

Original Research Article

A cross-sectional study to assess the health hygiene status of school children in urban field practice area, Bangalore Medical College And Research Institute, Bengaluru

Netravati Ambiger, T. S. Ranganath*, M. Kavitha, D. B. Padmini

Department of Community Medicine, Bangalore Medical College and Research Institute, Bengaluru, Karnataka, India

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*Correspondence:

Dr. T. S. Ranganath,

E-mail: netraa17@gmail.com

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ABSTRACT

Background: A large fraction of the world's illness and death is attributable to communicable diseases. This is especially notable in developing countries where acute respiratory and intestinal infections are the primary causes of morbidity and mortality among young children. Objective of the study was to assess the basic hygiene practices among primary school children in urban field practice area, BMC&RI.

Methods: A cross sectional study was carried out during September and October 2016 on a total of 125 school children to assess the level of basic hygiene practices in Urban field practice area, BMCRI. A Random sampling technique was used and pre tested and semi structured questionnaire was read out to the participants during face to face interview and sufficient time was given to the subjects to respond, without probing the answer.

Results: Among 125 students, 54% were female and 46% were male. 53.6% students take bath on alternate days, 88% students wash their feet daily, and 76% students change their cloth daily. 75.2% students had h/o head lice and 57.6% students had h/o dental caries.

Conclusions: Out of 125, 56.8% of students have excellent hygiene, 42.4% of students have very good hygiene and 0.8% students have good hygiene.

Keywords: Hygiene, School children, Hand wash

INTRODUCTION

Hygiene is a science that deals with the promotion and preservation of health. The term Hygiene is reference to Hygieia the Greek goddess of health cleanliness and sanitation. Thus the origin of preventive medicine is dated back to 460-136 BC the classic period of Greek Medicine.¹

The use of improved sanitary facilities reduces the incidence of diarrhoea by 34%. Washing hands with soap after toilet use and before eating has been cited as one of the most cost-effective public health interventions

because it can reduce the incidence of diarrhoea by almost 40%.

A study comparing results from different countries found that hand washing can cut the risk of respiratory infections by 16%. All cases of roundworm, whipworm and hookworm infestation are attributable to inadequate sanitation and hygiene. An estimated 47% of children (ages 5-9) in the developing world suffer from worm infestations. It is common for a child living in a developing country to be chronically infected with all three types of worms.²

A large fraction of the world's illness and death is attributable to communicable diseases.³ this is especially notable in developing countries, where acute respiratory and intestinal infections are the primary causes of morbidity and mortality among young children.⁴ Hand washing and other hygienic practices are taught at every level of school. Proper hand washing is one of the best ways to prevent the spread of infection. Poor hygiene practices and inadequate sanitary conditions play major role in the increased burden of communicable diseases in developing countries. Hence this study aims to assess the health hygiene status among school children.

Objective

To assess the basic hygiene practices among primary and middle school children in urban field practice area, BMCRI.

METHODS

Study design

Cross sectional study.

Study population

Primary and middle school children.

Study area

Urban field practice area, BMCRI.

Study period

September to October 2016.

Study sample

125, calculated based on previous study done by Seenivasan et al at North Chennai.⁵

Based on a study conducted among urban school children in Chennai, the sample size was calculated using the formula $4pq/d^2$ and found to be 125. ($p=76.4\%$, $d=10\%$ of $p=7.6$, $q=23.6$)

$$n = 4pq/d^2$$

Where n = Sample size

p = Percentage of students had healthy hygiene practices (76.4%)

q = (100- p)

d = Relative precision = 10% of 76.4% = 7.6

$$n = \frac{4 \times 76.4 \times 23.6}{7.6^2} = 124.86 = 125$$

Inclusion criteria

Primary and middle school children of both sexes of age between 10-15 years, who were available at the selected schools in urban field practice area, BMCRI.

Exclusion criteria

Students who were sick or absent at the time of data collection.

Sampling method

There are 10 schools in urban field practice area including private and government schools, in which 3 schools were selected by simple random sampling method. Through probability proportional to size, 125 students were enrolled from 3 schools. Of which 4th 5th, 6th and 7th standard students were selected based on register and enrolled by random number table. Data was collected in the 3 randomly selected schools after obtaining the permission from the institutional ethics committee and school authorities. Informed oral assent was obtained from the participants and consent from the parents/guardians for the study.

Data collection technique

The study data was collected from 125 students from randomly selected 3 schools of urban field practice area, using pre tested semi structure questionnaire administered during face to face interview.

Data was collected from those who were present during the visit. The questionnaire has both close ended and multiple choice questions regarding hygiene practices. Standard pre-tested structured questionnaire used in 'Hygiene survey among school students' by Centre for Environment Education, Bangalore and Dettol HABIT study was modified according to the study population and used.⁷ The questionnaire consisted of three sections: socio-demographic details, questions on personal hygiene and household hygiene practices.

The questionnaire was in English. It was translated into Kannada and Hindi for students who do not have good understanding of English. The questionnaire was back translated into English for checking its accuracy.

Data analysis

Fully completed questionnaires were collected and the data was entered in MS Excel sheet and analyzed by done by using descriptive statistics. The results were presented in the form of tables and graphs wherever necessary.

RESULTS

Table 1 shows socio-demographic profile of study participants. In which 46 students were in the age of 12

years, 4 students were in 15 years. 17% were Hindu and 83% were Muslim. Out of 125 students, 90 (72%) belongs to nuclear family and 35 (28%) belongs joint family.

Table 1: socio demographic profile of the participants (n=125).

	N	Percentage (%)
Age (years)		
10	06	04.8
11	30	24
12	46	36.8
13	33	26.4
14	06	04.8
15	04	03.2
Religion		
Hindu	21	16.8
Muslim	104	83.3
Family type		
Nuclear	90	72
Joint	35	28

Table 2: Socio demographic profile of the participants.

	Father's N (%)	Mother's N (%)
Education level		
Profession/Honours	-	-
Graduate/PG	02 (1.6)	02 (1.6)
Intermediate	02 (1.6)	03 (2.4)
High school certificate	25 (20)	37 (29.6)
Middle school certificate	29 (23.2)	26 (20.8)
Primary school certificate	40 (32)	32 (25.6)
Illiterate	20 (16)	19 (15.2)
Don't know	07 (5.6)	06 (4.8)
Occupation		
Profession	-	-
Semi Profession	-	-
Clerical, shop owner/former	-	-
Skilled worker	23 (18.4)	03 (2.4)
Semi skilled worker	18 (14.4)	01 (0.8)
Unskilled worker	75 (60)	41 (32.8)
Unemployed	09 (7.2)	80 (64)

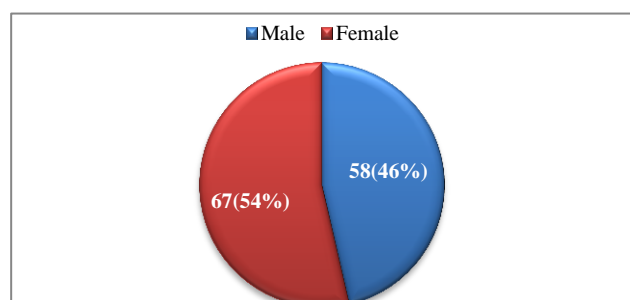


Figure 1: Gender wise distribution.

Table 2 shows details regarding education and occupation of the parents. Most of the fathers are completed their primary school education, that is 40 out of 125 and most of the mothers are completed their, that is 37 out of 125. And 13 students don't know their parents education.

Out of 125 students, 75 (60%) fathers are unskilled workers and 80 (65%) mothers are unemployed.

Figure 1 shows gender distribution, 58 students were females and 67 were males.

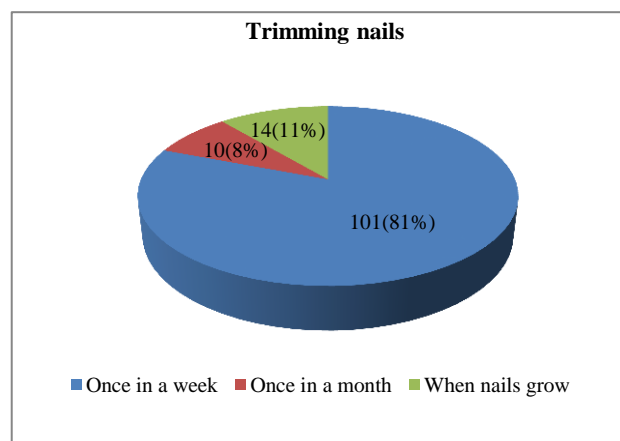


Figure 2: Trimming of nails.

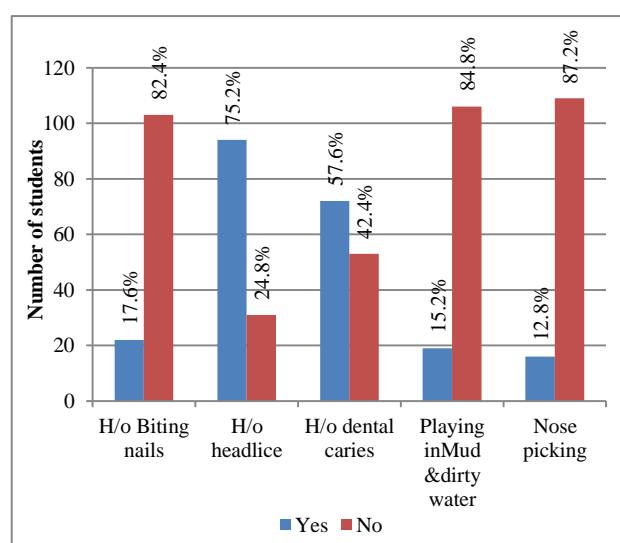


Figure 3: Unhealthy personal hygiene practices.

Figure 2 shows good practice of trimming the nails, 101 (81%) students trim their nails once in week, 14 (11%) when nail grows and 10 (8%) once in a month respectively.

Figure 3 shows unhealthy personal hygiene practices, in which 22 (17.6%) students have habit of biting nails, 94 (75.2%) students had history of head lice in their life time, 72 (57.6%) students had history of dental caries, 19 (15.2%) students have habit of playing in mud and dirty water.

water and 16 (12.8%) students have habit of picking their nose.

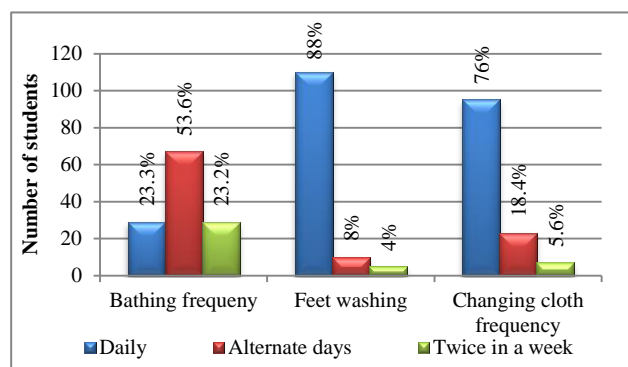


Figure 4: Hygiene practices.

Figure 4, shows hygiene practices of students. Out of 125 students, 53.6 students take bath on alternate days, 88% students wash their feet daily and 76% students change their cloth daily.

Table 3: Household hygiene practices.

Habits	Yes N (%)	No N (%)
Pets at home	63 (50.4)	62 (49.6)
Regular cleaning of pets	58 (46.4)	05 (04)
Drinking boiled water	24 (19.2)	101 (80.8)
Presence of filter	42 (33.6)	78 (62.4)
Cleaning and covering water containers	117 (93.6)	08 (6.4)

Table 4: Hygiene practices.

Score	Grading of hygiene	No. of Students (%)
<16	Poor	0
16-24	Good	1 (0.8)
24-32	Very good	53 (42.4)
32-40	Excellent	71 (56.8)

Table 3 shows household practices, 63 (50.4%) student had pets at their home and 58 (46.4%) clean their pets regularly. Only 24 students drink boiled water and 42 students in their houses use filter for purification of water. 117 students told they wash and cover the water containers regularly.

Table 4 shows scoring of hygiene practices among 125 students. 1 student shows good, 53 students show very good and 71 show excellent hygiene practices.

DISCUSSION

Hygiene refers to practices associated with ensuring good health and cleanliness. In broader term hygiene is the maintenance of health and healthy living.⁸

The current study is a school based cross sectional study conducted to estimate the prevalence of hygiene practices among students and their households in urban field area, BMCRI.

In our study female are more predominant that is females 67(54%) and 58(46%) and 83% were Muslim, 17% were Hindu by religion, whereas in study done by Sreenivasan et al,⁵ males were predominant, that is males 133(53%) and females 117 (47%), 63% were Hindu, 24% were Christian and 13% were Muslim by religion.⁵

In our study there is 100% daily brushing, using soap for bath and hand washing, hand washing after using toilet and before food, teeth cleaning with tooth paste and brush. Whereas in Study done by Talakeri et al, showed that out of 200 children in each school 94 (47%) brushed their teeth daily, 40 (20%) students use soap and water for hand wash in urban school and in our study the hygiene practices like daily and alternate day bathing frequency is 23.3% and 53.6% respectively and 75.2% of students had h/o head lice, 81% of students trim their nails weekly.⁶ Study done by Seenivasan et al, result shows frequency of bathing is 79% daily, 48.8% of students had H/o head lice and 69.2% of students trim their nails when nails grow long.⁵ Study done by Talakeri et al, shows 178(89%) students take bath daily, 112(56%) students cut their nails when they become long.⁶

In our study out of 125, 63 (50.4%) had pets at home, among them 58 (46.4%) have done regular cleaning of their pets. And also 24 (19.2%) were used to drink boiled water and 42 (33.6%) students have filter at their home and 22 (17.6%) had h/o biting nails, 19 (15.2%) students were used to play in mud and dirty water, 16 (12.8%) had habit of nose pricking whereas study done by Seenivasan et al, result shows out of 250 participants, 61 (24.4%) had pets at their home, out of which only 19 (7.6%) were used to clean their pets regularly and only 20 (8%) were used to drink boiled water.⁵ And 122 (48.80%) students had h/o of head lice, 67(26.80%) had habit of playing in mud and dirty water, 29 (11.65%) had habit of nose picking.

And also in our study shows 94 (75.2%) had h/o head lice, 72 (57.6%) had h/o dental caries, whereas the study done by Sarakar, shows head lice (40.38% or 42 students), scabies (39.42% or 41 students), dental caries (9.62% or 10 students).⁹

The overall our study result shows, 71 students had excellent hygiene, 53 students had very good hygiene and 1 student has good hygiene whereas study done by Sarakar shows 19 (18.27%) students had Poor hygiene, 49 (47.12%) had Good hygiene, 27 (25.96%) had very good and 9 (8.65%) students had Excellent hygiene status.⁹

CONCLUSION

Majority of the students, they do practice few hygiene practices like daily brushing, using soap for bath and hand washing, hand washing after using toilet and before food, teeth cleaning with tooth paste and brush.

56.8% of students have excellent hygiene, 42.4% of students have very good hygiene and 0.8% students have good hygiene.

Recommendations

Even though there is a comparatively good hygiene practices among school children, they are lacking behind in few hygiene practices and they are more susceptible for various illness. 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. Behaviour 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.

Limitation

This was a school based study conducted only among students studying in the 4th, 5th, 6th and 7th standard in the urban area. It is excluding the other primary and higher school children hence the results cannot be generalised.

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