



A PROFILE OF UNHYGIENIC HABITS AND RELATED MORBIDITIES AMONG PRIMARY SCHOOL CHILDREN IN URBAN AREA OF SILIGURI, WEST BENGAL

Community Medicine

Kuntala Ray	Associate Professor, Department of Community Medicine, Institute of Post Graduate Medical Education & Research, Kolkata (Former, Assistant Professor, Department of Community Medicine, North Bengal Medical College, Darjeeling)
Hironmoy Roy*	Associate Professor, Department of Anatomy, Institute of Post Graduate Medical Education & Research, Kolkata *Corresponding Author
Manasi Chakraborty	Professor, Department of Community Medicine, MGM Medical College & LSK Hospital, Kishangunj (Former, Professor & Head, Department of Community Medicine, North Bengal Medical College, Siliguri)

ABSTRACT

Background: Major health problems of primary school children in India are ARI, diarrhoea, worm infestation, dental caries disease of skin, hair & eyes etc. Many of these ailments are due to lack of personal cleanliness. To address this problem the present study was done with the following objectives-

1. To find out different type of unhygienic habits among the children of primary school under Siliguri municipal corporation
2. To identify the magnitude of morbidities and its relation with unhygienic habits.

Methodology: A cross sectional study was conducted among 319 students over a period of 4 months in 15% of the total primary schools enlisted under Siliguri Municipal Corporation. Pre-designed, pre-tested schedule was used to assess the unhygienic habits and morbidities. Analysis was done using SPSS 12.0 version. Chi square test was used to determine statistical significance.

Result & conclusion: Pre-meal hand washing, daily tooth brushing, and regular trimming of nail was not evident in 5%, 9.7% and 41.1% of cases respectively. Among the morbidities dental caries (62.4%), worm infestation (40.8%), and diarrhea (20.4%) were most prevalent. Significant statistical association between dental caries and irregular tooth brushing and also for skin infection and bathing was revealed. Comprehensive health education may solve this problem.

KEYWORDS

Unhygienic habits, primary school children, school health nutrition

INTRODUCTION

"Hygiene" is derived from word "Hygeia", [1] in name of the Greek goddess of health, cleanliness and sanitation. Personal hygiene is the practice of maintaining cleanliness of the body done through bathing, hand washing, tooth brushing, trimming nails, hair grooming, cleaning ears and others. Improved hygienic practices are essential to stop the transmission of water and sanitation related diseases which are highly prevalent particularly among children. In children no doubt this personal hygiene provides more immunity and improved quality of life. So the knowledge and practice of the hygienic good habits are felt essential from the very childhood.

Major health problems of primary school children in India are acute respiratory infections, diarrhoea, worm infestation, dental caries, disease of skin, hair & eyes etc. Many of these ailments are due to lack of personal cleanliness. Young children are more vulnerable than any other age group to the ill effects of poor sanitation and lack of hygiene. Lack of sanitation, inadequate hygiene contributes the leading killers of children including diarrheal disease, pneumonia and under nutrition. [2-4]

So, this study has been carried out to explore the different practices for health related habits and the ailments in the school going children in primary schools in a town of Darjeeling district of North Bengal.

OBJECTIVE:-

1. To find out different types of unhygienic habits among the children of primary schools under Siliguri Municipal Corporation
2. To identify the magnitude of morbidities and its relation with unhygienic habits.

METHODOLOGY:

With the due proper permission from the institutional ethics committee of North Bengal Medical College and permission from the then Mayor-In-Council (education department) of the Siliguri Municipal Corporation area, in the tenure of April to July 2009, a cross sectional study was carried on among the corporation aided primary schools. The list of all primary schools was collected from the office of the MIC.

Among the enlisted total 27 such schools 15% i.e. four (4) schools

were selected randomly. School authorities were intimated about the date time and requested to ensure the presence of the parents of the students on the date of the study. All the students of the selected schools were visited class-wise for interviewing parents & clinical examination of the child. Three (3) visits were paid to each class to include the absentee.

Data was collected after the informed consent from the parents for participating in the study; with the help of a pre-tested, pre-designed semi-structured schedule, pencil torch and laryngeal mirror, from the attending parents as well as clinically examining the child for ailments. Data was collected for (1) age, gender, religion of the child and, (2) common probable unhygienic habits for a primary school children viz. habits of tooth brushing, handwashing before meal and after defecation, bathing, trimming nails, (3) common probable morbidities viz. skin infection, dental caries, impacted wax etc. (4) any history of common illness in past six months like diarrhea, acute respiratory infection, passage of worm with stool etc.

Analysis was done using SPSS 12.0 version. χ^2 test was used to determine statistical association between unhygienic habits and morbidities.

RESULT:

Total number of children participated in this study were 319 out of 388. They were between 5-12 years of age; and response rate 82%. There were 197(61.8%) girls and 122(38.2%) boys, with the mean age of all the children 7.18 ± 1.484 yrs and majority (88.7%) was Hindu by religion. [Figure 1]

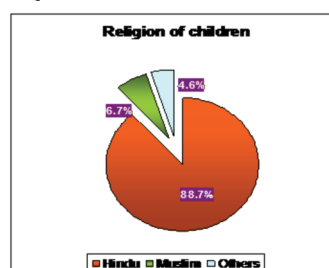


Figure 1- representing the religion of the participant students

On interview from the parents it could be revealed that 9% students do not brush their teeth everyday. Even in this era, 0.6% students use nimsticks, 8.8% use ash to brush their teeth. Even today 1.8% students are not habituated to clean hands after defecation; and amongst them who clean hands, almost one fourth (25%) do not use soap for cleaning. 10% students were found to be not habituated to take bath regularly. Parents of 40% students noted the passage of worm in stool of the child. Surprisingly the parents of 39% students are not aware to note the passage of worm in the stool of the child. [Table 1]

Almost two-third of the children has dirty untrimmed nails and almost in one third, wax found to be impacted in the ears. 62.4% students were found to have dental caries and one in every four students was found with either form of skin infections. Majority of the children found to suffer from morbidities like acute respiratory infections, followed by diarrhoea. [Table 1]

Table 1- different types of Unhygienic habits and morbidities found in the participants

Practice		Response
Habit for Tooth brushing	Q.1. Do you make tooth brushing every day? (interview) [N=319]	daily 288 (90.3%)
		Not daily 31 (9.7%)
	Q. 2 How usually you brush your teeth? (interview) [N=319]	With toothbrush 259 (81.2%)
		With finger 58 (18.2%)
		With neem-stick 2 (0.6%)
	Q. 3. What you usually use to brush your teeth? (interview) [N=319]	Tooth paste 264 (82.7%)
		Tooth powder 27 (8.5%)
		ash 28 (8.8%)
	Habit for Hand washing Q. 4. Do you always wash your hand..... (interview) [N=319]	Only before meals, but not after visiting toilet for defecation 3 (0.9%)
		Only after defecation, but not before meal 119 (37.4%)
		Both before taking meal and after defecation 194 (60.8%)
		None of the above 3 (0.9%)
		Q. 5. How you wash your hand after visiting toilet for defecation? (interview) [n= 313]
		With water only 41 (13.2%)
		In ash 11 (3.4%)
		In soil 28 (8.8%)
		With soap & water 233 (74.6%)
Habit of taking regular bath	Q. 6. How frequently in a week do you take bath? (interview) [N= 319]	Daily 288 (90.3%)
		Not daily 31 (9.7%)
Warm infestation	Q. 7. Have you pass worm in stool almost regularly? (interview) [N= 319]	Yes, noted for it 131 (40.8%)
		No, noted for this 64 (20%)
		Never noted 125 (39.2%)
Nail hygiene	Q. 8. How the nails appears to be (observation by clinical examination) [N= 319]	Clean 106 (33.2%)
		Dirty 213 (66.8%)

Impacted wax	Q. 9. How many of the students are having impacted wax in either of ear? (observation by clinical examination) [N= 319]	Impacted wax present in either of ear 101 (31.8%)
		No wax 218 (68.8%)
Dental caries	Q. 10. How many of the students are having dental caries (observation by clinical examination) [N= 319]	Caries tooth present 199 (62.4%)
		No caries tooth 120 (37.6%)
Skin infection	Q. 11. How many of the students are having skin infection (observation by clinical examination) [N= 319]	rashes 24 (7.5%)
		boils 12 (3.8%)
		Fungal infection 42 (13.2%)
		No infection 241 (75.5%)
H/O Recent illness	Q. 12. History of past illness in last six months? (interview) [N=319]	diarrhoea 44 (13.8%)
		Fever (Acute respiratory infection) 152 (47.6%)
		Both diarrhoea & ARI 21 (6.6%)
		Abdominal colic 13 (4.1%)
		Jaundice 8 (2.5%)
		Unspecified 81 (25.4%)

On analysis, in majority of the cases the morbidities were found to be statistically significantly related with the unhygienic habit of the child. Skin infections found prevalent significantly with the bathing habit of the child (chi square 41.16; $p < 0.05$), dental caries found to be significantly prevalent in child with ill tooth brushing habit (chi square 4.87; $p < 0.05$) and similarly history of worm infestation was found to be significantly prevalent in child who not follow hygienic habit of hand-washing (chi square 5.94; $p < 0.05$). [Table 2]

Table 2- Relationship of morbidities with the unhygienic habits, found in the primary school children

Skin infection	Bathing		Statistical test
	Daily	Twice in a wk	
Yes	32 (11.1%)	17 (88.9%)	$\chi^2 = 41.162$ $p = 0.000$
No	256 (88.9%)	14 (45.2%)	
Total	288 (100.0%)	31 (100.0%)	
Caries	Tooth brushing		Statistical Test
	Daily	Not daily	
Present	174 (60.4%)	25 (80.6%)	$\chi^2 = 4.887$ $p = 0.027$
Absent	114 (39.6%)	6 (19.4%)	
Total	288 (100.0%)	31 (100.0%)	
H/O Worm infestation	Hand washing		Test
	Plain water	With soap	
Present	46 (56.8%)	98 (41.2%)	$\chi^2 = 5.949$ $p = 0.015$
Absent	35 (43.2%)	140 (58.8%)	
Total	81 (100%)	238 (100%)	

DISCUSSION:

This study found 9.1% children was not habituated for regular tooth brushing; and 8.8% child uses ash to brush their teeth. 86 out of 319

(26.9%) children not uses soap with water to wash hands after visiting toilet for defecation. Almost 10% children not used to take bath regularly and almost two-third (66.8%) had dirty nails. Significant association were found in prevalence of skin related infections and poor habits of bath taking; caries teeth with ill habits of tooth brushing as well as warm infestations with habits of unhygienic hand wash, which definitely highlights the lack of awareness among the parents and children for hygienic practices.

Earlier works viz. the study of AR Dongre et al (2007) [5] among children of 6-14 yrs revealed intestinal parasite infection highly significant among those who have poor hand washing practice (37.2%). Another study done by Sudha P et al (2005) [6] assessed prevalence of dental caries in school children in Mangalore city was consistent with the present study. K Srinivasan et al (2000) [7] in Tirupati town of Andhra Pradesh showed that 25.7% primary school going children were suffering skin infection, 21.6% had worm in stool.

In 1999 the study of Thomas Walter in Trichy district, Tamilnadu [8] found the most common morbidities were dental caries (62%) among school children and it was due to non-usage of tooth brush (81%) and poor maintenance of oral hygiene. In 1990, Sharma and Sharma published their work on examined 201 tribal school children and the pediculosis was most common skin lesion (74.1%). [9]

In 2010, the study of Deb S [10] et al. in South Kolkata among 103 boys and 81 girls revealed the most common morbidities among the children with mean age 6 years to be warm infestation. Published work of Sarkar M (2013) among the primary school children in slum of Kolkata revealed that 6% school children not wash hands after visiting toilets and 16% child is not habituated to wash their hands before taking meal, 50% child had no habit to brush their teeth regularly and only 42% child used to take daily bath. [11]

Limitation

- Recall bias of the student especially their parents regarding personal hygienic habits may affect the results of the study.
- Present study was conducted only in school under Municipal Corporation. Results in the private school were yet to be explored.

Conclusion & recommendation-

Primary school days are the best time to learn the hygienic habits. Many unhealthy habits that develop in this period of life may cause different communicable disease. A comprehensive health education programme on personal hygiene was necessary to affect behaviour change communication among the primary school student. Strengthening periodic evaluation of school health programme to identify early symptom of unhealthy habits and undertake remedial measures. Regular guardian meeting in the schools informing about their children's health status & encouraging them to adopt healthful hygienic measures at home.

ACKNOWLEDGEMENT

The authors sincerely do acknowledge the then Mayor in Council (Education) of the Siliguri Municipal Corporation and the Institutional Ethics Committee of North Bengal Medical College for their permission to carry on the study. Authors express their extreme gratitude to the authorities of the schools where the study has been taken place; for their cooperation and last but not least the parents and the children who participated in this study.

REFERENCES:

- Oxford advanced learner's dictionary: Indian edition, Oxford university press, Oxford, 1992, p-65
- UNICEF: Progress for Children: A report card on water and sanitation, no 5, September 2006
- GOI: Water Supply, Sanitation and Hygiene Education: India, Technical Note series, Department of Drinking Water Supply, Ministry of Rural Development, GOI(2003)
- UNICEF: Life Skills-based Hygiene Education Workshop, New York, 12-1 Sept, 2000
- Dongre AR, Deshmukh PR, Grag BS: The impact of school health education programme on personal hygiene and related morbidities in tribal school children of Wardha district. Indian Journal of Community Medicine 2006; Vol 31(2); 81-2
- Sudha P, Bhasin S, Anegundi RT. Prevalence of dental caries among 5-13 years old children of Mangalore city. J Indian Soc Pedod Prev Dent 2005; 23:74-9
- Srinivasan K, Prabhu GR: A study of morbidity status of children in social welfare hostel in Tirupati town. Indian Journal of Community Medicine 2006; Vol 31 (3); 170-2
- Walter MT. A clinical study on the tribal school student of Pachai Malai Trichy district, Tamil Nadu, India, December 1999. Available in webpage https://www.academia.edu/1410082/A_Clinical_Study_on_the_Tribal_school_students_of_Pachai_Malai_Trichy_District_Tamilnadu_India
- Sharma NL, Sharma RC. Prevalence dermatological disease in school children of a high altitude tribal area of Himachal Pradesh. Indian J Dermatol Venereol Leprol 1990; 56: 375-6
- Deb S, Datta S, Dasgupta A, Mishra A. Relationship of personal hygiene with nutrition

and morbidity profile: A study among primary school children in South Kolkata. Indian Journal of Community Medicine 2010. Vol. 35 (2); 280-4

- Sarkar M. Personal hygiene among primary school children living in a slum of Kolkata, India. Journal of Preventive Medicine & Hygiene. 2013 Sep; 54(3): 153-8.