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Original Article

Socioeconomic Profile of Patients Treated at the Children's Rehabilitation Center of Natal, state of Rio Grande do Norte, Brazil

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Abstract

Objective: To describe the socio-epidemiological profile of patients treated at the Children's Rehabilitation Center of Natal, Brazil, which is a reference institution in the treatment of patients with special needs aged 0-18 years. **Material and Methods:** Medical records and statistics (SAME) from January to December 2010 were analyzed, totaling 846 medical records. Data were collected through pre-elaborated evaluation form, with socioeconomic information, medical clinical condition (ICD), and dental clinical status. A retrospective descriptive study was conducted, presenting data in absolute frequencies and percentages. The intersection of data, applying the chi-square test was not statistically significant ($p < 5\%$). R 2.13.1 and Minitab 14 were used. **Results:** There was prevalence of males (60.52%); age group 0-5 years (52.36%); mesoregion of eastern Rio Grande do Norte (62.53%); income below the minimum wage (78.6%); equivalence between diseases of the nervous system (G) (30.97%), congenital malformations, deformations and chromosomal abnormalities (Q) (30.73%); in males, mental and behavioral disorders (F) were prevalent (31.64%), and in females, diseases of the nervous system (G) were prevalent (32.33%); in dental records, the performance of preventive procedures was reported in 18.71%; restorative procedures in 45.7% and surgical. procedures in 21.8% The average number of decayed teeth was higher in individuals aged over 12 years (5.1), while the standard deviation ranged from 6 to 12 (2.5). **Conclusion:** The profile of patients is characterized by the predominance of male children with mental and behavioral disorders (F), aged 0-5 years living in the mesoregion of eastern Rio Grande do Norte and income less than one minimum wage. Preventive dental procedures accounted for the highest number of procedures.

Keywords: Disabled Persons; Dentistry; Health Services for Persons with Disabilities.

Introduction

Patients with Special Needs (PSN) are considered as every individual with physical, organic, mental or social, simple or complex, acute or chronic changes that require special education and temporary or permanent additional instructions due to their health situation [1,2].

This group includes people with metabolic diseases such as diabetes; changes in systems such as hypertension; transient conditions such as pregnancy; people who have lost their normal condition such as accident victims, elderly, those mentally disabled, among others [3]. This terminology is replacing terms "disabled" and "exceptional" and is already formulated in mutual agreement among associations of various countries, including IADH (International Association of Dentistry for Handicapped). The purpose of this replacement is to try to demystify that PSN is synonymous of inability of participation and integration in the community, to warn the society for the importance of respecting their limitations and for the fact that, despite having different special needs, they are able to provide their share of contribution to society as a whole [1].

The World Health Organization (WHO) estimates that 10% of the population of any country is composed of people with some disability, a rate that has been recognized worldwide as the best framework for the implementation of public policies for the equalization of opportunities for this population [5]. Of these people, over 2/3 do not receive any oral care [6,7]. The 2000 Census shows that 14.5% of the Brazilian population is suffering from some form of disability, and 48.1% are visually impaired; 22.9% have motor disabilities; 16.7% hearing disability; 8.3% mental disability and 4.1% physical disability. The highest percentage is concentrated in the Northeastern region (16.8%) and the lowest in the Southeastern region (13.1%). In more populous states, the highest concentration of people with disabilities was found [7]; therefore, it is necessary that the northeastern states outline the socio-epidemiologic profile of residents with special needs so that effective and functional actions can be planned and aimed at the care of these individuals.

The Organic Health Law (Law No. 8.080 / 90) dictates the characteristics of the Unified Health System (SUS), especially its universal access guidelines, with decentralized management, but this law does not address any specialized health care for those with disabilities, on the other hand, the Organic Law of Social Assistance (Law No. 8,742 / 93) regulates actions related to habilitation and rehabilitation services, whose target are families with income less than 1/2 minimum wage [8]. In 2000, by the Law Project No. 3638-A of October [9,10], the Statute of Patients with Special Needs was implemented, which brings political advancements in relation to the issue and is characterized as an innovation resulting from the vector of social integration as a right to citizenship, unlike a welfarist and discriminatory posture.

In the context of dentistry, these individuals represent a portion of patients considered special because, by their deviation from normality, require particular attention and specific approaches for a period of their lives or indefinitely due to their health condition or to the continuous use of medication, which in turn can cause significant side effects.

In the state of Rio Grande do Norte, which is one of 27 federal units of Brazil, located in the northeast region of Northeastern Brazil, there is the Children's Rehabilitation Center (CRI), located in the state capital, Natal, considered the Reference Unit for the dental care of patients aged 0-18 years with mental, sensory or multiple disabilities from across the state. In this context, it is necessary to know the socio-epidemiological profile of this population in order to assist in the improvement of services offered to this significant portion of patients living in this region.

Material and Methods

Open medical records from January to December 2010 were analyzed, filed in the Statistical Medical File Service (Same) at the Children's Rehabilitation Center (CRI) of Natal, Rio Grande do Norte, linked to the State Department of Public Health, which is considered the State Reference Unit for dental care to patients aged 0-18 years with mental, sensory or multiple disabilities from across the state.

Medical records of patient of both genders, ethnicity and age group 0-18 years who were scheduled for dental treatment and registration in the book of this sector in the period from January to December 2010 were used as inclusion criterion; and as exclusion criterion, ineligible records and / or those that did not present gender, age and medical diagnosis.

The instrument used for data collection was a pre-elaborated assessment form with: identification of records (numerical sequence), gender, age (using as reference the dentition classification as deciduous, mixed and permanent, Correa, 2002) region of origin (based on the division established by IBGE since the 1989 census divided the state of RN into four mesoregions: western RN, wild RN, central RN and eastern RN), family income (based on population and on the State Domestic Product Gross of the 2010 census divided by the population), medical diagnosis - ICD (International Classification of Diseases, 2010 edition), clinical dental status based on procedures performed in the institution. All data were collected by a single examiner and tabulated for the application of statistical analyses.

A retrospective descriptive study was conducted, presenting data in absolute frequencies and percentages. The intersection of data, applying the chi-square test was not statistically significant ($p < 5\%$). R 2.13.1 and Minitab 14 were used.

The research project was approved by the Research Ethics Committee of the Cruzeiro do Sul University (CE / UCS-080/2011).

Results

A total of 846 medical records were validated for the research, with prevalence of males, with 60.52% over females, with 39.48%; in the distribution by age group, 52.36% of subjects aged 0-5 years, 36.76% 6-12 years and 10.88% over 12 years.

In the distribution of the location of origin, those from the mesoregion of eastern RN were predominant, which includes the state capital with 62.53%, as shown in Table 1.

Table 1. Frequency distribution of the location of origin.

Mesoregion	n	%
MOP	92	10.87
MAP	145	17.14
MCP	80	9.46
MLP	529	62.53
TOTAL	846	100

MOP = mesoregion of western RN; MAP = mesoregion of wild RN, MCP = mesoregion of central RN; MLP = mesoregion of eastern RN.

In the distribution of family income in minimum wages (1 minimum wage is worth of R\$ 510,00), it was found that 78.6% of patients had income lower than one minimum wage, followed by 19.15% from one to three minimum wages and 2.25% over three minimum wages.

In the distribution of medical diagnoses of medical records evaluated, there was equivalence among diseases of the nervous system (G), with 30.97% and congenital malformations, deformations and chromosomal abnormalities (Q), with 30.97%; mental and behavioral disorders (F) were 29.8% and certain conditions originating from the perinatal period (P) accounted for 9.22%. In the distribution of medical diagnoses by gender, there was prevalence of mental and behavioral disorders (F) among males, with 31.64%, and among female, diseases of the nervous system (G) accounted for 32.33% (Table 2).

Table 2. Frequency distribution of medical diagnosis (ICD) among males and females.

Medical Diagnosis (ICD)	Male		Female	
	n	%	n	%
F	162	31.64	86	25.75
G	153	29.89	108	32.33
Q	154	30.07	106	31.74
P	43	8.4	34	10.18
Total	512	100	334	100

F = mental and behavioral disorders, G = diseases of the nervous system, Q = congenital malformations, deformations and chromosomal abnormalities, P = certain conditions originating from the perinatal period.

In the distribution of dental procedures performed, 326 out of 846 medical records evaluated showed prevalence of preventive procedures, with 81.29% (Table 3).

Table 3. Frequency distribution of preventive, restorative and surgical dental procedures.

Dental procedure	Yes		No		Total	
	n	%	n	%	n	%
Preventive	61	18.7	265	81.3	326	100
Restorative	177	54.3	149	45.7	326	100
Surgical	256	78.5	70	21.5	326	100

Of records with dental data, the average decayed teeth was higher in the age group over 12 years (5,1) and the standard deviation was higher in the age group 6-12 years (2.5) (Table 4).

Table 4. Measures of central tendency and variability of decayed teeth by age group.

Variable	Age group (years)	n	Mean	Standard- deviation	Minimum	Median	Maximum
Decayed	0 to 5	51	3.0	2.0	1.0	2.0	9.0
	6 to 12	77	3.8	2.5	1.0	3.0	12.0
	< 12	65	5.1	2.3	1.0	5.0	11.0

According to family income, the mesoregion with the highest frequency of income below minimum wage (R\$ 510,00) was the mesoregion of central RN (87.5%) and that presenting the highest percentage of income above three minimum wages was the mesoregion of wild RN (3.5%). Then, the results for age group according to medical diagnosis with gender and their p-values of the chi-square test are shown (Table 5).

Table 5. Measures of central tendency and variability of decayed teeth by age group.

Age group (years)	Male	Female	p-value
	n (%)	n (%)	
0-5 years	59.1 (262)	40.9(181)	0.674
6-12 years	61.4 (192)	38.3(119)	
Above 12 years	63.0 (58)	37.0 (34)	
Medical diagnosis (ICD)			
F	65.3 (161)	34.7(85)	0.305
G	58.4 (156)	41.6(106)	
Q	59.5 (154)	40.5(106)	
P	55.8 (44)	44.2(34)	

F = mental and behavioral disorders, G = diseases of the nervous system, Q = congenital malformations, deformations and chromosomal abnormalities, P = certain conditions originating from the perinatal period.

Table 6 shows the relationship between medical diagnosis data (ICD) and mesoregion, with p-value less than 5%, showing no statistical significance for the nonparametric test applied.

Table 6. Medical diagnostic (ICD), according to mesoregion.

Medical diagnosis (ICD)	Mesoregion				p-value
	Western RN n (%)	Central BN n (%)	Wild RN n (%)	Eastern RN n (%)	
F	8.6 (21)	17.5 (43)	10.2 (25)	63.7 (156)	0.244
G	11.4(29)	19.2 (49)	9.8 (25)	59.6 (152)	
Q	9.2 (24)	15.3 (40)	8.4 (22)	67.2 (176)	
P	19.5 (15)	13.0 (10)	10.4 (08)	57.1 (44)	

F = mental and behavioral disorders, G = diseases of the nervous system, Q = congenital malformations, deformations and chromosomal abnormalities, P = certain conditions originating from the perinatal period.

Discussion

This study aimed to outline the socio-epidemiological profile of patients seeking services at the Children's Rehabilitation Center of Natal, state of Rio Grande do Norte, Brazil. Based on a search in the existing databases as a resource for the development of scientific research, there are no reports on the socio-epidemiological profile of this population group. In addition, there are no studies describing the profile of special patients in general, but rather of distinct groups of special patients such as patients with cleft lips, cerebral palsy, psychiatric disorders among others.

In similar studies [11,12], the prevalence of males in services for treatment of special patients was observed by some authors, which focused on a psychiatric community [13].

Among males, prevalence of ICD-F was found, which includes mental and behavioral disorders such as infantile autism (F-84.0), atypical autism (F84.1), corroborating a previous report [14], who described the high rate of autism among boys in a study to relate the influence of fetal steroid hormones in the development of this disease. Among females, ICD-G was prevalent, which are diseases of the nervous system, highlighting the various forms of cerebral palsy.

Two of these diseases, autism and cerebral palsy, have been the focus of several studies; the first in order to define the etiology to direct the line of treatment to alleviate the symptoms of the disease throughout life, providing better quality of life to this part of the population [15,16]. Another factors that directly influence the development of cerebral palsy are the lack of monitoring of the gestational development [17] to control the health of mother and baby, recurrent situation in less favored regions with lack of hospitals available for prenatal care and delivery planning.

The impact to parents when the child has a health problem that needs constant care from birth throughout his life also challenges public health in the sense of promoting integrity, as these children demand inter-sector attention and caregivers also need attention to help them play their protective role [18]. For families and especially for mothers, the consequences of having a child under these conditions are even greater, since culturally they are responsible for the care of their children.

In dentistry, as it is a new specialty, until recently, only few services accepted the PSN for treatment, and most of the time, it was of restorative surgical nature, performed under general anesthesia, with few references about ethics and legislation available for consultation [6,19]. The current National Health Policy provides, however, increased access to dental treatment to this population group in the oral health care system [20]. The Federal Dentistry Council, through Resolution 22/2001, Article 31 [21], began to regulate dentistry for these patients as the specialty that has the purpose of diagnosis, prevention, treatment and control of oral health problems for individuals with a complexity in their biological / psychological / social system as well as the perception of need for action within a transdisciplinary framework with other health professionals and related areas.

In the state of Rio Grande do Norte, the Children's Rehabilitation Center is the only state reference unit with government funds, but there are philanthropic institutions in the care of special

patients, but mostly restricted to specific diseases, with different approach compared to the study institution, and in similar studies, there are reports that the welfare and health of this population was almost restricted to philanthropic institutions and marked by welfare practices [22]. The creation of Specialized Dental Clinics (CEO) included in the project of the federal government, whose principle are the creation of centers with all dental specialties required to cover the oral health of populations, including specialists in patients with special needs, is still not a reality in all Brazilian states.

The mesoregion of RN that showed the highest percentage of patients was the mesoregion of eastern RN, with 62.53% of the total, since this is the region with greater geographical proximity to the city of Natal, which would favor the access of these patients to the institution. One of the benefits of great importance for these patients would be the inter-municipal free pass; however, in some regions, this is not apparently available [23], and many of these families do not have economic situation to afford for displacement costs because the monthly income of families in this study was mostly below the minimum wage (R\$ 510,00).

There are obstacles in providing care to PSN due to the lack of financial resources of the family, demand for trained professionals and often lack of medical and dental interaction. Thus, the oral health status of patients with special needs becomes more serious [24].

The state of Rio Grande do Norte is not supplied with fluoridated water, although in some municipalities, water supply is done through water wells that may have varying levels of sodium fluoride.

In the survey of dental procedures, higher value for preventive procedures were obtained, with total 265 including tooth brushing orientation, prophylaxis procedures and topical fluoride application at varying concentrations for each oral disease and even corono-root scrapings, corroborating authors who demonstrated in studies that tooth brushing is the main and most simple and effective method to reduce plaque / gingivitis levels and control and prevent periodontal disease. The control of biofilm in these individuals is an important point in oral health planning and prevention programs [25,11]. Therefore, preventive procedures have been consistently performed.

All dental interventions were collected on an outpatient basis without the use of sedative techniques. The high dental caries rate in these patients corroborate study reporting difficulty in maintaining good oral health and access to dental services due to the disability or medical condition [26]. Thus, general anesthesia is a valuable alternative to a high-quality dental treatment, although this is not within the reach of all PSNs. According to data of visits to dental services registered in the records, these occur sporadically, many patients with special needs receive dental treatment only in emergency situations, in the presence of pain [11].

At the Children's Rehabilitation Center, there is no dentist with specialization for the treatment of special patients, but rather in pediatric dentistry, with knowledge derived from clinical practice so that there is difficulty in providing dental services by various factors, from technical issues, lack of material resources, among others, contributing to the reality of university education in undergraduate degree in dentistry in the state of RN, since none of the three institutions offer the

discipline of PSN as a compulsory subject of the curriculum program. The Federal University of Rio Grande do Norte does not offer the discipline not even as an optional discipline, being present as optional without clinical practice at the State University of Rio Grande do Norte.

The relationship between the professional and the PSN should be guided by the concept of equality for all human beings, and professional is responsible for oral health promotion and obtaining the informed consent form signed by their parents. The professional should perform a complete medical history that addresses health aspects related to general data, type and severity of the disease, drugs used, multidisciplinary relationship, risk assessment, degree of stress, fear and anxiety, containment methods and necessary procedures. This awareness has triggered a mobilization in favor of the recognition and appreciation of the potential of PSN, also through the creation of laws to ensure education, work, health and leisure, highlighting the advantages of interdisciplinary work, as well as movements to promote independent living and equality of opportunities [27].

Although the systemic parameters have not been the focus of our research, it is noteworthy that these should be carefully considered so that adequacy of the oral environment can be restored without risk of triggering complications in the overall health of these individuals, as they sometimes have many borderline situations in their organisms.

A study limitation is the lack of data on dental treatment that would generate significance in the application of non-parametric tests, as well as the lack of standardization in completing medical records as a whole, making it difficult to obtain data.

Conclusion

The socio-epidemiological profile of patients was characterized by the predominance of male children with prevalence of individuals with mental and behavioral disorders (F) aged 0-5 years living in the mesoregion of eastern RN and monthly income less than one minimum wage. Preventive dental procedures were the most prevalent.

Through the characteristics of the population that makes use of services provided by the Children's Rehabilitation Center, it was possible to develop an approach for improvement of the services offered by the institution, promoting improvements in the quality of life of users.

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