Research Article

Association between oral health status and family quality of life among schoolchildren – A cross-sectional study

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ABSTRACT

Objectives: The objective of this study was to assess the association between oral health and family quality of life (QoL) among 6-12 years schoolchildren.

Materials and Methods: A cross-sectional study was conducted among 300 schoolchildren of age group 6–12 years in Bengaluru, India. A 14-item pre-validated family impact scale (FIS) instrument was used to assess parental family QoL. The World Health Organization oral health pro forma (2013) was used to assess oral health status of children. Pearson's correlation, Spearman's correlation, and logistic regression analysis were performed. P <0.05 was considered as statistically significant.

Results: Mean age of the study participants was 9.33 ± 1.85 years. Mean FIS score was 8.1 ± 5.5. The proportion of participants with caries experience, gingival bleeding, dental trauma, and dentinal erosion was 66%, 41%, 16%, and 17%, respectively. Children with caries experience were more likely to have family impact than those without caries (decay, missing, filled teeth) [$P < 0.05$].

Conclusion: There was an association between oral health status and family QoL among 6–12 years schoolchildren. Dental caries had an impact on family QoL among the schoolchildren in Bengaluru city.

Keywords: Children, Dental caries, Family impact scale, Family quality of life

INTRODUCTION

Dental caries (DC), the most common childhood disease is considered a public health problem, especially in vulnerable and low-income populations because of its high prevalence and social impact.[1] Among factors causing DC, the most important are dietary habits, especially the consumption of food that is high in refined carbohydrates. Fluoride use and dental sealants are effective measures to prevent the disease. However, oral health behavior such as regular tooth brushing with fluoride toothpaste seems very rare among children in low-income countries.[1] In addition, about 66 million South Asian children (9.4% out of 621 million children) are affected with untreated DC which has a high impact on the quality of life (QoL).[2] DC among children increases the risk of negative perceptions of dental disease and oral health, regardless of gender or social class.[1] There might be negative impacts on engaging in social relations due to pain, and children might not be able to benefit fully from their education.[2]

Oral health-related QoL (OHRQoL) is broadly explained as a multidimensional indicator that measures both functional limitations and psychosocial outcomes of oral diseases including

emotional well-being.[2] The growing concern for oral health as part of general health, and the new concept of impact of oral diseases on QoL, is gaining global attention.[3] However, in many deprived communities, and low- and middle-income countries, the matter is either not sufficiently studied or findings not sufficiently implemented, adding supportive evidence on disparities in outcomes of OHRQoL.[2,4]

QoL is "a composite measure of physical, mental, and social well-being as perceived by each individual or by a group of individuals – that is to say, happiness, satisfaction, and gratification as it is experienced in such life concerns as health, marriage, family, work, financial situation, educational opportunities, self-esteem, creativity, belongingness, and trust in others."[2] The QoL can be evaluated by assessing a person's subjective feelings of happiness or unhappiness about the various life concerns.[5] The American Academy of Pediatrics defines child health as "the social, physical, and emotional functioning of the child and, when indicated, his or her family, therefore, measurement of health-related QoL must be from the perspective of the child and the family."[6] The family impact scale (FIS) is an essential component of a child health-related QoL measure because of the probability that oral diseases and disorders in a child could impact the family to some degree and due to the fact that parent reports of child oral health may be influenced by the degree to which the parent is physically or psychologically affected by the child's condition.[7]

In spite of this existing concept, a limited number of instruments have been developed to assess family impact. At present, the FIS is the only instrument specifically available to determine the impact of children's oral and orofacial conditions on the family's QoL.[6] Few studies[6-15] were carried out to assess the impact of family QoL among children using FIS questionnaire. Some studies among children have assessed impact of DC and trauma on family QoL.[6-9] However, limited studies have elucidated the significant association of DC and trauma in children on family QoL in India. Hence, this study was conducted to assess the association between oral health status and family QoL among schoolchildren in Bengaluru, Karnataka-India. The objective of the study was to assess the association between oral health status and family QoL. The research hypothesis relates an association between oral health status and family QoL among schoolchildren in Bengaluru, Karnataka-India.

MATERIALS AND METHODS

A cross-sectional study was conducted among 300 schoolchildren aged between 6 and 12 years in Bengaluru city from November 2017 to May 2019. The intended study protocol was submitted to the Institutional Ethical Committee, and ethical clearance was obtained (No.GDCRI/ACM(2)/PG/PHD/5/2016-17). This study was carried out in accordance with the ethical standards of World Medical Association for human experimentation 2008 version of the Helsinki Declaration.[16] Prior permission was obtained from the head of school managements, Bengaluru city. The study participants were informed about the purpose and procedure of the study and were assured that their participation is purely voluntary. The written informed consent and assent were obtained from the study participants.

FIS was used in this study. The FIS evaluates the impact of a child's oral condition on family life among children aged 6–14 years. It was initially developed by Locker *et al.*[6] It is a 14-item pre-validated questionnaire graded on a Likert scale based on four domains of oral health outcomes. The domains include parental/family activity (PA), parental emotions (PE), family conflict (FC), and financial burden (FB). The choices ranged from 0 to 4, where a score 0 indicates the lowest level of impact and 4 indicates the highest level of impact (never, once/twice, sometimes, often, and everyday) as measured by the scales.[6] Cross-cultural validation of questionnaire was performed by means of back-translation (English to Kannada language) method with the help of linguistic experts. It was assessed for readability and comprehension during pilot study on a group of 30 study participants. Necessary corrections and modifications were made. Internal consistency (α) was found to be good (0.80).

Dentition status, DC, periodontal status, enamel fluorosis, dental erosion, dental trauma, oral mucosal lesions, and intervention urgency were recorded using World Health Organization (WHO) 2013 oral health assessment form for children.[17] The investigator was trained and calibrated in the Department of Public Health Dentistry. Training and calibration sessions included theoretical aspects followed by clinical examination on a group of 10 participants from the Outpatient department of the Government Dental College, Bengaluru City.

Pilot study was conducted among 30 schoolchildren in Bengaluru city to check the feasibility of the study and also to determine the sample size. Based on the results of the pilot study, modifications were made in the pro forma. The sample size estimated was 247 which were rounded off to 300. Schoolchildren aged between 6 and 12 years were included and conditions that make assessment of oral health status difficult were excluded.

List of schools[18] under the streams of government, aided, and private sector was obtained from Deputy Director of Public Instruction (DDPI) in Bengaluru city. A total of six schools were randomly selected. Simple random sampling was employed to select 50 students from each school with equal representation for males and females corresponding to the age 6–12 years. The study participants were recruited from the respective schools based on inclusion and exclusion criteria.

Data were collected using a structured pro forma that included three parts: First part includes children's general information

regarding demographic profile, including socioeconomic status (Kuppuswamy classification),[19] past medical and dental history, dietary habits, and oral hygiene practices. The second part includes assessment of FIS questionnaire.[6] The third part includes oral health assessment using WHO 2013 Oral Health Assessment form for children.[17] Data were collected from study participants at respective schools during school hours. FIS questionnaires were distributed to the study participants after giving instructions in the schools. The questionnaires were answered by either parent. It was collected back next day and checked for completeness.

Participants were seated on a comfortable chair and examined by a single calibrated investigator under natural light using autoclaved instruments and Type 3 dental examination was carried out.[20] Recording of the clinical findings was done by trained personnel. The sufficient numbers of autoclaved instruments were taken for the day-to-day examination.

Data were entered on MS excel format. The statistical analysis was done with the SPSS Version 16 software package (IBM Corporation, SPSS Inc., Chicago, IL, USA). Descriptive statistics with frequency, mean and standard deviation were computed. Inferential statistics were applied between the study groups and within the study groups.

Socioeconomic status was assessed using Kuppuswamy scale.[19] Income was updated using All India's Average Consumer Price Index for Industrial Workers (CPI-IW=319) for July 2019. FIS-14 scoring was done based on a Likert scale that ranged from 0 to 4 for which weights were allotted "0=Never," "1=Once/twice," "2=Sometimes," "3=Often," and "4=Everyday." Summing and mean scores were calculated for each domains and overall as well for FIS questionnaire, where higher scores indicated worse impact of family QoL.

Pearson's correlation and Spearman's correlation were used to find out correlation between oral health status and family QoL. Age, gender, socioeconomic status, dental visits, caries experience, gingival bleeding, dental erosion, dental trauma, and intervention urgency were considered as independent variables, and family QoL was considered as dependable variable for which logistic regression analysis was performed. Statistical significance was considered at $P < 0.05$ (confidence interval of 95% was taken).

RESULTS

The current study had majority of the study participants belonging to the age group of 9–11 years and the mean age of 9.33 ± 1.85 years. Most of the study participants were males [Table 1]. Majority parents of the study participants had high school education, were semi-skilled workers, and had family income per month between Rs.7380 and 18449. Most of them belonged to lower-middle class.

In this study, more than one-third of the study participants had visited dentist before within 1 year. Pain was the main reason for dental visit. Tooth fillings were the most common dental treatment. Majority of the study participants cleaned their teeth once daily using toothbrush and toothpaste in horizontal direction. About 20% of the study participants used tongue cleaners as other oral hygiene aid.

Among the study participants, caries experience, mean decayed, and missing and filled components were higher in permanent teeth compared to primary teeth. Two-fifths of the study participants had gingival bleeding. Less than one-third of the study participants had enamel fluorosis, dental erosion, dental trauma, and oral mucosal lesions. Majority of the study participants required prompt treatment [Table 2].

The domain mean scores of FIS questionnaire used in the current study: PA (mean 3.1 ± 2.1), PE (mean 3.3 ± 4.1), FC (mean 1.2 ± 3.2), and FB (mean 0.46 ± 0.93). Overall FIS-14 questionnaire score was 8.1 ± 5.5 [Table 3].

Family QoL showed weak positive correlation with caries experience in deciduous dentition (dmft) and weak negative correlation with caries experience in permanent dentition (DMFT). A weak negative correlation was found between "Gingival bleeding," "Erosion," "Intervention urgency," and family QoL. A weak positive correlation was found between "Trauma" and family QoL.

Study participants aged 10–12 years, males, upper-middle class and those with dental visits were more likely to report impact on family QoL although the association is not statistically significant. Study participants with caries experience in permanent dentition were more likely to have statistically significant impact. Study participants with caries experience in deciduous dentition with gingival bleeding, dental trauma or dental erosion was less likely to report impact on family QoL [Table 4]. Majority of children had caries whereas some experienced dental trauma. There was a significant difference suggesting the impact of DC on family QoL.

Table 1: Distribution of the study participants according to age and gender.

Variables	Total N=300 n(%)
Age (years)	
6–9	94 (31.4)
9–11	158 (52.6)
12	48 (16.0)
Mean	9.33±1.85
Gender	
Males	168 (56)
Females	132 (44)

DISCUSSION

Oral health is a key indicator of overall health, well-being, and QoL.[3] Oral diseases may directly affect a limited area of the human body, but their consequences and impacts affect the body as a whole. These conditions are often hidden and invisible, or they are accepted as an unavoidable consequence of life and aging.[21]

DC and traumatic dental injuries (TDIs) are the most common oral health problems affecting young children in both developed and developing countries around the world.[22] Untreated tooth decay is known to be the most prevalent of the 291 conditions studied between 1990 and 2010 within the frame of the International Global Burden of Disease Study.[21] Oral injuries are fourth most common area of bodily injuries among 7–30-year-old individuals. Traumatic injuries in primary dentition and permanent teeth have been reported to have a prevalence rate between 9.4–41.6% and 6.1–58.6%, respectively.[21] Dental injuries result in functional, esthetic, and psychological disturbances accompanied by great concern from the child, the parent, and the dentist.[1] The oral health problems experienced by children can affect QoL of parents.

The emotional well-being of parents is fundamental to promoting a good QoL and the health maintenance of children. However, the task of looking after someone without being properly prepared can cause personal and FC and even stress, embarrassment, fatigue, and depression for caregivers, and may consequently influence their QoL.[23]

Table 2: Oral health status and intervention needs among the study participants.

Oral health status	Total N=300 n (%)
Dental caries	
Primary teeth	9 (33.3)
Permanent teeth	167 (62)
Gingivitis	123 (41)
Enamel fluorosis	26 (8.66)
Dental erosion	51 (17)
Traumatic injuries	48 (16)
Oral mucosal lesions	8 (2.66)
Intervention	210 (70)

Table 3: Responses from parents of study participants to family impact scale questionnaire (N=300).

Family impact scale questionnaire	Never, n (%)	Once/ twice, n (%)	Sometimes, n (%)	Often, n (%)	Everyday, n (%)	Mean±SD
Parental/family activities (Mean 3.1±2.1)						
Have you or the other parent taken time off work?	208 (69.4)	44 (14.6)	32 (10.5)	16 (5.5)	0	0.52±0.88
Has your child required more attention from you or the other parent?	151 (50.7)	50 (16.9)	41 (13.7)	39 (12.3)	19 (6.4)	1.08±1.31
Have you or the other parent had less time for yourselves or other family members?	229 (76.3)	20 (6.8)	18 (5.9)	25 (8.2)	8 (2.7)	0.54±1.09
Has your sleep or that of the other parent been disrupted?	197 (65.8)	36 (11.9)	41 (13.7)	19 (6.4)	7 (2.3)	0.68±1.07
Have family activities been interrupted?	245 (81.7)	21 (6.8)	23 (7.8)	4 (1.4)	7 (2.3)	0.35±0.86
Parental emotions (mean 3.3±4.1)						
Have you or the other parent been upset?	134 (44.7)	63 (21.0)	69 (22.8)	27 (9.1)	7 (2.3)	1.03±1.11
Have you or the other parent felt guilty?	166 (55.3)	37 (12.3)	56 (18.2)	33 (11.5)	8 (2.7)	0.93±1.19
Have you or the other parent worried that your child will have fewer life opportunities?	168 (56.2)	32 (10.5)	37 (12.3)	47 (15.5)	16 (5.5)	1.03±1.33
Have you felt uncomfortable in public places?	259 (86.3)	5 (1.8)	25 (8.2)	10 (3.2)	1 (0.5)	0.29±0.78
Family conflict (mean 1.2±3.2)						
Has your child argued with you or the other parent?	245 (81.7)	14 (4.6)	22 (7.3)	11 (3.7)	8 (2.7)	0.35±0.91
Has your child been jealous of you or other family members?	241 (80.4)	10 (3.2)	19 (6.4)	25 (8.2)	5 (1.8)	0.42±0.99
Has your child's condition caused disagreement or conflict in the family?	248 (82.6)	20 (6.8)	22 (7.3)	10 (3.2)	0	0.28±0.72
Has your child blamed you or the other parent?	270 (90.0)	11 (3.7)	10 (3.2)	5 (1.8)	4 (1.4)	0.18±0.67
Financial burden						
Has your child's condition caused financial difficulties for your family?	225 (74.9)	37 (12.3)	15 (5.0)	20 (6.8)	3 (0.9)	0.46±0.93

P<0.05. FIS: Family impact scale

Table 4: Logistic regression analysis with FIS scores as dependent variable.

Variables	FIS scores		
	Odds ratio	CI (95%)	*P*-value
Age (years)			
6–9	1	-	-
10–12	1.15	0.71–1.86	0.56
Gender			
Male	1.35	0.84–2.14	0.21
Female	1	-	-
Socioeconomic status			
Upper and upper-middle class	1.39	0.48–3.97	0.53
Lower-middle, upper-lower, and lower class	1	-	-
Dental visits			
No	1	-	-
Yes	1.06	0.58–1.94	0.83
dmft score			
0	1	-	-
≥1	0.76	0.41–1.41	0.39
DMFT score			
0	1	-	-
≥1	1.62	1.02–2.57	0.03
Gingival bleeding			
Absent	1	-	-
Present	1.48	0.93–2.36	0.95
Dental trauma			
Absent	1	-	-
Present	0.70	0.37–1.34	0.28
Dental erosion			
Absent	1	-	-
Present	0.96	0.52–1.77	0.90
Intervention urgency			
No treatment, preventive/routine, and prompt	1	-	-
Immediate and referred	0.52	0.11–2.49	0.84

P<0.05. FIS: Family impact scale

Oral health is closely related with general health and QoL, through affecting their oral functions and social interactions. The concept of OHRQoL relates to the impact which oral health or disease has on the individual's daily functioning, well-being, or QoL.[24] DC may cause impaired chewing, decreased appetite, sleep problems, and poor school and work performance. Periodontal and orofacial conditions can also impact the QoL of parents of the children.[5]

FIS was developed to know the primary caregivers/parents' assessment of the impact of oral health on family life.[24] The measurement of health-related QoL must be from the perspective of the child and the family.

Few studies[6-15] were carried out among children. Most of the studies were conducted in Brazil,[6-8,12,15] followed by

Australia,[11] Canada,[13] South America,[14] Turkey,[9] and the USA.[10] Studies[6,7] have assessed the association of oral health status and family QoL among children.

The previous studies have investigated the impact of QoL through FIS,[6-15] OHRQoL,[10,12] Child Perception Questionnaire,[10] Early Childhood Oral Health Impact Scale,[10] and Scale of Oral Health Outcomes.[12] Oral health status of children was assessed using WHO 2013[6,7] pro forma for DC and TDI through Glendor's classification[6] and Anderson's classification.[9] The results of the current study are compared with earlier studies wherever possible.

Age plays an important role in the growing child particularly toward the oral health.[3] Studies reported in literature present an age group that ranged from 2 to 15 years.[7,14,15] Age group in this study was 6–12 years. Mean age of the study participants was 9.33 ± 1.85 years whereas one study had less mean age years (4.02).[11]

Higher caries prevalence among females has been traditionally attributed to earlier tooth eruption among girls and hence longer exposure of their teeth to the cariogenic oral environment.[25] Studies have reported poor oral health among females.[25] Gender-wise dominance of males was seen in the present study which is similar to most of the studies.[6,8,11,12,15] Whereas, in some studies, dominance of females was observed.[7,9,10,13,14]

Studies have reported that the children from public schools, those who did not live with their biological parents; whose household overcrowding exceeded one person per room; who had more than 2 siblings; whose family income was less than 4 minimum wages; and whose mother had less than 8 years of schooling presented the worst oral health.[26] Children from low-income families and poor education are twice as likely (25%) to have cavities, compared with children from higher-income households with higher education (11%).[27] In earlier studies, majority of parents had school education of 5–11 years.[8,10] In the current study, most of the parents of study participants had more than 8 years of schooling. Majority belonged to lower-middle class.

A lot of factors influence oral health including oral hygiene measures. Lack of proper oral hygiene has been advanced as one of the primary factors influencing the prevalence of dental diseases among growing children.[28] Twice daily brushing with a fluoride toothpaste has been widely promoted by the profession for many years since it plays a pivotal role in the prevention and control of DC and periodontal diseases.[29] Only one-third of the study participants brushed twice daily which indicates inadequate practice of oral hygiene measures. In line with the American Dental Association recommendation, children in this study replaced toothbrush approximately every 3–4 months or sooner if the bristles are frayed.[29]

Dental health is one of the most costly diseases and its public financing is disproportionately low. The proportion of children with unmet dental care needs however varies by specific conditions.[30] Among the study participants, less than one-third had utilized dental service within 6–12 months of duration and the visits were symptom driven. This might be attributed to the insufficient knowledge among parents about the importance of a preventive dental visit.

Children are susceptible to caries as soon as the first teeth appear, which usually occur around 6 months of age.[31] DC is associated with pain and loss of teeth, as well as impaired growth, decreased weight gain, and negative effects on QoL.[32] About one of five children aged 5–11 years has at least one untreated decayed tooth. One of 7 (13%) adolescents has at least one untreated decayed tooth.[27] In this study, one in three children had caries experience in primary dentition and the prevalence of DC in permanent dentition was 62% whereas other studies ranged from 57 to 64.8%.[6,12,15] Mean caries experience (dmft/DMFT) in previous literature was 8.2±4.16.[11] Whereas, in the current study, caries experience in primary and permanent dentition is less to earlier literature (dmft [0.87 ± 0.96] and DMFT [1.25 ± 1.21]).

TDIs occur from fall or accidents which is more frequent in young children.[33] The prevalence of TDIs was 16% among the study participants. Other studies have reported higher percentage of TDIs (31–43%).[6,12,15] Gingival bleeding can occur due to poor oral hygiene, presence of plaque, gingivitis, periodontitis, overgrowth of gingiva caused by medications, and poor nutrition.[34] The prevalence of gingival bleeding in this study was 41%. Dental erosion may lead to tooth hypersensitivity, due to excessive consumption of acidic fruits and carbonated drinks.[35] The prevalence of dental erosion and fluorosis was 17% and 8.66% among the study participants. Oral mucosal lesions can cause local or systemic infection, or life-threatening systemic conditions.[34] In this study, 2.66% of the participants had ulcerations.

Intervention urgencies classify the participants according to the priority of dental treatment to ensure that available dental health interventions reach the people who need them most and to prevent deterioration of the condition. In this study, majority of the participants required treatment (70%), predominantly "prompt treatment" needs. Whereas, one study showed lower treatment needs (51.2%) among their study participants.[10]

Family processes or functioning are important to the health and development of children, both in their own right and as mediators of material resources and child outcomes. Earlier reviews have identified a number of important categories of measures of family processes that affect child well-being, including communication (parent-child and parent-parent), parent-child time together and activities, degree of commitment to the family, degree of social connectedness, religious/spiritual orientation, capacity to adapt to new situations, and the existence of clear family roles.[36]

Choices are always constrained that is influenced by parenting, time spent with children, family income, and physical and mental health status of the mother. Parents vary in their ability to provide the resources (i.e. a mother with little education may not provide many learning experiences because of her inability to read or a parent with little money may not be able to purchase books). Parents also make decisions that make it more or less likely that such psychological resources will be available to the child.[37] In this study, parental/family activities were never or once/twice affected because of the child. It is reflected when majority of the parents had never or once/twice taken time off work OR paid more attention to their child when the child required OR had less time for themselves or other family members OR their sleep or that of the other parent been disrupted OR their family activities been interrupted.

Parental conflict can have an effect on children of all ages. Babies as young as 6 months exhibit higher physiological symptoms of distress such as elevated heart rate in response to overt, hostile exchanges between their parents when compared to exchanges between non-parental adults. Children between the ages of 6 and 17 years show signs of emotional and behavioral distress when exposed to ongoing, acrimonious exchanges between parents. Additional research indicates that exposure to this form of discord can manifest itself in a number of ways including increased anxiety, depression, aggression, hostility, anti-social behavior and criminality, as well as deficits in academic attainment.[37] In this study, PEs were never or once/twice affected because of the child. It is observed when many of the parents had never or once/twice been upset OR felt guilty OR worried that their child would have fewer life opportunities OR felt uncomfortable in public places. Similarly, FC was never or once/twice affected because of the child. It is revealed when many of the parents had their child never or once/twice argued with them OR their child been jealous of them or other family members OR their child's condition caused disagreement or conflict in the family OR their child blamed them or the other parent.

It is useful to concentrate on four general kinds of resources: Financial, time, psychological, and human capital. Economic models have looked at the financial and time resources that are made available to the children in a family and consider the human capital (e.g. schooling level) of the parent as an indicator of the likely "quality" of the parent-child interaction time. Much more is known about income than about time use. Very little is known about how income and time are distributed across children within individual families – that is, how much is allocated to various household members or the process by which trade-offs between income and

time are made.[36] In this study, FB was never or once/twice caused because of the child. It is reflected when majority of the parents had never or once/twice their child's condition caused financial difficulties for their family

In this study, child never or once/twice had caused some family impact suggesting a harmony in parental activities, emotions, and absence of conflict or FB which might be regulated by socioeconomic variables.

Family QoL showed weak positive correlation with caries experience in deciduous dentition. Study participants with caries experience in deciduous dentition were less likely to have impact on family QoL than those with no caries experience. This indicates the knowledge, awareness, and neglect toward the oral health among the parents' of study participants suggesting difference in impact with respect to type of dentition. Although, the relation is not significant.

Family QoL revealed weak negative correlation with caries experience in permanent dentition. Children with caries experience in permanent dentition were significantly more likely to have impact on family QoL than those with no caries experience in permanent dentition.

Some studies showed significant association between dental trauma and FIS.[6,7-9] Study participants with dental trauma were less likely to have impact on family QoL although the association was not significant in this study. The dental trauma among study participants was not severe confining to enamel and dentine only, reflecting less impact on families.

Hence, there is a significant association between DC and family QoL among 6–12 years schoolchildren.

This study has certain limitations. The cross-sectional study design does not allow assessment of causality between the study variables. Family QoL was assessed using questionnaire, hence, biases pertaining to questionnaire studies could be present. Further studies are required from different locations and populations to confirm the technical properties of the FIS and its relevance in dental research. Awareness should be created and positive attitude should be developed about oral health among parents, children, and teachers by conducting programs and using mass media. Information regarding oral health should be included on a wider basis in the school curriculum, with an emphasis on preventive dental care and periodic dental care. There should be modification in architectural dental setting to make it more children friendly with less waiting time. Screening for DC and risk for caries in young children before school entry could identify caries at an earlier and reversible stage might reduce its family impact.

CONCLUSION

Oral health is an important aspect of health for all children and is more important for growing child who face unique challenges during regular dental care. Oral health of the child does affect the parent physically and psychologically to some extent. The results of the current study indicated majority of children had dental caries, whereas, some experienced dental trauma. Family impact due to child's activities were almost never or reported infrequently and the caries experience in permanent dentition caused significant family impact among 6-12 years schoolchildren.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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