

Practice of oral hygiene of primary school children and its relationship with socioeconomic status of their family at Rajshahi, Bangladesh

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Abstract:

Aim: The Aim of the present study was to assess the level of practices of primary school going children about oral hygiene and its relationship with socio-economic status of their family at the study area Helenabad colony primary school, Rajshahi, Bangladesh. **Method:** The study was cross-sectional and descriptive in design. The sample size of this study was 405 primary school going children of class three to class five of the study area. The study was carried out in the Helenabad Primary School-01 and Helenabad Primary School-02. In order to obtain representative samples, a purposive sampling technique was applied in selecting the study participants among the targeted total population in amid the areas. Nevertheless, it is important to take note of the limitations caused by such methods, in particular the selection bias (Fletcher et al. 1996). To collect the data, direct interview method with respondents is used in this study. The completed questionnaire was collected and checked for the completeness and clarity of the information to exclude missing or inconsistent data and then compiled together. Data was edited properly before analysis. An Excel Spreadsheet as master document was prepared first. Data analysis was done through SPSS 16.0. Final analysis of the data was carried out using percentage, absolute numbers for categorical variables in IBM SPSS 16.0. For some purpose Excel program was also used. **Result:** The study revealed that, out of 405, majority 47% respondents was male and 53% respondents were female. The male - female ratio was 1 : 1.12. Majority 59.8% students belonged to the age group of 9 - 10 years. The mean age of the students was 9.65 ± 1.158 years. It was found that majority of the mothers 84.7% were house wives. We also found that only 13% mothers' occupation were service and the relationship between the level of knowledge on hygiene and mothers occupation of the respondents was not statistically significant ($p > 0.05$). About 56% fathers occupation were service, 38.5% were business man and 5% were day laborer. The study showed that the relationship between knowledge and practice on personal hygiene father's occupation was statistically significant ($p < 0.05$). **Conclusion:** The study was showed that the relationship between economic status of the respondents and practice on oral hygiene was statistically significant ($p < 0.05$).

Key words: Oral hygiene, mother's occupation, father's occupation.

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Introduction:

Oral hygiene is the cheapest form of preventive health measure. Though cheap, it is surprisingly one of the most ignored in practice especially in the underprivileged rural communities. Poor oral hygiene is known as important

predisposing factor of some oral diseases like cancrumoris, periodontitis, acute nectrotisingulcerative gingivitis (ANUG) and gingivitis¹. School children should have sufficient knowledge of understanding the value of maintaining health practices, which in turn results healthy children for the nation.² To create positive health among them, oro-dental care is to be given as serious thought along with other factors necessary for promotion of health.³ Therefore, to impart knowledge among students regarding formation of dental hygiene is an effective measure in case of school students.⁴

Again, poor oral hygiene, measles, poverty, chronic malnutrition, poor environmental sanitation and unsafe water supply have been identified as risk factor for Noma.⁵ Oral health education like health in general, can work best when the state of the knowledge and the general oral habit of the recipient is taken into account. It imposes a challenge of developing culturally acceptable and sensitive program that has the potential to provide knowledge and develop a

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health attitude in the population concerning oral health or by way of integrating scientific knowledge into traditional oral health beliefs.⁶ There is no nation free from oro-dental diseases, but the pattern of prevalence of the diseases vary from country to country,⁷

Oral hygiene mainly depends on the knowledge of the people. In students, the knowledge and practice of oro-dental hygiene can be raised through child to child education.⁸

Objectives:

General objective:

The study was carried out with a view to assess the level of practices of primary school going children about personal hygiene and its relationship with socio-economic status of their family.

Specific objectives:

- o To assess the level of knowledge about oral hygiene of the primary school going children
- o To describe the status of practice about oral hygiene of the school going children
- o To find out the association between some selected socio-demographic factors and knowledge & practice of oral hygiene of the school going children

Methodology:

Study Design

A descriptive cross-sectional study.

Study population

Boys and girls who are currently studying in class III to class V of Helenabad Primary School-01 and Helenabad Primary School-02.

Study area and site

Helenabad colony is at Ward no.5, PS-Rajpara of Rajshahi City Corporation. The study was conducted in two primary schools of this Helenabad colony, Rajshahi, Bangladesh.

Sample size estimation and sample size

The sample size for this study was 384.

Sampling Technique

Purposive sampling.

Data Collection Tools

Data collection tools were the semi-structured questionnaire.

Data collection procedure

A partially structured questionnaire which was duly pre-tested was used to collect data from the respondents and their oral hygiene condition was examined by the researcher.

Data Management and Analysis plan

After proper verification regarding consistency and validity, data were coded and entered into the computer by using SPSS/PC programme. Data were analyzed according to the objectives of the study by using SPSS/PC+ software computer programme. Descriptive variables were explained with mean and standard deviation. Statistical significance was found by applying relevant statistical tests at appropriate probability level ($p=0.05$ or $p=0.01$)

Results:

The present study has been carried with the objective of assessing the level of knowledge and practice of oral hygiene of primary school going children at Helenabad colony school, Rajshahi and its relationship with socio-economic status of their family. The information was collected from 405 school children by using a questionnaire. The results of the survey have been presented in the following section with tables, charts and description.

Table-I

Frequency distribution of respondents by age group.

Age group in years	Frequency	
	N	%
Less than 9 years	67	16.5
9-10 years	242	59.8
11 years and above	96	23.7
Total	405	100.0 \bar{X}

\pm SD = 9.65 ± 1.158 years

Regarding frequency distribution of study subjects by age group, it was revealed that out of 405, majority of them [242(59.8%)] belonged to the age group of 9 - 10 years of age. It was also found that 67 students (16.5%) were less than 9 years and 96 students (23.7%) were 11 and above years. The mean age of the students was 9.65 ± 1.158 years (Table-I).

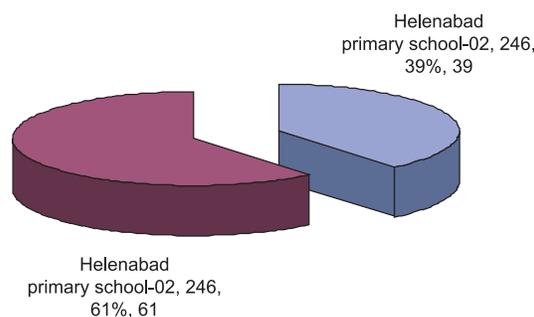


Fig.-1: Distribution of students by name of school (n=405).

The study showed that majority of students [246 (61%)] were from Helenabad primary school-02 and 159 (39%) respondents were from Helenabad primary school-01 (Figure 1).

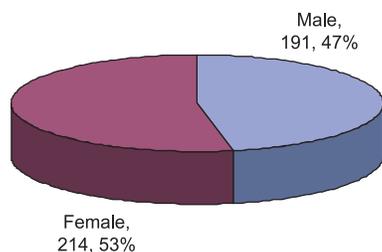


Fig.-2: Distribution of the gender of respondents (n =405)

About distribution of the students by gender, it was found, majority of them [214 (53%)] were female and 191 (47%) respondents were male. The male - female ratio was 1:1.12 (Figure 2).

Table-II

Distribution of respondents by academic class.

Class	Frequency	
	N	%
Class-III	143	35.3
Class-IV	148	36.5
Class-V	114	28.1
Total	405	100.0

Regarding frequency distribution of study subjects by class, it was revealed that [143 (35.3%)] students were in class III, [148 (36.5%)] students were in class IV and [114 (28.1%)] students were in class V (Table-II).

Table-III

Frequency distribution of students by religion.

Religion	Frequency	
	N	%
Islam	394	97.0
Hindu	11	3.0
Total	405	100.0

About frequency distribution of students by religion, it was found that out of 428, majority of them [394(97.0%)] belonged to the religion of Islam. It was also found that 11 students (3.0%) were Hindu (Table-III).

Table-IV

Frequency distribution of respondents by family type.

Family Type	Frequency	
	N	%
Nuclear Family	288	71.0
Joint Family	117	29.0
Total	405	100.0

Regarding frequency distribution of the study subjects by family type, it showed that the majority [288 (71.0%)] students came from nuclear family. It was also found from the survey that only 29.0% respondents belonged to the joint family (Table-IV).

Table-V

Frequency distribution of respondents by father's occupation.

Fathers occupation	Frequency	
	N	%
Service	228	56.3
Day labor	21	5.2
Business	156	38.5
Total	405	100.0

Regarding the occupation of the fathers, it was explored that 228 (56.3%) students' fathers were service holder, 21 (5.2.0%) fathers were day laborer, 156 (38.5%) were business (Table-V).

Table-VI

Frequency distribution of respondents by mother's occupation

Mother's Occupation	Frequency	
	N	%
Service	53	13.1
Day labor	9	2.2
House wife	343	84.7
Total	405	100.0

About frequency distribution of students by mother's occupation, it was revealed that, out of 405, majority of the mothers [343 (84.7%)] were house wives, 53(13.1%) were service holder. We also found that only 9 (2.2%) mothers' occupation were day laborer (Table-VI).

Table-VII

Frequency distribution of respondents by monthly family income.

Monthly income (in Tk.)	Frequency	
	N	%
<7500	88	22.0
7500-15000	200	49.0
>15000	117	29.0
Total	405	100.0

\pm SD = 13539.06 \pm 9440.16 taka.

Regarding monthly family income, 117 (29%) students informed, their monthly family income was Tk. >15,000.00, 88 (22.0%) respondent's monthly family income were less than Tk. 7500.00 and about 49% student's monthly family income was Tk. 7500.00 to 15,000.00 (Table no.7). The mean of monthly family income of the respondents was 13539.06 and Standard deviation 9440.16 Taka (Table-VII)

Table-VIII

Frequency distribution of respondents by cleaning teeth.

Cleaning Teeth	Frequency	
	N	%
Once daily	38	9.4
Two times daily	288	71.1
Three times daily	79	19.5
Total	405	100.0

The study showed that out of 405 students, majority of students [288 (71.1%)] clean their teeth two times daily. It was also found that 79 (19.5%) students clean their teeth three times daily and only 9.4% students clean their teeth once daily (Table-VIII).

Table-IX

Frequency distribution of respondents by time of teeth cleaning.

Time of teeth cleaning	Frequency	
	N	%
After any meal	58	14.3
After lunch	19	4.7
Before breakfast	261	64.4
Before sleeping	67	16.5
Total	405	100.0

Regarding distribution of students by time of tooth brush, it was revealed that out of 405, majority of them [261

(64.4%)] clean their teeth before breakfast. It also showed that 58 (14.3%) students clean their teeth after any meal and 19 (4.7%) students clean their teeth after lunch. Only 16.5% students clean teeth before sleeping (Table-IX).

Table-X

Frequency distribution of respondents by mentioning the name of materials for cleaning teeth.

Name of materials	Frequency	
	N	%
Tooth paste	391	96.5
Tooth powder	12	3.0
Meswak	2	0.5
Total	405	100.0

Table-X showed that the majority students [391 (96.5%)] used tooth paste for cleaning their teeth, 12 (3.0%) students used tooth powder, 2 students used meswak for cleaning their teeth.

Table-XI

Frequency distribution of respondents by mentioning the technique of teeth brushing (Multiple responses) (n = 405)

Technique of teeth brushing	Frequency	
	N	%
Horizontal scrub	355	87.65
Up and down	280	69.13
Others	25	6.17

*Increase percentage due to multiple responses.

About distribution of the study subjects by technique of teeth brushing, it showed that 355 (87.65%) respondents mentioned the technique of teeth brushing is 'Horizontal scrub', 280 (69.13%) respondents brushing their teeth up and down and only 25(6.17%) respondents used other technique for brushing their teeth (Table-XI).

Above table shows that out of 405, 228 (56.3%) fathers occupation was service. Among them 29(12.7%) students cleaned their teeth once in a day, 146(60.0%) brushed two times in day and 53(23.2%) brushed teeth three times in day. 21(5.2%) students' fathers were day laborer. Among them 18(85.7%) students' cleaned teeth two times in a day and 3(14.3%) brushed three times in day. It also showed that 156 (38.5%) respondent's fathers were business man. Among them 9(5.8%) students brushed teeth once in a day, 124(79.5%) brushed two times in day and 23(14.7%) brushed three times daily. The study also revealed that

Table-XII
Relationship between father's occupation and tooth brush quantity

Fathers occupation	Tooth brush quantity			Total N (%)
	Once in a day N (%)	Two times in a day N (%)	Three times in a day N (%)	
Service	29(12.7%)	146(60.0%)	53 (23.2%)	228(56.3%)
Day laborer	0 (0.0%)	18(85.7%)	3 (14.3%)	21(5.2%)
Business	9 (5.8%)	124 (79.5%)	23 (14.7%)	156(38.5%)
Total	38	288	79	405(100%)

$X = 14.363, df = 4, p < 0.05$

Table-XIII
Relationship between mother's occupation and tooth brush quantity

Mothers occupation	Tooth brush quantity			Total N (%)
	Once in a day N(%)	Two times in a day N(%)	Three times in a day N(%)	
Service	4 (7.5%)	40 (75.5%)	9(17.0%)	53(13.1%)
Day laborer	1 (11.1%)	8 (88.9%)	0 (0.0%)	9(2.2%)
Housewife	33 (9.6%)	240 (70.0%)	70 (20.4%)	343(84.7%)
Total	38	288	79	405(100%)

$\chi^2 = 2.916, df = 4, p > 0.05$

the relationship between father's occupation and brushing teeth was statistically significant ($p < 0.05$) [Table-XII].

The frequency distribution of the study subjects by mother's occupation and teeth brushing, it was showed that out of 405, 53 (13.1%) mothers occupation was service. Among them 4(7.5%) students cleaned their teeth once in a day, 40(75.5%) brushed two times in day and 9 (17.0%) brushed teeth three times in day. 9 (2.2%) students' mothers were day laborer. Among them 8(88.9%) students' cleaned teeth two times in a day and 1(11.1%) brushed once in a day. It also showed that 343(84.7%) respondent's mothers were housewives. Among them 33(9.6%) students brushed teeth once in a day, 240(70.0%) brushed two times in day and 70(20.4%) brushed three times daily. The study also revealed that the relationship between mother's occupation and brushing teeth was not statistically significant ($p > 0.05$) [Table-XIII].

Discussion:

The survey was carried out in the Helenabad Primary School-01 and Helenabad Primary School-02. A total 405 students were included in the study from the two schools and they were from class III to Class V. The study showed that majority of students 61% were from Helenabad Primary

School-02 and 39% respondents were from Helenabad Primary School-01 (Figure no.1). The results about the quantity of students of these two schools indicated that the quality education is more in Helenabad Primary School-02 than Helenabad Primary School-01.

The study showed that the majority respondents 53% were female and 47% respondents were male. The male - female ratio was 1: 1.12 (Figure- 2). Currently (2011 est.) male - female ratio of our country is 1.01:1 (1.01 male/female, Under 15 years).⁹

The study revealed that 35.3% students were in class III, 36.5% students were in class IV and 28.1% students were in class V (Table-II). Majority students (97.0%) belonged to the religion of Islam and 3.0% students were Hindu (Table -III). Currently 90% of our populations are Muslim⁹.

It showed that the majority (71.0%) students came from nuclear family. We also found from the survey that only 29.0% respondents belonged to the joint family (Table-IV). This study indicates that changes taking place in the structure of the family in our country. It is not a good sign of for country. Joint family or extended family can help the children to learn morality.

It was explored that the 56.3% students' fathers were service holder, 38.5% fathers were businessmen, and 5.2% were day labor (Table-V). Majority of the mothers (84.7%) were house wives. We also found that only 13.1% mothers' occupation were service and 2.2% mothers were day laborer (Table-VI). It showed that 22.0% respondent's monthly family income was less than Tk. 7500.00 considered as low income group (Table-VII). The result indicates that a good proportion of families still poor of Bangladesh community.

The study showed that 71.1% clean their teeth two times daily. It also showed that 19.5% students clean their teeth three times daily and 9.4% students clean their teeth once daily (Table-VIII). It also revealed that 64.4% students' clean teeth before breakfast, 14.3% students clean their teeth after any meal and 4.7% students clean their teeth after lunch. Only 16.5 students clean teeth before sleeping (Table-IX). About ninety six percent (96.5%) student used tooth paste for cleaning their teeth, 3.0% students used tooth powder and 2 students used meswak for cleaning their teeth (Table-X). It showed that 87.65% respondents mentioned the technique of teeth brushing is 'Horizontal scrub', 69.13% respondents brushing their teeth up and down and only 6.17% respondents used other technique for brushing their teeth (Table-XI). Although most of the students had their knowledge about healthy habits but a good proportion of students did not cleaning teeth properly. So they should be aware through health education program. In another study of the oral hygiene status of students in selected secondary school in Osogbo, Nigeria stated that 86.8% of the students had good oral hygiene, 12.1% have oral hygiene that could be said to be fair, while 1.2% had poor oral hygiene. Based on this result, one could conclude that these students' oral hygiene status was high. It also showed that oral hygiene was better among the female respondents than the male respondents¹⁰.

About 56% father occupation were service. Among them 12.7% students cleaned their teeth once in a day, 60.0% brushed two times in a day and 23.2% brush teeth three times in a day. This study revealed that the relationship between father's occupation and brushing teeth was statistically significant ($p < 0.05$). (Table-XII)

The frequency distribution of the study subjects by mother occupation and teeth brushing, it was showed that 13.1% mothers' occupation was service. Among them 7.5% students cleaned their teeth once in a day, 75.5% brushed two times in day and 17.0% brushed teeth three times in a day. 2.2% students' mothers were day labour.

Among them 88.9% students' cleaned teeth two times in a day and 11.1% brushed once in a day. It also showed that 84.7% respondent's mother were housewives. Among them 59.6% students brushed teeth once in a day, 70.0% brushed two times in a day and 20.4% brushed three times daily. The study also revealed that the relationship between mothers occupation and brushing teeth was not statistically significant ($p > 0.05$) (Table-XIII).

Conclusion:

The objective of the present study was to assess the level of practices of primary school going children about personal hygiene of Helenabad colony of Rajshahi city corporation Bangladesh and to find out the association between some selected socio-demographic factors and practice on personal hygiene of the school going children. A descriptive cross sectional study was carried out among the 405 school going children of class three to class five of study area.

The survey was carried out in the Helenabad primary school-01 and Helenabad primary school-02. The study revealed that 47% were male and 53% respondents were female respectively. The male - female ratio was 1: 1.12. Regarding distribution of students by class 35.3% students were in class III, 36.5% students were in class IV and 28.1% students were in class V. About age of the respondents majority (59.8%) belonged to the age group of 9 - 10 years. It was also found that 16.5% students were less than 9 years and 23.7% were 11 and above years. The mean age of the students was 9.65 ± 1.158 years.

It was found that majority of the mothers 84.7% were house wives. We also found that only 13% mothers' occupation were service and the relationship between the level of knowledge on hygiene and mothers occupation of the respondents was not statistically significant ($p > 0.05$). About 56% fathers occupation were service, 38.5% were business man and 5% were day laborer. The study showed that the relationship between knowledge and practice on personal hygiene father's occupation was statistically significant ($p < 0.05$).

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