Assessment of level of awareness among Parents about the Preventive Measures and its relationship with the Dental Health status of 6-12 years Old children- A questionnaire-based Study from Kanpur, Uttar Pradesh, India

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Abstract

Background: Good oral health plays a pivotal role in maintaining the overall health and well-being of a child that eventually leads to a disease-free life. Oral diseases such as tooth caries, gingivitis, and bad breath are still major dental health-care concern, especially in children in the developing countries. Parent/caregiver plays a major role in a child's life, so their knowledge and attitude about oral health will have a great impact on the child's oral health.

Objective: The objective of this questionnaire-based study is to evaluate oral health awareness in parents of children aged 6–12 years in Kanpur and its relationship with the dental health status of their children.

Materials and Methods: One hundred and forty parents of children aged 6–12 years with no systemic condition/pathology were included in the study. They were selected from outpatients visiting the Department of Pediatric and Preventive Dentistry in Rama Dental College, Hospital and Research Centre, Kanpur. A comprehensive questionnaire with apparent validity was designed enclosing questions regarding views of parents for their children on oral health knowledge, caries prevention, and role of diet.

Statistical Analysis: Data were statistically analyzed using SPSS 20.

Results: The results showed that children of parents having unsatisfactory knowledge of oral health had higher decayed, missing, and filled teeth (DMFT/dmft) scores as compared to the children of parents having satisfactory knowledge of oral health.

Conclusion: Education of parents regarding oral health is important in keeping their child's oral health in good condition.

Keywords: DMFT/dmft, Oral health awareness, Parents, School-going children.

Introduction

Oral health is a fundamental factor of good general health and plays a major role in the child's life span. [1] Dental caries is a highly prevalent chronic and cumulative disease which affects 60% to 90% of school children, many adults and still the most common oral health problem affecting children worldwide. [2]Oral cavity and its surrounding structures that are free of any diseases are indicative of good oral health.

The earliest attempt at prevention of oral disease is at expectant mother who should be advised on dental health of her future child. Most researchers have attributed the inadequate knowledge and attitude about oral health among parents and caregivers as the primary reason for the poor oral health status of their children.[3]Parent/caregiver are role models for a child especially in early years of his life. Parental awareness and behaviours related to oral health and hygiene directly influences the child's oral health.

The prevention and management of dental health conditions require considerable self-knowledge and intervention. Most dental health education efforts are directed on informing and motivating parents and children to restrict frequent intake of sugar, brushing their teeth with fluoride toothpaste and to have more

regular visits to the dentist. [4]Pedodontists here play a major role in educating parents and helping them to understand the importance of early dental care of their children as they have been trained to do so. The AAPD emphasizes on the importance of initiating regular professional oral health intervention in infancy and continuing through adolescence. [5]

Evaluation of the knowledge and attitude of parents using questionnaires helps to implement an effective oral health program. Therefore, a better understanding of the predominant knowledge and attitude of parents about oral health and their own oral hygiene practices is essential. Therefore, the aim of this study is to collect the baseline data to assess the knowledge and attitude of parents regarding the preventive measures and its relationship with the dental health status of children aged between 6-12 years in Kanpur city.

Materials and Methods

The present study was a cross-sectional study including 140 children aged 6-12 years. Children were selected from outpatients visiting the Department of Paediatric and Preventive Dentistry in Rama Dental College, Hospital and Research Centre, Kanpur. The purpose of the study was explained to parents and written informed consent was signed by the parents/guardians of the children before data collection. Ethical approval was obtained from the Rama University, Kanpur. Children aged 6–12years belonging to the same parents with no systemic condition/pathology was included in the study.

Multiple-choice questionnaires comprised of 10 questions were used, focused on the level of awareness of parents about oral health knowledge, caries prevention, and role of diet. It was designed in English and translated in Hindi and back translated in English to check for language discrepancy. Demographic information was recorded in the same questionnaire. Parent's knowledge was graded on a 2-point scale (satisfactory and unsatisfactory). One hundred percent response was obtained. For the ease of statistical analysis, codes 2 and 3 of each question were clubbed together in a single category, i.e., code 2 was designated as unsatisfactory and code 1 was designated as satisfactory.

Clinical examination of children was performed according to WHO criteria by a single operator one dental chair, in artificial light by using sterilized plain mouth mirror and a dental probe to reveal the presence or absence of dental caries, missing (extracted or congenital), and filled teeth. Aries had been detected according to the WHO criteria as dmft/DMFT Index [7] for primary and permanent dentition.

Data so collected were tabulated and statistically analysed using the SPSS version 20. Frequencies and percentages of the level of awareness of parents were recorded and the association between the prevalence of caries and the gender was tested using the Chi-square test. The paired t test was used to test the association between oral health knowledge of parents and dental caries experience of their children. The level of significance was set at $p < 0.005$.

Results

The questionnaire with a total of 10 questions was used to assess the awareness of parents toward oral health. The results of an individual question are given in Table 1.

Out of the200 children aged 6–12 year, 95 were girls and 45were boys. About 45.5 (%) had caries, while remaining were carefree. The total mean DMFT score was 0.98. The mean DMFT score for male was 1.03, whereas for female was 0.94. The overall mean score of dmft was 1.33. The mean dmft score for male was 1.48whereas for female was 1.13. There was no statistically significant difference in the caries prevalence between the two sexes ($p= 0.14$ DMFT and 0.17 dmft) (Table 2).About 54.7% of children with parents having unsatisfactory knowledge were affected with caries, while 28.5% of children with parents having satisfactory knowledge had caries. Mean DMFT scores recorded for children of parents having satisfactory and unsatisfactory knowledge of oral health were 0.07 and 0.94, respectively. The highest DMFT scores were recorded for children whose parent's level of awareness was unsatisfactory followed by children whose parent's level of knowledge was satisfactory (Table3). The results showed a highly statistically significant difference ($p < 0.006$).Mean dmft scores recorded for children of parent's having satisfactory and unsatisfactory knowledge of oral health were0.84 and 1.70, respectively. The highest dmft scores were recorded for children whose parent's level of awareness was unsatisfactory followed by children whose parent's level of knowledge was satisfactory (Table 3). The results showed a highly statistically significant difference ($p < 0.007$).

A Questionnaire-based Survey

Table 1: Frequency of oral health awareness

Questions	Frequency	Percentage
Best way to clean teeth		
(a) Toothbrush with paste	200	100
(b) Toothbrush with powder	0	0
(c) Datum	0	0
Frequency of cleaning teeth in a day		
(a) Twice a day	123	61.5
(b) Once a day	61	30.5
(c) After each meal	16	7.5
Should toothbrush be replaced After every 3 months?		
(a) Yes	180	90
(b) No	20	10
What causes tooth decay more?		
(a) Frequency of intake of sugar	155	77.5
(b) Quantity of sugar	45	22.5
Does sugar-containing diet/drink cause dental decay in children?		
(a) Yes	158	79
(b) No	42	21
Do you think fluoride prevents decay?		
(a) Yes	109	54.5
(b) No	91	45.5
Brushing with fluoride toothpaste daily		
(a) Reduces caries to some extent	90	45
(b) Eliminates decay	33	16.5
(c) Has no effect on caries	77	38
Have you heard about pit and fissure sealants?		
(a) Yes	4	2.8
(b) No	18	12.8
(c) Don’t know	118	84.2
Is sealant effective in prevention of pit & Fissurecaries in newly erupted tooth?		
(a) Yes	20	10.1
(b) No	172	86.9
(c) Don’t know	8	4
How often do you think a person should visit a dentist?		
(a) 6 monthly	76	38
(b) Yearly	22	11
(c) When a person has any problem	102	51

Table 2: Mean DMFT/dmft scores

	Male	Female	Total	p Value
DMFT (mean ± SD)	1.03 ± 0.44	0.94 ± 0.33	0.98 ± 0.44	0.14 (NS)
dmft (mean ± SD)	1.48 ± 1.53	1.13 ± 1.32	1.33 ± 1.24	0.17 (NS)

NS = Not significant

Table 3: Relationship between parent's awareness statuses vs. caries status of their children

Caries Status	Satisfactory	Unsatisfactory	P Value
DMFT	0.07	0.94	0.006*
Dmft	0.84	1.7	0.007*

*Highly significant

Discussion

Oral health is a crucial component of general health and is considered a determinant of good quality of a child's life. [8] Dental caries is a major health dilemma in underdeveloped countries and it influences 60–90% of school-going children. [9]

The aim of the present study was to find out the association between parent's dental knowledge with the status of dental caries of their children. This study demonstrates a mean DMFT of 0.98, for males 1.03, while for females was 0.94 for the age group of 6–12 years. A cross-sectional study in India has shown a mean DMFT of 2.41 in 13–15-year-old school children. [10] Kalra et al. [11] observed that the mean dmft of 7–8-year-olds was 0.95 and, at 9–10 years, was 1.18. While in our study, the overall mean dmft scores of children between the age group of 6 and 12 years were 1.33. Children have both primary and permanent teeth in the oral cavity at the age between 7-8 years. The risk of bacterial transmission to newly erupted permanent teeth increases dramatically if the primary teeth are carious which clearly points to the need for preventative strategies as soon as secondary dentition erupts into the oral cavity. However, the requirement for early intervention to reduce or eliminate oral disease and the need for oral health mandates the participation of the parents in the preventive strategies for their children.

The prevalence of dental caries was found equally in both sexes in the current study. Dhar and Jain [12] demonstrated an insignificant difference in the caries prevalence between the two sexes. As dental caries is multi factorial and depends on a number of factors like frequency of sugar intake, lack of exposure to fluoride, and limited knowledge concerning regular dental check-ups, it is necessary to be taken seriously as a disease. This study indicates that a very high proportion of parents are aware of the reality that increased frequency of taking snacks and sticky diet can cause tooth decay. Oral hygiene maintenance is a vital variable to keep caries rate low and, fortunately, all parents in our study were aware of brushing teeth with toothbrush and toothpaste, 61.5% had knowledge for brushing twice a day. Flossing was also recommended in the interest of good hygiene.

Regular visits to the dentist are necessary rather than going after the occurrence of disease. Parents in this study did not prefer taking their children to dentist until they observed any visible symptoms like swelling, discharge of pus, lack of eating, or impairment in speech. Media, advertisements on televisions, Internet, and bill boards also motivate and influence a child to adopt healthy oral hygiene practices. More than half of parents in this study population were unaware with the word fluoride and its role in preventing dental caries. In contrast to this, a study performed in Belarus, by Elena and Petr, reported 84.7% of awareness about the importance of fluoride in preventing decay. [13] In the present study, the children of uneducated parents were observed in the habit of irregular brushing, hence were more prone to tooth problems. Vallejos-Sánchez et al. [14] have suggested that children's frequency to brush teeth is directly linked to the educational level of their parents. The European Academy of Paediatric Dentistry has strongly advocated everyday use of fluoride in any complete preventive program for controlling dental caries in children.[15] Brushing with fluoridated toothpaste has been considered as an ideal public health method, and this has been proved to be convenient to use, is inexpensive and is approved culturally too.[16]

In this study, the knowledge grades were compared with caries status to check the association between knowledge of parents regarding preventive measures and dental caries in their children. The results were found to be significant with p value <0.05. This helps us realise that the family is responsible for children's life style, behaviour, and habits. Most of the studies have also reported that mother's dental health knowledge may influence their children's dental health. [17]

Dental caries is one of the leading problems that are faced by both developed and developing nations. Parents must be aware of the dental hygiene practices so that they can instil a positive dental attitude in their children and also reduce the brunt of dental expenses on them. Moreover, primary schools

should initiate measures for educating oral hygiene as a child spends considerable time in school.

Conclusion

Parent's oral health habits and level of dental awareness are of utmost significance in understanding oral health status and needs of children. In this study, parent's awareness appeared to be poor related to many factors affecting oral health. Prevention is always better than cure and hence preventing and promoting oral health to the children through their own parent's will reduce the brunt of dental caries in future. Encouraging dental health education programs through social media and campaigns and focusing on parents of schoolchildren might prove to be powerful tools to enhance parents' awareness in order to permit early-stage prevention of dental caries**.**

References

1. Lawrence HP, Leake JL. The U.S. Surgeon General's report on oral health in America: a Canadian perspective. J Can Dent Assoc 2001; 67(10):587.
2. Petersen PE, Bourgeois D, Ogawa H et al: The global burden of oral diseases and risks to oral health. Bull World Health Organ, 2005; 83(9): 661–69 1.
3. Berkowitz RJ. Causes, treatment and prevention of early childhood caries: a microbiologic perspective. J Can Dent Assoc 2003; 69:304–307.
4. Ali A, Ali S. Caries prevalence among school children age 6–14 years in Gadap town Karachi in relation to the awareness of their parents toward oral health. Pak Oral Dental J 2013; 33(2):354–358.
5. Dentistry AAP (2014) Policy on Early Childhood Caries (ECC): Classifications, Consequences, and Preventive Strategies. Podiatry Dent 37:50-52.
6. https://apps.who.int/iris/handle/10665/41905, last accessed on 18/01/19.
7. Petersen PE: Global policy for improvement of oral health in the 21st century – implications to oral health research of World Health Assembly 2007, World Health Organization. Community Dent Oral Epidemiol, 2009; 37(1): 1–8].
8. Roberts MW. Dental health of children: where we are today and remaining challenges. J Clin Pediatr Dent 2008;32:231–234.DOI:10.17796/jcpd.32.3.d5180888m8gmm282.
9. Shah SA, Muntaha ST, et al. Incidence of caries in 6–12 years children visiting Punjab Dental Hospital, Lahore and Sardar Begum Dental College and Hospital, Peshawar. Pak Oral Dent J 2008; 28:117–122.
10. Kalra S, Simratvir M, et al. Change in dental caries status over 2 years in children of Panchkula, Haryana: a longitudinal study. J Int Soc Prev Community Dent 2011; 1(2):57–59. DOI: 10.4103/2231-0762.97701.
11. Dhar V, Jain A, et al. Prevalence of dental caries and treatment needs in the school-going children of rural areas in Udaipur district. J Indian Soc PedodPrev Dent 2007; 25:119–121. DOI: 10.4103/0970-4388.36560.
12. Elena B, Petr L, et al. Oral health and children attitudes among mothers and schoolteachers in Belarus. Stomatologija 2004; 6:40–43.
13. Vallejos-Sánchez AA, Medina-Solís CE, et al. Sociobehavioral factors influencing tooth brushing frequency among schoolchildren. J Am Dent Assoc 2008; 139:743–749. DOI: 10.14219/jada.archive.2008.0256.
14. Oulis CJ, Raadal M, et al. Guidelines on the use of fluoridein children an EAPD policy document. Eur J Paediatr Dent 2000; 1:7–11.
15. Sjögren K, Birkhed D. Factors related to fluoride retention after tooth brushing and possible connection to caries activity. Caries Res 1993; 27:474–477. DOI: 10.1159/000261583.
16. Kalsbeek H, Verrips GH. Consumption of sweet snacks and caries experience of primary school children. Caries Res 1994; 28:477–483. DOI: 10.1159/000262023.

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