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Original Research Article

Study of hygiene practices among school going children in a government school in Kolkata

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ABSTRACT

Background: A majority of morbidity and mortality in developing countries is attributed to communicable diseases. 31% of all deaths in Southeast Asia, are caused by infectious disease. Poor health among school children is results from lack of awareness of the health benefits of personal hygiene.
Methods: The present cross sectional study was conducted among 440 school children in Government school in Kolkata (WB) over a period of 6 months.
Results: We tried to assess the hygiene practices among the school children. Majority of children responded that there were sources of clean water at their houses (94%) and school (84%).
Conclusions: The percentage of hygiene practices among school children was found to be satisfactory, however when asked to demonstrate correct hand washing procedure, 86.1% demonstrated the same in an incorrect manner.

Keywords: Hygiene practices, Sanitation, Communicable diseases, Hand washing, Clean water

INTRODUCTION

A majority of morbidity and mortality in developing countries is attributed to communicable diseases. 31% of all deaths in Southeast Asia, are caused by infectious diseases and this trend is especially notable in developing countries where acute respiratory and intestinal infections are the primary causes of morbidity and mortality among young children.[1] Lack of proper hygiene and sanitation facilities increases burden of communicable diseases among developing countries.[2] Previously many of the research conducted about hand hygiene indicated that children with proper hand washing practices are less likely to report gastrointestinal and respiratory symptoms. Previous reports suggests that hand washing with soap reduces morbidity due to diarrheal diseases by 44% and respiratory infections by 23%. World Health Organization reports that every year, 3.8 million children aged less than five die from acute diarrheal diseases and acute respiratory tract infections. Globally, 88% of diarrheal deaths are associated with use of unsafe water, inadequate sanitation and poor hygiene practices.[3] Lack of awareness regarding personal hygiene usually lands school children in poor health. Poor hygiene is usually associated with acute gastro-intestinal disorders, skin related conditions, helminthic infestations and dental diseases.[4] Communicable diseases are one of the most common problems faced by school going children. Use of contaminated or unsafe water, poor sanitation and poor hygienic practices are the primary causes of infections. Lack of personal hygiene along with poor sanitation practices usually favors human-human transmission of infection. Hence, Infection and malnutrition becomes a vicious circle and affects physical development of children adversely.[5]

According to recent statistics, 2.6 billion population lacks access to improved sanitation. Out of 1.2 billion people who live in India, a significant number of them lack recommended sanitation facilities and they mostly defecate in the open.[6] Improved access to safe water and hand washing practices are affordable and effective interventions to prevent acute gastrointestinal diseases.[3] Numerous literature is available which states that simple hand washing and basic sanitation practices have a potential to prevent diarrheal diseases, respiratory infections and skin conditions.[3]

We often consider that school is a place where a child spends most time of his childhood at school after home. Schools are important places in their lives since they provide an environment for development of skills, intelligence, which can help them to achieve their potential goals and develop as a good human being.[7] Research tells us that schools can have a major effect on children's health, by promoting healthy behaviors among them.[8,9] Hence this study aims at assessing hygiene practices among school children and to know their perception regarding importance of maintenance of sanitation and hygiene in growth and development of a child.

METHODS

The present cross sectional study was conducted among 440 school children in Government school in Kolkata (WB) over a period of 6 months from September 2017 to February 2018. School children studying from Class 9th to 12th standard were included in this cross sectional study. The school children who were ill, or did not give appropriate information were excluded from the study.

Necessary permissions were taken from the appropriate authorities before conducting the study. A pre-structured, pre-validated case record Performa was taken based on hygiene and sanitation aspect of Indian Adolescent Health Questionnaire (IAHQ). The data was entered using Microsoft Excel 2013 and it was presented in the form of charts, tables and analysed using appropriate statistical tests in order to draw conclusions using SPSS version 17.

RESULTS

In the present cross sectional study conducted among 440 school children, majority of children (50%) belonged to 15-16 years of age group and were in 9th & 10th standards, followed by children below 14 years of age (Table 1). 55% were male and 45% were female. We tried to assess the hygiene practices among the school children. Majority of children responded that there were sources of clean water at their houses (94%) and school (84%) (Table 2), Upon asking details about various sources of water they were drinking water from 66% students said that they were drinking water from water filters installed at their houses and schools, 16% students said that they are using municipality tap water for drinking purpose (Figure 1).

Table 1: Distribution of cases according to their demographic characteristics.

	Frequency	Percentage (%)
Age group (years)		
≤14	129	29.3
15-16	223	50.68
17-18	75	17.04
>18	13	2.95
Gender		
Male	242	55
Female	198	45
Standard		
9th	135	30.7
10th	111	25.2
11th	106	24.1
12th	88	20
Total	440	100

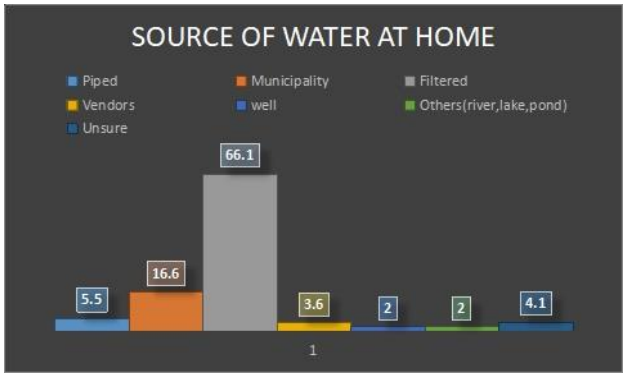

Figure 1: Responses of participants regarding various sources of clean water at their homes.

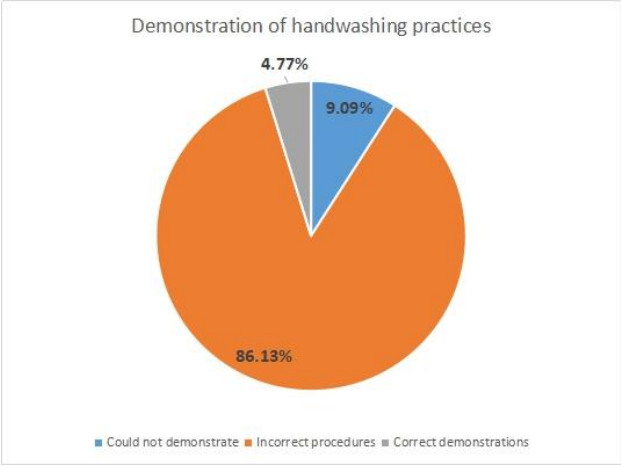

Figure 2: Distribution of participants according to demonstration of correct hand washing practices by them.

Table 2: Responses of participants on presence of clean drinking water sources at their school and home.

Variables	Frequency	Percentage (%)	P-value
Is there any source of clean drinking water at school			
Yes	370	84.1	
No	26	5.9	0.8
Unsure	44	10	
Is there any source of clean drinking water at home			
Yes	402	91.4	
No	24	5.5	0.33
Unsure	14	3.2	

Table 3: Responses of participants on their various hygiene practices.

Variables	Frequency	Percentage (%)	P-value
Brushed teeth in past week per day			
Not cleaned	8	1.8	
Once	129	29.3	
2 times	253	57.5	0.7
3 times	24	5.5	
4 times	26	5.9	
Wash hands before eating			
Never	5	1.1	
Rarely	11	2.5	
Sometimes	38	8.6	0.47
Most of the times	81	18.4	
Always	305	69.3	
Washed hands after using toilet			
Never	5	1.1	
Rarely	7	1.6	
Sometimes	24	5.5	< 0.05
Most of the times	34	7.7	
Always	370	84.1	
Used soap while washing hands			
Never	14	3.2	
Rarely	13	3	
Sometimes	41	9.3	0.7
Most of the times	128	29.1	
Always	244	55.4	
Toilets cleaned at school			
Yes	233	53	
No	197	44.8	
Unsure	10	2.2	

57.5% students said that they brush their teeth twice a day followed by 29% students who said that they do it for once in a day. About 69% study participants responded that they always wash their hands before eating, followed by 18% students who said that they wash it most of the times before eating. 84.1% study participants responded that they always wash their hands after toilet, 7.7% replied they wash hands most of the time, while 5% students wash sometimes. 55.4 % students responded that they always use soap while washing their hands, followed by 29.1%, who use soap most of the times to wash their hands and 9.3% students use soap sometimes (Table 3). We also asked about frequency of toilet cleaning at their schools. Most of the participants (53%) responded that toilets in their schools are cleaned periodically as per their expectations, while 44% students said that it is not cleaned as per their expectations (Table 3).

DISCUSSION

Various studies have reported that in developing countries like India, communicable diseases arising out of lack of hygiene and sanitation are among leading causes of morbidity and mortality. Children are often considered as frontiers of the nation and still it is a vulnerable group of our society, since they are susceptible to various communicable diseases due to lack of hygiene such as acute respiratory infections, gastrointestinal disorders, worm infestations etc., which are responsible for most of the causes of sickness absenteeism in schools. Hence we conducted the present cross sectional study among school children with the aim of knowing status of various hygiene practices among them, availability of clean water and clean toilets.

Fortunately we found that most of the students were following basic hygiene practices like washing their hands before meals and after defecation. Sarkar in their study observed poor hygiene score among 18% of school children whereas in our study majority of the children were having good personal hygiene scores.[5]

Sarkar in their study observed that majority of school children had correct knowledge about various hygiene practices such as brushing of teeth, combing hairs, washing hands before meals and after defecation, regular bath but they lagged behind in demonstrating correct practices.[5] In the present study too majority of the students could not elucidate the correct procedures to be employed during hand washing. Use of soap with every hand wash is popular in a little more than 50% of students. Deb in her study, observed that girls demonstrated better hygiene practices as compared to males. Regular hand washing after visiting toilet were found among 92.6% girls as compared to 73.8% boys. However, more boys brushed their teeth using toothpaste and toothbrush regularly (67%) as compared to girls (55.6%).[9] Pati et al also observed similar findings in their study. They observed better personal hygiene practices among school children[3].

Almost half of the study participants responded that toilets are not cleaned periodically as per their expectations, which is an important finding to note, since

unclean toilets may make students uncomfortable due to disturbing site and smell and also invite public health problems such as communicable diseases. However this finding may be biased since different students may have different opinions regarding ideal sanitation facilities.

Most of the students from the present study appear to use clean water through various types of filters for drinking purpose. However, the type of technique being employed such as Reverse Osmosis, UV could not be assessed. Though reverse-osmosis types of filters provide pure water, on the other hand it may invite various micro-nutrients/minerals deficiency conditions, since it filters off all the essential minerals like calcium, magnesium, iodine etc. Awareness regarding recommended filtration techniques was found to be lacking even among school teachers.

CONCLUSION

From the present study conducted among school children in government school, Kolkata, it can be concluded that the percentage of hygiene practices among school children was found to be satisfactory, however when asked to demonstrate correct hand washing procedure, 86.1% demonstrated the same in an incorrect manner. Majority of students seem to use clean, filtered water for drinking purpose, however the filtration methods they were using and reliability of those methods were not studied. As a component of Swacch Bharat Abhiyan in India, knowledge and practices regarding basic hygiene and sanitation appears to be satisfactory, however knowledge regarding correct procedures seems to be lacking.

Recommendations

Children are more susceptible for various illnesses due to lack of hygiene and sanitation practices. In addition to imparting knowledge regarding basic hygiene practices among children, various training sessions should be held for them in order to teach them exact steps involved in these basic practices such as steps involved in hand washing practices. Behavior change communications strategies should be used instead of just imparting knowledge. In addition, parents should also be included in the activities, and correct information regarding use of sanitation facilities and filtration techniques can be given to them, using school as a platform.

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