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Evaluation of the profile and satisfaction of adolescents with endodontic treatment performed at the reference unit of the city of Camaçari-BA

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• Conflicts of interest: none declared.

Abstract

Objective: to evaluate the user profile and level of satisfaction of patients associated with the endodontic treatment of patients treated at the CEO of Camaçari-BA. **Material and methods:** The study design was cross-sectional, with a population varying from 12 to 20 year old who demanded the service during the period from December 2017 to November 2018 (n=45). Interviews were carried out to identify socio-demographic variables, as well as satisfaction assessment by a validated questionnaire (QASSaB). Statistical analysis of the data was performed, recording the mean and respective standard deviation for the continuous variables and chi-square test (χ^2) for the evaluation of possible associations between categorical variables. **Results:** participants presented a mean age of 16.8 years (±2.067), with an average family income of R$ 972.00 and majority of females (55.6%). Among the treated teeth, 31.1% were molars, 31.1% premolars and 37.8% canines and incisors, most of which belonged to the upper arch (75.6%). The results showed that in general there was a good degree of user satisfaction with the service, but points of less satisfaction were verified, as was the case of accessibility and resolution. In terms of efficacy, patients attended by specialists reported less discomfort during treatment, but this data was not statistically significant (p=0.391). **Conclusions:** this study has great value since it is possible to establish comparatives and to carry out adequate planning from the identification of the need points of intervention.

Keywords: Adolescent oral health; Epidemiology; Pediatric dentistry; Endodontics.

Introduction

In Brazil, the access to specialized dental care in the public system is recent[1,2] and becomes relevant to the extent that the National Oral Health Policy (PNSB), called Smiling Brazil, formulated and launched in 2004, has enabled the provision of secondary care through specialized dental clinics (CEOs).[3,4]

Current data from the PNSB implementation process show that were implanted about a thousand units in Brazil in over 800 cities, with 78 located in the State of Bahia.[5] In order to ensure comprehensive care in oral health to the Brazilian population, with a view the history of oral health needs, accumulated over time, the CEO's should serve as reference units for oral health teams, inserted in the Family health Strategy, performing procedures at a higher level of complexity in different specialties, including at least the oral diagnostic specialties, with emphasis on the diagnosis and detection of oral cancer, periodontics, endodontics, minor oral surgery and care to people with special needs.[6-8]

As health services, CEOs should be evaluated aiming to continuously improve the quality of service.[9] Thus, the oral health care needs to be revised and reformulated according to the demand required by users and the needs identified in the study of oral health problems presented by the population.[10]

Evaluate health systems has been the main sources of concern of national and international organizations. To establish in the health care system a culture that allows for constant evaluation of work processes has been of fundamental importance for decision-making at any level of the health system. Therefore, the evaluation takes on a character to support management in its decision-making process and the provision of health services, gauging setting service demand and detecting the extent to which this service meets the expectations of the patient and thus should be the main goal of all cities.[11,12]

Evaluation of user satisfaction became mandatory item in the methodologies for assessing the health quality, along with the evaluation of professionals and the community. This concept of satisfaction proposed by Donabedian[13] allowed to incorporate in the evaluation processes of the system users.

Undoubtedly, one of several possibilities for analyzing the changes and health care quality is the assessment of the degree of user satisfaction, because it is developed from his vision, which is the reason for the existence of a health service.[14] Then, as regards the value of the health quality studies, user satisfaction can be considered as indispensable as the performance and administration of health care systems. Perceptions of patients are also vital for the assessment of quality of service.[15]

Based on statistics from other studies, among the specialties offered by the CEO's the greatest demand is for users seeking endodontic treatments.[16] In addition, studies that

analyzed the implementation of PNSB have revealed that the integrality, while coordination between promotion, prevention and treatment, in addition to the relationship between levels of care, is greater when there is greater coverage of oral health services in primary care, when individuals are younger or when looking up endodontic treatment.[17]

Hence, the specialty of endodontics was used in this study by the high utilization by the public, compared to other specialties offered in Dental Specialty Centers (CEO's), in which the use of services reaches 512.4%,[18] and adolescents were considered in the study because they represent the current situation, without interference from past history, and it constitutes a parameter for planning future actions.

Although some authors[19,20] are worried and already conducting studies on the quality of health from the perspective of users, there is a lack of validated instruments to carry out the research, specifically in the area of dentistry, which are most commonly performed in high education institutions[21,22] and primary care services,[20] but rarely in secondary care services.[1] In this context, we highlight the need to assess user satisfaction as an indicator of outcome, since there is a lack of evaluation studies in oral health, as well as focused on guidance for decision-making, particularly in relation to services in the recent phase of implementation, such as the CEO's.

Given the above, the objective of this study was to evaluate the profile of the user and satisfaction associated with endodontic treatment among adolescents treated in specialized care network of Dentistry in the city of Camaçari, BA, Brazil.

Material and Methods

It was conducted a quantitative, descriptive and analytical study with a cross-sectional drawing in the public service of Endodontics of the CEO of Camaçari, considered as a reference for performing specialized treatments in dentistry in this city.

The reference sample consisted of a representative sample with adolescents aged between 12 and 20 years old assisted in CEO between December 2017 and November 2018 (n = 45), using as a basis a single study involving adolescentes[23] (n = 30).

The inclusion criteria were analyzed: users aged 12 years and up to 20 years, endodontic treatment completed; radiographic examinations present in medical records for confirmation of teeth treated endodontically; and agreement to participate in the study by signing the Informed Consent. As exclusion criteria, patients with special needs that prevented ideal communication.

The patients were selected through clinical and radiographic data attached to patient records. The radiographs were analyzed by a single examiner in the same light box in order to solely and exclusively confirm the completion of the endodontic treatment.

Data collection was performed using a standardized personal interview, applied by the researcher, dentist and specialist in endodontics, in a room of the center, protecting the privacy of the patient, about 30 days after treatment has been completed. The form of the interview was made up of a semi-structured part, referring to demographic and socioeconomic data of the interviewed, recording the date of birth, gender, education and income, as well as treated tooth and title of the professional and other structured through QASSaB - Questionnaire for Quality Evaluation of Oral Health -, which has been validated for Brazilian services.

The QASSaB uses 11 questions or issues (Q) covering seven dimensions of quality, as follows: (1) human relations, referring to the treatment by the dentist (Q1) and other professionals (dental assistant - Q2); (2) effectiveness related nuisance after treatment (Q3); (3) accessibility, determined by obtaining the appointment (Q4) and the waiting time at the day of care (Q5); (4) technical and scientific quality, in relation to the technological upgrading of dental equipment (Q6); (5) physical environment, ie the reception cleaning (Q7) and toilets (Q8); (6) acceptability, referring to the user explanation about the most appropriate treatment (Q9); (7) resoluteness on the satisfaction with aesthetic (Q10) and chewing ability of the treated teeth (Q11).[24]

Continuous variables were described as mean and its standard deviation, while the categorical variables were considered as absolute and relative frequency. Data were inserted in an Excel sheet (Microsoft Corp., USA) and exported to the SPSS version 13.0 (SPSS Inc., Chicago, United States). Statistical analysis was performed using the Pearson's chi-squared test (χ^2) or Fisher's exact test to identify possible associations between the tested variables. The level of significance in the decision statistical tests was 5%.

The study was submitted to the Ethics Committee for approval in the National System of Information Ethics in Research Involving Human Beings (SISNEP), in accordance with Resolution no. 196/96 of the National Health Council (Protocol N^0. 2655907 - Graduate Center São Leopoldo Mandic/School of Dentistry).

Results

The first table shown relates to the characterization data of the sample (Table 1). Family income declared by the participants ranged from R$120.00 to R$5,000.00, and the average income approximately R$ 972.00 with 71% referring to the monthly income of up to 1 minimum salary.

Most interviewed patients were female (55.6%), graded at fundamental school (80%) with a mean age of 16.8 years (±2.067). Much of endodontically treated tooth units were made by experts (75.6%) and belonged to the upper arch (75.6%), being distributed as follows: 31.1% molar, 31.1% premolar and 37.8% canines and incisors.

Table 1. Characterization of the sample of 45 users adolescents attended in endodontics service CEO of Camaçari, BA, Brazil, in 2018

Variable	N	%
Gender		
Male	20	44.4
Female	25	55.6
Monthly income		
≤ 1 minimum salary	32	71.1
> 1 minimum salary	13	28.9
Education		
Elementary School	36	80.0
High School	09	20.0
Arch		
Superior	34	75.6
Inferior	11	24.4
Class of tooth		
Molar	14	31.1
Premolar	14	31.1
Incisor and canine	17	37.8
Professional		
Expert	34	75.6
Generalist	11	24.4

The results of the quality dimensions in the whole group are presented in Table 2. They show positive evaluations by most users for all dimensions. The majority considered excellent attention received by the dentist (67%) and auxiliary oral health (60%); 89% felt no discomfort or felt only minor discomfort in performing the treatment; 56% were able to easily book an appointment; only 20% found the long waiting time for the service; 91% classified as modern or ultra-modern equipment used during the service; the room environment or cleaning of the bathroom and reception were rated as good or excellent by 87% and 98% of users respectively; 69% reported always receiving explanation of the treatment; only 16% reported being little satisfied with the aesthetic of the tooth after treatment; and 13% showed little satisfied about the chewing ability. However, regarding these last two items, most of patients felt just satisfied with the result of the aesthetic of the tooth (55%) and chewing ability (53%).

It was found that in terms of effectiveness of treatment patients treated by specialists have fewer complaining during treatment, but this data was not statistically significant, as shown in Table 3.

Table 2. Assessment of satisfaction of users assisted in specialized dental clinics in the City of Camaçari, BA, Brazil

Quality Dimension	User's Satisfaction (Score)					
Dimension 1 - human relations	**Excellent (5)**	**Good (4)**	**Regular (3)**	**Poor (2)**	**Very Poor (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Dentist	30 (67%)	13 (29%)	2 (4%)	0 (0%)	0 (0%)	45 (100%)
Oral health assistant	27 (60%)	17 (38%)	1 (2%)	0 (0%)	0 (0%)	45 (100%)
Dimension 2 - effectiveness	**I felt nothing (5)**	**Little discomfort (4)**	**I felt discomfort (3)**	**Very discomfort (2)**	**Total discomfort (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	n (%)	**n (%)**
Uncomfortable	17 (38%)	23 (51%)	4 (9%)	1 (2%)	0 (0%)	45 (100%)
Dimension 3 - accessibility	**Very easy (5)**	**Easy (4)**	**Not easy or hard (3)**	**Hard (2)**	**Very difficult (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	n (%)	**n (%)**
Obtaining the appointment	3 (7%)	22 (49%)	10 (22%)	6 (13%)	4 (9%)	45 (100%)
Waiting time	3 (7%)	18 (40%)	15 (33%)	7 (16%)	2 (4%)	45 (100%)
Dimension 4 - technical and scientific quality	**Super modern (5)**	**Modern (4)**	**More or less (3)**	**Outdated (2)**	**Very Outdated (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	n (%)	**n (%)**
Equipment	5 (11%)	36 (80%)	4 (9%)	0 (0%)	0 (0%)	45 (100%)
Dimension 5 - physical environment / cleaning	**Excellent (5)**	**Good (4)**	**Regular (3)**	**Poor (2)**	**Very Poor (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Reception	25 (56%)	19 (42%)	1 (2%)	0 (0%)	0 (0%)	45 (100%)
Bathroom	19 (42%)	20 (45%)	5 (11%)	1 (2%)	0 (0%)	45 (100%)
Dimension 6 - acceptability	**Always tells me everything (5)**	**Most of the time (4)**	**I do not remember (3)**	**Rarely (2)**	**Never explains (1)**	**Total**
	n (%)	**n (%)**	n (%)	**n (%)**	n (%)	**n (%)**
Explanation of treatment	31 (69%)	6 (13%)	7 (16%)	0 (0%)	1 (2%)	45 (100%)
Dimension 7 - resoluteness	**Completely satisfied (5)**	**Very satisfied (4)**	**Content (3)**	**Little satisfied (2)**	**Unsatisfied (1)**	**Total**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Aesthetic of teeth	4 (9%)	9 (20%)	25 (55%)	7 (16%)	0 (0%)	45 (100%)
Chewing ability	7 (16%)	8 (18%)	24 (53%)	6 (13%)	0 (0%)	45 (100%)

Table 3. Distribution of efficacy assessments according to the professional

Uncomfortable	Expert n (%)	Generalist n (%)	*p* value*
I felt nothing Little discomfort	31 (91.2%)	09 (81.8%)	0.391
Felt discomfort Much discomfort Total discomfort	03 (8.8%)	02 (18.2%)	-

*Pearson's chi-squared test (χ^2) 5%

Discussion

User expectations are dependent on the clinical context, past experiences and patient's knowledge[25]. In order to minimize the effect of past experiences, this survey was conducted only with teenagers, since the service has recently been implemented and it does not allow a long-term comparative and, therefore, could influence on this assessment.

In this study, as well as in other studies,[19-21,26] the criteria human relationship was considered cause for satisfaction. The attention of the professional and the query length of time probably generated a positive association, since normally a specialty center has a small number of patients, which gives the professional the opportunity for a more complete and humane care.

In contrast, one study[23] observed a major constraint in patients who were treated by endodontists compared to general. In the present study, although there was pain associated with the classification of the professional who performed the procedure, showing that patients treated by endodontists reported less discomfort during treatment (Table 3), the result was not statistically significant ($p = 0.391$).

In relation to the dental arch, the vast majority of treated teeth was upper teeth (75%), as also observed in other studies that found nearly 85% of endodontically treated teeth were in the upper arch in the city of Natal-RN[27] and a total of 60.4% of treated teeth in the maxilla in the city of João Pessoa-PB.[23]

The highest dissatisfaction rates of users in endodontics in CEO of Camaçari-BA were related to the areas of accessibility and resolution. Regarding accessibility, 22% were not satisfied as to obtain the appointment and 20% for the waiting time in attendance. About the resolution, 16% of users were not satisfied with the aesthetic of teeth, while 13% had negative assessment regarding chewing ability. These results corroborate those found by other authors[27] that show most dissatisfaction among users being about inadequate aesthetics of endodontically treated teeth (18.4%), delay time (6.7%) and poor chewing ability (6%). Another study[23] also found that the lowest score awarded to the user's satisfaction with the endodontic treatment was obtained on the aesthetics. This suggests the need for improved service with regard to completion of the treatment, perhaps including specific professional to restore the aesthetics and function of endodontically treated teeth in order to ensure comprehensive care, since many times the user can not complete the treatment in basic health unit due to high demand in these locations.

In addition, significant problems within the dental secondary care have been raised as the difficult in accessibility to these services, identified by most users as the main gap.[6]

In a study conducted in Recife-PE,[6] accessibility has emerged as a difficulty faced generally by users of dental specialties centers, as getting an appointment was considered hard by most users. One reason for dissatisfaction in this regard may be the insufficient number of professional for ach specialty in these centers, which does not care adequately of the demand, especially in endodontics, as is the case of this study. On the waiting time for the service, perhaps a plausible suggestion to try to minimize this problem is to adopt the scheduled time for the consultations, which does not happen in the CEO's Camaçari-BA, which uses the first-served basis system.

However, positive evaluation of services with an overall high degree of user satisfaction found in this study and in other published data[21,26] is explained by some authors as a sanction of fear in attendance,[20] the feeling of gratitude for the free service,[19,28] the impossibility of access to another service or the proximity to his home,[19] factors that are influenced by the predominant use of public services by low-income users.

Given the above, it was proposed by the Project SB Brazil 2003 (Conditions of the Brazilian Population Oral Health) to be conducted a survey with users and workers from the Unified Health System (SUS) on satisfaction, access and reference, and counter reference, twice at each public management.[29]

Despite this recommendation, there is no knowledge of such survey in the current or previous administrations in the cities of Salvador and/or metropolitan area, which includes the city of Camaçari-BA, where it is found the largest CEO of the State.

Thus, this study is significant because it is the pioneer on evaluation of secondary care oral health service in the state of Bahia using user satisfaction and thus stimulating social participation in the health services from SUS and including young individuals, contributing to more faithful results and exemplifying better this perspective, without much influence from past perceptions and allowing the construction of improvements in the near future.

Conclusions

After analyzing the survey results, it can be seen that in general there was a good grade of user satisfaction with respect to endodontics specialty in the center of Camaçari, BA. But it is important to check the points of lower satisfaction, as was the case of accessibility and resolution, so it can be developed improvement measures in order to always offer a qualified public service to the population. Managers need to be aware of these factors and constant surveys should be encouraged in the SUS so that it can provide comparative and conduct appropriate planning by identifying the points that interventions will be required.

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