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Teachers' view about barriers in implementing oral health education for school children: a qualitative study

As visões dos professores sobre as barreiras para a implementação da educação em saúde bucal para escolares: um estudo qualitativo

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ABSTRACT

Objective: To explore the barriers encountered by primary school teachers in implementing oral health education in their settings. **Material and Methods:** A semi-structured questionnaire was answered by a sample of 89 primary schoolteachers aged 18 to 65 years, working in primary public schools in Indaiatuba, SP, Brazil. The data were quantitatively analyzed by means of Discourse of Collective Subject (DCS), which is based on a theoretical framework of Social Representations Theory. **Results:** The majority of teachers said they were teaching their students some oral health content. However, they reported difficulties in teaching oral health content in school, such as: the lack of material and/or appropriate activities to teach the subject of oral health properly; children do not receive oral health education at home and/or they are not encouraged by their families; students do not place any value on oral health and/or do not follow guidance provided. Teachers also expressed the need for partnerships with dental schools to help them implementing oral health projects in primary schools. **Conclusion:** The results emphasize the need for health and educational sectors to support primary school teachers in the implementation and maintenance of oral health education programs in schools.

KEYWORDS

Health education; School health; Dental school; Preventive dentistry; Teacher.

RESUMO

Objetivo: Explorar as barreiras encontradas por professores do ensino fundamental para implementarem a educação em saúde bucal em seus ambientes de trabalho. **Material e Métodos:** Um questionário semiestruturado foi respondido por uma amostra de 89 professores do ensino fundamental, com idades entre 18 a 65 anos, que trabalhavam em escolas públicas do ensino fundamental do município de Indaiatuba, SP, Brasil. Os dados foram analisados por meio do Discurso do Sujeito Coletivo (DCS), que apresenta como base teórica a Teoria das Representações Sociais. **Resultados:** A maioria dos professores afirmou que ensinavam a seus alunos algum conteúdo de saúde bucal. No entanto, relataram dificuldades para a realização desta tarefa, tais como: a falta de material e / ou atividades apropriadas disponíveis para ensinar conteúdos de saúde bucal de forma adequada; as crianças não recebem educação em saúde bucal em casa e / ou não são incentivadas por suas famílias; as crianças não atribuem qualquer valor a saúde bucal e/ou não seguem as orientações disponibilizadas. Os professores também expressaram a necessidade de parcerias com faculdades de odontologia, a fim de ajudá-los a implementar projetos de saúde bucal nas escolas de ensino fundamental. **Conclusão:** Os resultados ressaltam a necessidade dos setores da saúde e educação oferecerem suporte para que os professores do ensino fundamental possam implementar e manter programas de educação em saúde bucal nas escolas.

PALAVRAS-CHAVE

Educação em saúde; Saúde escolar; Escolas de odontologia; Odontologia preventiva; Docentes.

INTRODUCTION

It is known that oral diseases have impacts on children's and adolescents' quality of life, leading to pain, discomfort and missed days at school [1-3]. Therefore, schools are the key settings to implement health promotion interventions, with the aim of improving schoolchildren's general and oral health [4-6].

Health education programs at school are capable of improving the level of children´s knowledge, for better control of the health-illness process, and are considered an effective and low cost option for the democratization of knowledge about health [7].

Therefore, enabling school staff to provide schoolchildren with information about health care would help them to gain knowledge, skills and attitudes to maintain and enhance their oral health [4]. Within this context, schoolteachers are considered fundamental agents in school health programs and lack of training and support creates a greater barrier for effective implementation of school health education interventions [8,9]. These professionals coexist with children on a daily basis, and they also have links with the schoolchildren's families and school communities, thereby becoming multiplying agents of health both within and outside of the institutions where they work [8].

However, factors related to staff and their environment such as the perceptions of their role in health education and the effectiveness of their interventions, their confidence in teaching health education, in addition to the support and facilities provided by the principals for these activities are important barriers influencing the effectiveness of implementation and maintenance of these activities in schools [8-11]. Therefore, it is important to investigate the points of view of schoolteachers about their facilities and difficulties in order to ensure the appropriate conditions for them to elaborate and implement health programs, and to put their skills into practice [12].

The aim of this study was to explore the barriers encountered by primary school teachers, which affect the implementation of oral health education in school settings.

MATERIALS AND METHODS

The Research Ethics Committee of the Piracicaba Dental School, University of Campinas, Brazil, approved the study, Protocol No. 111/2008.

The study population consisted of primary school teachers from Indaiatuba, SP, Brazil, who were working with schoolchildren aged 6-10 years. Twenty-seven primary public schools were identified and 10 schools were randomly selected. All 120 primary teachers working at the selected schools were invited to take part in the study by a pre-notification letter, containing a Term of Free and Informed Consent form, a questionnaire and a thank you letter.

Instrument

Data were collected by means of a questionnaire sent by mail to teachers in the selected schools, containing questions about age and length of time they had been working as primary school teachers, asking if they worked with oral health content in the classroom, and the following open-ended question: Which are difficulties that you encounter when teaching oral health content to your students? After 10 days the researcher went to all schools to collect the questionnaires. A pilot study was conducted with 10 participants from another school, to test the methodology and the instrument used.

Analysis

Data were organized and analyzed, based on the methodological strategy of the **Discourse of the Collective Subject (DCS)**, which is based on a theoretical framework of the social representations theory [13-15]. According Lefèvre and Lefèvre, the DCS is characterized as a proposal for organizing and tabulating qualitative data, extracting from each

of the interviews the Central Ideas (CI) and the corresponding Key Expressions (KE) [15]. With the KE of the similar CI, we construct one or more synthetic discourses in the first-person singular, which correspond to the collective ideas, perceptions and feelings about a theme; that is, the DCS. Thus, the DCS expressed the opinion or collective thinking, considering the collective opinion as an empirical fact, and consisted of the unification and the grouping of various discourses of subjects with the same central ideas, allowing, in theory, to collectivize their speeches, expressing the social representation of a given social group in a first-person singular form of presentation.

RESULTS

Of all the questionnaires sent, 89 were completed and returned, i.e., the response rate was 74.2%.

The mean age of school teachers was 37.06 (sd = 7.85) years, and among these individuals, 86 (96.6 %) were women and 3 (3.4 %) were men. The average length of time working as a primary school teacher was 12.86 years (sd = 6.51).

The majority of participants (80) responded that they taught oral health content to schoolchildren.

Seven thematic axes about the difficulties and barriers teachers felt they encountered when teaching oral health content to students were obtained from their responses. One teacher could share more than one DCS.

DCS 1 - *"Lack of material and/or appropriate activities to teach the oral health issue properly"*. This theme was shared by 26 primary school teachers.

> *One of the difficulties is the lack of appropriate materials. We lack clear and precise information in easy language, written for children. We need less technical literature on the subject; that is, we need literature that is easy to understand, or even entertaining. We should have more dynamic materials such as videos. There is a lack of materials such as posters, texts, videos, lectures, etc. It is not easy to find posters about the problems caused by dental caries. Today there is a lack of posters that can show the internal part of the tooth so we can have a better understanding of the damage caused by caries. In this sense, we need to develop more practical activities and to show students the real importance of toothbrushing and oral health. However, it is not easy to find activities that fit into the contents of Portuguese and Mathematics lessons. One difficulty that I meet when I work on oral health is not having a manual addressing the subject. I suggest we write a play and present it in schools, to inform children about a serious subject in an amusing way.*

DCS 2 - *"Lack of time in the weekly schedule to be able to address the issue of oral health effectively"*. This theme was shared by 7 primary school teachers.

> *One difficulty is the lack of time. There are many contents to be taught, but at some point in class, I work to meet these needs. With only one class per week, time is very short. It is a short time to get through the program content of the grades, given the large number of students.*

DCS 3 - *"The students do not receive education on oral health at home and/or it is not encouraged by their families"*. This theme was shared by 20 primary school teachers.

> *The greatest difficulty is family participation, some do not check whether the toothbrush is in the schoolbag and the child ends up hindering the participation of all the other students. Parents do not take the children to the dentist periodically. In my opinion, it is a cultural problem. There are families who do not give due importance, who lend or borrow toothbrushes from one another,*

who do not use fluoride or dental floss and who hardly ever go to the dentist. It is also usually a financial matter. Some students lack basic knowledge of hygiene and body care because they do not have this information at home. At school adequate guidance is given, but at home they do not have guidance or sometimes it is not given with the same degree of commitment. Because they do not have this habit at home, they often resist brushing their teeth after meals, and it is constantly necessary to review the importance of brushing. The greatest difficulty lies in the fact that many students do not receive any family guidance and they are always dirty, they do not brush their teeth and they have lice. Therefore, it is difficult to give continuity to this outside the school (home) environment so that they also take care of oral health. Parents do not teach their children these values. There is no continuity. Last week, a student said that her mother had taken the toothbrush I had given her, and used it to dye her hair. Some families, perhaps due to lack of information, end up using the children's toothbrushes at home in other family members, or they lose the toothbrushes showing little care, that is why (some teachers) keep the toothbrushes at school. However, another problem occurs when some children end up only brushing their teeth at school because they do not have another toothbrush at home, or due to the lack of a family habit. Therefore, I think it is difficult to get students to get into the habit of good hygiene if there is no continuity at home.

DCS 4 - "*Lack specific knowledge by teachers*". This theme was shared by 8 primary school teachers.

The difficulty is the lack of specific knowledge. There is professional ignorance. My difficulty is that I know very little about the subject; what I know is related to my own experiences gained by the explanation I received from dentists. I do not have in-depth knowledge. Specifically, I lack of knowledge on some oral problems such as tartar and bacterial plaque.

DCS 5 - "*Lack of outside specialists at schools, such as dentists, social assistants and other agents*." This theme was shared by 12 primary school teachers.

The biggest difficulty found is the lack of a professional's presence at school more frequently. We need the professional guidance so we can teach our students with more assurance. It would be nice if we had lectures given by professionals from the area, with examples and games. It would be interesting to watch some videos on the subject with a specialist to explain better. We also need to find professionals who would give lectures, in a more dynamic manner and who would attend us when requested. Perhaps, the presence of specialized professionals on the subject acting in plays and practicing proper brushing once a week would be useful. I believe that we have a lot to teach our students, in addition to projects and teaching them to read and write. Therefore, there should be a health agent to help us. The ideal would be the presence of a dentist at school more often, to give us support on the issues in which we need help. A more constant presence of a specialist in the area for better control of the oral problems presented by the students.

DCS 6 - "*Students do not place any value on oral health and/or do not follow guidance given*." This theme was shared by 14 primary school teachers.

Many students do not show that they place sufficient value on oral hygiene; they lose and / or constantly forget the toothbrush at home, drink liquids (water, juice) from their colleagues' containers (bottles). When children begin school, they bring with them favorable and unfavorable behaviors regarding health and hygiene.

When discussing these contents, I notice the difficulties some students have, because these routines are not part of their daily life. Although the hygiene materials are donated, when they are taken home they are usually lost and the family has no interest in encouraging them to behave differently. For example, many students forget to bring their toothbrush to school. The difficulty is practical; many do not have the responsibility or take the care to bring the toothbrush, which is provided by the school, to brush their teeth after the snack. Despite all the guidance, there are still students who are not concerned about this, and forget their toothbrushes at home. Most of them do not want to brush their teeth, and I show them how important it is, because they will have toothache due to food remainders that accumulate; and if they lose their permanent teeth, no other teeth will grow, etc. The majority of students do not have the toothbrushing habit and they eat many sweets, making the teacher's job more difficult.

DCS 7 - "*There are no difficulties*". This theme was shared by 11 primary school teachers.

Within the objectives proposed in planning, there are no difficulties. I see no difficulties in handling these contents, because they are part of the curriculum and pedagogical interventions. I really do not find any difficulties; the children like the activities and participate. We find no difficulties, because we receive materials (pamphlets, etc.) from the Secretary of Health. We have computer laboratories, in which we are able to research. There is no resistance by the students' and families' when we discuss this issue in class.

DISCUSSION

Given the high concentration of children attending primary school, the school is considered an ideal setting for the development of health-promoting actions [4]. Thus, primary school teachers, if well trained and supported, can become multipliers of children's health within the school units, as they are people who generally act as role models for children and have their confidence [16].

Teachers has an important role in the implementation of health issues within the school setting and we try to understand their point of view with regard to this subject, in order to reduce the gap between academic discussion and what happens in everyday life at the school. Although we observed that most of the teachers in this study affirmed that they taught oral health content, similar to findings in previous studies, they identified several barriers [17].

One of the difficulties in working with dental health education, described by schoolteachers, was the lack of material with clear and accurate information, and in a language that the child could easily understand.

According to teachers, they need appropriate materials developed with clear and precise information and in an easy language for children to understand (DCS 1). The perception of this barrier to teaching oral health topics was similar to findings mentioned by teachers in North Carolina and Tanzania [18,19].

It is known that health education materials are important resources to improve the quality of educational process, reinforce and expand the verbal information given by teachers and dental teams [20,21].

In the case of written materials such as posters, pamphlets, leaflets and others used to communicate oral health information; they should be created with care to maximize readability and comprehension [22]. However, many of them are created with a high level of complexity, containing conflicting information and demanding high levels of reading skills, which makes them of limited value to educational activities with schoolchildren and even their families [22]. Studies conducted with secondary schoolchildren asking them to explain

the meaning of a selection of words in common use in dental health education indicated that health education materials reflect the reading ability of the designers rather than the ability of the potential target group [23,24]. Therefore, it is important that written materials developed for primary schoolchildren contain the best scientific evidence, using language appropriate for their level of reading skills. Moreover, the information available in them should be entertaining as well as instructional in order to facilitate and motivate the child to learn the health content and attitudes to health.

School textbooks can be to be the most common source of reliable oral health information used by primary school teachers to develop oral health activities with their students [25]. A preventive program was developed in the elementary schools of Bergamo, Italy, based on a children's book with the goal of improving their knowledge about primary dentition, dental plaque, nutrition, oral hygiene, fluoride and regular dental visits. The authors found a significant difference in the reduction of the plaque index among children from experimental and control groups [26]. However, in addition to other printed materials, it is important to pay attention to the quality of the content of the material used. Studies conducted with textbooks adopted in schools in Brazil and U.S. have verified that they present great discrepancy regarding the quality and scope of the oral health content, and many of them had incomplete and / or misleading information [27-29]. Therefore, continuous evaluation by dental researchers of the quality of contents presented in school textbooks for health lessons is recommended to ensure that teachers are teaching accurate oral health information to children. In addition, health materials for teachers and children should be developed in a way to encourage their active participation in the construction of knowledge, rather than being passive recipients of information from books, posters, leaflets and videos. Furthermore, according to Nyandindi et al. [18], dental staff should encourage and guide teachers to prepare such materials locally in order to make then socio-culturally appropriate and cheap.

Even though quality educational materials for teachers are available, this condition is no guarantee that they will develop educational activities with their students. In the study of Nyandindi et al. [18] in Tanzania, the Ministry of Education and Culture developed and distributed guidelines for health lessons, and a teachers' handbook with oral health content [18]. They observed, however, that teachers stressed the shortage of time and their workload at school, and considered health topics to be moderately important after reading, writing and mathematics. In the present study, the lack of time in the weekly schedule for developing the issue of oral health effectively was a barrier shared by 7 (7.9 %) of primary schoolteachers and was lower percentage than the findings of Ramroop et al. in Trinidad and Tobago, where 47 % of teachers perceived this barrier [11]. This may reflect differences between the countries in the organization of schools and their priorities, content of school curriculum, number of children per class, and other types of pressures on teachers, which adversely affect their capacity and motivation to teach oral health topics [4,11,30]. Therefore, it is important for dental health promoters to consider the importance of all educational staff, including head teachers or school directors/managers to support teachers to develop health education and promotion activities in a satisfactory way [4,8].

In addition to schools, the family environment has a great impact on children´s oral health. It is known that parents' oral health behaviors have a direct influence on children's knowledge, attitudes and behaviors related to oral health [31]. When children were not supported at home, they would not put in to practice what they had learned at school [32]. The teachers in our study also had this perception about the lack of education and motivation related to oral health behaviors of schoolchildren in their homes (DCS 3) and at school (DCS 6), which is consistent with

previous studies [11,33,34]. As a result, this perception could restrain from them forming partnerships with parents in order to improve their knowledge and awareness about how to take care of their children's oral health. Despite the evidence that the involvement of parents is essential for the effectiveness of oral health programs [4,35] studies have demonstrated that teachers reported engaging in oral health activities with children more frequently than the children did with their parents, and there appears to be scarcely any interaction between teachers and parents as regards oral health [19,33,32,36]. Parents and community leaders are important key persons to support the need for high quality oral health education and promotion programs at school, and that type of attitude has limited the extent of health education impact outside the school setting [37]. It should be noted that even when children are in situations of social vulnerability, primary schools have a great potential for improving their health and socializing them with healthy attitudes and behaviors that could be reproduced in their homes [4,38,39]. Therefore, it is important to consider the economic and sociocultural context in which teachers and students are included when planning and implementing health promotion activities in school settings.

The lack of specific knowledge was one of the difficulties pointed out by school teachers, in teaching oral health content (DCS 4), which is in line with findings from several previous studies [4,8,11,32,40,41]. The quality of oral health education teachers provide is dependent on their knowledge and skills to do so, and they could be qualified for this function if they were trained by dental staff and motivated by their principals, school administrators and colleagues [8,18].

Research has evaluated the effectiveness of various ways of instructing teachers about oral health. Arikan and Sönmez aimed to evaluate the effectiveness of informing primary school teachers in Ankara, Turkey with regard to dental trauma by means of a leaflet [42]. Questionnaires containing questions about crown fracture, lateral luxation, root fracture, and avulsion were applied at baseline and after 1 month of the distribution of the information leaflet. It was observed that the rate of correct answers increased for each of the individual questions, and the total scores for the questionnaire increased significantly.

Lieger et al. investigated the knowledge of school teachers about the emergency management of dental trauma, after an educational poster campaign in the Canton of Bern, Switzerland [43]. The authors observed that teachers who worked in schools with poster distribution had better knowledge in handling tooth injuries than those from schools with no poster campaign.

Frujeri and Costa evaluated the influence of an educational intervention on different groups of professionals from the city of Brasília, DF, Brazil, including elementary school teachers, by means of a lecture addressing the knowledge and prevention and emergency management of the avulsed tooth [44]. The authors observed a statistically significant change in the performance of professional groups after information was provided. However, the gain of specific knowledge is not guarantee that teachers will remain motivated and willing to develop educational activities in schools [32]. As noted earlier, lack of time and the large number of daily activities can be barriers to the teachers' development of and commitment to oral health education. One way to overcome this barrier is by integrating oral health into a general health promotion curriculum and activities [4].

A group of teachers found that the more frequent presence of health professionals at schools, using interesting visual aids, could improve the effectiveness of oral health activities in schools (DCS 5). In spite of the benefits of oral health professionals, different power relationships and educational roles may result from these meetings. The first is one, in which the health sector imposes on the educational staff, in a top-down way, the development of activities

that highlight the acquisition of biomedical information by teachers and children generally, through a pedagogy of transmission and based on the KAP model (Knowledge, Attitudes and Practices) of health education. The KAP model assumes that a health behavior is attached to a logical and sequential process originated from the acquisition of scientifically correct knowledge, which can create a positive attitude resulting in a change of behavior (practice) [45]. According to this model, teachers uncritically reproduce to their students the biomedical information received from health professionals, using one-way communication methods regardless of the social contexts of schoolchildren.

Another situation occurs when true partnerships are established between health and educational staffs in the organization of teacher training through participatory methodologies. Here, teachers have an active role in planning, implementing and evaluating health education activities with the cooperation of the health professionals. Here, activities are aimed to instigate curiosity, critical thinking and empowerment of children, and attitudes of self-care are formulated, taking into account the socio-cultural context of children. Therefore, health professionals could contribute to oral health promotion in schools by providing information and training skills for school staff and children by active participation, and given them the appropriate support to develop these activities considering the socio-cultural context in which teachers and students are inserted [4,7,34,46].

Finally, some teachers reported having no difficulties in teaching oral health topics because they received material, institutional and family support to satisfactorily develop these activities at school (DCS 7). It is noted that the socioeconomic and cultural context of the school and the family has significant impact on the formation of a positive context for the development of activities that promote oral health. Thus, the circumstances in which these activities are developed should be an important aspect to be considered when planning, implementing and evaluating the effectiveness of oral health education in schools.

CONCLUSION

In conclusion, we found that the poor provision of educational materials, lack of professional, institutional and family support were shared by primary schoolteachers, who considered these as important barriers to developing health education in schools. Therefore, health and educational sectors should consider these aspects when planning and implementing these interventions, in order to strengthen the effectiveness of their interventions.

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