analysis of the drawings, made under the supervision of educators, without the presence of members of the research team, works by Paul Ekman and Freitas-Magalhaes were taken as reference in the interpretation of the smile as body language that shows “the inner soul”.^{32,33}

Three groups are distinguished in the images: the first with brightly colored smiles in red, pink or even with yellow hues, showing cheerful, open mouths, with the presence of teeth, even accompanied by flowers such as roses. Another group showed smaller, sad, gray smiles (black and white).

The third group also drew in black and white using some shade of red and green. Smiles with eyes, noses, hearts, elephants, legs, flowers and tears on the face when

the mouth is damaged can be observed. The drawings of mouths with alterations show missing teeth, caries represented by dark spots, yellow tooth pigmentations, chapped lips. (Figure 1)

DISCUSSION.

The analysis performed based on the grounded theory, through constant comparison, allowed researchers to reach similar results to other studies carried out in which individuals undergoing drug dependence perceive a deterioration of their oral health due to substance abuse. On the other hand, it contrasts with studies that analyze the perception of young people without drug dependence.

Thus, the results of the target population undergoing drug dependence differ from research carried out in children and adolescents with no consumption reported in the region of Navarra, Spain in 2007.

That research indicated that the subjective perception of oral health was good, attendance to dental practice in the previous year was high, with more than one daily oral brushing, and belief in the need for some dental treatment, such as orthodontics among adolescents.³⁴ According to another qualitative study conducted in Australia with patients in drug consumption treatment, it was reported that knowledge about access to oral health services was limited and the search for care occurred only in emergency situations, without adequate health promotion, similar to the findings of the present study.³⁵

According to a multicenter study conducted in a general population over 18 years of age not hospitalized in the cities of Santiago, Tucumán and Porto Alegre, the frequency of brushing, interdental hygiene and regular preventive dental consultation are important indicators of gingival health, while that the self-report of gingival bleeding is an indicator of disease, also agreeing with the findings of the present study.³⁶

Another study carried out in the State of São Paulo, Brazil, is in agreement with the present one, in the sense that the interviewed school adolescents related their perception of oral health with hygiene, aesthetics or appearance, and regular visits to the dentist.³⁷

According to quantitative and qualitative studies carried out in the city of Tacuarembó, Uruguay, the consequences of drug use also included general health problems; family,

neighborhood and labor conflicts; situations of insecurity and social violence that could lead to legal problems.¹⁶

CONCLUSION.

Young people in drug dependence treatment are aware that addiction damages their oral health, deteriorating aesthetics, and affecting oral functions and self-esteem. The oral health status reduces the quality of life of young drug users, making them more vulnerable and discriminated by society. The knowledge of oral health that these young people have is limited to caries, gingivitis and orally transmitted diseases, particularly sexually transmitted infections.

As for the affected oral functions, they are mainly related to chewing, taste and aesthetics. Dental care was associated with emergency situations in public services and in the School of Dentistry, without complying with periodic check-ups. It would be advisable to propose strategies for dentists and their teams to pay special attention to the prevention and promotion of health among these subjects as part of the drug dependence treatment.

Conflict of interests: All co-authors declare that they have no conflicts of interest with the subject.

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