

## *Original Article*

### **Evaluation of Oral Health Status of School Children and to assess its association with the Parent's Education Level**

Madhulika Yadav<sup>1</sup>, Anil Kohli<sup>2</sup>, Harshit Singhania<sup>3</sup>, Neha Awasthi<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Dentistry, Government Medical College, Kannauj, U.P., India,

<sup>2</sup>Professor & Head, Department of Pedodontics and Preventive Dentistry, Rama Dental College, Kanpur, U.P., India,

<sup>3</sup>B.D.S. Intern, Rama Dental College, Kanpur, U.P., India,

<sup>4</sup>Associate Professor, Department of Pedodontics and Preventive Dentistry, School of Dental Sciences, Sharda University, Greater Noida, U.P., India

#### **ABSTRACT:**

**Background:** The most common oral health disease affecting young children is dental caries and periodontitis. The present study was conducted to evaluate oral health status of school children & its association with parent's education level. **Materials & Methods:** The present study was conducted in the department of Pediatric dentistry on 236 children age ranged 4-15 years of both genders (boys- 120, girls- 116). A parent's educational level was classified as 'high' 'middle' and 'low' when they had attended only primary school or no education. Careful oral examination was done using the World Health Organization Oral Health Survey basic methods. Dental caries was assessed using dmft index; Oral hygiene status was evaluated using the Simplified Oral Hygiene Index (OHI-S) of Greene and Vermillion.<sup>5</sup> The oral hygiene of each child was classified as 'good' when the OHI-S score was 0-0.9, 'fair' when it was 1.0-1.9 and 'poor' when it was 2.0 up to 6. **Results:** Age group 4-6 years had 24 boys, 26 girls, 7-9 years had 30 boys, 32 girls, 10-12 years had 26 boys, 22 girls and 13- 15 years had 40 boys and 36 girls. The difference was non- significant ( $P > 0.05$ ). dmft score in age group 4-6 years was  $1.42 \pm 2.10$  and in 7-9 years was  $1.38 \pm 2.64$ . DMFT score in age group 10-12 years was  $0.6 \pm 1.16$  and in 13-15 years was  $0.8 \pm 1.21$ . OHI- S was good in 53% males and 66% females, fair in 24% males and 18% females and poor in 23% males and 16% females. The difference was significant ( $P < 0.05$ ). Parent education level was high (34%), middle (21%) and low (45%). The difference was significant ( $P < 0.05$ ). **Conclusion:** Oral hygiene status of children was good in maximum children and parent education level was poor in most of the children.

**Key words:** Children, Dental caries, Oral hygiene status.

Received: 22 May 2018

Revised: 19 June 2018

Accepted: 27 June 2018

**Correspondence to:** Dr. Madhulika Yadav, Assistant Professor, Department of Dentistry, Government Medical College, Kannauj, U.P., India

**This article may be cited as:** Yadav M, Kohli A, Singhania H, Awasthi N. Evaluation of Oral Health Status of School Children and to assess its association with the Parent's Education Level. J Adv Med Dent Res 2018;6(9):51-54.

#### **INTRODUCTION**

The most common oral health disease affecting young children is dental caries, which is responsible for pain, speech impairment, sleep disturbances and eating and growth disorders. Dental caries is a progressive infectious process with a multifactorial etiology characterized by destruction of organic and inorganic portion of tooth. Dietary habits, oral microorganisms that ferment sugars, and host susceptibility have to coexist for dental caries to initiate and develop.<sup>1</sup>

Children with poor oral health are more likely to miss school than are those with good oral health. Pain, discomfort, sleepless nights and time missed from school or work are common problems for many children and adults around the world.<sup>2</sup>

Even though dental caries and periodontal diseases, the most common diseases in dentistry, are preventable or easily controlled using simple procedures such as tooth brushing, controlling the frequency of sugar consumption, appropriate use of fluoride and periodic visits to the dentist, good oral health has not yet reached the population at large.

The high prevalence and incidence of these pathologies is their association with social, economic, political and educational conditions, and not only biological determining factors that interact in the etiology of these diseases.<sup>3</sup>

Poor oral health conditions have also been linked to low socio-economic status. Poor and nearly poor children with special health care needs and those with greater limitations attributable to disability were more likely to have unmet dental care needs. Earlier studies on this group of individuals in our environment show that they had high unmet needs, especially periodontal treatment needs.<sup>4</sup> The present study was conducted to evaluate oral health status of school children & its association with parent’s education level.

**MATERIALS & METHODS**

The present study was conducted in the department of Pediatric dentistry. It comprised of 236 children age ranged 4-15 years of both genders (boys- 120, girls- 116). Parents

were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study. General information such as name, age, gender etc. was recorded. Information regarding parents’ educational background was also recorded. A parent’s educational level was classified as 'high' 'middle' and 'low' when they had attended only primary school or no education.

Careful oral examination was done using the World Health Organization Oral Health Survey

basic methods. Dental caries was assessed using dmft index; Oral hygiene status was evaluated using the Simplified Oral Hygiene Index (OHI-S) of Greene and Vermillion.<sup>5</sup> The oral hygiene of each child was classified as 'good' when the OHI-S score was 0–0.9, 'fair' when it was 1.0–1.9 and 'poor' when it was 2.0 up to 6. Results thus obtained were subjected to statistical analysis using chi-square test. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Age wise distribution of children**

Age group (years)	Boys	Girls	P value
4-6	24	26	0.5
7-9	30	32	
10-12	26	22	
13-15	40	36	
Total	120	116	

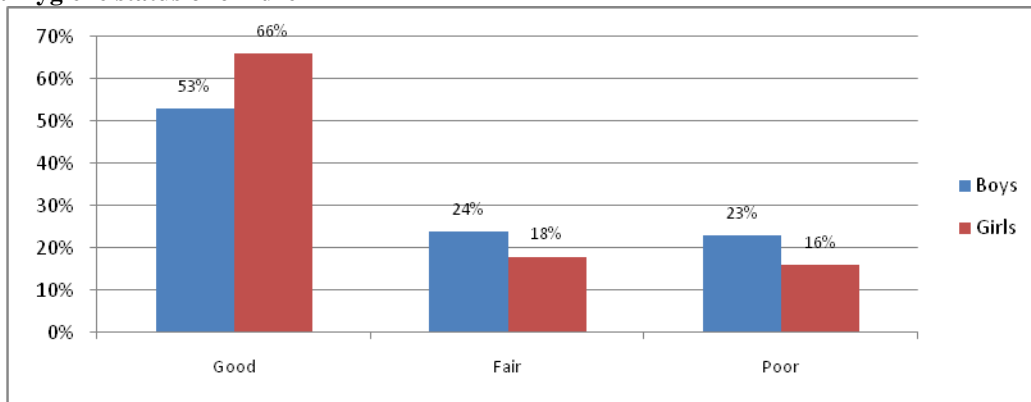
Table I shows that age group 4-6 years had 24 boys, 26 girls, 7-9 years had 30 boys, 32 girls, 10-12 years had 26 boys, 22 girls and 13- 15 years had 40 boys and 36 girls. The difference was non- significant (P> 0.05).

**Table II Mean dmft/DMFT according to age group**

Age group (years)	dmft	DMFT
4-6	1.42 ± 2.10	-
7-9	1.38 ± 2.64	-
10-12	-	0.6 ± 1.16
13-15	-	0.8 ± 1.21

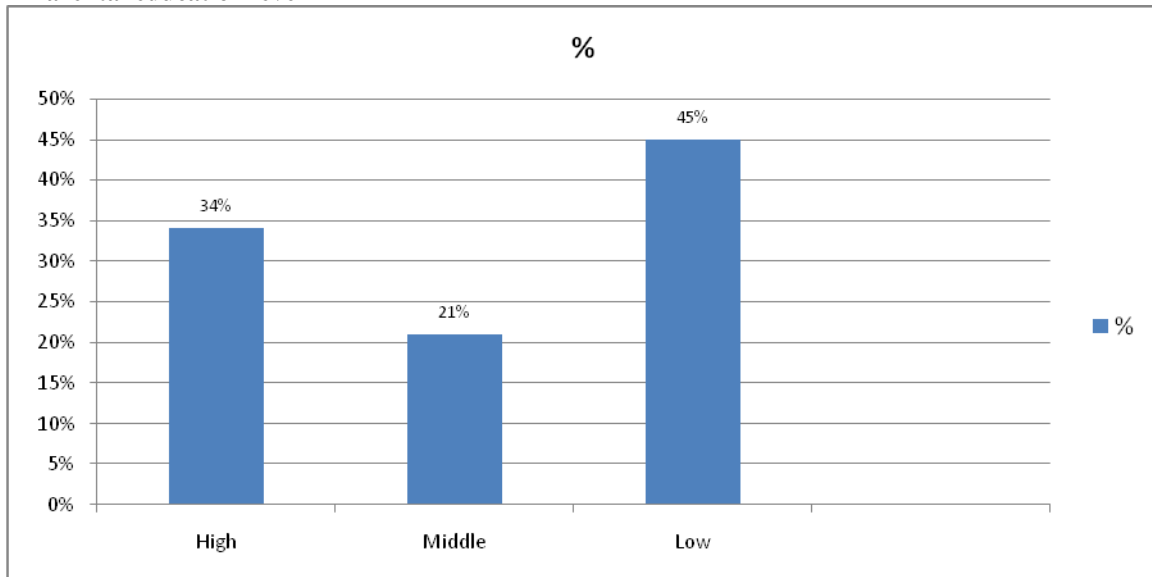
Table II shows that dmft score in age group 4-6 years was 1.42 ± 2.10 and in 7-9 years was 1.38 ± 2.64. DMFT score in age group 10-12 years was 0.6 ± 1.16 and in 13-15 years was 0.8 ± 1.21.

**Graph I Oral hygiene status of children**



Graph I shows that OHI- S was good in 53% males and 66% females, fair in 24% males and 18% females and poor in 23% males and 16% females. The difference was significant (P<0.05).

**Graph II Parental education level**



Graph II shows that parent education level was high (34%), middle (21%) and low (45%). The difference was significant ( $P < 0.05$ ).

## DISCUSSION

Oral health condition may be influenced by age, severity of impairment and living conditions. Individuals with special needs may have great limitations in oral hygiene performance due to their potential motor, sensory and intellectual disabilities and so are prone to poor oral health. This group of individuals may also not understand and assume responsibility for or cooperate with preventive oral health practices. Those who are very young, those with severe impairments, and those living in institutions are dependent on parents, siblings or caregivers for general care including oral hygiene.<sup>6</sup> In present study we evaluated oral health status of school children & its association with parent's education level.

In present study, we found that age group 4-6 years had 24 boys, 26 girls, 7-9 years had 30 boys, 32 girls, 10-12 years had 26 boys, 22 girls and 13-15 years had 40 boys and 36 girls. Mean dmft score in age group 4-6 years was  $1.42 \pm 2.10$  and in 7-9 years was  $1.38 \pm 2.64$ . DMFT score in age group 10-12 years was  $0.6 \pm 1.16$  and in 13-15 years was  $0.8 \pm 1.21$ . This is in agreement with Agilli et al.<sup>7</sup>

Many care givers do not have the requisite knowledge or values to recognize the importance of oral hygiene and do not themselves practice appropriate oral hygiene or choose a proper diet. They may be more susceptible to dental caries if they reside at home and are pampered with cariogenic snacks and other unhealthy eating habits.<sup>8</sup>

Sadhan et al<sup>9</sup> in their study, 54 subjects aged 3-26 years with 72.2% males and 27.8% females participated in the study. Over 90% were from parents of high and middle level educational background. Thirty-six (66.7%) were caries free, with a mean dmft score of  $0.7 \pm 1.77$  and mean DMFT score of  $0.4 \pm 1.44$  with no significant difference

across gender ( $p = 0.5$ ) and parents' educational status ( $p = 0.43$ ). The mean OHI-S of the total population in this study was  $1.36 \pm 0.16$ . Females had a mean score of  $0.88 \pm 1.10$  while males had a mean score of  $1.55 \pm 1.24$  with no significant difference ( $p = 0.6$ ). Twenty-five (46.3%) had good oral hygiene, 17 (31.5%) had fair oral hygiene and 12 (22.2%) had poor oral hygiene, with no significant difference across gender ( $p = 1.11$ ) and age groups ( $p = 0.07$ ). Fifteen (27.8%) had gingivitis with no significant difference across age groups ( $p = 0.17$ ). Forty-five (83.3%) had Angle's class I malocclusion, 6(11.1%) class II and 3 (5.6%) class III. Chronologic enamel hypoplasia was found in 9 (16.7%) of the total population. Up to 53.7% of the total population will require oral prophylaxis, 33.3% required restorations on their posterior teeth and 12.9% required veneers for labial facing of hypoplastic enamel. In present study, OHI- S was good in 53% males and 66% females, fair in 24% males and 18% females and poor in 23% males and 16% females. Parent education level was high (34%), middle (21%) and low (45%). This is in agreement with Wayne et al.<sup>10</sup>

## CONCLUSION

Oral hygiene status of children was good in maximum children and parent education level was poor in most of the children.

## REFERENCES

1. Tsami A, Pepelassi E, Gizani S, Komboli M, Papagianoulis L, Mantzavinos Z: Oral hygiene and periodontal treatment needs in young people with special needs attending a special school in Greece. *J Disabil Oral Health* 2004; 5:57-64.

2. Tesini DA, Fenton SJ: Oral health needs of persons with physical or mental disabilities. Practical considerations in special patient care. *Dent Clin North Am* 1994; 38:483-498.
3. Nicopoulos M, Brennan MT, Kent ML, Brickhouse TH, Rogers MK, Fox PC, Lockart PB: Oral health needs and barriers to dental care in hospitalized children. *Spec Care Dentist* 2007; 27:206-211.
4. Nagahama SI, McNabb K, Vanderlinde M, Cobb K, Moore CS, Milgrom P, Coldwell SE: Improving utilization of preventive dental services by Medicaid-enrolled children: focus on the parents. *J Dent Child* 2002; 69:325-331.
5. Greene JC, Vermillion JR. The simplified oral hygiene index. *J Am Dent Assoc.* 1964; 68(1):7-13.
6. Roman KM: Strategic planning: the at-risk pediatric patient. *Pediatr Dent Today* 2007; 43:48-49.
7. Al Agili DE, Niazy HA, Pass MA. Prevalence and socioeconomic determinants of dental sealant use among schoolchildren in Saudi Arabia. *East Mediterr Health J.* 2012; 18:1209–16.
8. Al-Hussyeen. Factors affecting utilization of dental health services and satisfaction among adolescent females in Riyaadh city. *Saudi Dent J.* 2010; 22:19–25.
9. Al-Sadhan SA. Oral health practices and dietary habits of intermediate school children in Riyadh, Saudi Arabia. *Saudi Dent J* 2003; 15:81–7.
10. Wyne AH. The bilateral occurrence of dental caries among 12-13 and 15–19 year old school children. *J Contemp Dent Pract* 2004; 5:42–51.

**Source of support:** Nil

**Conflict of interest:** None declared

This work is licensed under CC BY: ***Creative Commons Attribution 3.0 License.***