

CAS Garbin
 AJI Garbin
 KT dos Santos
 DP Lima

Oral health education in schools: promoting health agents

Authors' affiliations:

Cléa A. S. Garbin, Artênio José I. Garbin,
 Karina T. dos Santos, Daniela P. Lima,
 Department of Pediatric and Preventive
 Dentistry, Araçatuba School of Dentistry,
 UNESP-São Paulo State University,
 Araçatuba, SP, Brazil

Correspondence to:

Cléa Adas Saliba Garbin
 Department of Pediatric and Social
 Dentistry
 Araçatuba School of Dentistry
 UNESP-São Paulo State University
 Rua José Bonifácio 1193
 Araçatuba
 16015-050 SP
 Brazil
 Tel.: 55 (18) 3636 3249
 Fax: 55 (18) 3636 3332
 E-mail: cgarbin@foa.unesp.br

Abstract: *Purpose:* The aim of this study was to verify the influence of preschool children participating in an oral health education programme on daily health practices of their families, through parent's perception. *Methods:* A sample of 119 parents of 5- to 6-year-old preschool children were selected. Data were collected using a structured open-closed questionnaire, self-administered. The questions focused on parents' knowledge about activities of oral health education conducted in school, the importance given by them to these activities, learning from their offspring and the presence of habit change at home. *Results:* In total, 63 (52.9%) parents agreed to participate. Ninety-eight per cent knew about educative and preventive activities developed at school and all of them affirmed that these activities were important, mainly because of knowledge, motivation and improvement in children's health. Ninety and half per cent of parents reported that they learned something about oral health from their children and, among these, almost half (47.8%) cited toothbrushing as the indicator for better learning. Besides this, 87.3% of participants revealed the change in oral health habits of their family members. *Conclusion:* Preschool children were able to transmit knowledge acquired at school to their parents that included change in oral health routine of their family members.

Key words: dental health education; health promotion; preschool child; preventive dentistry

Dates:

Accepted 18 September 2008

To cite this article:

Int J Dent Hygiene 7, 2009; 212–216
 Garbin CAS, Garbin AJI, dos Santos KT,
 Lima DP. Oral health education in schools:
 promoting health agents

© 2009 The Authors.

Journal compilation © 2009 Blackwell Munksgaard

Introduction

Educative and preventive actions consist of excellent measures for oral diseases protection. However, there is still limited

knowledge in some populations, mainly in those at low socioeconomic level, about the prevention of these diseases (1, 2). The Brazilian epidemiological situation is still serious, because of the socioeconomic condition of the population, lack of health resources in public field and lack of information about basic health care (3).

In Brazil, the prevalence of childhood caries is a public health problem, as it was verified that 26.85% of children aged 18–36 months and 59.37% of children aged 5 years have caries (4). Dental caries on primary dentition can be reflected not only on children's oral health, through a higher probability of developing subsequent caries on permanent dentition, but also on general health (5). Children with caries can have a slower growth when compared with children without it and some of them can present low weight because of the association with pain during eating (6).

For this reason, educative and preventive action for this group is important as the group consists of infants, with the aim of promoting learning of healthy habits and decreasing caries and periodontal disease rates and the decline in disease risk in the future.

Accordingly, to promote oral health, the education is one of the fundamentals, especially because the child looks for training and encouragement for assuming responsibility for his own health and for his participation in community life. Education through this way is to stimulate development of skills, aptitude formation and creation of values, which lead the subject to act positively in relation to his oral health and other people's oral health on a daily basis.

Oral health education for children is considered a priority because of the caries high risk at this age (4), as well as the constant changes in oral environment, the facility for changing bad habits and provision of higher facility for learning.

Educating the children, because of its coverage, is an important ally for the concretization of health promotion actions directed to the improvement in children's skills, for making decision favourable to community, for the creation of healthy environment and consolidation of public politics for the quality of life (7). Taking into consideration that more than 1 billion of children in the world go to schools, these are ideal locations for conducting educational programmes, which are instrumental in formation of behaviours and values that lead to healthy practices, besides getting together children in different age groups facilitating adoption of educative and preventive measures (8, 9).

The importance of oral health education programmes in schools is reported by some authors, predominantly in the form of positive learning and behaviour in children (10, 11). Many

studies evaluated the Oral Health Education Programmes, showing the relationship between oral health condition and knowledge and aptitudes about oral health of students (12–16).

However, there is little information in the literature on the fact that there are conditions for children to apply in their routine what they learned in school and that they can behave as health agents in the family environment (17).

For a child to be able to influence his parents and his family and for the programme to reach its objectives, some points related to teaching–learning process must be observed. The educative action starts with the needs of children, consideration of some specific cultural characteristics and social differences and the children's distinct desires.

Thus, the aim of this study was to verify the influence of preschool children participating in educative and preventive activities of an oral health education programme on daily oral health practices of their family, through their parent's perception.

Methods

This cross-sectional study, using quail and quantitative analysis, was approved by UNESP-São Paulo State University (Brazil) – Araçatuba School of Dentistry's ethical review board (protocol number FOA 2007-01843).

To define the sample, 119 of preschool children, aged 5–6 years were considered for participation in an oral health education programme, and consequently, the same numbers of parents or people responsible for the children were invited to participate.

This oral health education programme for preschool children was developed by undergraduate and graduate students and professors of Dentistry graduation course of Araçatuba School of Dentistry, UNESP-São Paulo State University, Brazil. This study proposal arose from the necessity of transmitting the oral knowledge to children universally, with the aim of promoting health and improving the oral health care, especially because Brazil did not achieve for this age range, the WHO oral health goals for year 2000.

The programme's main objective was to offer to preschool children the development of their cognitive abilities (imitation, imagination, rules, reality changing, access and amplification of previous knowledge), emotive abilities (establishment of affective links, the expression of feelings, trust relationship, especially between student and teacher, which involves collaboration and motivation) and psychomotor abilities (mechanical actions of students through training and execution of activities, for example, plaque control through toothbrushing).

The first step of the programme consisted of training the undergraduate students. Group meetings were conducted together with professors and postgraduate students. The way of dealing with children, proper language related to each age range, the instruments and themes that would be addressed were discussed in these meetings. Later, workshops were conducted where didactic materials were developed and used in the programme activities.

The themes frequently discussed in the educative process involve basic subjects, such as importance of oral health; relationship between general and oral health; dental plaque – what it is, how it is formed and its consequences, how to remove it; hygiene habits, such as toothbrushing, flossing; diet habits; relationship between diet and dental caries; fluoride and deleterious habits (non-nutritive sucking habits – pacifiers and thumb sucking). New subjects were discussed according to the needs and reality of children. The programme was not ‘static’; instead, the undergraduate students had the liberty of choosing how they would address the subjects with children, but they always discussed the basic content.

The programme also covered preventive actions, such as dental plaque visualization with the aim of motivating the kids and supervised toothbrushing every week. Didactically, we explored with emphasis the dramatizations, drawings and paintings, music, audio-visual means and playing activities, which were used a great deal during the teaching–learning process.

Data were collected through a structured open–closed questionnaire, self-administered and especially elaborated for this research. The questionnaire presented questions related to parent’s knowledge about oral health activities conducted in the school, importance given by them to these activities, learning from their offspring and the presence of habit change at home. All parents enrolled in this study signed the informed consent form.

For quantitative analysis, we used the software, EPI INFO version 3.2 (18) for Windows®, through frequency and percentages distribution. The qualitative analysis was performed through content analysis, by means of categories analysis technique (19).

Results

Of 119 parents, 63 (52.9%) agreed to participate in the study. Table 1 shows the subjects’ dichotomized answers for questions related to the proposed theme. The affirmative answers to questions 2, 3 and 4, shown on chart 1, were categorized. All parents reported that oral health educative and preventive activities conducted in school were important and when asked about the reason for this importance, they cited more often ($n = 28$) their child’s acquired learning Table 2.

Parents who reported that they learned something about oral health with their children ($n = 57$) cited toothbrushing as the major learning factor (Table 3). Those parents who positively answered about habit change in their family ($n = 55$) reported more often ($n = 25$), the increase in interest as regards taking care of their teeth by the children themselves (Table 4).

Discussion

Education was reported on Ottawa Letter as one of fundamental points for the population’s health promotion. Not only formal education but also all educative measures providing reformulation of habits, acceptance of new values and stimulation of creativity were considered (20).

Schools were described by World Health Organization as the ideal location for development of educative health programmes, as they integrate the society, i.e. students’ relatives, teachers and the community (21). It was evident in this study, where 87.3% of the parents who answered the questionnaire

Table 1. Frequency and percentage distribution of dichotomized answers (yes/no) of parents of preschool children, Brazil, 2007

Questions	Answers					
	Yes			No		
	<i>n</i>	%	Confidence intervals	<i>n</i>	%	Confidence intervals
Do you know about the oral health educative and preventive activities conducted in your child’s school?	62	98.40	91.5–100.0%	1	1.6	0.0–8.5%
In your opinion, are these activities important?	63	100.00	94.3–100.0%	0	0	–
Did you learn something related to oral health from your child?	57	90.50	80.4–96.4%	6	9.5	3.6–19.6%
Do you think there has been some change in oral habits of your family members?	55	87.30	76.5–94.4%	8	12.7	5.6–23.5%

Table 2. Distribution of absolute and percentage frequency of categories related to affirmative answers given by parents about the importance of oral health educative and preventive activities conducted in their children's school, Brazil, 2007

Categories	Frequency	
	<i>n</i>	%
Learning – 'Because it (the programme) teaches them a lot of things that we don't have time to teach at home'	28	44.44
Motivation – 'Because with these activities they want to take more care of their oral health'	14	22.22
General health – 'Because it (the programme) teaches children how to live and grow up healthy and with dignity. I think it is an excellent beginning and for sure with great results'	10	15.88
Prevention – 'It prevents oral problems'	6	9.52
No answer	5	7.94
Total	63	100.00

Table 3. Distribution of absolute and percentage frequency of categories related to affirmative answers given by parents about oral health learning with their children, Brazil, 2007

Categories	Frequency	
	<i>n</i>	%
Toothbrushing – 'We must brush our teeth three times a day'	27	47.37
Take care of teeth – 'We should take care of teeth more'	10	17.54
Dental floss use – 'About the importance of dental floss use'	4	7.02
Flossing and toothbrushing – 'That toothbrushing and flossing are very important for tooth health'	4	7.02
Diet – 'Don't eat a lot of candies'	1	1.75
Others – 'To turn off the water while toothbrushing'	3	5.27
No answer	8	14.03
Total	57	100.00

Table 4. Distribution of absolute and percentage frequency of categories related to affirmative answers given by parents about change in oral health habit in the family environment due to their children, Brazil, 2007

Categories	Frequency	
	<i>n</i>	%
Better teeth care – 'He asks to toothbrush, so everybody at home will do it too'	25	45.45
Hygiene improvement – 'Hygiene is better'	7	12.73
Habit change – 'Now we brush at the right time and floss'	12	21.82
Undefined – 'Lots of things'	6	10.90
No answer	5	9.10
Total	55	100.00

reported some change in their family habits, which showed the involvement of all family members in the educative process.

A school educative programme should have the objective of promoting health leading to a change, when necessary, in health beliefs, aptitudes and behaviour (7). It should also consist of games that improve children skills, stimulate imagination, co-operation and understanding and facilitate how to respect, explore and increase the experiences of all children when they start going to school (22).

It's scientific the importance of Education Health Programmes on primary schools, on acquisition of new knowledge, as well as on reduction of oral health disease rates (10, 23–25). In this study, learning by children on oral health could be verified, through the possibility they had of transmitting this knowledge to their parents, as 90.5% of the parents who answered the questionnaire reported that they learned something about oral health from their children.

Menezes (26), analysing family participation on oral health promotion of children in an educative and preventive programme conducted in a public school in Brazilian Northeast, verified that 95% of parents knew about oral health procedures carried out in schools, although they did not know precisely their period and importance. Besides this, all interviewed relatives demonstrated a high degree of satisfaction and emphasized the importance of participating in dental care of students. These results are similar to the findings of present study, which showed 98.4% of parents knowing about activities developed at school and all affirming the importance of these activities, principally because of learning, motivation and children health.

One of the biggest difficulties observed on conduct of oral health education programme is the hope individuals have on learning new habits or modifying their habits in relation to oral hygiene care (27). However, it was verified in this study, through parent's perception, that children enrolled in this programme increased their interest on teeth care, influencing family habit change. Besides this, children can reproduce at home what they have learned at school, which was clear from the parents' response when asked about what they learned from their children.

Nevertheless, to reach the objectives proposed for an educative programme, for children to learn and be able to influence their familiar environment, teaching must be established based on children's needs and centred on a participative problematizing and motivator methodology. Children have to be motivated, which means that the educator must stimulate interest for the subject.

Thus, for the conduct of educative programme for preschool children, it is essential that the dentist, as part of his instructor

functions, knows beyond the technical knowledge, acts as a health agent, knows social sciences and psychology, makes teachers act as health agents and uses didactic resources, principally playing activities.

It is valuable to highlight the importance of involvement of dental students in oral health education programmes, because these programmes offer the opportunity for learning in the field of health education, conduct of research on children health and strengthen the relationship between the university and the community. These experiences have a great value, as outside the traditional academic environment, the dental student has the opportunity to develop sensibility and social responsibility, through a more active participation in the community (24).

It could be verified, through parents' perception, that preschool children were able to transmit knowledge acquired in school to their relatives, changing their family oral health routine. Thus, the importance of conducting educative programmes about oral health to children in schools is emphasized, with the aim of promoting oral health to all family members.

References

- Rajab LD, Petersen PE, Bakaeen G, Hamdan MA. Oral health behaviour of schoolchildren and parents in Jordan. *Int J Paediatr Dent* 2002; **12**: 168–176.
- Anselmo TM, Brunson DK, Martinez ME, Christensen M, O'Connell J. Expanding school-based sealant programs to realize treatment cost savings in Colorado. *J Dent Hyg* 2007; **4**: 88.
- Pauleto ARC, Pereira MLT, Cyrino EG. Oral health: a critical review about educative programmes for students. *Cien Saude Colet* 2004; **9**: 121–130.
- Ministry of Health. *Oral Health Brazil 2003 Project (SB Brasil 2003). Oral Health Conditions of Brazilian Population. Main Results*. Brasília, Ministry of Health, 2007, 52.
- Drury TF, Horowitz AM, Ismail AI, Maertens MP, Rozier RG, Selwitz RH. Diagnosing and reporting early childhood caries for research purposes: a report of a workshop sponsored by the National Institute of Dental and Craniofacial Research, the Health Resources and Services Administration, and the Health Care Financing Administration. *J Public Health Dent* 1999; **59**: 192–197.
- American Academy of Pediatric Dentistry. *Clinical Guideline on Baby Bottle Tooth Decay/Early Childhood Caries/Breastfeeding/Early Childhood Caries: Unique Challenges and Treatment Options [Internet]*. Chicago, IL, American Academy of Pediatric Dentistry, 2002, 2. Available at: http://www.aapd.org/members/referencemanual/pdfs/Baby_Bottle_TDEEC.pdf (accessed on 8 April 2008).
- Ministry of Health, Brazil. Health promotion on school context. *Rev Saude Pública* 2002; **36**: 533–535.
- Leger LS. Schools, health literacy and public health: possibilities and challenges. *Health Promot Int* 2001; **16**: 197–205.
- Maes L, Lievens J. Can school make a difference? A multilevel analysis of children's risk and health behaviour. *Soc Sci Med* 2003; **56**: 517–529.
- Ohara S, Kawaguchi Y, Shinada K, Sasaki Y. Evaluation of school-based dental health activities including fluoride mouth-rinsing in Hirazumi, Japan. *J Med Dent Sci* 2000; **47**: 133–141.
- Jenkins SR, Geurink KV. A rural school-based oral health program. *J Dent Hyg* 2006; **1**: 26.
- Buischi Y, Axelsson P, Oliveira L, Mayer M, Gjermo P. Effect of two preventive programs on oral health knowledge and habits among Brazilian schoolchildren. *Community Dent Oral Epidemiol* 1994; **22**: 41–46.
- Kinnby CG, Palm L, Widenheim J. Evaluation of information on dental health care at child health centers: differences in educational level, attitudes and knowledge among parents of preschool children with different caries experience. *Acta Odontol Scand* 1991; **49**: 289–295.
- Peng B, Petersen PE, Fan MW, Tai BJ. Oral health status and oral health behavior of 12-year-old urban schoolchildren in the People's Republic of China. *Community Dent Health* 1997; **14**: 238–244.
- Petersen PE. Oral health behavior of 6 year-old Danish children. *Acta Odontol Scand* 1992; **50**: 57–64.
- Van Palenstein Helderma WH, Munck L, Mushendwa S, van't Hof MA, Mrema FG. Effect evaluation of an oral health education programme in primary schools in Tanzania. *Community Dent Oral Epidemiol* 1997; **25**: 296–300.
- Kwan SL, Petersen EP, Pine CM, Annerose B. Health-promoting schools: an opportunity for oral health promotion. *Bull World Health Organ* 2005; **83**: 677–685.
- CDC. *Epi Info 3.2.2 Software [Computer Program]*. Atlanta, GA, CDC, 2004.
- Bardin L. *Content Analysis*. Lisboa, Edições 70, 1994.
- World Health Organization. Ottawa charter for health promotion. *J Health Promot* 1986; **1**: 1–4.
- World Health Organization. Research to improve implementation and effectiveness of school health programmes. In: ed. *Report of the School Working Group and the WHO Expert Committee on Comprehensive School Health Education and Promotion*. Geneva, World Health Organization, 1996.
- Wajshop G. *Playing at Preschool*, 1st edn. São Paulo, Cortez, 1995.
- Pankai G, Sehgal M, Mittal R. Evaluating the effectiveness of school-based dental health education program among children of different socioeconomic groups. *J Indian Soc Pedod Prev Dent* 2005; **23**: 131–133.
- Locker D, Frosina C, Murray H, Wiebe D, Wiebe P. Identifying children with dental care needs: evaluation of a targeted school-based dental screening program. *J Public Health Dent* 2004; **64**: 63–70.
- Vanobbergen J, Declercq D, Mwalili S, Martens L. The effectiveness of a 6-year oral health education programme for primary schoolchildren. *Community Dent Oral Epidemiol* 2004; **32**: 173–182.
- Menezes AF. *Family Participation on Oral Health Promotion on Students of Raimundo Pimentel Gomes School – CAIC, Treated by Family Health Program (PSF) – CAIC, in 2002, Sobral City – Ceará (Brazil)*. Sobral, Vale do Acaraú State University, 2004, 81. Available at: <http://www.sobral.ce.gov.br/saudedafamilia/downloads/monografias/residencia/Adriana-Ferreira.pdf> (accessed on 8 April 2008).
- Arcieri RM, Garbin CAS, Santos CA, Takano RY, Gonçalves PE. The influence of the motivation and of the supervised brushing in habits of oral hygiene in Brazilian preschoolers. *Acta Odontol Venez* 2007; **5**: e12. Available at: http://www.actaodontologica.com/ediciones/2007/4/cepillado_supervisado_habitos_higiene.asp (accessed on 8 April 2008).

Copyright of International Journal of Dental Hygiene is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.