

Perception and practices of caregivers of childhood and youth shelters concerning oral health in the city of Belém, Brazil

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Abstract

Children who are not part of a socially structured family deserve special attention regarding oral health care. Investigating notions of care and hygiene practices of caregivers becomes essential for understanding the quality of charitable assistance provided in shelters. Thus, this study evaluated oral health knowledge and practices of shelter caregivers based on education and oral health activities. The sample consisted of caregivers associated with the four unique public institutions for social support of children and adolescents in the city of Belém, PA, Brazil. Data were collected through a questionnaire covering basic notions of oral health and dental care and were subjected to statistical analysis using the Chi-squared test and Fisher's exact test, adopting $\alpha = 0.05$. The results indicated an association between the variables "prior instruction in brushing techniques" and "oral health promotion" ($p = 0.011$), showing a higher frequency of brushing guidance among caregivers who had previously received instructions on such techniques and between the variables "education level" and "development of oral health activities" ($p = 0.0461$). This revealed that access to higher education implied a greater promotion of oral health activities. Therefore, it was possible to verify that the caregivers' knowledge, attitudes and practices in relation to oral health are correlated, and having educational knowledge and attitudes are favorable indicators for health promotion practices.

Keywords: Oral health. Health education. Caregivers. Shelters

INTRODUCTION

Children in shelters are a neglected segment of our society. They face a certain emotional, social and psychological distress, which affects their general health, as well as oral health¹. It is important to understand them as vulnerable individuals who face a series of challenges, such as limited or non-existent access to basic health care, including oral health care, which is one of their unmet health needs².

Studies indicate that institutionalized children

have unsatisfactory oral hygiene conditions, with a high prevalence of dental caries, gingivitis and dental trauma due to limited access to services and education^{1,3}. This has been attributed to overcrowding, lack of adequate staff, poor oral hygiene and inappropriate eating habits⁴. Often, these social support houses do not satisfactorily meet the needs of their residents due to the poor funding which compromises the caregiver-child relationship².

DOI: 10.15343/0104-7809.202044144151

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It is known that the family plays an important role in education and health condition⁵, but children living in foster and social services homes are lacking information and health care and oral hygiene from their parents. Thus, it becomes the responsibility of supervisors to teach children, providing them with the necessary knowledge and encouraging them to take better care of their oral hygiene³.

The profile of care in contexts that lack a family presents itself as a relatively new field for research and produces the attention of those dedicated to investigating the processes of primary socialization and developmental trajectories in childhood⁶. However, a large part of the publications on the subject still focus on investigated results among family members⁷, teachers^{8,9} or even among institutionalized children themselves^{10,11}, revealing little about the perception of professionals who work in institutional care settings.

Therefore, this study was carried out to verify the oral health knowledge and practices of caregivers in shelters operating in the city of Belém, in the state of Pará, based on educational level and the performance of oral health activities by professionals.

MATERIAL AND METHODS

Ethical aspects

This study was approved by the Ethics and Research with Human Beings Committee of the Institute of Health Sciences of the Federal University of Pará under Opinions number 893.058 of September 17, 2014.

Participation was voluntary and expressed through an Informed Consent Form.

Study population

The sample consisted of 28 caregivers associated to governmental institutions for social support of children and adolescents, and are staff

belonging to four shelters in the metropolitan region of Belém in the state of Pará, Brazil.

The data collection instrument chosen to meet the research objectives was a self-administered questionnaire with 15 objective questions, structured in 2 thematic guiding topics: (1) knowledge and (2) practices in relation to oral health; based on the study by Pinheiro et al. (2005)¹².

Statistical analysis

After tabulation and descriptive analysis of the data, it was decided to evaluate the difference between the groups of caregivers who do or do not perform oral health activities concerning their declared knowledge. Caregivers were compared according to the level of education declared (presence or absence of undergraduate education) in relation to knowledge and practices in oral health indicated by the questionnaire.

The Chi-squared test and Fisher's exact test, with an $\alpha=0.05$ level, were used in all comparisons, using the BioEstat 5.3 software (Civil Society Mamirauá, Brazil).

RESULTS

The descriptive analysis of the data showed that 89.3% of the caregivers answered that they knew how caries occurs, but 53.6% did not know how to specify the process and the risk factors involved. Likewise, 89.3% said they knew how to prevent caries, however 66.7% did not know how to describe how they would do it. Regarding oral health activities promoted with children and young people, 39.3% do not perform any activities; and of the 60.7% who promoted such activities, 35.7% did not specify the type. Regarding the orientation of proper brushing of teeth, 57% did not answer how it done and 57% also do not use dental floss during the residents' cleaning.

In addition, a statistically significant difference was found by the Chi-squared test

between the group of caregivers who perform health activities and provide the knowledge on how to avoid caries disease ($p=0.0103$). The caregivers who promote oral health claim to have knowledge about the theme (100%) in relation to those who do not perform activities (60%). Moreover, statistically significant values ($p=0.011$) were found among caregivers who promote oral health and provide guidance on how to brush (Table 1).

The analysis resulting from the Chi-squared test showed a statistically significant difference concerning the declared level of education

and the performance of activities in oral health promotion ($p=0.0461$). The group of teachers with a higher education showed higher rates of performing this type of activity (85.7%), while in the group of teachers who completed high school, the majority claimed to not carry out this type of activity (57.1%) in their respective shelters (Table 2).

For the other variables analyzed, the performance of oral health promotion or the level of education did not result in a difference in the degree of knowledge and practices in oral health evaluated by the questionnaires.

Table 1 – Difference (Chi-Squared Test) between caregivers who have or have not carried out oral health promotion activities and their knowledge about oral health. Belém/PA, 2016.

	OH Promotion				P-Value*
	YES n=18		NO n=10		
Knowledge about OH	n	%	n	%	
Knows how caries occurs:					
Yes	14	77.7	8	80.0	0.7314
Not	4	22.3	2	20.0	
Factors that lead to the occurrence of caries:					
Poor brushing	2	11.1	1	10.0	0.7029
Poor brushing and sugar-rich foods	4	22.2	1	10.0	
Other/ Not specified	12	66.7	8	80.0	
You know how to prevent tooth decay:					
Yes	18	100	6	60.0	0.0103
Not	0	0	4	40.0	
How can caries be prevented:					
Brushing	3	16.7	2	20.0	0.4608
Brushing and visiting the DS	2	11.1	0	0	
Other/ Not specified	13	72.2	8	80.0	
Received instruction on brushing:					
Yes	16	88.9	4	40.0	0.011
Not	2	11.1	6	60.0	
Received information about fluoride:					
Yes	15	83.3	5	50.0	0.0913
Not	3	16.7	5	50.0	

to be continued...

... continuação tabela 1.

	OH Promotion				P-Value*
	YES n = 18		NO n = 10		
Knowledge about OH	n	%	n	%	
Duration of a toothbrush:					
1 month	5	27.7	6	60.0	0.1779
2 months	4	22.2	3	30.0	
More than 2 months	3	16.7	0	0	
When the bristles open	3	16.7	0	0	-
Could not answer	3	16.7	1	10.0	

OH; Oral health.
DS; Dental surgeon.
*p≤0.05.

Table 2 – Difference (Chi-Squared Test) between caregivers who had high school education and those who had a university degree concerning their knowledge about oral health and promoting oral health practices. Belém/ PA, 2016.

	Education Level				P-Value*
	High school n = 14		Higher education n = 14		
Knowledge about OH	n	%	n	%	
Knows how caries occurs:					
Yes	12	85.7	13	93.0	1
Not	2	14.3	1	7.0	
Factors that lead to the occurrence of caries:					
Poor brushing	1	7.1	2	14.3	- 0.2589
Poor brushing and sugar-rich foods	1	7.1	4	28.6	
Other / Not specified	12	85.8	8	57.1	
You know how to prevent tooth decay:					
Yes	11	78.6	14	100	
Not	3	21.4	0	0	
How can caries be prevented:					
Brushing	3	21.4	4	28.6	0.2222
Brushing and visiting the DS	0	0	2	14.3	
Other / Not specified	11	78.6	8	57.1	
Received instruction on brushing:					
Yes	9	64.3	12	85.7	0.3845
Não	5	35.7	2	14.3	

to be continued...

... continuation table 2.

	Education Level				P-Value*
	High school n = 14		Higher education n = 14		
Knowledge about OH	n	%	n	%	
Received information about fluoride:					
Yes	8	57.1	13	92.9	0.0768
Not	6	42.9	1	7.1	
Duration of a toothbrush:					
1 month	7	50	4	28.7	0.8069
2 months	4	28.7	4	28.7	
More than 2 months	1	7.1	2	14.2	
When the bristles open	1	7.1	2	14.2	
Could not answer	1	7.1	2	14.2	
OH Promotion					
Conducts OH activities:					
Yes	6	42.9	12	85.7	0.0461
No	8	57.1	2	14.3	
Guides the child about brushing:					
Yes	10	71.4	13	92.9	0.3259
No	4	28.6	1	7.1	
Brushing time:					
After meals	12	85.8	14	100	0.3772
Absence of fixed schedule	1	7.2	0	0	
Does not guide	1	7.2	0	0	
Conduct in the face of pain:					
Does not guide for not having enough knowledge	3	21.4	4	28.6	0.6923
Guides from the knowledge they have	11	78.6	10	71.4	
Checks the condition of the child's brush:					
Yes	12	85.7	13	92.9	1
No	2	14.3	1	7.1	
Changes the child's brush:					
Yes	13	85.7	13	85.7	1
No	1	14.3	1	14.3	
Uses dental floss for child hygiene:					
Yes	12	85.7	6	42.9	0.1208
No	2	14.3	8	57.1	
Considers OH activities important in the shelter:					
Yes	13	92.9	14	100	1
No	1	7.1	0	0	

OH; Oral health.
DS; Dental surgeon.
*p≤0.05.

DISCUSSION

The results referring to the analysis of the investigated variables demonstrate relevant aspects associated with the practice and knowledge of the study participants. These aspects are fundamental to the understanding of the care profile provided, which will reflect on the construction of a collective care environment that promotes child development, in addition to physical support and meeting nutritional needs.

The shelters are intended to welcome children who have been victims of abandonment, abuse, physical or moral violence, or who lived with parents who were unable to care for them. Most of the shelters provide services in a mixed co-educational regime, in which they receive both boys and girls in their facilities. The difference between the youngest and the oldest ages of care in shelters is greater than 10 years.

In general, most shelters face major organizational problems, among which the main problems highlighted are: the lack of attention given to the residents, lack of staff, location and space, the precarious structure, the capacity exceeded by superior service demand, the lack of control of the residential population and, mainly, the disorganization and lack of attention of public policies.

When analyzing aspects related to basic knowledge and oral hygiene care, the present study found a more satisfactory performance among caregivers who perform oral health activities in relation to those who did not promote such activities, since it was more frequently stated among professionals in the first group, knowing how the process of caries occurs and how to avoid it.

Dental caries remains an important public health problem that predominantly affects children, despite its preventable nature and the credible scientific advances in its treatment modalities¹³. In view of the high prevalence of this condition, justified by a generalized incipient knowledge, which does not cover

concepts of transmissibility and multifactorial etiology, the recognition of factors related to caries and the possible consequences in the control of the disease may show the use of education as a relevant tool for achieve success in terms of maintaining dental health¹⁴.

Studies suggest that the social environment is able to influence oral health behavior in children, such as what is found at school and in the family^{7,15}. In this sense, those who live in social support homes will receive direct influence from these spaces, and their oral health status will be conditioned to the level of education and the performance of the professionals responsible for their daily care¹⁶. Knowledge about the etiology and prevention measures of dental caries, registered more significantly among caregivers who already promoted oral health activities, may have been solidified as these activities were developed, emphasizing the importance of health promotion as a determining factor in the construction of healthy concepts and behaviors.

Regarding knowledge and practices of oral hygiene methods, it was observed that among the caregivers who promoted oral health, those who have already received guidance on brushing techniques during their professional experience constitute a significant percentage (88.9%), while the majority of those who do not promote (60%) reported not having received any instruction on the said topic.

The multiplicity in the literature is enormous on the effectiveness of brushing to achieve good oral hygiene¹⁷. Classical studies have established that among the many methods used to maintain oral hygiene, brushing is the most common¹⁸, and the use of the correct brushing technique is as important as the type of toothbrush, in order to ensure effective control of the bacterial plaque¹⁹.

A study developed by Vichayanrat et al. (2012)²⁰ evaluated the effectiveness of an intervention project on oral health promotion

practices among caregivers and demonstrated a positive effect on knowledge, attitudes, expectations and self-efficacy in relation to health promotion, which were significantly increased in the experimental group after the intervention. Similarly, in the work carried out by D'cruz and Aradhya (2013)²¹, in which the impact of oral health education on the knowledge and practices of oral hygiene in schoolchildren was investigated, it was found that nine months after the intervention, there was a significant improvement in knowledge and practices in experimental oral hygiene groups. A study by Mohamadkhah et al. (2014)²² also sought to evaluate the effect of educational lectures on the promotion of oral health behaviors in schoolchildren, and it was observed that the mean scores for attitudes and practices towards oral health increased significantly after the intervention.

The optimization of attitudes and behaviors of oral health after timely educational interventions shows the direct influence of the process of assimilating new knowledge and values in reforming habits and motivating differentiated behaviors. This logic justifies, therefore, the distinct profile identified among

the group of caregivers who received training on hygiene practices and who adopt a more didactic-educational attitude in relation to those who were not guided, revealing the importance of health education as a positive impact strategy for oral hygiene practices.

Another relevant aspect identified was the relationship established between a higher level of education and a greater development of oral health activities. The level of education again is related to a broader aspect of professional training, influencing the posture adopted by the caregiver. Similar results were observed by Ashkanani and Al-Sane (2013)²³, whose study demonstrated that caregivers with higher education had significantly better scores for general knowledge and practices than those with less education.

Thus, the need to provide guidance through health education strategies is evident, which include basic dental concepts in the professional training of caregivers, in order to motivate the training of professionals with a differentiated profile, capable of improving attitudes and behaviors toward oral health; thus, creating an environment that will positively influence it is evident children in terms of oral health care.

CONCLUSION

The results of the study showed that the knowledge, attitudes and practices of caregivers of childhood and youth homes in the Municipality of Belém are correlated. Having knowledge and educational attitudes are favorable indicators for health promotion practices. In addition, it was possible to

observe that the level of education had a positive influence on the development of oral health activities. It was also demonstrated that these caregivers need practice, clarifications and guidance on oral health, so that they can serve as agents and partners in the consolidation of promoting oral health.

REFERENCES

1. Hans R, Thomas S, Dagli R, Bhateja GA, Sharma A, Singh A. Oral health knowledge, attitude and practices of children and adolescents of orphanages in jodhpur city rajasthan, India. *J. Clin. Diagn. Res.* 2014; 8(10):22-5.
2. Ojahanon PI, Akionbare O, Umoh AO. The oral hygiene status of institution dwelling orphans in Benin City, Nigeria. *J. Clin. Pract.* 2013; 16(1):41-4.

3. Markeviciute G, Narbutaite J. Effectiveness of a motivation and practical skills development methods on the oral hygiene of orphans children in Kaunas, Lithuania. *J. Oral Maxillofac. Res.* 2015; 6(3):e2. doi: 10.5037/jomr.2015.6302.
4. Muralidharan D, Fareed N, Shanthi M. Comprehensive dental health care program at na orphanage in Nellore district of Andhra Pradesh. *Indian J. Dent. Res.* 2012; 23(2):171-5.
5. Nourijelyani K, Yekaninejad MS, Eshraghian MR, Mohammad K, Rahimi Foroushani A, Pakpour A. The influence of mothers' lifestyle and health behavior on their children: an exploration for oral health. *Iran. Red. Crescent. Med. J.* 2014; 16(2):e16051.
6. Magalhães CMC, Costa LN, Cavalcante LIC. The perception of shelter care educators: their work and the institutionalized child. *Rev. Bras. Crescimento Desenvolvimento Hum.* 2011; 21(3):818-831.
7. Saied-Moallemi Z, Virtanen JI, Ghofranipour F, Murtomaa H. Influence of mothers' oral health knowledge and attitudes on their children's dental health. *Eur. Arch. Paediatr. Dent.* 2008; 9(2):79-83.
8. Almas K, Al-Malik TM, Al-Shehri MA, Skaug N. The knowledge and practices of oral hygiene methods and attendance pattern among school teachers in Riyadh, Saudi Arabia. *Saudi. Med. J.* 2003; 24(10):1087-91.
9. Lawal FB, Bankole OO. Oral health awareness and practices of primary school teachers in Inbadan, Nigeria. *J. West. Afr. Coll. Surg.* 2014; 4(2):47-65.
10. Khare V, Koshy A, Rani P, Srilatha S, Kapse SC, Agrawal A. Prevalence of dental caries and treatment needs among the orphan children and adolescents of Udaipur district, Rajasthan, India. *J. Contemp. Dent. Pract.* 2012; 13(2):182-7.
11. Srinivas R, Srinivas P, Viswanath V, Suresh S, Devaki T, Narayana V. Oral health status of institutionalized street children aged 5-15 years In Guntur City, Andhra Pradesh, India. *International Journal of Scientific & Technology Research* 2012; 1(11):19-23.
12. Pinheiro HHC, Cardoso DG, Araújo MVA, Araújo IC. Knowledge level evaluation about oral health of Sorena Day-Care Center's teachers, Belém, Pará. *Rev. Inst. Ciên. Saúde* 2005; 23(4):297-303.
13. Goel R, VEDI A, Veerasha KL, Sogi GM, Gambhir RS. Oral hygiene practices and dental caries prevalence among 12 & 15 years school children in Ambala, Haryana -A cross-sectional study. *J. Clin. Exp. Dent.* 2015; 7(3):374-9.
14. Ferreira-Nóbilo Nde P, Tabchoury CP, Sousa Mda L, Cury JA. Knowledge of dental caries and salivary factors related to the disease: influence of the teaching-learning process. *Braz. Oral Res.* 2015; 1(29):1-7.
15. Fernández MR, Goettems ML, Ardenghi TM, Demarco FF, Correa MB. The role of school social environment on dental caries experience in 8- to 12-year-old brazilian children: a multilevel analysis. *Caries Res.* 2015; 49(5):548-56.
16. Vinay S, Naveen N, Naganandini N. Feeding and oral hygiene habits of children attending daycare centres in Bangalore and their caretakers oral health knowledge, attitude and practices. *Indian J. Dent. Res.* 2011; 22(4):561-6.
17. Damle SG, Patil A, Jain S, Damle D, Chopal N. Effectiveness of supervised toothbrushing and oral health education in improving oral hygiene status and practices of urban and rural school children: A comparative study. *J. Int. Soc. Prev. Community Dent.* 2014; 4(3):175-81.
18. Dale JW. Toothbrushing frequency and its relationship to dental caries and periodontal disease. *Aust. Dent. J.* 1969; 14(2):120-3.
19. Saxer UP, Yankell SL. 1997. Impact of improved toothbrushes on dental diseases. *I. Quintessence Int.* 1997; 28(8):513-25.
20. Vichayanrat T, Steckler A, Tanasugarn C, Lexomboon D. 2012. The evaluation of a multi-level oral health intervention to improve oral health practices among caregivers of preschool children. *Southeast Asian J. Trop. Med. Public Health.* 2012; 43(2):526-39.
21. D'Cruz AM, Aradhya S. Impact of oral health education on oral hygiene knowledge, practices, plaque control and gingival health of 13- to 15-year-old school children in Bangalore city. *Int. J. Dent. Hyg.* 2013; 11(2):126-33.
22. Mohamadkhah F, Amin Shokravi F, Karimy M, Faghihzadeh S. Effects of lecturing on selfcare oral health behaviors of elementary students. *Med. J. Islam. Repub. Iran.* 2014; 28:86.
23. Ashkanani F, Al-Sane M. Knowledge, attitudes and practices of caregivers in relation to oral health of preschool children. *Med. Princ. Pract.* 2013; 22(2):167-72.

Received in June 2018.
Accepted in July 2019.