

SB na escola: development of an educational platform for users of the 'Programa Saúde na Escola'

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ABSTRACT

Objective: to describe the development of an educational virtual platform in Dentistry area, aimed at training and education of professionals and people from the community that work in the 'Programa Saúde na Escola' (PSE), in the city of Rio de Janeiro, Brazil. **Material and Methods:** the elaboration followed a flowchart using the Adobe software package and standard web technologies HTML and CSS between 2016 and 2017 at the Teleodontology Center of the Faculty of Dentistry of the Universidade Estadual do Rio de Janeiro, based on information of prevalence of caries of PSE participants in program area 3.3 of Rio de Janeiro, as well as on the perception of dental surgeons regarding the work process in that area. Afterwards, educational and informational materials were developed according to each area involved in the PSE: dental surgeons, managers and the school community. **Results:** the virtual platform consisted in modules related to improvement for health promotion, wide epidemiological survey, and local interventional techniques. Additionally, the platform was considered as a tool for developing actions related to the Programa Saúde na Escola (PSE) based on five components of the program and research results used to establish the platform. **Conclusion:** a virtual platform called SB in the school was developed, aiming to improve the development of actions of dental managers and professionals who work in the PSE as well as the school community, using attractive and accessible communication technologies to the professionals involved and disseminating information about oral health.

Keywords: Health education; Atraumatic restorative treatment; Distance learning.

Introduction

Dentistry aims health promotion and treatment of mouth diseases considering their prevalence and incidence to elaborate public policies.¹

Examples of public policies to improve professional capacitation and the access to oral health by the population are: National Curricular Guidelines for Undergraduate Dentistry Students (or Diretrizes Nacionais Curriculares dos Cursos de Graduação em Odontologia) that aims the students' capacitation for all activities involving population oral health;² and the Health Program at School (or Programa de Saúde na Escola – PSE) which objective is contribute to the whole graduation of students through actions of promotion, prevention and attention to health, aiming at overcoming the vulnerabilities that compromise the growing of children and teenagers from public educational system.³

The educational process usually does not give priority to graduate professionals who act also as educators and contextualize all the factors that integrate the professional action at Unique Health System (or Sistema Único de Saúde – SUS).^{4,5} Herein, all oral health professionals from primary care of the city of Rio de Janeiro who are inserted in local schools develop primary health promotion that extend to oral epidemiological survey in order to promote restorative treatment around the area.⁶

Regarding Distance Learning (Educação a distância – EaD), it shows up as a possible tool to quickly expand learning with reduced costs and displacements. This modality may incisively contribute to graduate professionals with development of dynamic and accessible contents in order to present the information with several resources such as videos, images and other interesting tools.⁷

In this regard, this study aimed to develop an educational platform using different technologies of information and communication that allows the spread of information and improve the knowledge of the community, managers, and professionals of health and education in the field of dentistry inserted in PSE.

Material and Methods

This study was approved by the Ethics Committee of University of State of Rio de Janeiro under the protocol number 83028817.9.00005259.

To elaborate and develop the virtual platform, a pilot study was done based on epidemiological survey in order to identify the prevalence of caries and the assistance given at schools and/or at basic health units in a PSE program into the 3.3 area. Additionally, a questionnaire was applied to evaluate the perception of the dentistry team regarding the work in this area.

Epidemiological Survey

The area 3.3 is located at the north zone of the city of Rio de Janeiro and includes 33 neighbourhoods. The Human Development Index of this area varies from 0.72 (Acari, Costa Barros e Parque Columbia) to 0.9 (Campinho e Vila da Penha). This area attends to 5th and 6th Regional Educational Coordination (CREs), to a 96,109 students and a population of 942,638 individuals (data collected in 2015). The performance of the 122 teams from Estratégia Saúde da Família (ESF) with their 48 teams of oral health covers 43.55% of the population from a non-pacified area.

With the pilot study, a descriptive and exploratory investigation of the area 3.3 (CAP 3.3) was done to identify the prevalence of dental caries. The data was collected through the database of productivity from the oral health units of the referred area. This epidemiological survey was performed by dentists working at the health units of the area and at schools related to these units, searching mainly for the amount of students with or without dental caries, amount of students seen either at the school or at the health units, and the number of restorative treatments performed at the school.

The clinical file used for data collection was given by Superintendência de Saúde Coletiva/Coordenação de Saúde Bucal (Prefeitura do Município do Rio de Janeiro) and clinical examination was performed under natural light after supervised dental brushing, in a specific area of the school reserved for this purpose.

The restorative treatments performed in the schools followed the atraumatic restorative treatment (ART) technique and the epidemiological survey established the identification of dental caries suitable to this treatment or not. In case of need of a special dental care, the student was referred to a basic health unit. Moreover, the students were instructed about oral health in general and received supervised teeth brush together with topic fluoride treatment.

Additionally, another data collection was done in a descriptive and exploratory way in order to recognize and diagnose problems found in development of PSE's activities. It was accomplished in 2015 into health units from 3.3 area of the city of Rio de Janeiro with the oral health teams.

Questionnaire

A questionnaire directed to the dentist's perception about the fieldwork and the integration between health's family team and the local manager was applied to professionals who work in PSE of the 3.3 area. It was composed by 10 closed-ended questions, based on Likert-type scales.⁸

Virtual Platform

The virtual platform was developed between 2016 and 2017 in the Teleodontology Center from the Dental School (Universidade Estadual do Rio de Janeiro/UERJ) and a multiprofessional team including dentists, webdesigners and designers composed it.

A flow chart with planning and development of the platform was elaborated based on education and technology counting with specific teaching materials for each area. To build the platform we used Adobe Software and standard technologies HTML and CSS. On the other hand, to build the teaching tools, we used different resources, such as videos, infographics and articles.

Results

The development of the virtual platform consisted in modules related to improvement of health promotion, large epidemiological survey and interventional fieldwork techniques. Moreover, this tool aimed the development of actions related to PSE based on 5 components of the program and on results from the pilot study.

The results obtained from the epidemiological survey of oral health teams at schools are described in Table 1 separated by regions of 3.3 area. Putting together all data of regions, a total of 59,675 students is observed in the sample, and out of these, 37,607 (63%) were evaluated by oral health teams during actions of PSE, considering the total of students either with dental caries or not.

Regarding the data about the number of students presenting dental caries, only 16,7% (4,569) received any kind of restorative treatment at school or health unit. A total of 23,223 students needing dental cares were not treated.

Table 1. Total number of schools, students, presence or absence of dental caries and attendances at school and/or health units separated by neighbourhood in 3.3 area of the city of Rio de Janeiro, in 2015

NEIGHBOURHOOD	Number of schools	Total of students	Students with dental caries	Students without dental caries	Students seen in the school	Restorative treatments in the school	Students seen in health units
Anchieta	29	14286	7719	2603	531	245	180
Irajá	37	18626	7731	1889	629	998	945
Madureira	18	5923	3244	1526	583	971	557
Mal. Hermes	20	8616	3028	1848	369	921	204
Pavuna	34	12224	6160	1859	451	563	210
Total	138	59675	27882	9725	2563	3698	2096

Source: Data collection from health units of the 3.3 area for this study, 2015.

Considering the dental team's perception, from 30 questionnaires, 27 were answered. The results were organized according to the questions, options of answers and quantity of answers for each option.

Thus, 66.7% of professionals believe in receiving the correct support to perform the job, as well as incentive to interdisciplinary actions. With regard to ART technique, 63% of professionals considered efficient and 92.6% feel prepared to do this treatment effectively.

The virtual platform was called Oral Health at School (or SB na escola - www.sbnaescola.uerj.br) and on its Home Page the users are able to choose the area according to their interest, counting with options and material directed to managers, dental professionals and scholar community.

The development of the educational material to scholar community consisted of simplified informative material with the following topics: importance of oral health promotion during early childhood; diet; dental caries; periodontal disease; and dental trauma. This material includes articles and information extracted from the Internet using a very simple and accessible language for lay community. Also, it was given a folder about dental trauma, which was developed by the group of dental trauma extension project from UFAL (Universidade Federal de Alagoas), informing how to proceed to "save your tooth" in cases of accidents or tooth avulsion.

Furthermore, a video was developed and donated by the group Saúde Carioca (Health Surveillance Agents Team - AVS). This group works with ludic materials in 3.3 area, aiming to approach oral health with teenagers using appropriate language for this age group, in order to make them to notice the oral health teams in the schools and be part of activities that prove the importance of oral health in their lives.

To the scholar community, we included information about oral health with accessible language in order to give the support to professors and educators inside the context of the importance of oral health related to general health, addressing the following topics:

- Importance of diet for oral health;
- Importance of oral health in early childhood;
- What to do in cases of dental trauma;
- Correlation of oral health with general health.

Discussion

School is the ideal location to develop educational and preventive programs, since it allows all children to have access to this content. Corroborating, in our study the majority of interviewed professionals (92.6%) totally agreed with the participation of PSE at schools is a positive practice to promote health.

The 3.3 area is located in the north zone of the city of Rio de Janeiro and includes 33 neighbourhoods. This area

presents a Human Development Index varying from 0.72 to 0.9 and several problems of security instability, which may make children's participation and professor's performance difficult. This scenario suggests the need of suiting previous techniques to perform fast and longstanding procedures, ensuring the effectiveness of the treatment.⁹

The results of questionnaires showed that dentists consider the ART an efficient technique, corroborating with the idea exposed by Dutra *et al.*¹⁰ about this treatment that must be considered not only as an alternative restorative technique, but also an good strategy of oral health promotion, aiming to carry out a dental treatment to less provided populations adapting to their reality.

Lower percentage of restorative treatments at the evaluated schools showed that professionals of oral health in primary care under use the ART, even though its positive results are recognized and dentists appears to domain the technique. According to Chinbinski *et al.*,¹¹ actions of capacitation are essential to offer basic clarifications about the technique and encourage its use.

The development of a educational and virtual platform focused on dentistry in PSE might bring new options and perspective of searching and exchanging of information among professionals and scholar community. Therefore, the SB na escola offers spread access to relevant information through digital tools using pedagogic materials, scientific papers, videos, among others.

The virtual platform is a website that acts as a repository of information and project's data and has open access to every professional involved with the project who wants to contribute with texts, photos and videos. The contribution is made through emailing to the institutional address those materials that will be analysed and inserted into the platform. Thus, even with the open access characteristic, the website is moderated allowing only effectively pertinent contents, ensuring quality and avoiding repetitions.

The motivation to educators and community using accessible information on virtual media might collaborate with health teams in health promotion and education for the population.

Conclusion

After data collection and results, a virtual platform called SB na escola was established with the objective of improving actions of managers and dental professionals who work in PSE as well as of the scholar community, using attractive and accessible technology of communication to disseminate information about oral health.

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References

1. Garbin CAS, Saliba NA, Moimaz SAS, Santos KT. O papel das universidades na formação de profissionais na área de saúde. *Rev ABENO*. 2006;6(1):6-10.
2. Cardoso AL. Mercado de trabalho dos odontólogos e expectativas dos graduandos [Dissertação]. Rio de Janeiro: ENSP/FIOCRUZ, Programa de Pós-graduação em Saúde Pública, 2007.
3. Brasil. Ministério da Saúde. Decreto Presidencial nº 6.286, de 5 de dezembro de 2007. Institui o Programa Saúde na Escola - PSE, e dá outras providências.
4. Cordioli OFG, Batista NA. O processo de formação do cirurgião-dentista e a prática generalista da odontologia: uma análise a partir da vivência profissional. In: Carvalho ACP, Kriger L, editores. *Educação Odontológica*. São Paulo: Artes Médicas; 2006. p. 87-96.
5. Cordioli OFG, Batista NA. Graduação em odontologia na visão de egressos: propostas de mudanças. *Rev ABENO*. 2007;7(1):88-95.
6. Kikwilu EN, Frencken JO, Mulder J. Impact of atraumatic restorative treatment (ART) on the treatment profile in pilot government dental clinics in Tanzania. *BMC Oral Health*. 2009;9(14):1-7.
7. Sabbatini R. Ambiente de Ensino e Aprendizagem via Internet. A Plataforma Moodle. Instituto EduMed. [citado em 2016 nov 12] Disponível em: <http://www.ead.edumed.org.br/file.php/1/PlataformaMoodle.pdf>.
8. Dalmoro M, Vieira KM. Dilemas na Construção de Escalas Tipo Likert: O Número de Itens e a Disposição Influenciam nos Resultados? *RGO*. 2013; 6(3):161-74.
9. Brasil. Ministério da Saúde. *Diretrizes da política nacional da saúde bucal*. Brasília: MS; 2004.
10. Dutra KS, Amaral LD, Vieira LDS. Tratamento Restaurador Atraumático (TRA) e sua Aplicabilidade em Comunidades Menos Assistidas. *Rev Odontol Planal Cent*. 2015;5(2):23-8.
11. Chinbinski AC, Baldani MH, Wambier DS, Martins AS, Kriger L. Tratamento Restaurador Atraumático: percepção dos dentistas e aplicabilidade na Atenção Primária. *Rev Bras Odontol*. 2014;71(1):89-92.

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