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Comparison of oral hygiene status among 6-14 year old students of public and private schools of Rajbiraj, Saptari, Nepal

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ABSTRACT

Aim

To determine the oral hygiene status of 6-14 years old school children in Rajbiraj, Nepal.

Materials and Methods

Three hundred school children from public and private schools were examined for oral hygiene status using OHI(S). Descriptive statistics and independent sample t-tests were done.

Results

There was no significant difference in the oral hygiene status among gender, but the oral hygiene status of the children in private schools was better than that of the public school.

Conclusion

Large number of public school children had poor oral hygiene compared to private school children. Hence, oral health education programs should be conducted on a frequent basis to improve their oral hygiene status.

Key words: Oral hygiene, school children, Nepal.

INTRODUCTION

Oral health is an important part of general health. Oral hygiene determines the oral health status of an individual. Thus, oral hygiene is important for good health in general. Poor oral hygiene can be a source of many diseases, which can be prevented by maintaining good oral hygiene. Dental caries and periodontal problems are due to poor oral hygiene practices.[1] Poor oral hygiene has been linked to a variety of chronic diseases (e.g. cardiovascular disease, diabetes and cancer). Adolescents who brush their teeth more than once a day by the time they are 12 years old are more likely to continue to do so throughout their teenage years.[2] Therefore good oral hygiene is of vital importance to the general health and well-being of children and adolescents. For adults, the impact of social class on oral health status has been documented through several oral epidemiological studies especially with respect to dental caries and periodontal diseases.[3] Childhood is the period of greatest change in life. It is

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widely recognized that good oral health practices are necessary from a young age to ensure positive long term dental health and hygiene. The oral health of children is important towards their overall wellbeing.[4] Oral hygiene practices may be different in children attending private and public schools resulting in different oral health status among them. Studies regarding oral hygiene status of the school children have not been done in Rajbiraj. Hence, the aim of the study was to determine oral hygiene status of 6-14 years old school children in Rajbiraj, Saptari, Nepal.

MATERIALS AND METHOD

A descriptive cross-sectional study was carried out among school going children of age group 6-14 years in private and public school in Rajbiraj, Saptari District, Nepal. Oral hygiene status of eligible population was calculated using Oral Hygiene Index-Simplified (OHI-S).[5] OHI-S has two components namely; Debris Index Simplified (DI-S) and Calculus Index Simplified (CI-S). Permission to examine the children was taken from the heads of the respective schools. Written informed consent was taken from the guardians before the commencement of the study.

Sample size

Three private and three public schools were randomly selected. From each school, 50 students of the aforementioned age group were randomly selected for oral examination. Three hundred school children satisfying selection criteria (150 from private and 150 from public school) were taken in the study. Data was entered in the computer and analyzed using SPSS 20. Descriptive statistics such as mean and standard error and independent sample t-tests were done.

Selection of children:

Inclusion Criteria:

a. School going children of 6 to 14 years of age
b. School children present on the day of examination
c. Children who got written consent from their parents

Exclusion Criteria:

a. School children with debilitating diseases
b. School children with erupting permanent first molars

Results

Table 1: Distribution of subjects according to gender

School	Male	Female	Total
Public	82(54.7%)	68(45.3%)	150(100%)
Private	101(67.3%)	49(32.7%)	150(100%)
Overall	183(61.0%)	117(39%)	300(100%)

Table2: Distribution of subjects according to their oral hygiene status

School	Number of Students examined	DI-S Rating	DI-S No.(%)	CI-S Rating	CI-S No.(%)	OHI-S Rating	OHI-S No(%)
		Good	3 (2.00)	Good	2(1.30)	Good	0(0.00)
Public	150	Fair	76 (50.7)	Fair	73(48.7)	Fair	40(26.7)
		Poor	71 (47.3)	Poor	75(50.0)	Poor	110(73.3)
		Good	1(0.70)	Good	10(6.7)	Good	1(0.7)
Private	150	Fair	123(82)	Fair	131(87.3)	Fair	93(62)
		Poor	26(17.3)	Poor	9(6.00)	Poor	56(37.3)
	300	Good	4(1.3)	Good	12(4.0)	Good	1(0.3)
Overall		Fair	199(66.3)	Fair	204(68)	Fair	133(44.3)
		Poor	97(32.3)	Poor	84(28)	Poor	166(55.3)

Table 3: Comparison of oral hygiene status between male and female school children

	Male	Female	t-value	p-value	95% CI	
DI-S	2.31 ± 0.03	2.30 ± 0.04	0.065	0.948	- 0.168	0.066
CI-S	2.24 ± 0.04	2.23 ± 0.04	0.018	0.985	- 0.110	0.118
OHI-S	2.53 ± 0.03	2.58 ± 0.04	- 0.855	0.393	- 0.118	0.120

Table 4: Comparison of oral hygiene status between public and private school children

	Public school	Private school	t-value	p-value	95% CI	
DI-S	2.45 ± 0.04	2.36 ± 0.04	5.275	< 0.001*	0.179	0.393
CI-S	2.48 ± 0.04	2.16 ± 0.03	9.485	< 0.001*	0.390	0.595
OHI-S	2.73 ± 0.03	1.99 ± 0.02	6.739	< 0.001*	0.259	0.473

* Statistically significant

Three hundred school children aged 6-14 years were examined for oral hygiene status. Among them, 61% were male and 39% were female (Table-1). Intraoral examinations were carried out and values were recorded using Oral Hygiene Index Simplified as suggested by Greene and Vermillion.[5] It was observed that in public school, 26.7% had fair oral hygiene status and 73.3% had poor oral hygiene status and none of them had good oral hygiene status while in private school 0.7% had good oral hygiene, 62% had fair oral hygiene and 37.3% had poor oral hygiene status. Overall, only one percent of the children had good oral hygiene status compared to 55.3% children who had poor oral hygiene status (Table-2).

The comparison between male and female showed that the mean OHI-S score was more in females than that of the males but it was not statistically significant (Table 3). The mean OHI-S score was more among the public school children compared to that of the private school children which was statistically significant (Table 4).

DISCUSSION

In general, the oral hygiene of the children examined in the present study was rather poor, with heavy plaque accumulation. The study shows that more than 50% of students had poor oral hygiene, which is in contrast with other studies.[2,6,7,8] It may be due to not exercising proper oral hygiene practice, lack of oral hygiene awareness and motivation, inability to buy a toothbrush and toothpaste due to poor socioeconomic status. The mean OHI-S score was very high compared to other studies[7,9,10] conducted elsewhere. Mean DI-S and CI-S among males and females were also found to be higher compared to other studies.[11,12] The difference in oral hygiene status among males and females was insignificant which was in contrast to other studies[13,14] where females had better oral hygiene status. The oral hygiene status of the public school children was significantly higher than the private counterpart which was similar to the study by Yee et al.[15] but in contrast to other study.[14]

The change to healthy attitude and practice can be occurred by giving adequate information, motivation and practice of the measures to the subjects. The results of this study showed that the oral hygiene status of school children in Rajbiraj was poor and needed improvement because they might not be exercising proper oral hygiene practice as shown in a study by Baral et al.[1] Parents and teachers need to be informed, motivated about dental care so that their attitudes change. Based upon these findings, the establishment of a school-based oral health education program in school children, including parents and teachers is suggested.

CONCLUSION

The results of this study showed that oral hygiene status, oral health awareness and knowledge level among government schoolchildren is poor and needs to be improved. If dental health awareness can be instituted to the parents, including brushing techniques and diet counseling to children at a very early age, the incidence of oral diseases can be kept to a minimum, and can reduce the probability of complicated dental treatment needs. Parents and teachers need to be informed, motivated about dental care so that their attitudes change. Based upon these findings, the establishment of a school-based oral health education program in government school children, including parents and teachers is recommended. Oral health education and

motivation are the basic steps for improving the oral hygiene status among the school going children.

REFERENCES

1. Baral P, Bhattarai C, Paudel PP, et al. A Study on Oral Hygiene Practice Among School Children of Pokhara municipality. Journal of GMC-Nepal 2009; 2(2): 37-8.

2. Alakija W. Oral hygiene in primary schoolchildren in Benin City, Nigeria. J Epidemiol Community Health, 1981; 35(3):224-6.

3. Levin KA, Currie C. Adolescent tooth brushing and the home environment: sociodemographic factors, family relationships and mealtime routines and disorganisation. Community Dent Oral Epidemiol, 2010; 38(1):10-8.

4. Mehta A, Kaur G. "Oral health related knowledge, attitude and practices among 12-yrs old schoolchildren studying in rural areas of Panchkhula, India". Indian J Dent Res, 2012; 23(2):293.

5. Greene JC, Vermillion JR. The simplified oral hygiene index. J Am Dent Assoc 1964; 68: 7-13.

6. Bhayya DP, Shyagali TR, Mallikarjun K. Study of oral hygiene status and prevalence of gingival diseases in 10-12 year old school children in Maharastra, India. J Int Oral Health, 2010; 2(3): 21-6.

7. Al-Jobair AM. Medical and dental health status of orphan children in central Saudi Arabia. Saudi Med J 2013; 34 (5): 531-6.

8. ur Rehman MM, Mahmood N, ur Rehman B. The relationship of caries with oral hygiene status and extra-oral risk factors. J Ayub Med Coll Abbottabad, 2008; 20(1):103-8.

9. Solanki J, Gupta S, Arora G, et al. Prevalence of dental caries and oral hygiene status among Blind School Children and Normal children, Jodhpur city: A comparative study. J. Adv Oral Research 2013; 4(2):1-6.

10. Leous P, Palianskaya L, Leous L. Oral Hygiene and Gingival Inflammation in 6-8-year-olds From a Junior School in Minsk who Participated in a Supervised Oral Hygiene Programme. OHDMBSC, 2009; 8(1): 27-30.

11. Khan WS, Khan P, Khan ZA. Oral Cleanliness of School Children of Ghazi Tehsil, District Haripur. Pakistan Oral & Dental Journal, 2009; 29(1): 137-40.

12. Punitha VC, Sivaprakasam P. Oral Hygiene Status, Knowledge, Attitude and Practices of Oral Health among Rural Children of Kanchipuram District. Indian Journal of Multidisciplinary Dentistry, 2011;1(2): 115-8.

13. Sogi G, Bhaskar DJ. Dental caries and oral hygiene status of 13-14 year old school children of Davangere. J Indian Soc Pedod Prev Dent, 2001;19(3):113-7.

14. Mahesh Kumar P, Joseph T, Varma RB, et al. Oral health status of 5 years and 12 years school going children in Chennai city--an epidemiological study. J Indian Soc Pedod Prev Dent, 2005; 23(1):17-22.

15. Yee R, David J, Khadka R. Oral cleanliness of 12-13 year-old and 15-year-old school children of Sunsari District, Nepal. J Indian Soc Pedod Prev Dent. 2006; 24(3): 146-51.