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Dental care for patients with special needs at a private higher education institute

Atendimento odontológico a pacientes com necessidades especiais em uma instituição privada de ensino superior

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ABSTRACT

Objective: Patients with special needs are those individuals who need special care for an undetermined period of time or for lifetime. The present study is aimed to address the dental care of special needs patients at a private higher education institute in the city of São Paulo. **Material and Methods:** A descriptive, retrospective study was performed for analysis of 210 dental records of special needs patients who were treated at the Dental Department for Special Patients of the Cruzeiro do Sul University between 2012 and 2018. Data on gender, age, diagnosis of the debilitating condition, reason of the consultation, continued use of medications, radiographic images and dental treatments provided were all collected before being submitted to descriptive and inferential statistical analysis (chi-square test) at a significance level of 5%. **Results:** As for the types of dental procedures assessed in the present study, of the 210 patients, 24% needed dental curative treatments in which periodontal therapy was the most prevalent type, whereas endodontic treatments had the lowest prevalence, representing 4% only. There was a high prevalence of chronic systemic diseases, affecting 56% of the dental records, whose age group was above 40 years old. **Conclusion:** Regular dental check-ups should be prioritized in patients with special needs to avoid more invasive interventions as found in our group.

KEYWORDS

Dental care for disabled patients, disabled person; Health profile; Oral treatment; Special needs.

RESUMO

Objetivo: Pacientes com necessidades especiais são aqueles indivíduos que necessitam de cuidados especiais por tempo indeterminado ou por toda a vida. O presente estudo tem como objetivo abordar o atendimento odontológico de pacientes com necessidades especiais em uma instituição privada de ensino superior da cidade de São Paulo. **Material e Métodos:** Foi realizado um estudo descritivo, retrospectivo, para análise de 210 prontuários odontológicos de pacientes com necessidades especiais atendidos no Departamento de Odontologia para Pacientes Especiais da Universidade Cruzeiro do Sul entre 2012 e 2018. Dados sobre sexo, idade, diagnóstico da condição debilitante, motivo da consulta, uso continuado de medicamentos, imagens radiográficas e tratamentos odontológicos prestados foram todos coletados e posteriormente submetidos à análise estatística descritiva e inferencial (teste do qui-quadrado) ao nível de significância de 5%. **Resultados:** Quanto aos tipos de procedimentos odontológicos avaliados no presente estudo, dos 210 pacientes, 24% necessitaram de tratamentos curativos dentários em que a terapia periodontal foi o tipo mais prevalente, enquanto os tratamentos endodônticos tiveram a menor prevalência, representando apenas 4%. Houve alta prevalência de doenças crônicas sistêmicas, acometendo 56% dos casos, cuja faixa etária era superior a 40 anos. **Conclusão:** Check-ups odontológicos regulares devem ser priorizados em pacientes com necessidades especiais para evitar intervenções mais invasivas como em nosso grupo.

PALAVRAS-CHAVE

Assistência odontológica para pessoas com deficiências; Perfil de saúde; Tratamento oral; Necessidades especiais.

INTRODUCTION

Disabled patients are those individuals who need medical and dental care directed to their condition, which may involve differentiated care for a period of time or even indefinitely. These individuals were shown to have a greater susceptibility to comorbidities capable of compromising their well-being. According to the World Health Organisation (WHO), the prevalence of disabled individuals in the world is 1:10 people [1].

In Brazil, 15% of the population has special needs, with the majority being highly concentrated in the northeast region of the country, that is, 16.8%. According to the Brazilian Institute of Geography and Statistics (IBGE), it is estimated that of the 10% of the individuals with special needs, only 3% has received dental treatment, which corresponded to 480,000 patients [2].

The National Curriculum Guidelines for Dentistry Courses, in force since 2002, establish that undergraduate discipline should prepare dental surgeons to be capable of performing as a generalist. However, it is extremely important that dental care for special needs patients is included so that some necessities of this group of individuals can be met. To do so, it is necessary that the undergraduate student and future practitioner have a curriculum consisting of clinical and theoretical components to provide a satisfactory dental care to these patients. Therefore, the importance of broadly addressing the discipline of special needs patients (SNPs) on an integrated basis has been recognised as dental care for this group of patients should be scientifically grounded [2,3]. According to the Ministry of Health Guidelines, the discipline of SNPs is not mandatory in Brazil, which explains the still limited number of dental schools in this subject [4].

The strategies and approaches for these patients should encompass the interdisciplinarity. Therefore, it is paramount to consider that dental care for SNPs, in both public and private sectors, should be performed with participation of a multiprofessional and/or multidisciplinary team to achieve the best possible oral and general health conditions. Such dental care might often be performed by undergraduate students whose curriculum has the discipline of SNPs [5].

One of the most challenging situations in providing dental care for SNPs has to do with

the management of behaviour during the clinical practice. To do so, it is not only necessary to have technical-scientific knowledge, but also sensitivity in understanding the individual desires of each patient as well as of their family in order to determine the best way to perform the dental treatment [6].

Embracement is the first step in making the user and his or her family feel confident regarding the dental treatment. Establishing bonds with the patient by listening, respecting and dialoguing is another important aspect for efficiently operating the reference and counter-reference systems aimed at secondary care and preventing the patient from becoming misguided following the procedure in the sector of reference. The counter-reference for primary health care is presented to the undergraduate student as being as important as the referral to higher levels of outpatient or inpatient secondary care. Because not always such an important step is performed at the levels of secondary and inpatient care, the systems of periodic preventive maintenance are essential for the health of these patients [6].

Disabled people have been neglected regarding the specific health care they need, in addition to being in a situation of disadvantage regarding medical care for diseases and occurrences common to anyone. A major part of these people not only suffer more from chronic diseases and need more hospitalisation, but they also use less outpatient care services, such as dental consultations. A study performed by Castro et al. [7] showed that physically disabled patients in the cities of the State of São Paulo had 24 times less dental visits than non-disabled ones. The main reasons reported were difficult access to dental offices and clinics, lack of preparation of the practitioners to handle the deficiency and financial difficulties. Dental care for this population has been historically performed on a sporadic basis, that is, with no systematic follow-up and often provided by philanthropic institutions, which is the reason why the oral condition of these patients is poor [8].

Oral health still has a low priority compared to other medical care services for these individuals. However, the presence of oral pain and infection can potentially impair the systemic condition of SNPs [9,10]. Some years ago, dental treatment for SNPs was often provided under general anaesthesia on an inpatient basis. Nowadays,

thanks for the research on this new dental specialty, the several aspects of each group of SNP has been increasingly known, thus limiting the indications for general anaesthesia [11,12].

This share of the population, despite the advances and mobilisation for recognising their needs, has been still facing personal, economic and social challenges, among them, the difficult access to oral health care [13].

Problems such as government policies, educational programs for oral health care at the universities and public network systems, qualification of specialised personnel and services, dental resources, shortage of specialised professionals and preventive programs, lack of policies aimed at assisting SNPs, among others, are considered factors contributing to the poor oral health situation of these patients [9].

In view of the conditions inherent to the dental care for SNPs, the practitioner lacking this competence does not feel prepared to provide dental care for this population, which will have repercussions on the often-unnecessary referral to a hospital for treatment under general anaesthesia [12].

While there has been several researches about oral care for patients with special needs, a study which gained insight into dental care health care for this population related to Brazilian dental higher education institutes setting is lacking.

The present study is aimed to address the dental care of special needs patients at a private higher education institute in the city of São Paulo.

MATERIAL AND METHODS

After approval by the Institutional Review Board of the Cruzeiro do Sul University (UNICSUL) under protocol number 3733742, a descriptive retrospective study was performed with 210 dental records of SNPs treated at the Dental Department for Special Patients of the Cruzeiro do Sul University between 2012 and 2018 at the São Miguel Paulista Campus, São Paulo. The patients were treated by senior undergraduate students (7th and 8th semesters) under the discipline of special needs patients in the dentistry curriculum.

The variables were distributed according to the disabling conditions, gender, age group, radiographic images (the type of radiograph

taken during treatment), continued use of medications, preventive procedures and type of dental procedures performed (restorative, surgical, periodontal and endodontic).

The SNPs were grouped into seven categories according to their medical diagnosis as follows [14]: 1) Physical deficiency: cerebral palsy, encephalic vascular accident, medullary lesion and motor alteration; 2) Congenital anomaly: Down's syndrome; 3) Behavioural disorder: autistic spectrum disorder; 4) Psychiatric disorders: schizophrenia and obsessive-compulsive disorder; 5) Chronic systemic diseases: asthma, diabetes mellitus, systemic arterial hypertension, cardiopathies epilepsy, chronic renal insufficiency, autoimmune disease, infectious-contagious disease; 6) Drug-addiction; and 7) Systemic diseases: cancer, multiple sclerosis, Chagas' disease and transplanted patients.

As inclusion criteria, only fully completed dental records with a free and informed consent form signed by the caretaker or legal guardian, and containing types of treatment: preventive, curative, surgical, periodontal and endodontic) were considered for study. Patients were grouped according to the age under the WHO criteria adapted from elsewhere: 0-9 years old, 10-19 years old, 20-39 years old and older than 40 years.

The data collected from the dental records were tabulated into spreadsheets and the results expressed descriptively and presented in tables. Data analysis was descriptive and statistically inferential (Chi-square test) by using the SPSS software, version 15.0, at a significance level of 5%.

RESULTS

Of the 210 dental records, 50.9% corresponded to males and 49.1% to females. As for males, there were higher percentages of physical deficiency (9%), behaviour disorders (2%) and psychiatric disorders (8.2%), whereas females had a higher percentage of diabetes mellitus (12%). Cardiopathies (6%) and systemic arterial hypertension (8%) had higher percentages in males. Data on the distribution of debilitating conditions by gender are shown in Table I.

In Table II, one can observe that the age of the SNPs varied from 2 to 92 years old. The individuals

Table I - Distribution of the debilitating conditions by gender

Debilitating condition	Male gender		Female gender		Total	
	n	%	n	%	n	%
Physical deficiency						
Cerebral palsy	3	1.4	5	2.6	8	4.0
Others	14	7.6	11	4.4	25	12.0
Congenital anomaly						
Down's syndrome	7	3.0	12	6.0	19	9.0
Behavioural disorder						
Autistic spectrum disorder	5	2.0	0	0.0	5	2.0
Psychiatric disorders						
Schizophrenia	17	8.0	8	4.0	25	12.0
Obsessive-compulsive disorder	1	0.2	0	0.0	1	0.2
Chronic systemic diseases						
Diabetes mellitus	11	5.0	25	12.0	36	17.0
Systemic arterial hypertension	17	8.0	18	8.9	35	16.9
Cardiopathies	13	6.0	10	5.0	23	11.0
Others	14	8.0	11	6.0	25	12.0
Drug-addiction	3	1.5	0	0.0	3	1.5
Systemic condition	2	0.96	3	1.44	5	2.4
Total	107		103		210	

Groups did not differ regarding gender. Chi-square test ($P= 0.1934$).

Table II - Distribution of the debilitating conditions by age group

Debilitating condition	Age group								Total
	0-9 yrs		10-19 yrs		20-39 yrs		>40 yrs		
	n	%	n	%	n	%	n	%	
Physical deficiency	1	0.1	7	3.6	9	4.3	16	7.6	33
Congenital anomaly	3	1.42	8	3.8	6	2.9	2	0.9	19
Behavioural disorder	1	0.8	20	9.6	2	1.0	0	0.0	5
Psychiatric disorders	0	0	5	2.4	8	3.8	13*	6.5	26
Chronic systemic diseases	4	1.9	4	1.9	18	8.5	93	44.0	119
Drug-addiction	0	0	0	0	3	1.5	0	0.0	3
Systemic condition	0	0	0	0	1	0.5	4.0	2.0	5

*Chi-square test.

were divided into four age groups and relating to their debilitating conditions. Physical deficiency was observed in the individuals of all age groups, whereas 119 ones had chronic systemic diseases, mainly affecting those individuals older than 40 years (44%). Therefore, individuals with chronic systemic diseases are significantly older ($P < 0.001$).

In Table III, one can observe that radiographic images were present in 54.8% of the cases. There was no statistically significant difference between the groups.

In Table IV, one can observe that special needs patients with chronic systemic diseases make significantly more use of medications on a continued basis ($P < 0.0001$).

As shown in Table V, the seven most prevalent debilitating conditions correspond to the diagnoses of chronic systemic disease (56%), physical deficiency (16%), psychiatric disorders (12%), congenital anomaly (9%), behavioural disorder (3%), drug-addiction (1.5%) and systemic disease (2%), totalising a sample of 210 patients.

Table III - Distribution of the 210 patients with debilitating conditions according to their radiographic images

Debilitating condition	Yes		No	
	n	%	n	%
Physical deficiency	12	5.75	21	1.5
Congenital anomaly	11	5.24	8	4.5
Behavioural disorder	2	0.5	3	1.4
Psychiatric disorders	15	7.14	11	6.5
Chronic systemic diseases	70	34.0	49	31.1
Drug-addiction	3	1.40	0	0.0
Systemic condition	2	0.95	3	1.42
Total	115	55.0	95	45.0

Chi-square test ($P= 0.1837$).

Table IV - Distribution of the 210 patients with debilitating conditions according to their continued use of medication

Debilitating condition	Yes		No	
	n	%	n	%
Physical deficiency	7	3.4	26	12.0
Congenital anomaly	4	1.9	15	7.14
Behavioural disorder	2	1.0	3	1.42
Psychiatric disorders	23	11.0	3	1.42
Chronic systemic diseases	10*	5.0	14	6.70
Drug-addiction	3	1.40	0	0.00
Systemic condition	2	0.95	3	1.42
Total	146	70.0	64	30.0

*Chi-square test ($P < 0.0001$).

In Table VI, one can observe that periodontal treatment corresponded to 30% of the dental procedures, whereas preventive and curative dental treatments corresponded to 25% and 24%, respectively. Surgical dental procedures (tooth extraction) corresponded to 17%, whereas endodontic treatments were the least performed, with 4%.

The average time of treatment was shorter than three months in 46.5% of the sample, and 46.7% of the patients were discharged from the treatment.

DISCUSSION

The profile of the disabled individuals who sought dental treatment at the Dental Department for Special Patients of the Cruzeiro do Sul University, a private higher education institute, was evaluated. Of the 210 dental records analysed, 52.8% corresponded to males and 47.2% to females.

Table V - Distribution of the 210 patients with debilitating conditions according to the early procedures

Debilitating condition	R	%	NR
Physical deficiency	33	16	0
Congenital anomaly	9	9	0
Behavioural disorder	5	3	0
Psychiatric disorders	26	12	0
Chronic systemic diseases	19	56	0
Drug-addiction	3	2	0
Systemic condition	5	2	0
Total		210	0

R: present; NR: absent.

Table VI - Distribution of the 210 patients with debilitating conditions according to the dental procedures performed

n	Dental Procedure	%
54	Restoration	24
39	Surgery	17
70	Periodontics	30
8	Endodontics	4
59	Prevention	25
152	Anamnesis	

Other studies also corroborated our findings. Faker et al. [8] evaluated 351 dental records of patients treated at the Dental Clinics for Patients with Special Needs of the School of Dentistry, Universidade Federal Fluminense, reporting percentages of 52.94%, retrospectively.

In our study, the variation in age group ranged from 3 to 93 years old, with a mean age of 39 years ($\pm 50\%$). However, in a study conducted at the School of Dentistry, Universidade Federal Fluminense, Faker et al. [8] reported an age variation from 3 to 37 years old with a mean age of 9.65 ($\pm 24,04$) years old. Data indicate that an early approach with access to dental care services leads these individuals to attend preventive programs, which ensures a significant improvement in their quality of life [13].

Periapical radiographic images were obtained from 54.8% of the individuals. The type of radiographic image often depends on the systemic condition of the disabled individual being evaluated.

The indication of continued use of medications is related to the treatment of the patient's systemic condition. Therefore, it is paramount that the dental surgeon knows about the possible drug interactions between continued medications and local anaesthetic and/or dental drugs [10,11]. One can observe that 50% of the individuals who frequently use these medications are those with chronic systemic conditions.

As for the types of dental procedures evaluated in the present study, of the 210 patients, 24% needed dental restoration, especially periodontal treatment. In addition, the need of preventive procedures was demonstrated in 30% of the patients, which shows the importance of prevention interventions for this population. According to the results obtained by other authors [8,10] curative treatments correspond to 54.1% of all dental procedures, thus being the most frequently performed one.

Endodontic treatments were the least prevalent ones, representing 4% in the present study. On the other hand, the number of patients undergoing surgical dental procedures was higher than those undergoing endodontic procedures, which may be related to the fact that the latter require more collaboration from the patients. These results show how difficult is the collaborative management of the disabled

patients for the endodontic treatment, leading to tooth extraction as a final option [8]. As a result, radical dental procedures are chosen to the detriment of more conservative ones

The increase in the population's life expectancy leads to a greater prevalence of chronic diseases, such as diabetes mellitus and hypertension [15]. By analysing the profile of the patients in the present study, one can highlight the high prevalence of chronic systemic diseases as 119 individuals (56% of the cases) were affected, a population within the age group of 40 years or older.

In the present study, congenital anomalies were found to be more prevalent in younger individuals, that is, 4-9 years old. These results can indicate a shorter life expectancy for individuals with syndromes compared to non-syndromic ones. It was also observed that 9% (19 cases) of the individuals had Down's syndrome. Down's syndrome is the most common congenital anomaly resulting in mental, behavioural, physical and oral changes [16].

The comparison between our results and the few ones in the literature on the profile of SNPs did not allow us to make a correspondence between the percentages in each debilitating condition described here. This may have been due to geographical differences regarding the healthcare services offered, since people living in these regions have their own social-economic characteristics [13], beyond the conditions inherent to a service that attends SNPs.

In Brazil, one can observe that the number of higher education institutions offering the discipline of special needs patients is smaller than the demand. The qualification of dental professionals should contemplate this issue to meet the disabled patients' rights. Moreover, the problems faced by this population regarding the access to oral care services are impaired.

These patients have a greater prevalence of oral diseases such as caries lesions, missing teeth, periodontal problems, para-functional habits and malocclusions, all of which occurring mainly due to the poor oral hygiene caused by physical and psychiatric limitations, including type of diet, difficult mastication and deglutition, and medications taken on a daily basis [8].

This population with special needs, despite the advances and mobilization for recognizing

their demands, has still been facing personal, economic and social challenges, including difficulties to meet their oral health needs [12].

Problems related to public policies, educational programs for oral health care at the universities and public network systems, qualification of specialised personnel and services, availability of dental resources, shortage of specialised professionals to meet the demand for preventive programs, lack of policies aimed at assisting SNPs, among others, are considered factors contributing to the poor oral health situation of these patients [8].

Of the dental schools offering the discipline of special needs patients in Brazil, 27 (48.21%) provide it at both theoretical and practical levels, 25 (44.64%) at a theoretical level and four (7.14%) at a practical level only [8,17].

In the field of health care, disabled patients are mainly assisted by the public healthcare system and higher education institutions. Therefore, both account for collecting, organising, analysing and interpreting data on the current reality, as well as for discussing the services provided by the higher education and healthcare organisations, including qualification discipline not available in the undergraduate curricula [17].

In this way, one can observe that undergraduate dental discipline should become adequate and make changes in their curriculum in order to allow professionals to be able to meet the healthcare needs of the population and public healthcare system. In fact, there is a gap in the curriculum of dentistry regarding the education of professionals who will treat disabled patients. Consequently, dental surgeons do not feel able and confident to treat this population as they lack a generalist background, which does not comply with the norms set by the 2001 National Curriculum Guidelines (NCGs).

This study contains some limitations that should be addressed. First, the quality of dental records information. Second, the great variety of age and conditions of the subjects.

CONCLUSION

The greatest need was for curative procedures. The analysis of the data led to the conclusion that prevention measures of dental diseases are needed in order to avoid more

invasive interventions and routine follow-up for these subjects.

Author's Contributions

ALFR: Study conception and design, analyses and interpretation of the data; final approval of the version to be published. RAY: Analyses and interpretation of the data; final approval of the version to be published. ROG: Drafting the article; Analyses and interpretation of the data; Final approval of the version to be published. CABC: Drafting the article; Analyses and interpretation of the data; Final approval of the version to be published. SLPCL: Analyses and interpretation of the data; Final approval of the version to be published. KACF: Analyses and interpretation of the data; Final approval of the version to be published. ALFC: Drafting the article; Final approval of the version to be published. MTBRS: Study conception and design, analyses and interpretation of the data; Final approval of the version to be published.

Conflict of Interest

All authors of this work declare no conflict of interest.

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Regulatory Statement

The study was approved by the Institutional Review Board of UNICSUL, according to protocol number 3733742.

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