Oral health profile and dental care needs of medically compromised patients: a retrospective study in Brazil

Perfil de saúde bucal e necessidades de cuidados dentários de pacientes comprometidos sistemicamente: um estudo retrospectivo no Brasil

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Resumo

Introdução: Os pacientes com necessidades especiais (PNE) são indivíduos afetados por problemas de saúde que envolvem o desenvolvimento físico, mental, sensorial, comportamental, cognitivo e/ou emocional. Em âmbito odontológico, os PNE são incluídos no grupo de risco, geralmente apresentando limitações motoras, problemas de cooperação na higienização oral e reações agressivas, além de interações sistêmicas que interferem na saúde bucal. **Objetivo:** Este estudo teve como objetivo caracterizar o perfil epidemiológico de Pacientes Comprometidos Sistemicamente (PCS) atendidos na clínica Pacientes com Necessidades Especiais II da Faculdade de Ciências Odontológicas de Montes Claros, Minas Gerais, Brasil. **Material e método:** Foi realizado um estudo exploratório, quantitativo e descritivo por meio da análise de 137 prontuários odontológicos de pacientes atendidos entre janeiro de 2023 e janeiro de 2024, os quais 97 prontuários atenderam aos critérios de inclusão. Os dados foram coletados de registros eletrônicos e analisados estatisticamente utilizando o software Microsoft Excel®. **Resultado:** A maioria dos pacientes era do sexo feminino (77,32%), casada (42,27%) e com idade igual ou superior a 50 anos (60,82%). A condição mais prevalente foi a hipertensão arterial (36,6%), seguida por distúrbios psicológicos, como ansiedade e depressão (22,22%). Estas estavam associadas ao uso frequente de medicamentos anti-hipertensivos (16,91%) e ansiolíticos/antidepressivos (15,94%). Foram realizados 195 procedimentos odontológicos, sendo os principais os protéticos (33%), restauradores (24%) e de adequação do meio bucal (23%). **Conclusão:** Os achados ressaltam a necessidade de uma abordagem odontológica individualizada para pacientes comprometidos sistemicamente, considerando suas condições sistêmicas e possíveis interações medicamentosas, a fim de garantir um tratamento seguro e eficaz. O estudo também destaca a importância da colaboração interdisciplinar entre cirurgiões-dentistas, médicos e terapeutas para oferecer um cuidado integral a essa população.

Descritores: Pessoa com deficiência; saúde bucal; odontologia.

Abstract

Introduction: Patients with special needs (PSN) are individuals affected by health conditions involving physical, mental, sensory, behavioral, cognitive, and/or emotional development. In the dental context, PSN are considered a risk group, as they often present motor limitations, difficulties cooperating with oral hygiene procedures, aggressive reactions, and systemic interactions that can interfere with oral health. **Objective:** This study aimed to characterize the epidemiological profile of Medically Compromised Patients (MCP) treated at the Patients with Special Needs II clinic of the Faculty of Dental Sciences in Montes Claros, Minas Gerais, Brazil. **Material and method:** An exploratory, quantitative, and descriptive study was conducted by analyzing 137 dental records of patients treated between January

2023 and January 2024; 97 records met the inclusion criteria. Data were collected from electronic records and statistically analyzed using Microsoft Excel®. **Result:** The majority of patients were female (77.32%), married (42.27%), and aged 50 years or older (60.82%). The most prevalent condition was hypertension (36.6%), followed by psychological disorders such as anxiety and depression (22.22%). These were associated with frequent use of antihypertensive medications (16.91%) and anxiolytics/antidepressants (15.94%). A total of 195 dental procedures were performed, mainly prosthetic (33%), restorative (24%), and oral environment stabilization procedures (23%). **Conclusion:** The findings underscore the need for a dental care approach tailored to MCP, considering their systemic conditions and potential drug interactions to ensure safe and effective treatment. The study also highlights the importance of interdisciplinary collaboration among dentists, physicians, and therapists to provide holistic care for this population.

Descriptors: Person with disabilities; oral health; dentistry.

INTRODUCTION

Patients with Special Needs (PSN) are individuals affected by health conditions involving physical, mental, sensory, behavioral, cognitive, and/or emotional development, representing approximately 10% of the global population. The causes of their disabilities are diverse and may include hereditary or congenital diseases, systemic disorders, aging, among others[1-3].

In dentistry, PSN are considered part of a high-risk group, often presenting motor limitations, difficulties in cooperating with oral hygiene, aggressive behaviors, and systemic conditions that may negatively impact oral health[2,4]. Due to these restrictions and systemic impairments, these patients are more susceptible to developing oral pathologies such as dental caries, periodontal disease, and other oral conditions that compromise their quality of life. Poor oral hygiene is common among PSN, as a result of limitations such as atypical swallowing, prolonged use of baby bottles, and medications that contribute to the risk of carious lesions and other oral changes[2-4].

According to the International Association for Disabilities and Oral Health (IADH), PSN can be classified into eight groups: physical impairments (such as sequelae from cerebral palsy or stroke), behavioral disorders (autism, bulimia, anorexia), systemic conditions and diseases (pregnancy, hypertension, organ transplantation, diabetes mellitus), intellectual disabilities, sensory impairments (hearing and visual impairments), psychiatric disorders (schizophrenia, depression), infectious diseases, and craniofacial syndromes and deformities (e.g., Down syndrome)[3,5]. The World Health Organization (WHO) reports that 10% of the global population has some form of disability, and according to the demographic census conducted by the Brazilian Institute of Geography and Statistics (IBGE), 24% of the Brazilian population has some visual, auditory, motor, mental, or intellectual impairment[6].

Providing dental care to PSN requires dentists to go beyond technical skills, incorporating scientific knowledge and strong communication and empathy skills to appropriately address the needs of these patients. It is crucial that dental professionals possess pharmacological knowledge about the medications taken by PSN and those that may be prescribed, as these have a direct impact on oral health and prognosis. Therefore, understanding the clinical profile of PSN is essential for dentists to develop appropriate treatment plans that do not worsen the patient's condition and that effectively address their complaints, always considering their specific health conditions[7,8].

From this perspective, knowledge of these patients' profiles, physiological alterations, medications, and appropriate clinical approaches is essential for achieving successful dental care. In this context, and considering the scarcity of recent data on the clinical profile of these patients in university clinics in the interior of Brazil, the present study aimed to investigate the epidemiological profile of patients with special needs treated at a dental clinic of a private dental school in northern Minas Gerais, Brazil.

METHODOLOGY

This is an exploratory, quantitative, and descriptive study based on the evaluation of 137 dental records of patients with special needs treated between January 2023 and January 2024 at the Special Needs Dentistry II Clinic (PSN II) of the Faculty of Dental Sciences in Montes Claros, Minas Gerais, Brazil, with the objective of characterizing this population. The study was submitted to the Research Ethics Committee of the State University (Unimontes) of Montes Claros and was approved under the protocol Certificate of Presentation of Ethical Assessment: 81699924.8.0000.5146.

Data collection and selection were conducted by two independent and calibrated examiners (L.R.M.R. and W.S.L.A.). Cohen's Kappa coefficient was used to determine inter-examiner agreement ($\kappa = 0.90$). Data were collected through access to the institution's electronic health record software, *Dental Office*, an integrated dental management system used by students during clinical appointments. A total of 137 patient records from the PSN II Clinic were evaluated. Records were excluded if they contained incomplete anamnesis (34), lacked systemic, psychological, or cognitive conditions, or were duplicated (6).

A final sample of 97 records was selected. The following data were analyzed: patient age and sex, marital status, type of special needs, medications used, and procedures performed during treatment. Special needs were classified according to the type and/or affected systems, following the guidelines of the International Association for Disabilities and Oral Health (IADH), with adaptations based on Mugayar[9].

Dental procedures were grouped into seven categories:

Aesthetic Procedures (gingivoplasty, veneers, clinical crown lengthening, tooth whitening);

Prosthetic Procedures (fabrication and placement of fixed prostheses, removable partial dentures, and complete dentures);

Surgical Procedures (extractions, incisional biopsies, alveoloplasty, osseointegrated implants);

Restorative Procedures (composite resin restorations and temporary sealings);

Endodontic Treatments (pulpotomy/pulpectomy of permanent teeth, root canal obturation, and retreatment);

Oral Environment Stabilization (subgingival and supragingival scaling, plaque control, coronal polishing, and prophylaxis);

Emergency Dental Care (pain relief and treatment of acute conditions).

The collected data were stored and organized using Microsoft Excel®. Data tabulation, analysis, and interpretation were performed in the same software, using biostatistical concepts and submitted to descriptive analysis of absolute and relative frequencies. The statistical analysis of the medical records was conducted using descriptive statistics, with results expressed as absolute frequencies and percentages. Data organization and tabulation were performed using Microsoft Excel®.

RESULT

This study analyzed 97 dental records as the research sample, with a predominance of female individuals (77.32%), married (42.27%), and aged between 19 and 80 years. Table 1 presents information regarding the profile of patients treated at the Special Care Patients Clinic II of the dental school, showing their distribution by sex, age group, and marital status. There was also a predominance of individuals aged 50 years or older (60.82%).

Table 1. Description of the sample profile

Variables	N	%
Sex		
Female	75	77.32
Male	22	22.68
Age		
<50	38	39.18
≥50	59	60.82
Marital Status		
Married	41	42.27
Single	37	38.14
Widowed	13	13.40
Divorced	6	6.19

Source: Prepared by the authors, 2025.

Table 2 describes the special healthcare needs identified during data collection, encompassing systemic, neurological, and psychological conditions. Systemic diseases were the most prevalent (77.78%), with hypertension being the most frequently reported condition (36.60%). Regarding psychological disorders (22.22%), depression and anxiety were most commonly observed. Other conditions were identified but not specified in the table due to only a single occurrence of each, including: anemia, kidney stones, diverticulitis, pancreatitis, lupus, arthritis, radiculopathy, adenoids, autism, and chronic kidney disease (CKD).

Table 2. Characterization of special needs reported by the samples

Condition	N	%
Arterial Hypertension	56	36.60
Anxiety and/or Depression	34	22.22
Type I or II Diabetes	19	12.42
Gastritis	6	3.92
Heart Disease	6	3.92
Cancer	3	1.96
Asthma	3	1.96
Bronchitis	3	1.96
Hypotension	3	1.96
Hypothyroidism	2	1.31
Hyperthyroidism	2	1.31
Fibromyalgia	2	1.31
Gastroesophageal Reflux Disease	2	1.31
Hepatitis	2	1.31
Other Conditions	10	6.54

Source: Prepared by the authors, 2025.

Concerning medication use, 16 patients reported not taking any medications, while more than half of the sample used more than one drug. Among the medication classes listed in Table 3, the most frequent were antihypertensives (16.91%) and anxiolytics and/or antidepressants

(15.94%). Other drug classes were identified but not specified in the table due to only one case each, including nasal decongestants and herbal medicines.

Table 3. Distribution of drug classes used by the sample

Drug Class	N	%
Antihypertensives	35	16.91
Anxiolytics and/or Antidepressants	33	15.94
Antacids, Gastric Protectors, Digestives, and Laxatives	21	10.14
Analgesics	16	7.73
Hypoglycemic Agents	10	4.83
Anticonvulsants	10	4.83
Non-steroidal Anti-inflammatory Drugs (NSAIDs)	9	4.35
Immunosuppressants	8	3.86
Steroidal Anti-inflammatory Drugs	6	2.90
Cardiovascular and Anticoagulant Drugs	5	2.42
Endocrine Agents	5	2.42
Vitamin Supplements	5	2.42
Hypolipidemic Agents / Statins	4	1.93
Antibiotics	3	1.45
Antipsychotics	3	1.45
Antiemetics	2	0.97
Others	16	7.73
No medication	16	7.73

Source: Prepared by the authors, 2025.

The data regarding procedures performed at the Special Care Patients Clinic II are presented in Figure 1, categorized into seven groups: Esthetic Procedures; Prosthetic Procedures; Surgical Procedures; Restorative Procedures; Endodontic Treatments; Oral Environment stabilization; and Dental Emergencies. A total of 195 procedures were recorded, with a predominance of prosthetic rehabilitative treatments.
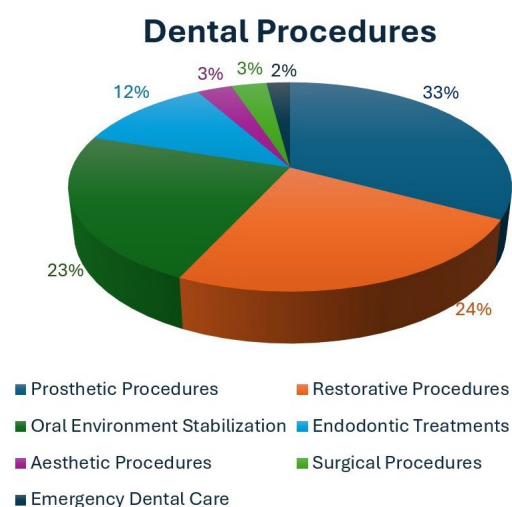

Dental Procedures

- Prosthetic Procedures
- Restorative Procedures
- Oral Environment Stabilization
- Endodontic Treatments
- Aesthetic Procedures
- Surgical Procedures
- Emergency Dental Care

Figure 1. Distribution of dental procedures performed at the Special Care Patients Clinic II.
Source: Prepared by the authors, 2025.

DISCUSSION

The Brazilian National Curriculum Guidelines (DCN) require dentistry programs to prepare graduates to provide oral health care at all levels of complexity, and dentists must be trained to meet the diverse needs of patients[10]. In this context, to support the training of future professionals in the care of medically compromised patients, the clinical discipline focused on PSN has been included in the dental school curriculum. This promotes a deeper understanding of the profile and demands of this population[10,11]. In this regard, the present study characterized the profile of patients treated at the PSN II Clinic of a private dental school in Northern Minas Gerais, Brazil.

This study found that arterial hypertension was the most prevalent special condition among the sample (36.6%). This chronic, asymptomatic condition is characterized by the abnormal elevation of blood pressure, affecting 32.5% of Brazilian adults and being one of the leading risk factors for mortality in the country[12,13]. Similar results were found in studies by Silva[14] and Carmago et al.[15], which also aimed to characterize MCP in dental care settings, with hypertension present in 40.9% of cases in the former and grouped within systemic diseases at a rate of 32.7% in the latter. Conversely, studies by Andrade et al.[16] and Oliveira et al.[17] reported autism as the most prevalent condition, with hypertension among the least frequent.

The most frequently used medications reported in this study were antihypertensives and antidepressants/anxiolytics, which aligns with the most common conditions—arterial hypertension, anxiety, and/or depression (Tables 2 and 3). Other studies on the same topic have reported similar findings regarding the predominance of these drug classes, including those by Silva[14], Kohata et al.[18], and Frydrych et al.[19]. The literature emphasizes that medications used by MCP must be carefully assessed by dentists due to potential side effects, such as gingival hyperplasia, hyposalivation, xerostomia, dysgeusia, mucosal discoloration, and lichen-like reactions. Beyond their impact on oral health, these drugs can cause complications during dental treatment due to interactions with prescribed medications or products used by the dentist. Therefore, clinicians must base their approach on thorough pharmacological knowledge and patient-specific considerations[18-21].

The dental procedures performed at the PSN II Clinic in 2023 included prosthetic, restorative, preventive, surgical, and emergency interventions. Notably, the total number of procedures (195) was more than double the number of patients, underscoring the high oral healthcare demand of this population. The most frequent procedures were prosthetic (33%), restorative (24%), and oral environment stabilization (23%). Similar trends were reported in the literature, with a predominance of restorative and oral hygiene-related procedures in studies by Biasotto et al.[2], Kohata et al.[18], Silva et al.[21], and Ahmad et al.[22]. It is also well-established that MCP are more prone to caries and periodontal disease, due to both hygiene challenges related to their condition and adverse drug effects[21,23]. This explains the high frequency of rehabilitative, restorative, and preventive treatments in the present study, as these are essential in managing tooth loss and periodontal conditions.

The limitations of this study include the absence of a formal calculation of statistical power, since there was no intention to test specific hypotheses. Although this is a descriptive study without the application of inferential statistical analyses, the findings presented offer relevant information about the clinical characteristics and treatment needs of patients with special needs treated in an academic dental setting.

It is worth mentioning, the results offer valuable preliminary data that can support future research using analytical or interventional designs to explore associations more rigorously and improve evidence-based dental care for this population, involving variables such as the patient's special needs, medication use, and the relationship of their profile to the treatment prognosis, establishing strategies to overcome the adversities of their condition and better direct the treatment plan.

CONCLUSION

This study concluded that most patients with special needs treated at the clinic were female, aged 50 years or older , and married. A total of 24 different special conditions were reported, with a predominance of arterial hypertension and anxiety and/or depression. Among the most frequently used medications were antihypertensives and anxiolytics and/or antidepressants. Additionally, a total of 195 dental procedures were performed at the PSN II Clinic in 2023, with a predominance of prosthetic procedures, restorative procedures, and oral environment stabilization procedures.

AUTHORS' CONTRIBUTIONS

The authors Luis Rafael Mangueira Ribeiro and Waner Sanches Lopes Azevedo were responsible for the conception and planning of the study; data collection, analysis and interpretation; and drafting of the manuscript. The author Talita Antunes Guimarães was responsible for the conception and planning of the study; data collection, analysis and interpretation; and revision of the manuscript. The authors Hiago Lopes de Souza, Emilly Maria Veloso de Almeida, Marcos Vinícius Macedo de Oliveira, and Michelle Pimenta Oliveira were responsible for revising the manuscript. Public responsibility for the content of the article: Luis Rafael Mangueira Ribeiro, Waner Sanches Lopes Azevedo, and Talita Antunes Guimarães.

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CONFLICTS OF INTERESTS

The authors declare that there are no conflicts of interest to disclose.

DATA AVAILABILITY

The contents underlying the research text are included in the manuscript. The contents are already available.

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