



Barriers to Access to Dental Treatment for People with Physical Disabilities in a Brazilian Metropolis

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Abstract

Objective: To evaluate the barriers for accessing dental care for people with physical disabilities. **Material and Methods:** A cross-sectional study with 191 caregivers of individuals with physical disabilities attending a rehabilitation center in São Paulo, who responded to a questionnaire about information related to barriers (user, caregiver, government and professional) found in dental treatment, visit to the dentist and age of the first dental appointment. Data were collected from medical records regarding age, sex, family income and medical diagnosis of patients. Statistical analysis was performed using the MedCalc for Windows software version 12.3.0. The Chi-square test was applied for heterogeneity, with significance level of 5%. **Results:** The main barriers identified by caregivers ($p < 0.0001$) were patient fear/anxiety (66.8%), patient requiring accompaniment to access treatment (87.4%), treatment costs (82.7%), lack of treatment at primary health care units (73.3%) and professionals not specialized in dental care for people with physical disabilities (67.0%). It was observed that caregivers of individuals with cerebral palsy reported greater physical barriers for accessing dental treatment compared to caregivers of other diagnoses ($p = 0.0307$). **Conclusion:** Individuals with physical disabilities face financial constraints, fear of dental treatment, lack of treatment options in public services and, perhaps most importantly, lack of qualified professionals interested in treating such individuals.

Keywords: Dental Care for Disabled; Health Services Accessibility; Oral Health.

Introduction

People with disabilities (PD) have one or more temporary or permanent mental, physical, sensory, emotional, growth or medical limitations that prevent them from being submitted to conventional dental interventions.

Based on estimates for the population in 2010, 15% of the world's population would be living with some disability [1]. This number is higher than estimates made by the World Health Organization (WHO) in the 1970s, which suggested an overall prevalence of 10% [2]. In Brazil, according to the Brazilian Institute of Geography and Statistics (IBGE), 45.6 million people (23.9%) have some kind of disability, whether intellectual, motor or physical, sensory or multiple [3].

Physical impairment is characterized by the partial or complete alteration of one or more body segments, permanently impairing motor function, except for aesthetic deformities and those that do not produce difficulties in the performance of locomotor functions [4].

The Federal Constitution, since 1988, has outlined the general principles of the PD inclusion policy, which is "promoting the good of all, without prejudice of origin, race, sex, color, age, and any other forms of discrimination" [5]. The National Health Policy for People with Disabilities, supported by various national laws, guarantees the rights of people with disabilities in many different fields, including dental care [4,6].

Due to the systemic use of medications, precarious eating habits and difficulty in performing the mechanical control of biofilm [7], these patients present higher risk for the occurrence of oral diseases. Therefore, these individuals should receive early and ongoing care to avoid future problems. This part of the population, despite advances and mobilizations in the recognition of their needs, is still facing personal, economic and social challenges, including dental care difficulties [8].

PD should have access to dental care in the primary health care setting at Basic Health Units (UBS). When it is not possible to perform care at this level of care, the patient will be referred to the referral service at the Center for Dental Specialties (CEO). Ordinance No. 599 / GM, of March 23, 2006, defines the implementation of Centers for Dental Specialties, and establishes that every CEO must perform dental care aimed at this population [1].

The city of São Paulo is one of the most populous metropolises in Brazil, with an estimate for 2017 of approximately 12 million inhabitants [9]. The urban mobility, related to the daily circulation of inhabitants, is increasingly difficult, since the commuting time is a great challenge of this metropolis. For people with physical disabilities, this locomotion difficulty tends to worsen, regardless of means of transportation. In view of the above, the aim of this study was to evaluate the barriers to access to dental treatment for people with physical disabilities in a large metropolis of Southeastern Brazil, São Paulo.

Material and Methods

Study Site

The research was carried out in the city of São Paulo, Brazil, at the “Centro de Reabilitação Lar Escola São Francisco” (LESF), which was incorporated into “Associação de Assistência à Criança Deficiente” (AACD) in 2012 and increased the coverage of the institution in the care of these patients. AACD was founded in 1950 with the mission of promoting the prevention, habilitation and rehabilitation of people with physical disabilities, especially children, adolescents and young people, favoring social integration. LESF has facilities designed for walking with wheelchairs, ramps, handrails and floor with signaling colors.

Study Design and Sample

The study design was cross-sectional, with caregivers of patients who attended LESF, between the years of 2013 and 2014. The initial sample was composed of 208 people with physical disabilities, of which 17 patients were excluded, as caregivers could not answer the majority of questionnaire questions due to difficulty of understanding them. The final sample consisted of 191 individuals. The study included patients with physical disabilities, of both sexes, aged 1-21 years.

Data Collection

The questionnaire was applied to patients’ caregivers and contained 10 questions related to barriers (user, caregiver, government and professional) found in dental treatment. Data on age, sex, family income and medical diagnosis of patients were collected through medical records. Caregivers were also questioned about the visit to the dentist and the age of the first dental appointment.

Statistical Analysis

Statistical analysis was performed using the MedCalc for Windows (MedCalc Software, Ostend, Belgium), version 12.3.0. The Chi-square test was applied for heterogeneity, with significance level of 5% ($p < 0.05$).

Ethical Aspects

The research was approved by the Research Ethics Committee of the Cruzeiro do Sul University (Protocol CE/UCS-152/2011). Legal guardians received explanations and signed the Free and Informed Consent Form before participating in the research.

Results

In the sample of 191 patients, mean age was 6.2 ± 4.5 years, 41.4% were female and 58.6% were male ($p = 0.020$). The family income was up to US\$ 175.00 for 75 patients (39.3%), from US\$ 175.00 to US\$ 350.00 for 77 (40.3%) and more than US\$ 350.00 for 39 (20.4%) ($p = 0.0008$) (Table 1). Regarding dental care, 40.8% of patients had never been to the dentist. The age of the first dental appointment, for those with previous experience, ranged from 1 to 17 years, with average of 4.2 ± 3.0 years.

Table 1. General sample parameters.

Variables		N	%	p-value
Sex	Female	79	41.4	0.0206
	Male	112	58.6	
Family Income	≤ US\$ 175.00	75	39.3	0.0008
	US\$ 175.00 to US\$ 350.00	77	40.3	
	> US\$ 350.00	39	20.4	

The most prevalent medical diagnosis was cerebral palsy (CP) (59.7%), followed by mixed developmental disorders (14.1%) and congenital malformation (12.0%) (Table 2).

Table 2. Medical diagnosis condition.

Diagnosis	N	%	p-value
Cerebral Palsy	114	59.7	<0.0001*
Mixed Developmental Disorders	27	14.1	
Congenital Malformation	23	12.0	
Myelomeningocele	11	5.8	
Hydrocephalus	10	5.2	
Osteomuscular Disease	6	3.1	
Total	191	100.0	

According to the questionnaire applied, there were 8 significant barriers to access to dental treatment of people with physical disabilities (Table 3). Regarding user barriers, the fear/anxiety and need to had treatment follow-up had affirmative answers 66.8% and 87.4%, respectively ($p < 0.0001$). The patient's communication difficulty was not considered a barrier by caregivers, and only 28.6% considered it to be ($p < 0.0001$). The treatment cost to 82.7% was considered the greatest barrier by caregivers ($p < 0.0001$). Of government barriers, the lack of dental treatment in Basic Health Units was considered one of the most prevalent (73.3%) ($p < 0.0001$). Most caregivers (67.0%) affirm that the lack of professional qualification for the dental care of patients with disabilities is another barrier to access ($p < 0.0001$).

Table 3. Questionnaire questions related to barriers of access to dental care of patients with physical disabilities.

Variables	Valid Data (%)	Affirmative Responses N (%)	Negative Responses N (%)	p-value*
User Barriers				
Fear / Anxiety	100.0	127 (66.8)	63 (33.2)	<0.0001+
Patient's Communication Difficulty	98.9	54 (28.6)	135 (71.4)	<0.0001+
Patient Dislikes / Does not Cooperate	100.0	101 (52.9)	90 (90.0)	0.4693
Need to be Followed up with Treatment	100.0	167 (87.4)	24 (12.6)	<0.0001+
Caregiver Barriers				
Treatment Cost	100.0	158 (82.7)	33 (17.3)	<0.0001+
Government Barriers				
Physical Barriers to Access for Dental Treatment	81.7	40 (25.6)	116 (74.4)	<0.0001+
Lack of Treatment in Basic Health Units (UBS)	97.9	137 (73.3)	50 (26.7)	<0.0001+
Lack of Transport For Treatment	100.0	100 (52.4)	91 (47.6)	0.5627
Professional Barrier				
Professional not Qualified for Dental Care	96.9	124 (67.0)	61 (33.0)	<0.0001+

*Chi-square test for heterogeneity; +Statistically significant difference ($p < 0.05$).

The physical barriers of dental treatment places were considered a difficulty by a small portion (25.6%). Table 4 shows that caregivers of individuals with CP reported greater physical barriers to access for dental treatment when compared to caregivers of patients with other medical diagnoses ($p=0.0307$).

Table 4. Association between physical barrier to access for dental treatment and medical diagnosis.

Table 1: Association between physical barriers to access for dental treatment and medical diagnosis.							
Medical Diagnosis	Physical Barriers of Access to Dental Treatment				Total	p-value**	
	Yes		No				
	N	%	N	%			
Cerebral Palsy	29	32.6	60	67.4	89	57.1	0.0307 ⁺
Hydrocephalus	5	55.5	4	44.5	9	5.8	
Mixed developmental disorders	1	4.3	22	95.7	23	14.7	
Myelomeningocele	3	30.0	7	70.0	10	6.4	
Osteomuscular disease	0	0.0	5	100.0	5	3.2	
Congenital malformation	2	10.0	18	90.0	20	12.8	
Total*	40	25.6	116	74.4	156	100.0	

*Total is different from 191 because some caregivers did not know how to respond at the time of collection; **Chi-square test for heterogeneity and linear trend; ⁺Statistically significant difference ($p<0.05$).

Discussion

The oral hygiene conditions of patients with disabilities are considered one of the greatest oral health problems. The literature shows that these patients are subject to inequalities in oral health both in terms of disease prevalence and in unmet health needs [10].

People with disabilities make up a group considered to be at high risk for the development of dental caries [11]. Studies in Brazil have shown that the dental caries experience is very high in the disabled population [12,13], as well as in other populations [8,14].

In this study, it was observed that a large number of patients had never been to the dentist. According to the American Academy of Pediatric Dentistry (AAPD), the first dental appointment should be performed between six months to one year of life to control risk factors for dental caries [15] and future dental problems. The average age of first dental care was much higher than that recommended by AAPD, and it is valid to anticipate the first dental evaluation in children with disabilities in the first year of life [16].

In describing the medical diagnosis of the identified children, cerebral palsy (CP) was predominant in this study. In literature, the prevalence found in developed countries ranges from 1.5 to 5.9 / 1,000 live births, estimating that the incidence of CP in developing countries is 7 per 1,000 live births [17].

It is known that the inclusion of patients with disabilities in society is a fair and law-enforced factor, but it is inevitable that these individuals experience daily difficulties due to their own deficiency. In order to guarantee the best access both of patients with CP as well as of patients with other deficiencies, modifications in the physical structure of places in general are required [18].

According to some researchers, there are five main barriers reported by patients seeking dental treatment: high cost, discomfort of treatment, fear, communication between patient and

professional, and structure of the place of care [19]. Among these, high cost was the barrier of greatest impact. In this study, treatment cost was also considered a barrier by caregivers, since most of them have family income of up to a minimum wage, making private treatment impossible.

The lack of specialization of dentists (DS) was considered by most caregivers as a barrier to access to dental treatment, corroborating previous studies [20-22]. This difficulty can be related to the academic formation of the professional. The number of universities that include the discipline of Dentistry for Patients with Special Needs (PNE) in undergraduate courses is much lower than the need in Brazil [23].

The Ministry of Health (MS) of Brazil, in establishing assistance parameters for the Unified Health System (SUS), recommends a ratio of 1 DS / 1,500 to 5,000 inhabitants [24]. In the city of São Paulo, the population estimated by IBGE for 2017 is 12,106,920 inhabitants [9], with 24.0% [3] having at least one disability. By the Regional Council of Dentistry of São Paulo (CROSP), in 2017 there were 29,769 DSs registered in the agency and only 133 (0.45%) are specialists in Dentistry for patients with physical disabilities [25]. The proportion of specialists and PD (1: 21.847) is far shorter than the proportion proposed by the MS, leaving patients with physical disabilities in a situation of vulnerability to specialized dental care, thus, it is notorious that it is difficult to find a qualified professional. The lack of specialists in Dentistry for PD is also seen in other regions of Brazil [26].

Most caregivers from this research reported that the patient's need to be accompanied to treatment is an access barrier, since they need daily follow-up and caregivers are responsible for providing care for these individuals. In a previous study [27], it was concluded that family or extrafamilial support (material and emotional/affective) is considered facilitator in access to health services, such as scheduling consultations and monitoring them.

In the present study, the lack of transport for the performance of treatment was not considered a barrier, probably because most patients of this research make use of the Special Attention Service, or use a free transportation offered by the city hall of SP aimed at patients with severe physical disability [28]. Patients with physical disabilities with reduced mobility used rented cars or private transport for their consultations [29].

According to Decree 5,296 of December 2, 2004, the construction, remodeling or expansion of urban and public projects, buildings for public or collective use, must be carried out in such a way that they are accessible to PD or patients with reduced mobility. Thus, it is also by law the relegation of guides and gutters to enable the crossing of pedestrians with physical disabilities, but it is not a reality in which we live; therefore, the lack of architectural and urban adaptation is still considered as barriers to access to patients with reduced mobility [27,29,30]. These barriers prevent the performance of the most basic of any citizen's rights, free displacement. In this study, the physical barriers of the dental care site were not considered a difficulty by the majority, since the LESF Rehabilitation Center had all of the facilitators for the free access of these patients.

The right to oral health will continue to be a constant struggle for PD and will not be solved until enough professionals are trained and willing to treat this population. Therefore, it is necessary to include the discipline of Dentistry for Patients with Special Needs (PNE) in undergraduate Dentistry courses in Brazil. Increased national awareness and prevention measures strengthen oral and general health of patients with physical disabilities [31].

Conclusion

Patients with physical disabilities face financial limitations and fear regarding dental treatment, lack of offer of treatment in the public service and mainly lack of qualified professionals interested in treating such individuals.

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