

Clinical and epidemiological profile of emergency dental care in a basic health unit

Perfil clínico e epidemiológico dos atendimentos de urgências odontológicas em uma unidade básica de saúde

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ABSTRACT

Objectives: This study aimed to establish the causal profile of searches for urgent dental care in a Basic Health Unit, its outcomes and main complications that occurred.

Methods: A descriptive, cross-sectional, retrospective study with a quantitative approach was carried out. The sample consisted of patients assisted in the demand of dental urgency. Data were collected through the electronic medical records of all patients treated by residents of the Multiprofessional Residency in Family Health, at the São Francisco Health Unit, located in the city of Cariacica/ES, from March 2021 to March 2022. **Results:** A total of 212 emergency dental visits were evaluated, of patients of two genders, having females being predominant (57.5%), aged between 1 and 75 years, with toothache as the main complaint (86.8 %). The most frequent diagnoses were dental caries (31.1%), followed by irreversible pulpitis (20.8%) and

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unsatisfactory restorations (7.5%). Accordingly, the most common emergency treatments performed at the service were: endodontic access (34.0%), tooth extractions (28.8%) and restorations (19.8%). **Conclusions:** The profile of urgent care surveyed was predominantly female, with an average age of 34 years, with toothache as the main complaint and dental caries as the most common diagnosis. The main interventions performed were endodontic access and tooth extraction.

Indexing terms: Emergency identification. Oral Health. Primary Health Care.

RESUMO

Objetivos: Este estudo objetivou estabelecer o perfil clínico e epidemiológico dos atendimentos de urgência odontológica em uma Unidade Básica de Saúde, seus desfechos e principais intervenções realizadas.

Métodos: Foi realizado um estudo descritivo, transversal, retrospectivo, com abordagem quantitativa. A amostra foi composta por prontuários de pacientes atendidos na demanda da urgência odontológica. Os dados foram coletados através dos prontuários eletrônicos de todos os pacientes atendidos na Residência Multiprofissional em Saúde da Família, na Unidade de Saúde de São Francisco, localizada na cidade de Cariacica/ES, no período de março de 2021 a março de 2022. **Resultados:** Foram avaliados 212 prontuários, com pacientes de ambos os sexos, sendo o sexo feminino predominante (57,5%), com a idade variando entre 1 e 75 anos, tendo a odontalgia como a principal queixa (86,8%). Os diagnósticos mais frequentes foram a cárie dentária (31,1%), seguido de quadros de pulpite irreversível (20,8%) e restaurações insatisfatórias (7,5%). Em consonância, os tratamentos de urgências mais realizados no serviço foram: acesso endodôntico (34,0%), exodontias (28,8%) e restaurações (19,8%). **Conclusões:** O perfil demográfico do paciente atendido na urgência odontológica predominantemente do sexo feminino, com idade média de 34 anos, tendo a odontalgia como queixa principal e a cárie dentária como agravo dominante. As principais intervenções realizadas foram o acesso endodôntico e a exodontia.

Termos de indexação: Identificação de emergência. Saúde Bucal. Atenção Primária à Saúde.

INTRODUCTION

Dental urgency is characterized as the immediate need for treatment and is recorded as the worst condition of the individual in cases of pain, infection, or severe illness. Situations that represent such a condition include: advanced dental caries, chronic alveolar abscesses, periapical abscess, and acute necrotizing ulcerative gingivitis (ANUG). Other oral conditions related to the risk of death, such as oral cancer and pre-cancerous lesions, should also be recorded as urgencies, as well as any other serious condition that presents a clear oral manifestation of a systemic disease [1].

Dental urgency cases cause individuals to have limitations in their daily activities, which can result in episodes of pain, suffering, and biopsychosocial impact, negatively affecting their quality of life. They can occur at different times and are more frequent in individuals who require regular professional monitoring [2].

The significant social and economic inequality of the Brazilian population, as well as the limited access to dental care services due to the restricted availability of public services and high cost of private practices, leads to the deterioration of oral health conditions among the population [3]. While a small portion of the population have access to the technological resources available for curative and preventive treatment in the private sector, the pent-up demand for dental care services in the public sector results in a large number of patients seeking emergency services provided by the Family Health Strategy- ESF [4].

Therefore, factors related to income, education, age, gender, and health needs influence access to healthcare goods and services, including dental care, revealing the existing levels of inequalities. Thus, public oral health policies should make access to goods and services more equitable, ensuring the social right to health care [5].

For years, the dental care provided to the Brazilian population remained on the sidelines of public policies, making access to oral health difficult and limited. Attention to oral health became part of the government's agenda with the publication of the document "National Oral Health Policy (PNSB)" in 2004, proposing the reorientation and improvement of the oral health care model [6].

According to the annual report for the year 2019 from the municipality of Cariacica/ES, the estimated population coverage of oral health in primary care was 14.94%. At that time, the municipality had four Oral Health Teams connected to the ESF, providing dental services in 22 network units, with a total of 34 dentists and 23 dental assistants. In the years 2020 and 2021, the Municipal Health Department joined programs of the Capixaba Institute of Education, Research, and Innovation (ICEPi), linked to the State Health Department of Espírito Santo, to hire dentists in order to increase coverage and access to oral health care for the population [7].

Therefore, a better understanding of the profile of urgent care-seeking can assist the local public administration in organizing a more effective oral health network. To address the demand for oral health services, a work process based on the knowledge of the needs of the population enrolled in the public health service, the available resources, teamwork, and the continuity of care is necessary. Only then will the service be able to positively impact health indicators and promote organized and equitable coverage, thereby benefiting the population [8].

As urgency is a reality in dental clinical practice, the aim of this research was to establish the causal profile of seeking urgent dental care at the São Francisco Health Unit- Cariacica (ES), including its outcomes and main interventions performed.

METHODS

This is a descriptive, cross-sectional, retrospective study with a quantitative approach carried out at the São Francisco Health Unit, which is part of the field of practice of the Multiprofessional Residency in Family Health of the Capixaba Institute of Education, Research, and Innovation (ICEPi). The unit is located in the São Francisco neighborhood, belonging to the Cristo Rei health territory, in the urban zone of Cariacica - ES municipality.

The studied population consisted of patients attended by residents in the urgent dental demand, and data were collected from electronic medical records from March 2021 to March 2022. Urgent care cases included: pain, infection, severe illness, pericoronitis, advanced-stage dental caries, abscesses, and delayed tooth eruption. All emergency visits were included regardless of gender and age.

The data were obtained from the electronic medical records system called Electronic Citizen's Record (PEC) of the e-SUS Primary Care System (e-SUS APS). This system encompasses all clinical and administrative information within the context of the Basic Health Units (UBS).

For each individual treated in the emergency department, information was obtained regarding the user's profile (gender, age, and residential neighborhood), known systemic condition and routine medications, presence/absence of painful symptoms at the time of consultation, diagnosis established by

the professional based on identified clinical conditions, interventions performed, occurrence of previous treatment in the municipal health network, and recurrence of emergency care.

The collected data were organized and tabulated in a spreadsheet using Microsoft Excel® software (Microsoft®) in order to determine absolute and relative frequencies, as well as measures of central tendency.

This study is in accordance with Resolution 196/96 of the Brazilian National Health Council of the Ministry of Health and was approved by the Research Ethics Committee of the University of Vila Velha under substantiated opinion No. 5,588,715/2022.

RESULTS

During the analyzed period, a total of 212 emergency dental visits were conducted, with 122 (57.5%) female patients and 90 (42.5%) male patients. The mean age of the patients was 34.8 years, ranging from 1 to 75 years, with a median of 34 years and a standard deviation of 16.8 years (table 1).

Table 1. Distribution of patients, by gender and age range, in dental emergency care at the São Francisco UBS, Cariacica-ES, from March 2021 to March 2022.

Characteristics	Female		Male		Total	
	(N= 122; 57,5%)		(N= 90; 42,5%)		(N= 212; 100,0%)	
	n*	%	n*	%	n*	%
Age Range (years)						
1- 4	4	3,3	3	3,3	7	3,3
5- 14	12	9,8	15	16,7	27	12,7
15- 24	19	15,6	14	15,6	33	15,6
25- 34	26	21,3	17	18,9	43	20,3
35- 44	33	27,0	14	15,6	47	22,2
45- 54	11	9,0	14	15,6	25	11,8
55- 64	14	11,5	7	7,8	21	9,9
65- 75	3	2,5	6	6,7	9	4,2

Out of the analyzed visits, 111 (52.3%) were of patients who were receiving follow-up care at the Health Unit. Based on the information about the neighborhood where the patient resided, it was identified that the majority of them (n=159; 75.0%) lived in the neighborhoods of São Francisco, Santo André, and Vila Capixaba, which are within the coverage area of the São Francisco UBS. Additionally, 53 (25.0%) patients resided in other localities.

The prevalence of painful symptoms was reported by 86.8% of the patients, and regarding the presented diagnoses, the most frequent categories were dental caries (31.1%), irreversible pulpitis (20.8%), and unsatisfactory restoration (7.5%) (table 2).

Table 2. Distribution of diagnoses during emergency dental visits at the São Francisco UBS, Cariacica, from March 2021 to March 2022.

Presented diagnoses	n= 212	%
Dental caries	68	32,1
Irreversible pulpitis	43	20,3
Unsatisfactory restoration	15	7,1
Pericoronitis	14	6,6
Dental fracture	14	6,6
Abscess	10	4,7
Trauma	8	3,8
Delayed tooth eruption	8	3,8
Tooth mobility	8	3,8
Root remnants	8	3,8
Alveolar osteitis	3	1,4
Periodontal disease	3	1,4
Other causes*	10	4,6

Note: *Other causes include: Temporomandibular joint (TMJ) pain, tooth wear, soft tissue changes, dislodged crown, periodontal lesions, and reversible pulpitis.

Based on the established diagnoses during the treatment, the main interventions performed were: endodontic access (34.0%), tooth extraction (28.8%), and dental restoration (19.8%) (table 3). Within the 212 emergency visits, 2 (0.9%) patients declined the proposed treatment.

Table 3. Interventions performed during emergency dental care at the São Francisco UBS, Cariacica, March 2021 to March 2022.

Dental interventions:	n= 210*	100%
Endodontic access	73	34,8%
Tooth extraction	61	29,0%
Dental restoration	41	19,5%
Referral to the specialized dental center (SDC)	12	5,7%
Medication prescription	10	4,8%
Guidance	3	1,4%
Dental scaling	3	1,4%
Follow-up care	2	0,9%
Surgical excision	2	0,9%
Abscess drainage	1	0,5%
Crown cementation	1	0,5%
Application of desensitizing agent	1	0,5%

Note: *From the studied sample (N=212), two patients refused the proposed treatment.

A total of 162 (76.4%) patients were using some medication, and 152 (71.7%) had no underlying diseases. Among the users with underlying diseases, 19 (31.6%) had a diagnosis of hypertension, 6 (10%) had both hypertension and diabetes, 2 (3.3%) had diabetes, and 33 (25.4%) patients had other conditions such as asthma, hypothyroidism, degenerative joint disease, and epilepsy.

During the analyzed period, 49 (23.1%) visits were from patients who sought urgent care more than once, with outcomes distributed as follows: 25 (51.0%) endodontic accesses, 10 (20.4%) extractions, 10 (20.4%) restorations, and 4 (8.2%) medication prescriptions.

DISCUSSION

The scenario of oral health care in Brazil has undergone transformations with the integration of oral health into the ESF. Despite the improvements achieved through the expansion of dental care in primary care, dental emergencies remain a significant public health problem due to their morbidity and impact on quality of life [4,9]. Therefore, understanding the pattern of utilization of oral health services based on urgencies can contribute to improve the work process and oral health care.

By analyzing the urgency profile, it was possible to visualize the pattern of utilization of oral health services. The high demand for urgent dental care may demonstrate the ineffectiveness of promotion and prevention actions, which could prevent oral health problems from developing and progressing to more serious situations, leading to urgent care [10].

According to the findings, the majority of urgent dental care was provided to female users. These data are consistent with similar studies that have shown over 75% of urgent care being provided to women [10,11]. Overall, the literature demonstrates that men seek healthcare services less frequently than women and refrain from seeking such care, even when affected by a health condition [12,13].

Adult individuals aged 25 to 34 years were the ones who sought urgent dental care the most, which is consistent with other studies that found an average age of 35 years [4,10,14]. In older age groups, the demand for these services decreases, and this fact can be explained by the prevalence of edentulism resulting from dental caries in these age groups [15].

The presence of painful symptoms was the main factor for seeking urgent dental care. This same finding was confirmed in other studies aimed at determining the prevalence of dental pain [12,16-18]. Among the reasons for dental pain, alterations related to dental caries were the most prevalent, followed by endodontic changes, similar to the data found in other studies [3,4]. Thus, dental caries and its complications prevail as the main cause of dental emergencies.

In addition to the high percentage of coronal accesses, interventions related to tooth extraction were also prevalent, which is consistent with other similar studies [3,13]. Tooth extraction represents the most unfavorable outcome and is associated with a lack of preventive and care measures. This situation can be explained by it being the only course of action given the severity of the condition, or on the other hand, tooth extraction serves as a means of pain relief due to the inability to access other types of treatment [11].

Regarding the neighborhood where patients resided, the majority were within the coverage area of the Basic Health Unit of São Francisco, while 25.0% resided in other locations, reinforcing that the service seeking also occurs due to geographical proximity and ease of access [12]. According to data generated by e-Gestor Basic Care (eAB), in December 2021, Cariacica had a total population of 383,917 inhabitants, where it is estimated that only 69,000 (17.9%) of this population is covered by oral health teams linked to ESF [18].

In relation to the prevalence of systemic diseases, we observed a similar percentage to another cross-sectional quantitative study, with the most common ones being arterial hypertension and concurrent hypertension and diabetes [4]. The presence of these diseases justifies the high prevalence of medication use, and with respect to these patients' care, the dentist should be mindful of possible drug interactions or oral changes that may occur in these individuals [19].

In our study, as well as in other research studies, there was a repeated demand for urgent dental care by the same patient [10,11]. This fact may be related to those procedures that were not conclusive, i.e., coronal accesses that were not referred for treatment completion [3].

Due to the retrospective cross-sectional nature of this study, which relied on existing electronic medical records in the PEC-SUS system, an important limitation was the absence of data regarding the socioeconomic status of the treated patients, which were either not included in the electronic records or were incomplete. Additionally, as the majority of patients were from the healthcare unit's territory, the findings may be biased by the local socio-epidemiological reality. Despite acknowledging the limitations of interference and association inherent to the study's nature, the present study provides important data for the planning and organization of urgent dental care services.

Thus, considering the various clinical diagnoses found in the emergency service, there is a clear need for health education aimed at guiding the population regarding oral diseases and motivating them to adopt healthy oral hygiene habits and seek dental care before the disease becomes established or worsens, potentially leading to tooth loss.

Finally, this research can contribute to improve the quality of the service by increasing knowledge about the epidemiological aspects of the population seeking urgent dental care, as well as assisting the healthcare service in making changes to the care model and improving access to healthcare services in the region. Therefore, there is a need for further studies with a similar focus, encompassing other regions/health areas in the municipality of Cariacica, ES.

CONCLUSION

According to the information obtained, the profile of patients treated in the studied urgent dental service was predominantly female, with an average age of 34 years, residing in areas covered by oral health teams of the ESF in the municipality of Cariacica. Their main complaint was toothache, and the most common diagnosis was dental caries. However, other diagnoses were observed, such as periodontal disease, periapical abscess, pericoronitis, etc. Based on these diagnoses, the main interventions performed were endodontic access and extraction. Therefore, due to the variety of conditions presented, it is necessary for the dentist to develop the necessary competencies and skills to address the self-reported pain experienced by patients. Additionally, there should be appropriate integration with specialized care services at other levels of healthcare to ensure that treatments are concluded properly and with quality.

Collaborators

AV Barollo, YR Natalino, writing, research, methodology and editing. CM Bergami, project management and review. PHM Delazare, review.

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