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Original Article

Knowledge and Practices of Parents and Guardians Regarding the Oral Health of Children from a Shelter and a University in Rio de Janeiro, Brazil

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Abstract

Objective: To evaluate the knowledge of parents and guardians of school-age children about oral hygiene and diet in a shelter and in a higher education institution. **Material and Methods:** A study with 82 parents and guardians of school-age children in the Teresa de Jesus Shelter (ATJ; n = 47) and the Veiga de Almeida University (UVA; n = 35) was conducted. A questionnaire with objective questions about hygiene and diet was used. The data were compiled in a database and analyzed using the SPSS 20.0 software (SPSS Inc, IL, USA). Descriptive analysis of data was conducted and normality was verified using the Shapiro-Wilk test ($p < 0.05$). Categorical variables were compared using the χ^2 test ($p < 0.05$). **Results:** The mean age of children at ATJ was 4.9 (± 2.5) and those at UVA was 7.1 (± 2.7) ($p < 0.01$). There was no difference between groups in relation to age ($p = 0.71$) and educational level of parents and/or guardians ($p = 0.93$); however, parents of children at UVA showed higher income ($p = 0.02$). Parents of children at ATJ had more information on oral health care ($p < 0.01$). Most of the ATJ group (98.7%) claimed that visiting the dentist is also an important factor for the prevention of oral diseases compared to the UVA group (25.7) ($p < 0.01$) and showed higher number of visits to the dentist ($p = 0.03$). ATJ parents associate more bacteria ($p < 0.01$) and not going to the dentist as causal factors for dental caries ($p = 0.03$). **Conclusion:** Despite the worse socio-economic conditions, parents and guardians of children at ATJ had more knowledge about oral hygiene and diet than respondents of UVA. It is likely that the educational activities held at ATJ have influenced this result.

Keywords: Oral health; Health education; Parents; Child.

Introduction

Health is the product of the interaction of individual and family, culture, social structure and physical development. During the last decades, studies have pointed out that different circumstances influence oral health, among them: individual, such as lifestyle and dietary patterns; and community such as regional and socioeconomic characteristics. It is known that the impact on the reduction of caries is the result of investment in health education and promotion, the collective and individual level, transcending the provision of only curative services, emphasizing the importance of reorientation of concepts and practices in the Dentistry field [1].

The health of a population, especially oral health, is clearly expressed by the environmental conditions in which this population is inserted, and especially the way the interpersonal and familiar relationships are established [2]. The best way to motivate preschoolers about oral health is through parents, as they play a very important psychosocial role for their children. Education is a key factor to awaken people's interest in maintaining their oral health. When it comes to children, it is still necessary that motivation extends to parents and / or guardians so that they can teach their children and thus perpetuate the learning [1,3]. In this sense, the example set by the family has great impact on the development of children's oral health habits. In recent years, significant changes in the oral health status of children under 12 years have been observed, according to the SB Brasil 2010 Brazilian epidemiological survey. However, it is observed that this improvement was less perceivable with respect to hygiene habits and periodontal conditions [4].

Dental caries and periodontal diseases are considered a public health problem due to their high levels of severity and prevalence, especially in specific populations, requiring from the dentistry a direction of its activities for prevention. Education and access to information on preventive methods of oral diseases are factors to be considered, since even available in the media, they are not transformed into everyday practice [2]. Within the context of prevention, education plays an important role, because the individual no longer behaves as passive to oral health programs and starts behaving as collaborator [5-7].

Socio-economic and cultural characteristics directly influence health care. This aspect deserves special attention, as a health program is more effective from the knowledge of the population's profile. There are few studies that focus on knowledge, attitudes and oral health practices of educators and children. Little is discussed in literature on the knowledge of children about oral health and even less is found about the vision of educators about these basic principles [5,6,8].

The evaluation of the knowledge of parents and guardians about oral hygiene and diet of their children is of utmost importance in combating dental caries and periodontal disease, since children are guided by instructions first received at home on the adequate care for their teeth. Often parents and guardians do not have correct and sufficient information to guide their children so that hygiene and diet are practiced in the wrong way and this directly influences the increase of caries and

periodontal diseases. In previous studies, it was found that factors such as education, socioeconomic level and others are related to the lack of parental information.

Given the above, the aim of this study was to evaluate the knowledge of parents and guardians in relation to diet and oral hygiene of schoolchildren.

Material and Methods

This is an observational cross-sectional study. The instrument used for data collection was a self-administered questionnaire [9] composed of 18 objective or multiple-choice questions. The questionnaire content sought information on the socioeconomic characteristics of the population such as monthly income and educational level, knowledge about oral diseases, preventive behavior and habits, sources of information of parents and care of the oral health of children. The questionnaire was structured with four closed sociodemographic questions, ten questions on the knowledge of parents and guardians for the oral health of children and four on oral health practices.

The universe of this study consisted of 82 guardians of children aged 0-12 years, 47 at the Teresa of Jesus Shelter (ATJ), located in the urban area of Rio de Janeiro and 35 at the Pediatric Dentistry Clinic of the Faculty of Dentistry, Veiga de Almeida University (UVA). The sample was composed of parents who agreed to contribute to this work and signed the Informed Consent Form. This research was approved (protocol number 149 814) by the Local Research Ethics Committee.

To those responsible for children at ATJ, educational lectures directed to oral health practices were offered and children authorized by parents were submitted to preventive measures such as oral hygiene instruction and fluorine therapy and dental treatment whenever needed. Parents and guardians of children at UVA received instructions on oral health at the end of consultations, individually. The clinical procedures were performed in dental office located at ATJ and UVA for children from ATJ and UVA, respectively.

After questionnaire application, data were compiled in a database and analyzed using the SPSS 20.0 software (SPSS Inc, IL, USA). Descriptive analysis of data was conducted and normality was verified using the Shapiro-Wilk test ($p < 0.05$). Categorical variables were compared using the χ^2 test with 95% confidence interval.

Results

Table 1 shows the socio-demographic analysis of data, where it was observed that the average age of children at ATJ was statistically lower compared to children at UVA ($p < 0.01$). Both children at ATJ and UVA were predominantly female (72.3 and 88.6, respectively). Most parents and guardians of children at ATJ aged 31-40 years and those of UVA aged 21-30 years. Regarding educational level, most parents and guardians of both institutions had complete high-school. Parents and guardians of children at UVA had higher income compared to those at ATJ ($p = 0.02$).

Table 2 shows the knowledge and practices related to oral health of parents or guardians. Those responsible for children at ATJ had more information on oral health care compared those of

UVA ($p < 0.01$). Regarding the origin of information on oral health, in both institutions, most respondents reported to be from dentists. Children at ATJ received more information in school compared to children at UVA ($p = 0.09$).

A higher percentage of parents of children at ATJ reported having obtained information in school compared to parents of children at UVA, with 36.2 and 18.5 ($p = 0.09$), respectively. However, there was no statistical difference regarding the reason for visits to the dentist ($p = 0.53$).

Table 1. Socio-demographic characterization of participants.

Variables	Teresa de Jesus Shelter	Veiga de Almeida University	p-value
Age of children			
Mean (\pm SD*)	4.9 (\pm 2.5)	7.1 (\pm 2.7)	p < 0.01^a
Gender			
Female (%)	72.3	88.6	0.06
Male (%)	27.7	11.4	
Age of parent or guardian (%)			
15 - 20 years	10.6	0.0	0.71
21 - 30 years	17.0	40.0	
31 - 40 years	61.7	34.3	
41 - 50 years	8.5	17.1	
> 50 years	2.1	8.6	
Educational level (%)			
Incomplete primary school	27.7	20.0	0.93
Complete primary education	4.3	11.4	
Incomplete high school	12.8	17.1	
Complete high school	44.7	42.9	
Incomplete higher education	8.5	8.6	
Complete higher education	2.1	0.0	
Never been to school	0.0		
Monthly income (%)			
0 - 1 minimum wages	46.6	22.9	0.02
1 - 3 minimum wages	57.4	65.7	
3 - 5 minimum wages	0.0	8.6	
5 - 10 minimum wages	0.0	2.9	
> 10 minimum wages	0.0	0.0	

*Standard deviation; Absence of superscript letters = χ^2 test ($p < 0.05$); a Mann-Whitney test ($p < 0.05$).

Most parents and guardians found it important to take care of teeth and gums. They also believe that the deciduous teeth deserve the same care of permanent teeth. About half of them claimed not to know about the eruption of a permanent tooth, first molar, in the posterior region to the second deciduous molar at the age of 6 years.

Most guardians of children at ATJ and UVA reported knowing that dental caries and gum disease can be prevented, and the majority indicated that health care was the main factor for prevention. About 98.7% of parents and guardians of children at ATJ argued that visiting the dentist is also an important factor in the prevention of oral diseases compared to 25.7% of UVA ($p < 0.01$).

With regard to oral health care, visits to the dentist was statistically higher ($p = 0.03$) in children at ATJ (42.6%) compared to UVA (20.0%). ATJ children also had diet with less sugar frequency compared to those at UVA ($p < 0.01$).

Table 2. Knowledge and practices related to oral health of parents and guardians.

Variables	Teresa de Jesus Shelter	Veiga de Almeida University	p-value
Information on oral health care (%)	97.9	77.1	$p < 0.01$
Source of information (%)			
Dentist	70.2	71.4	0.56
School	36.2	18.5	0.09
Family	10.6	0.0	0.10
Readings	6.4	3.7	0.54
Radio or TV	10.6	3.7	0.28
Others	6.4	18.5	0.11
Important to take care of teeth and gums (%)	100.0	97.1	0.43
Deciduous and permanent teeth should receive the same care (%)	97.9	100.0	0.57
Knowledge about the eruption of the first permanent molar at the age of six years (%)	55.3	45.7	0.26
Dental caries and periodontal disease can be prevented (%)			
Yes, if I care	93.6	97.1	0.43
Yes, if I go to the dentist	98.7	25.7	< 0.01
It depends on luck	2.1	0.0	0.57
They cannot be avoided	4.3	0.0	0.33
Care to have healthy teeth and gums (%)			
I brush my teeth	91.5	100.0	0.10
I use toothpaste	42.6	42.9	0.58
I use dental floss	51.1	60.0	0.28
I use mouthwash solution	27.7	17.1	0.19
I always go to the dentist	42.6	20.0	0.03
I have balanced nutrition	14.9	5.7	0.17
I do not eat much sugar	19.1	8.6	0.32
I do not eat between meals	4.3	0.0	0.33
Frequency that your son eats sweets (%)			
Never	2.1	2.9	
Rarely	46.8	5.7	
Every week	27.7	31.4	< 0.01
Every day	19.1	45.7	
Several times a day	4.3	14.3	
Reason for visits to the dentist (%)			
When he feels pain	9.4	8.0	
When he has a problem	25.0	40.0	
Every six months	46.9	44.0	0.53
Every year	18.8	8.0	
Clean the child's teeth	91.3	88.2	0.50
Brushing frequency			
Two times	20.0	17.1	
Three times	43.7	54.3	0.80
More than three times	33.3	28.6	

*Standard deviation; χ^2 test ($p < 0.05$).

Most parents and guardians reported assist the child during tooth brushing. Regarding the brushing frequency, three times daily was the most chosen response.

Figure 1 shows that most parents and guardians reported dental caries as an oral health problem; however, periodontal disease is not well known by parents and guardians.

Statistically significant difference in knowledge about "crooked teeth" ($p < 0.01$) was observed, and those responsible for children at ATJ had greater knowledge about this oral problem (59.6%) compared to UVA (14.3%). Statistically significant differences in knowledge about thrush were also observed ($p = 0.04$), and those responsible for children at ATJ demonstrated greater knowledge (46.8%) compared to UVA (17.1%).

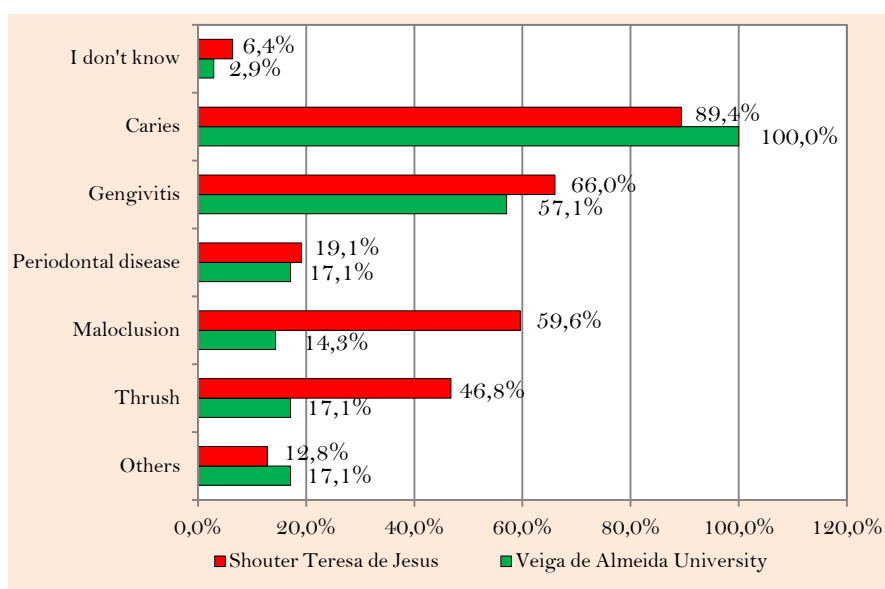


Figure 1. Frequency distribution of answers of parents and guardians with regard to knowledge about issues that affect oral health.

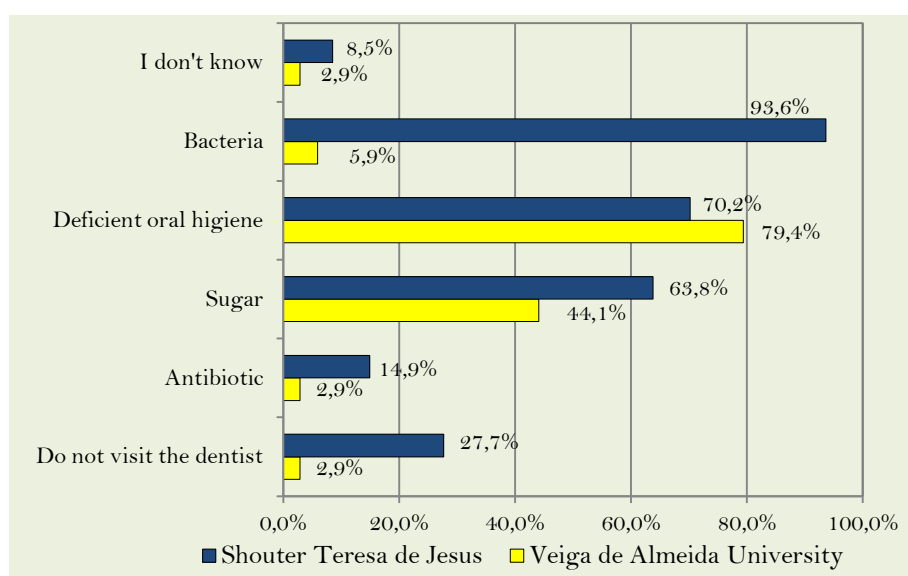


Figure 2. Frequency distribution of answers of parents and guardians with regard to knowledge about the causes of dental caries.

Figure 2 demonstrates that a greater number of parents and guardians of children at ATJ associated bacteria ($p < 0.01$) and not going to the dentist as causal factors of dental caries ($p = 0.03$).

Figure 3 shows that most of them were unaware of the cause of periodontal disease, with higher frequency for parents and guardians of children at UVA ($p = 0.02$). There was statistical difference between groups for the other frequency of responses such as bacteria ($p < 0.01$), poor hygiene ($p = 0.07$), tartar ($p < 0.01$) and not going to the dentist ($p < 0.01$).

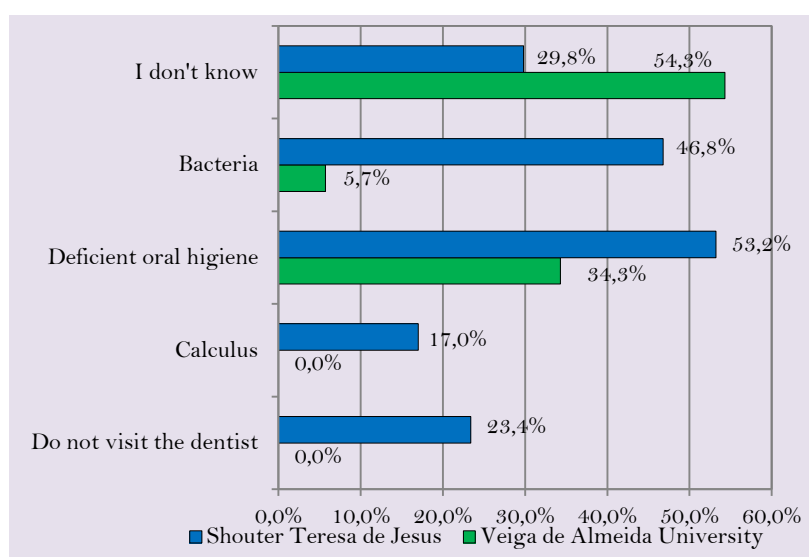


Figure 3. Frequency distribution of responses with respect to knowledge about the causes of periodontal disease.

Discussion

It is known that there is an association between oral health practices of parents and children [10]. It is also known that there is a relationship between social class and dental prevention practices, because the higher the socioeconomic status, the higher the frequency of visits to the dentist. Oral health care is also related to the educational level and income of individuals. Children are influenced by parents, because they control the habits of their children [11]. In the present study, the age of parents and their educational level proved to be similar between groups; however, higher family income was observed in the group of children at UVA compared to those at ATJ. ATJ children also had lower mean age compared to UVA. This is because UVA receives children aged 0-12 years and ATJ present a higher prevalence of children at preschool age due to the need of parents to leave their children to work.

Oral health care should begin at an early age and should have a preventive approach to health maintenance. The educational level of parents and guardians plays a fundamental role in this process, since the earlier preventive barriers are established, the better the future oral health status of children [12,13]. The child's household is his foundation for building his habits and where basic body cares are taught. The process of oral health education changes behaviors and there is an association between socio-economic and cultural levels and presence of oral diseases.

The contact with the dentist, school and media represented the main sources of information on oral health. The education sector, due to its capacity and scope, is a key ally for the implementation of health promotion activities. The educational work with children at school age is more productive, because they are more receptive, thus facilitating the teaching-learning process of healthy habits. Therefore, health education programs in schools should be encouraged and must involve teachers, health workers, parents, dentists and other professionals in the health area [14]. This study demonstrated that although parents and guardians of children at ATJ had lower income, they showed higher knowledge. This demonstrates the positive aspect of being in a well-structured shelter with dental care, monitoring by nutritionist and nurse and routine offer of educational lectures; demonstrating the importance of educational programs developed in shelters and day care centers. Additionally, guardians of children at ATJ mentioned receiving more information at school, compared to those at UVA. It is noteworthy that children at ATJ had mean age of four years, preschool age; therefore, the school parents were talking about was the ATJ.

The majority of respondents in both groups found it important to take care of teeth and gums and also that the deciduous teeth should receive the same care than permanent teeth. The majority of respondents know about caries disease and the group of parents and guardians of children at ATJ associate its cause to the presence of bacteria. This knowledge is partly explained by lectures on general and oral health routinely carried out in the shelter. Periodontal diseases and other problems are less known, which is worrying, since the age of the interviewed population is at risk in relation to periodontal disease. There is a great deficiency in education related to periodontal disease because in general information on dental caries is prioritized in educational programs [9]. To prevent the installation of caries in babies, programs for health promotion in early childhood are increasingly needed in order to maintain the oral health of children, since eating habits acquired by children are related to the mother's habits and to her overall level of knowledge about health [15].

Regarding the etiological factors of dental caries, the presence of bacteria, poor hygiene and consumption of sugary foods were the most cited causes. Even so, sugar consumption by children of respondents was high. They believe they can prevent caries and gum inflammation with some care and always going to the dentist. However, although many parents reported taking their children to the dentist every six months, most respondents only takes their children to the dentist when a problem arises. Dental examination started in the first year of life is an excellent method to make parents' attention directed to the future oral health of their children [16].

The preventive measure of dental diseases most frequently performed by the population interviewed is brushing with flossing and then the use of toothpaste. Respondents showed no great concern with regard to diet high in sugar and the fact of eating between meals, showing that they do not associate these actions with the development of caries and other dental problems. Carbohydrates are still the food more accessible to the population, and foods high in sugar have their consumption driven by advertisements. Children are an important target of advertising, and according to studies, children influence 80% of the buying decisions of the family [17].

It is also necessary to take into account the lack of time in the lives of mothers [18] in the world of today and the preference of using processed foods instead of natural foods, which require more time for preparation. Many mothers have double shifts and therefore increased consumption of processed products [9]. Regarding the frequency of sugar consumption, most of the sample said their children eat sweets every week or every day, and many parents reported that their children rarely eat sweets. The habit of eating sweets is related to leisure time, compensation, desire to please the children, being a factor with strong cultural influence and difficult to change. Changing attitudes is more easily acquired when information is received by qualified and skilled professionals [1].

Most of the parents interviewed said they brush their teeth three times a day and assist their children in their oral hygiene. They also reported knowing about the eruption of the first permanent molar at the age of six years, which requires great care in cleaning. The results show that there is a great need for educational activities in oral health to encourage parents to adopt habits that they become aware, because often the information is given, but it is not put into practice [18,19]. It is important to recognize the association between socioeconomic and cultural conditions and the adoption of oral care practices, as well as the type of diet selected. The knowledge of the population is essential for the development and restructuring of educational programs and where they are intended for children, they should include the assessment of parents or guardians, since they play a fundamental role in achieving or improving the oral health of children, in addition to acting in shaping their values, habits and behaviors [9]. Before the establishment of educational programs, the dental knowledge level of the target population should be evaluated so that these programs are tailored to the real needs of the population to be educated [20]. Thus, oral health activities should include parents and guardians [21] and allow them to put into practice what has been learned.

Conclusion

Parents and guardians of the interviewed sample need to have access to educational activities in oral health in order to put into practice the information they have and also acquire new knowledge important to avoid dental problems in their children. Importantly, even with lower socioeconomic status, parents and guardians of children at ATJ had more knowledge about oral hygiene and diet than respondents of UVA. It is likely that the educational activities held at ATJ have influenced this result.

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