IJD ISSN:1806-146X

Dental treatment needs in children of a continuing education oral health program from Rio de Janeiro

Necessidade de tratamento odontológico em crianças de um programa de educação continuada em saúde bucal no Rio de Janeiro

Tatiana Kelly da Silva Fidalgo[1]
Fernanda Martins Moreno Soares[1]
Patricia Nivoloni Tannure[1]
Rafael de Lima Pedro[1]
Erika Calvano Küchler[1,2]
Marcelo de Castro Costa[1]

1 - Departamento de Odontopediatria e Ortodontia, Universidade Federal do Rio de Janeiro (UFRJ) - Rio de Janeiro – RJ - Brasil.
2 - Unidade de Pesquisa Clínica/HUAP, Universidade Federal Fluminense, Niterói-RJ- Brasil

Correspondence:
Tatiana Kelly da Silva Fidalgo
Disciplina de Odontopediatria da FO-UFRJ
Caixa Postal: 68066 - Cidade Universitária - CCS
CEP.: 21941-971 - Rio de Janeiro – RJ – Brazil
Email adress:
Tatiana_kelly@yahoo.com.br

ABSTRACT

The aim of the present study was to evaluate the oral treatment needs in children of a continuing education oral health program from Rio de Janeiro. A cross-sectional study was conducted with all dental records from healthy patients attended during 2 years. The type of dental treatment needs was grouped as follows: dentistry, endodontics, surgery, orthodontics and periodontics. The treatment was stratified in 3 categories: treatment successfully concluded, patient in treatment, or treatment incomplete. Data were tabulated and submitted to Chi-square or Fisher´s exact tests at a level of significance of 0.05. A total of 410 dental records from patients aged between 0 and 14 years old were analyzed. Fifteen dental records with incomplete data were excluded, yielding a final study sample of 395 patients with a mean age of 8.3 (± 1.8). The more common dental treatments were: dentistry (n=270; 65.9%), extraction (n=127; 31.0%) and orthodontics (n=147; 37.2%). No statistical significance was observed between dental treatment needs and number of siblings (p=0.84). Considering the mother's occupation no positive association was observed between dental treatment needs and mother housewife (p=0.07). The children presented a high dental treatment needs. These findings suggested poor oral hygiene status, demonstrating the necessity of reinforcement in the oral health programs for these children as well as a special education program for their parents.

Keywords: Pediatric dentistry; Oral health; Treatment

RESUMO

O objetivo do presente estudo foi avaliar as necessidades de tratamento odontológico em crianças de um programa de educação continuada em odontopediatria do Rio de Janeiro. Um estudo transversal foi conduzido com dados dentários referentes a fichas clínicas de pacientes saudáveis atendidos durante dois anos. O tipo de necessidades de tratamento odontológico foi agrupado da seguinte forma: odontologia, endodontia, cirurgia, ortodontia e status periodontics. O tratamento foi estratificado em três categorias: tratamento concluído com sucesso, o paciente em tratamento, ou tratamento incompleto. Os dados foram tabulados e submetidos ao teste exato de Fisher ou qui-quadrado a um nível de significância de 0,05. Um total de 410 prontuários odontológicos de pacientes com idade entre 0 e 14 anos foram analisados. Quinze registros dentais com dados incompletos foram excluídos, resultando em uma amostra final de 395 pacientes com idade média de 8,3 (± 1,8). Os tratamentos mais comuns dentária foram: odontologia (n=270; 65,9%), extração (n=127; 31,0%) e ortodontia (n=147; 37,2%). Não houve significância estatística entre as necessidades de tratamento odontológico e número de irmãos (p = 0,84). Considerando a ocupação da mãe não foi observada associação positiva entre as necessidades de tratamento odontológico e o fato da mãe ser dona de casa (p = 0,07). Observou-se alta prevalência de necessidades de tratamento odontológico. Os resultados sugerem um estado de higiene bucal deficiente, demonstrando a necessidade de um reforço nos programas de saúde bucal dessas crianças, bem como um programa de educação especial para os pais.

Palavras-chave: Odontopediatria; Saúde bucal; Tratamento

INTRODUCTION

The caries experience, mainly in industrialized countries, has decreased dramatically over the past 40 years.[1] During these decades, a number of actions have been taken to control the disease, and the literature describes numerous studies where

one or several factors have been evaluated for their impact.[2,3] The marked caries reduction in many countries over the last two decades is thought to be mainly the result of the widespread and frequent use of fluoride-containing toothpaste and the access to the fluoride water.[3,4,5]

Reduction indices of caries in Brazil occurred simultaneously with an irregular growing in the geographical distribution of the disease, with higher levels of disease affecting areas that presents social and economical needs.[6] Despite the need for treatment and importance of oral health, a large proportion of the population not utilizes oral health services.[7]

A national study realized in the households conducted by the Brazilian Institute of Geography and Statistics (*in portuguese*: Instituto Brasileiro de Geografia e estatística-IBGE) in 2003, found that 81.8% of children younger than five and 22.1% aged between 5 to 19 years had never been in dentistry.[8] This disparity between the need for oral treatment and the visit to the dental services presents a great significance in health services and epidemiology, since this reflects an underutilization of services of oral health care, which contributes to the establishment of dental caries as a disease more prevalent in chilhood.[9, 10]

Therefore, the knowledge of oral health needs regarding specifics populations is important in order to study strategies to improve the oral health services. In this context, the aim of the present study was to evaluate the oral treatment needs in children of a continuing education oral health program from Rio de Janeiro.

METHODS

Ethical approval was obtained from the Human Ethics Committee of the Institute of Public Health Studies of the city of Rio de Janeiro, Rio de Janeiro, Brazil. This cross-sectional study was conducted with all dental records from healthy patients attended during 2 years in the Theoretical-Practical Training Program in Pediatric Dentistry from Federal University of Rio de Janeiro. These records should contain demographic and socioeconomic data as, guardians' ocupation, number of siblings, oral health needs and acceptance for the treatment. Incomplete records were excluded. The type of dental treatment needs was grouped as follows: dentistry, endodontics, surgery, orthodontics and periodontics. Patients who need only preventive care (without caries) were considered without dental treatment needs. The status of treatment was stratified in 3 categories: treatment successfully concluded, patient in treatment, or treatment incomplete. All treatments were performed by dentists of the Pediatric Dentistry Department with professor supervision.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS – 16.0). Chi-square or Fisher´s exact tests at a level of significance of 0.05 were used during analysis.

RESULTS

A total of 410 dental records from patients aged between 0 and 14 years old were analyzed. Fifteen dental records with incomplete data were excluded, yielding a final study sample of 395 patients with a mean age of 8.3 (± 1.8). The total sample consisted of 197 (50.1%) males. The mean number of siblings was 1.5 (± 1.3), varying from 0 to 9. It was found that 33.4% of their mothers were housewife. Dental caries and oral health prevention were the main reason for the initial consult. Table 1 summarizes the characteristics of subjects.

Dental caries, oral health prevention and orthodontic treatment were the main and the most frequent initial reason for consult observed. Table 1 summarizes these data.

The more common dental treatments were: dentistry (270; 65.9%), extraction (127; 31.0%) and orthodontics (147; 37.2%). The data of oral health needs are summarized in Table 2. No statistical significance was observed between dental treatment needs and number of siblings (p=0.84). Considering the mother's occupation no positive association was observed between dental treatment needs and mother housewife (p=0.07).

DISCUSSION

The Brazilian territory is very large and present disparities in dental access. The strategies of progressive expansion and the channeling of public resources for dental care to programmatic ends can be considered successful in regards to reducing health disparities as shown by the few studies already realized.[11] The positive effect of water fluoridation can be seen in the

reduced prevalence of dental caries, as measured in epidemiological studies of dental health conducted at the national level.[12] There are few national studies that evaluate the effect of public dental services on the disparities in oral health indicators, and similarly, studies of the regional contexts are scarce.[11]

Table 1: Characteristics of the study subjects.

Gender	**N (%)**	
Female	*198 (50.1)*	
Male	*197 (49.9)*	
Mean age	***Mean (±)***	***Min-Max***
Female	*8.2 (1.8)*	*5-14*
Male	*8.3 (1.7)*	*4-13*
Number of siblings	**N (%)**	
0	81 (20.5)	
1-2	258 (65.2)	
3-4	35 (8.9)	
more of 4	*21 (5.4)*	
Mother's ocuppation	**N (%)**	
housewife	*132 (33.4)*	
Out of home	*263 (66.6)*	
Reason for the initial consult	**N (%)**	
Dental caries	*87 (22.0)*	
Orthodontic treatment	*82 (20.8)*	
Pain	*13 (3.3)*	
Dental trauma	*17 (4.3)*	
Oral Health Prevention	*87 (22.0)*	
Periodic revision	*42 (10.6)*	
No report	*67 (17.0)*	

In the present study, the main treatment need was restorative treatment corroborating with the findings of Rihs et al,[13] that was also done in other region of southeast of country. We observed more restored than extracted teeth, indicating a conservative approach to tooth preservation. In this study was found 35.9% of preventive or interceptative orthodontic treatment, this dental need dissatisfaction both children and parents.[14] In countries that orthodontic treatment is not regularly provided by public services, as in the case of Brazil, orthodontic treatment consists in an important treatment need.

Table 2: Dental treatment received and status of treatment according to dental records.

Dental treatment needs	**N (%)**
Yes	299 (75.7)
No	96 (24.3)
Type of treatment needs	**N (%)**
Dentistry	*270 (65.9)*
Endodontic	*52 (12.7)*
Extraction (due caries)	*127 (31.0)*
Preventive orthodontics	*54 (13.2)*
Interceptive orthodontics	*93 (22.7)*
Status of treatment	**N (%)**
Complete treatment	*213 (53.9)*
In treatment	*19 (4.7)*
Incomplete treatment	*163 (41.3)*

Although the decrease in dental caries levels, in the current study was found that 31.0% of children need extract one or more teeth due to caries. This high rate it is probably because this study was conducted in a continuing education oral health program of a public institution and, for this reason, the patients that search for attendance commonly present low socioeconomic level and poor hygienic oral habits. These findings also justify the low acceptance of treatment.

Our findings identified a great demand for dental treatment needs in this population. The number of siblings and the mother's occupation did not positive associate with dental treatment need. In addition, we observed a considerable number of individuals with incomplete treatment. These findings suggested poor oral hygiene status associated with unmet dental care needs. Despite exposure to fluoridated water and in fluorine in dentifrice, all children in our study are dependent on a public health service. A contributing factor was the low to moderate socioeconomic status of the families attending in Federal University in Brazil. For them, bringing in a child for periodic assessment is costly and could be a reason to fail in completes the dental treatment.

In summary, we conclude that children have a higher prevalence of untreated dental disease and consequently have extensive dental treatment needs. These findings suggested poor oral hygiene status, associated with unmet dental care needs. The development of an immediate and effective oral health programs is recommended for these children as well as a special education program for their parents.

ACKNOWLEDGMENT

The authors thank FAPERJ for financial support.

REFERENCES

1. Fomon SJ, Ekstrand J, Ziegler EE. Fluoride intake and prevalence of dental fluorosis: trends in fluoride intake with special attention to infants. J Public Health Dent 2000; 60: 131-9.
2. Bratthall D, Hansel-Petersson G, Sundberg H. Reasons for the caries decline: what do the experts believe? Eur J Oral Sci 1996; 104:416-22.
3. Ramires I, Buzalaf MAR. A fluoretação da água de abastecimento público e seus benefícios no controle da cárie dentária – cinqüenta anos no Brasil. Cienc Saúde Colet 2007; 12 (4): 1057-65
4. Cheng KK, Clalmers I, Sheldon TA. Adding fluoride to water supplies. Br Med J 2007; 335(7622):699-702.
5. Pizzo G, Piscopo MR, Pizzo I, Giuliana G. Community water fluoridation and caries prevention: a critical review. Clin Oral Investig. 2007; 11(3):189-93.
6. Petersen PE. The World Oral Health Report 2003: continuous improvement of oral health in the 21st century – the approach of the WHO Global Oral Health Programme. Community Dent Oral Epidemiol 2003; 31(Suppl 1):3-23.
7. Barros AJD, Bertoldi AD. Desigualdades na utilização e no acesso a serviços odontológicos: uma avaliação em nível nacional. Cienc Saúde Colet 2002;7:709-17.
8. Brasil. Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios, 2003 [citado 2008 Mar 29]. Disponível em: http://www.ibge.gov.br/home/estatistica/populacao /trabalhoerendimento/ pnad2003/comentarios2003.pdf
9. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Projeto SB Brasil 2003: condições de saúde bucal da população brasileira 2002-2003: resultados principais / Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Brasília: Ministério da Saúde; 2004.
10. National Institute of Dental and Craniofacial Research. Healthy People 2010. Conference edition. Washington, DC: US Dept of Health and Human Services; Disponível em: http://www.nidcr.nih.gov/AboutNIDCR/SurgeonGeneral/
11. Antunes JL, Narvai PC. Dental health policies in Brazil and their impact on health inequalities. Rev Saude Publica 2010; 44(2):360-5.
12. Rolla G, Ekstrand J. Fluoride in Oral Fluids and Dental Plaque. In: Fejerskov O, Ekstrand J, Burt B, Eds. Fluoride in Dentistry, 2nd Edition. 1996; Munksgaard, Denmark. p 215.
13. Rihs LB, de Sousa Mda L, Cypriano S, Abdalla NM. [Inequalities in distribution of dental caries in teenagers of Indaiatuba, Sao Paulo State, 2004]. Cien Saude Colet 2004;15(4):2173-80.
14. Dias PF, Gleiser R. Orthodontic concerns of Brazilian children and their parents compared to the normative treatment need. J Oral Sci 2010; 52(1):101-7.

Recebido em 29/03/2011
Aprovado em 20/06/2011