

## Profile of special needs patients assisted in a dental project

Perfil dos pacientes com necessidades especiais atendidos no projeto da Odontologia

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### ABSTRACT

**Objective:** The aim of this paper was to outline the profile of patients with special needs who sought treatment at School of Dentistry, Universidade Federal Fluminense (FO-UFF).

**Material and Methods:** We evaluated the charts of 17 patients who sought care during the survey period. The variables were gender, age, reason for consultation, continuous use of psychotropic drugs, socioeconomic status, consumption of sugar, toothbrushing frequency, dental occlusion dental care and length of treatment. All patients were treated by two undergraduate students linked to the project under supervision.

**Results:** The mean age of the patients was 9.65 years old and males were the most prevalent (52.94%). Individuals with mental retardation and Down's syndrome were the predominant group seeking dental care (35,3%) and pain was cited as the main reason (58,82%). The average dmft 0.9 ( $\pm 1,4$ ) and DMFT was 3.29 ( $\pm 7,07$ ) among patients and restorative treatment was provided for 25% of the patients. **Conclusions:** In conclusion the greatest demand was for curative and not preventive procedures and that the prevalence of caries is high in this group of patients.

### KEYWORDS

Dental caries; DMFT index; Intellectual disability.

### RESUMO

**Objetivo:** O objetivo deste trabalho foi traçar o perfil dos pacientes com necessidades especiais que procuraram atendimento na Faculdade de Odontologia da Universidade Federal Fluminense (FO-UFF). **Material e Métodos:** Foram avaliados os prontuários de 17 pacientes que procuraram atendimento no período da pesquisa. As variáveis analisadas foram: sexo, idade, motivo da consulta, o uso contínuo de drogas psicotrópicas, condição socioeconômica, consumo de açúcar, frequência de escovação, oclusão dentária atendimento odontológico e duração do tratamento. Todos os pacientes foram atendidos por duas alunas de graduação ligados ao projeto, sob supervisão. **Resultados:** A idade média dos pacientes foi de 9,65 anos e o sexo masculino foi o mais prevalente (52,94%). Os indivíduos com deficiência mental e síndrome de Down foram os que mais procuram por atendimento (35,3%) e a dor (cárie) foi apontada como o maior motivo para procura do atendimento (58,82%). A média de ceo foi de 2,4 ( $\pm 1,4$ ) e CPOD de 0,9 ( $\pm 7,07$ ) entre os pacientes e o tratamento restaurador foi realizado em 25% dos pacientes. **Conclusões:** Em conclusão, a maior demanda foi por procedimentos curativos e não preventivos e que a prevalência de cárie é elevada neste grupo de pacientes.

### PALAVRAS-CHAVE

Cárie dentária; Índice CPO-D; Deficiência Intelectual.

### INTRODUCTION

Special needs patients (SNPs) are those who, from the anthropological, cultural

and psychological point of view, do not adapt physically, intellectually or emotionally to normal parameters, considering the growth patterns,

mental development and emotional control. [1,2] Patients with disabilities are individuals with modifications or conditions, simple or complex, temporary or permanent due to biological etiology, causing physical, mental, social and/or behavioral difficulties requiring a differentiated and multidisciplinary approach, each with a unique protocol. [2,3] SNPs have pathologies of many origins, including congenital, genetic, infectious, physical, toxic, poor diet and drug interactions during pregnancy, possibly resulting in disorders of communication, movement and/or the senses. Such conditions cause medical and dental problems that compromise their well-being. [1,4,5]

Due to their specific disabilities SNPs may have precarious oral health conditions, and dental abnormalities such as: the presence of enamel defects, macroglossy, adverse tooth morphology, amended chewing, bad dental positioning, congenital absence, inadequate movements of masticatory muscles and parafunctions. [3,6] It is crucial to be aware of the patient's medical diagnosis, assessing the risks, needs, and conduct for dental treatment since the clinical approach is possibly very different for each disabling condition of SNP. [7] The aim of this study was to outline the profile of individuals with special needs who sought treatment at the extension project developed at the Fluminense Federal University from August 2014 to December 2015.

## MATERIAL AND METHODS

The clinical reports of the SNPs being treated at the extension project of the Faculty of Dentistry, Fluminense Federal University were used for this descriptive comprehensive survey study. The patients with special needs were classified according to American Academy of Pediatric Dentistry. [1] The variables collected were gender, age, systemic diseases, socioeconomic profile and oral health status, reasons for consultation, continuous medication, dental care and tooth most affected by decay. The Clinical Care of Patients with Special Needs

is offered to patients with a variety of needs, without restriction to systemic conditions.

The medical records were searched for patient data and an interview and questionnaire form was conducted to identify the sociocultural influence, knowledge, perceptions and practices in oral health care of those responsible for the child's oral condition. The legal guardians of the SNPs, before filling out the questionnaire, were informed about the research and after agreeing to participate signed the Term of Informed Consent.

All patients who attend the Clinic for Patients with Special Needs receive full dental treatment, according to the needs found. Patient care includes the following routine: medical history, guidance for oral hygiene and diet, prevention treatments, clinical and radiographic examinations, requests for medical opinions, planning and treatment. Clinical examinations were conducted to verify the presence of orofacial lesions and the presence of caries lesions, using the DMFT and DMFT modified criteria, including white spot lesions. After the clinical and radiographic examination the dental treatment plan was established, respecting the limitations and special needs of each case.

## RESULTS

During the clinical period, all patients ( $n = 17$ ) were seen by two undergraduate research students linked to the project under supervision. Patients who sought treatment were aged between 3 and 37 years old with an average age of approximately 9.65 ( $\pm 24,04$ ) years old, and males were the most prevalent (52.94 %). (Table I)

In the socioeconomic profile, the average household income was a minimum wage; running water was present in 64.7% of the households and garbage collection in 94.1%. The level of education of the legal guardians of the SNPs showed that the category of Complete High School/Junior High was the most representative (70.6 %). (Table I)

**Table I** – Socioeconomic profile of special needs patients

SOCIOECONOMIC PROFILE OF SPECIAL NEEDS PATIENTS ATTENDED AT UFF				
VARIABLES	CATEGORIES		No.	(%)
Gender	Male		9	52.9
	Female		8	47.1
Educational level of the legal guardians *	Fathers	IEE	1	5.9
		CEE	1	5.9
		IHS	4	23.5
		CHS	8	47.1
		IHE	0	0.0
		UD	2	11.8
	Mothers	IEE	1	5.9
		CEE	0	0.0
		IHS	8	47.1
		CHS	4	23.5
		IHE	0	0.0
		UD	3	17.6
Average family income *	No fixed income		1	5.9
	1 to 2 minimum wages		10	58.8
	2 to 3 minimum wages		3	17.6
	3 to 4 minimum wages		2	11.8
Basic Sanitation	Running potable water	Yes	11	64.7
		No	6	35.3
	Garbage collection	Yes	16	94.1
		No	1	5.9

IEE = Incomplete Elementary Education; CEE = Complete Elementary Education; IHS = Incomplete High School; CHS = Complete High School; IHE = Incomplete Higher Education; UD = University Degree.

\* Some data were not informed making the n « 17.

The oral health profile of the patients demonstrated variables such as: the consumption of candies between meals, daily tooth brushing frequency, presence of open and/or cross bite, and the presence of decayed teeth. Most patients reported no consumption of candies between meals (52.9 %), tooth brushing frequency was performed 3 to 4 times a day (52.9%), presence of open bite (47.1%), absence of cross bite (58.8%), and 60% of patients did not use any medication. Pain was the main reason for requesting dental care (58.82 %), and the presence of decays was detected in 70.6 % of the cases. Tooth 55 had

the highest incidence of caries (10.6%), followed by tooth 75 (9.1%) and tooth 85 (9.1%) (Figure 1). The average dmft 0.9 ( $\pm 1.4$ ) and DMFT was 3.29 ( $\pm 7.07$ ) among patients and restorative treatment was performed in 25% of the cases (Table II).

There was a variation of the conditions presented by the patients, and individuals who were affected by different syndromes. Congenital disorders comprising Down syndrome, Rubinstein Taybi syndrome, William's syndrome and West syndrome made up 35.3% of the demand for care. Within this group Down's syndrome represented

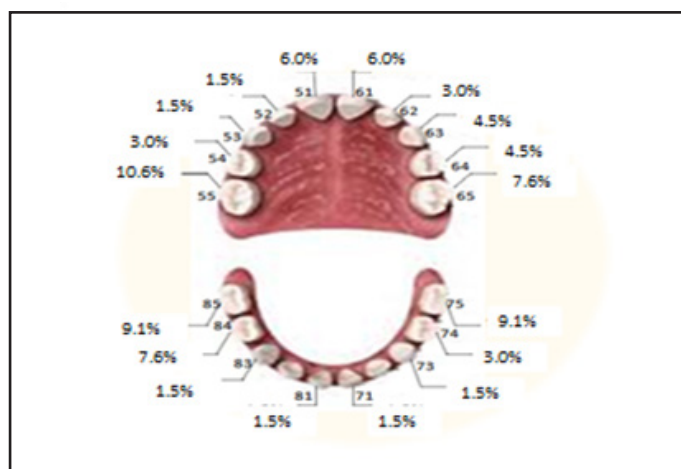
the highest demand (17.64%). Neurologically impaired and autistic syndromes, presented prevalence of 17.64% and 11.76%, respectively. The other disabilities were: juvenile rheumatoid arthritis (5.9%), ectodermal dysplasia (5.9%),

poor skull formation (5.9%), mitochondriopathy (5.9%), dwarfism (5.9%) and cerebral palsy (5.9%) (Table III). The general frequencies, profiles and data of each patient are shown in Table III.

**Table II** – Oral health profile of the special needs patients

ORAL HEALTH PROFILE OF SPECIAL NEEDS PATIENTS ATTENDED AT UFF			
VARIABLES	CATEGORIES	No.	(%)
Consumption of candies between meals*	Yes	5	29.4
	No	9	52.9
Frequency of daily teeth brushing*	1 to 2 times	6	35.3
	3 to 4 times	9	52.9
	4 to 5 times	1	5.9
Open Bite*	Yes	8	47.1
	No	6	35.3
Cross Bite*	Yes*	4	23.5
	No	10	58.8
Decayed teeth	Yes	12	70.6
	No	5	29.4

\* Some data were not informed making the n < 17.



**Figure 1** – Schematic representation of an oral cavity with permanent dentition (a), and the percentage of caries lesions; schematic representation of an oral cavity with deciduous dentition, and the percentage of caries lesions (b).

**Table III** – Special needs patients profile attended

SOCIODEMOGRAPHIC PROFILE								ORAL HEALTH							
GENDER	AGE	DIAGNOSIS	FAMILY INCOME	POTABLE WATER ACCESS	GARBAGE COLLECTION ACCESS	MOTHER'S EDUCATION	FATHER'S EDUCATION	EATING HABIT SWEET BETWEEN MEALS	FREQUENCY OF DAILY BRUSHING	OPEN BITE	CROSS-BITE	DMF-T AND DEM-T	DECAYED TEETH PRESENCE	RESTORING TREATMENT	GINGIVAL TREATMENT
F	4	Neurological Disorder	1-2 minimum wages	Yes	Yes	No data	No data	No	2	No data	No data	2	Yes	No data	No
F	6	West's Syndrome	No income	Yes	Yes	IHS	HIS	With gastrostomy	2	No	No	0	No	No	No
F	6	Down's Syndrome	1-2 minimum wages	No	No	IHS	HIS	No	2	No	No	2	Yes	No	No
F	9	Mitochondriopathy	No income	Yes	Yes	HS	HS	No	-	No	No	0	No	No	No
F	10	William's Syndrome	1-2 minimum wages	No	Yes	IHS	HS	Yes	2	Yes	Yes	2	Yes	No	No
F	13	Down's Syndrome	1-2 minimum wages	Yes	Yes	IHS	HIS	No	2	Yes	Yes	3	Yes	No	No
F	19	Down's Syndrome	1-2 minimum wages	Yes	Yes	IHS	HS	No	5	Yes	Yes	0	No	No	No
F	37	Juvenile Rheumatoid Arthritis	4-5 minimum wages	Yes	Yes	IHS	HS	Yes	3	No	No	5	Yes	Yes	Yes
M	3	Cerebral Palsy	1-2 minimum wages	Yes	Yes	UD	HS	Yes	3	No data	No data	3	Yes	Yes	No
M	3	Dwarfism	1-2 minimum wages	No	Yes	HIS	HS	No	2	Yes	No	8	Yes	No	No
M	6	Ectodermal Dysplasia	1-2 minimum wages	No	Yes	HS	HS	No	3	Yes	No	0	No	No	No
M	6	Autism	4-5 minimum wages	Yes	Yes	UD	UD	Yes	3	No data	No data	DMF-T 02; Dem-T 06	Yes	Yes	No
M	7	Cranial Malformation	1-2 minimum wages	No	Yes	HIS	HIS	No	3	No	No	8	Yes	No	No
M	8	Autism	1-2 minimum wages	Yes	Yes	UD	UD	Yes	3	No	No	6	Yes	Yes	No data
M	8	Malformation of the Corpus Callosum	1-2 minimum wages	No	Yes	HS	HS	No	3	Yes	No	5	Yes	No	No
M	9	Neuropathy	3-4 minimum wages	Yes	Yes	IPE	IPE	No	3	Yes	No	0	No	No	No
M	10	Rubinstein Taybi Syndrome	3-4 minimum wages	Yes	Yes	UD	UD	Yes	3	Yes	Yes	10	No	No	No

## DISCUSSION

Individuals with disability have poor oral health and high treatment need in comparison with people without disability. In this study the main reason for consultation, 58.82%, was pain (caries), confirming patients were seeking for curative care and restorative treatment. Ours findings show that these patients have poor oral health and extensive treatment needs. [8]

In this study 10 patients were treated during the first year of the extension project that ensures treatment for patients classified as special needs. All of the patients received specialized and individualized care, and one patient was assisted in the operating room due to difficulty to treat the individual in the outpatient clinic. One of the reasons the small sample studied was the limited demand for this service at UFF. This was probably because many patients still did not know about this new project and the service being offered.

The present study revealed a lower mean age, possibly due to the integration to Pediatric Dentistry, School of Dentistry, Fluminense Federal University (FO-UFF) and the prevalence of males coincided with the others study. [8-11]

Among the diseases presented in this study, syndromes (congenital disorders) showed a high prevalence (35.3%), and among those Down's syndrome (17.64%) had the highest prevalence. On the other hand, Pereira and coauthors [10] in their study analyzed the prevalence of patients diagnosed with neurological disorders (55.8%) in a universe of 138 medical records.

Previtali and coauthors [8] reported that cerebral palsy (14.5%) was the main patient disability in their clinical findings. These facts show that the predominance of certain pathology is uncertain and depends on the composition of the population and its prevailing conditions.

The socioeconomic profile revealed a predominance of a low level of education of the

SNPs legal guardians, poor social conditions and low income. [8] However, Oliveira and collaborators found that maternal education and economic class are not associated to the dental experience. [5,11]

In contrast to the literature, most of the SNPs of this study claim sufficient and effective toothbrushing frequency as well as a balanced diet with low intake of sucrose. However, as demonstrated in several studies, these patients often have motor difficulties which make them unable to perform their oral hygiene effectively, besides having a predominantly high-carbohydrate diet. [11]

Nevertheless, caries found in 70.6 % of subjects suggest diverse reality of oral hygiene and cariogenic diet as reported by the legal guardians. So it is clear that there is a need for information and awareness to promote and maintain good oral health habits such as monitoring, supervision and/or performing oral hygiene by the legal guardians in order to change the present profile, and thus prevent further complications for these patients.

The data collected concerning the profile of patients seeking this project contribute to improve the teaching and services provided by this department. Also it contributes to the implementation of preventive measures in collaboration with the community and for the dissemination of the service being offered, so that these SNPs seek assistance as early as possible, in order to reduce the impact on quality of life of these children and their legal guardians.

## CONCLUSIONS

However, bot the risk factor and experience of caries were not statistic correlated; so, special efforts should be made to improve the attendance and frequency of control consults and risk assessment. All these factors should be discussed with respect to potential measures that should be taken to reduce their effect and consequently the overall risk for caries.



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Date submitted: 2016 Jul 29

Accept submission: 2016 Oct 03