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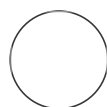
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Evaluation of knowledge and awareness of pediatric oral health among school teachers of Hazaribag before and after oral health education: Study Protocol for Interventional study

dr annapurna

drvipinahuja^{1,2}, ahuja^{1,3},dr nilima thosar^{1,4}¹Professor and Head;²Department of Pediatric and Preventive Dentistry, Government Dental College and Hospital, Jamnagar, Gujarat;³Department of Periodontics and Implant Dentistry, Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand;⁴Department of Pediatric and Preventive Dentistry, Sharad Pawar Dental College and Hospital, Wardha, Maharashtra

drvipinahuja

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ABSTRACT

Background: The aim of this study will be assess the knowledge of school teachers about pediatric oral health and the assessment of the impact of a webinar training intervention in improving their knowledge.

Methods:

A total of 156 teachers will participated in the research. A self-administered, 30-item questionnaire is designed in the English language and consists of two sections: the first section included demographic details; the second section included 30 questions on pediatric oral health with three divided subsections as follows: Subsection A (7 questions): Questionnaire on general pediatric oral health, Subsection B (9 questions): Questionnaire on preventive pediatric oral health, Subsection C (14 questions): Questionnaire on clinical pediatric oral health. After receiving Google forms, all the participants will attend an oral health education webinar program using a web-based online education training protocol on the Zoom platform. After this webinar training session, post-training assessment of the oral health knowledge will be done using the same online semi-structured self-administered questionnaire.

Statistical analysis

The collected data will be entered into Microsoft Excel 2007 and subjected to statistical analysis using SPSS version 22.0 (IBM Statistics Inc., Chicago, Illinois, USA). The statistical test used will be Chi-Square test to assess the categorical difference in scores before and after oral health education. $P \leq 0.05$ will be considered for statistical significance.

ATTACHMENTS

[Protocol.docx](#)

MATERIALS

Study design

An interventional study will be conducted among primary, elementary and high school teachers of private schools in the Hazaribag town of Jharkhand State in East India to evaluate the knowledge of participants on pediatric oral health. A total of 160 school teachers will be selected using a random sampling method.

Inclusion Criteria

- 1.** Primary, Elementary and High school teachers of private schools in the Hazaribag town of Jharkhand
- 2.** School teachers who are ready to receive web based online education training.
- 3.** School teachers who acquire basic computer knowledge
- 4.** School teachers who give their consent for the study

Exclusion Criteria

- 1.** Primary, Elementary and High school teachers of government schools in the Hazaribag town of Jharkhand
- 2.** School teachers who were not interested in web based online dental education training.

All the nominated teachers will take part in the training as an indispensable segment of a one-week teachers training program to be organized by the Department of Pediatric and Preventive Dentistry, Hazaribag College of Dental Sciences and Hospital, Hazaribagh.

Study questionnaire

A self-administered, 30-item questionnaire is formulated as Google forms in English language; the design and inclusiveness of the questionnaire is finalized with the support of a team of experts from the Department of Pediatric and Preventive Dentistry, Periodontics and Public Health Dentistry before the study. The questionnaire includes two sections: the first section is about demographic details such as gender, marital status, school location; the second section is about 30 questions on pediatric oral health with three divided subsections: Subsection A (including 7 questions): Questionnaire on general pediatric oral health, B (including 9 questions): Questionnaire on preventive pediatric oral health and C (including 14 questions): Questionnaire on clinical pediatric oral health will evaluate the knowledge of teachers toward oral health in children. All the questions were in a digital format, uploaded on Google Forms. A pilot study will be done prior to our study among primary and elementary school teachers and the participants will not be counted in the training program. Any problems and technical hitches, if incur during the filling of the pilot form will be corrected. Pre and Post training questionnaire will be compared and statistically analysed.

Study procedure

Four
stages of training program:

Stage

1: Pre-training module of knowledge and awareness assessment: A 30-Item questionnaire will be send to all the participating school teachers with a title of pre-test questionnaire. The questionnaire will be in the form of an online self-administered

questionnaire (English) and will be formatted as google forms.

Phase

2: Webinar-based oral health education module: This module comprises of oral health education program to be attended by all participants using a web-based online education training protocol on the Zoom platform. The training is specially designed for school teachers and is segregated into four sessions:

Ist session: Introduction to

pediatric dentistry and morphology of tooth- this session

includes lecture of 30 minutes and where school teachers are introduced with children dentistry and importance of primary teeth with their clinical applications. The morphological differences between primary and permanent teeth

will be highlighted with reference to dental caries and its prevention.

IInd session: Oral health care and

brushing techniques in children- this session includes

lecture of 45 minutes and where school teachers will be educated in oral care and hygiene maintenance of children oral cavity. The knowledge will be shared on plaque and gingiva, gingival problems in growing children and also tooth brushing techniques in children are taught with special mention to Fones techniques; after that demonstration of brushing techniques will be given to comprehend the brushing skills practically.

IIIrd session: Early Childhood

Caries- this session includes lecture of 45 minutes and

the pandemic incurrence of early childhood caries in children, etiological factors like bottle feeding, sugary syrups, prevention and treatment aspects including restorations and pulp therapies will be shared with school teachers.

IVth session: Clinical myths and

facts of children dentistry - this session includes lecture of

45 minutes and it is a tailored made discussion on clinical myths and facts of children dentistry in Indian population with special mention to pulp therapy, dental caries, malocclusion, oral cancer, dental trauma, and dental fluorosis, home and professional dental practices, prevention of oral diseases. A plethora of myths and their corresponding facts will be discussed and the section of training will be concluded.

Phase

3: A panel discussion followed by a dental quiz: After completing each session, a panel discussion will be done for 30-45 minutes with the aim of clarifying individual teacher queries and discussing frequently asked questions regarding pediatric oral health with panellists comprising of professors from varied departments of Pediatric and Preventive Dentistry, Periodontics and Implantology, Public Health Dentistry and Oral Pathology in Hazaribag College of Dental Sciences and Hospital, Hazaribag. After that, a dental quiz will be organized to assess the dental knowledge gained through the webinar session.

Phase

4: Post-training module of knowledge and awareness assessment: A 30-Item questionnaire which will be same as pre-test questionnaire will send to all the participating school teachers with a title of post-test questionnaire and the scores will be recorded and compared to Pre-test scores. The feedback will also be recorded from the participants regarding the program.

Scoring

The data collection, scoring and data analysis will be done by single trained investigator (Dr Annapurna Ahuja) to avoid inter-examiner variability by analysing the pre-questionnaire before online education and post-questionnaire after online education. The scoring will be done as '1' for Option A, '2' for option B, '3' for option C. The test-retest reliability of the Questionnaire will be estimated by providing the same questionnaire to same participants of pilot study at different times and after a satisfactory correlation coefficient is established, study will be proceed further.

Introduction

Children's growth and development is directly linked to their oral health. As they spend a lot of time in schools, oral education can bring an inevitable change in dental attitude and behaviour of these children, if taught with other subjects in schools. There is a paucity of studies reported in the past which prove that the school teachers had poor knowledge of oral health in varied aspects especially dentistry for children. Pediatric dentistry is an invincible segment of dentistry covering all aspects of dentistry in children from birth to adolescence. Hence, adequate knowledge should be given right from infancy to parents, school teachers and children.¹⁻⁶

Studies conducted on knowledge, attitude and practices in school teachers in relation to oral health had clearly demonstrated the inaccurate and lack of information to the people of this profession.

Aims and Objectives of the study

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1.
To assess and evaluate the knowledge and awareness of school teachers in Hazaribag town of Jharkhand regarding pediatric oral health
2.
To determine if an online webinar series of lectures could ameliorate the knowledge and awareness level in school teachers
3.
To compare these parameters at pre- and post-webinar levels.

Methodology

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Study design

An interventional study will be conducted among primary, elementary and high school teachers of private schools in the Hazaribag town of Jharkhand State in East India to evaluate the knowledge of participants on pediatric oral health. A total of 156 school teachers will be selected using a random sampling method.

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Study procedure

Four stages of training program:

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Stage 4: Post-training module of knowledge and awareness assessment: A 30-Item questionnaire

which will be same as pre-test questionnaire will send to all the participating school teachers with a title of post-test questionnaire and the scores will be recorded and compared to Pre-test scores. The feedback will also be recorded from the participants regarding the program.

Ethical considerations

Ethical

approval is obtained from the Institutional Review Board of Hazaribag College of Dental Sciences and Hospital, Hazaribag, Jharkhand, India (with no. HCDSH/ADM/BNF/2020/214 and dated 25.01.2020). The written informed consent will be obtained from all the participants before the start of the study.

Scoring

The

data collection, scoring and data analysis will be done by single trained investigator (Dr Annapurna Ahuja) to avoid inter-examiner variability by analysing the pre-questionnaire before online education and post-questionnaire after online education. The scoring will be done as '1' for Option A, '2' for option B, '3' for option C. The test-retest reliability of the Questionnaire will be estimated by providing the same questionnaire to same participants of pilot study at different times and after a satisfactory correlation coefficient is established, study will be proceed further.

Statistical analysis

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