

**Hand and personal hygiene practices among school children in rural area of Jhansi****¹Dr. Santosh Kumar Verma**

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Correspondence Author: Dr. Santosh Kumar Verma, Assistant Professor, Department of Community Medicine, M.L.B. Medical College, Jhansi, UP, India.**Conflicts of Interest:** Nil**Abstract**

Introduction: In developing countries, 80% of the diseases are associated with the poor domestic and personal hygiene. Clean hands are most important factor in preventing the spread of pathogens and reducing the incidence of the diseases. Personal hygiene practices promote health safety and prevent infection. Children are most susceptible to infection due to unhygienic practices especially in rural areas, so this study was undertaken with the following objectives

1. To study the socio-demographic profile of study participants.
2. To find out the common hand and personal hygiene practices among school children.

Materials and Methods: a community based cross-sectional study was conducted from January to June 2015 among 281 (boys=129, girls= 152) school going children in rural area of Jhansi. Multi stage random sampling was applied for the selection of schools in rural area. Data were compiled and analysed by using percentages and chi square test.

Results: Out of 281 (boys=129, girls= 152) school going children, hand washing practiced by most of the student, usually 4-6 times daily and practices before and after eating, after defecation but not after shaking hands. Soap is most commonly used followed by mud and ash.

Personal hygiene was maintained by 41.6 % of children regularly.

Conclusions: The prevalence of hand hygiene practices was quite satisfactory among school children but personal hygiene practices were quite low.

Keywords; hand hygiene, personal hygiene, school children

Introduction

In developing countries, 80% of the diseases are associated with the poor domestic and personal hygiene and about 2.2 million people; mostly children and school students die annually due to diarrhea (Water-Aid, 2006, India)[1]. Poor health among school children is resulted from the lack of awareness of the health benefits of personal hygiene. Diarrhoeal diseases, skin diseases, worm infestations and dental diseases are most commonly associated with poor personal hygiene. One of the major problems faced by school children are infections. Lack of personal hygiene coupled with poor sanitation favour person-to-person transmission of infection [2]

Clean hands are the single most important factor in preventing the spread of pathogens and reduce the incidence of infections. [3]. Hands may be the most important means by which enteric pathogens are transmitted. Skin hygiene particularly of the hands, has been accepted as a primary mechanism to control the

spread of infectious agents. The good hand hygiene practices promote health safety and prevent infections [4] The unhygienic habits of most of the people lead to the various infections via hands and fingernails. The home and school environments are of particular concern for the transmission of infections among young children or aged persons, who are at the greatest risk [5].

Against above background, this study was conducted in rural area of Jhansi to see the behaviour of school going children towards hand and personal hygiene practice with the following

Objectives

1. To study the socio-demographic profile of study participants.
2. To find out the common hand and personal hygiene practices among school children.
3. To know the source of knowledge about hand and personal hygiene among students.

Material and Methods

Study Design Community: based cross-sectional study.

Study Place: The present study was conducted in selected rural areas of district Jhansi in Uttar Pradesh.

Study Period: Study was carried out from January 2015 to June 2015.

Study Population: All individuals aged 8-13 years of selected Government and Government aided Schools in rural area of district Jhansi were included in the study.

Sample Size Estimation: Sample size in the present study was calculated statistically on the basis of prevalence of hand & personal hygiene practices from 8- 13years age group in rural area. Considering prevalence of hand hygiene practice is 22.7% (ref) from previous studies.

The formula used for calculation of sample size (n) was

$$n = \frac{z^2 pq}{d^2}$$

Where in

z (at 95% confidence levels)=1.96

P (estimated prevalence of population)

q (1-p)

d (Absolute precision)= 5%

Therefore, $n = (1.96)^2 \times 22.7 \times 77.3 / 5 \times 5 = 280.7 \sim 281$

Sampling Technique

A Multistage Random Sampling technique was used to cover the required sample size for the present Study.

Stage 1- District Jhansi has 8 Blocks. Among all, Badagaon block was selected randomly.

Stage 2- Badagaon block has 110 village and 171 schools, out of 110 villages, 5 villages named Kochabhawar, Diagara, Badagaun, Daun, and Gora machhiya were selected randomly using random number tables.

Stage 3- 2 govt. Schools from Digara, 1 govt. school from Gora machhiya, 1 govt. School from Daun, 1 from Shankargad and 2 govt schools from Kochabhawar selected randomly by using the last digit of a randomly picked currency note. This was our sampling frame.

Stage 4- From each school children (sampling units) were interviewed respectively. 100 participants from Diagara, 96 participants from Kochabhawar, 50 from Daun, 25 from Goramachhiya and 10 from Shankargad were selected randomly. So a total of 281 participants were studied.

Methodology of data collection

A pretested semi-structured questionnaire was used for data collection as a study tool. Data was collected by intern and residents of the department. After sampling, questionnaire was filled for each subject by face to face interview methods. A verbal Consent was taken from Principal and class teacher of the respective school and class before interviewing school children. Questionnaire had 2 main sections.

Section- 1; consist of socio-demographic details of the respondent. Socioeconomic Status was assessed using the modified B. G. Prasad classification.

Section- 2- Enquire about Hand & personal hygiene practices done by students during last week.

Statistical analysis: Data were entered into a Microsoft Excel spreadsheet and then transferred to Epi info, and was analyzed statistically by simple proportions. Chi square was used to find out association. P value <0.05 is considered as statistically significant.

Results

Table 1: Socio demographic profile of study participants (n= 281)

Characteristics		N(281)	%
Sex	Boys	129	45.9
	Girls	152	54.1
Age	9y	59	21.0
	10y	75	26.7
	11y	45	16.0
	12y	98	34.9
	13y	4	1.9
Education	6 th std	127	45.2
	7 th std	84	29.9
	8 th std	70	24.9
Type of family	nuclear	249	88.6
	Joint	32	11.4
SES	Upper	03	1.1
	UM	44	15.6
	Middle	82	29.2
	UL	92	32.7
	Lower	60	21.4

Table;1 shows socio-demographic characteristics of study participants from different schools, out of total

281students, boys were 45.9 % while girls were 54.1 %. Students of age 12 years of all schools showed maximum participation (34.9%) followed by 10 years (26.7%). Most of the students were studied in class 6 followed by 7 and 8th class. Most of the participants belong to nuclear family. Mostly students were from lower class (54.1%) followed by middle class (29.2%).

Table 2- Hand Hygiene practices among study participants (n=281)

Hand hygiene practices		N	%
practices daily (281)	Yes	279	99.3
	No	2	0.7
If yes then* (n=279)	Before eating	240	86.0
	After eating	201	72.0
	After defecation	242	86.7
	After urination	162	58.0
	After shaking hand	0	0.0
How many times do you hand wash in day	1-2 times	34	12.2
	2-4 times	76	27.2
	4-6 times	169	60.6
time given to hand washing	<1 min	246	88.2
	1-2 min	29	10.4
	>2min	4	1.4
What do you use for hand washing	Soap	251	89.9
	Mud	8	2.9
	Ashes	20	7.2
	Others	0	0

*= multiple responses

Table 2 shows hand hygiene practices among study participants. 99.3 % of students follow hand washing practices daily, with 86 % coverage of hand washing before eating and after defecation. No students practice

hand washing after shaking hands. 60.6% of the students wash their hand 4-6 times in a day and mostly take less than 1 minute for hand washing. Soap was used for hand washing by 89.9 % of students and only 10.1% students using mud or ashes for hand washing.

Table 3- Personal hygiene practices among study participants (n=281) in a week.

Habit	Regular	Irregular	Never	P value
Bathing	169(60.1)	73(26.0)	39(13.9)	$\chi^2=635.53,$ $df= 8,$ $P \text{ value}$ $=$ <0.0000 1
Hair cleaning	32(11.4)	72(25.6)	177(63.0)	
Teeth cleaning	260(92.5)	17(6.1)	4(1.4)	
Clean clothing	106(37.7)	81(28.8)	94(33.5)	
Nail trimming	19(6.7)	102(36.2)	160(57.1)	
Average	117(41.6)	69(24.6)	95(33.8)	

Table 3 shows personal hygiene practices among study participants. Almost 60% of students practices bath regularly. Only 11.4% clean their hair regularly while 63% never clean in last week. Tooth brushing is done by 92.5% of students. 37.7% students clean their cloths regularly. Mostly students did not trim their nail during last week. Overall personal hygiene practice was done regularly by 41.6% students, irregularly by 24.6% and never practiced in last week by 33.8%students and this difference was found statistically significant($p<0.05$)

Table 4- source of knowledge about hand and personal hygiene (n=281)

Source	Male	Female	Total	P value
Parents	38(29.5)	51(40.8)	89(31.7)	$\chi^2=4.789,$ $df=3,$ $p \text{ value}$ $=0.18$
Teachers	82(63.6)	91(59.9)	173(61.6)	
Siblings	3(2.3)	8(5.3)	11(3.9)	
Friends	6(4.7)	2(1.3)	8(2.8)	

Table 4 shows that most of the students receive knowledge about hand & personal hygiene from their teacher followed by parents but this difference was not found to be significant($p>0.05$).

Discussion

Hand and personal hygiene plays an important role in health of school children, especially in rural areas.

The burden of communicable disease remains predominantly acute in developing regions of the world [6] and children remain particularly vulnerable [7]. Poor domestic and personal hygiene, low health and lack of formal education predispose to these diseases [8]. A significant number of illnesses and deaths are reported annually as a result of unsanitary conditions. Diarrhoea-related illnesses alone are estimated to cause two to three million deaths per year; a majority of the mortality occurs in children [9].

Our study report that hand washing practiced daily before and after eating and after defecation but not after shaking hands. Soap was used for hand washing by most of the students. Regarding personal hygiene practices among study participants, bathing and tooth brushing were regularly practiced but hair cleaning and nail trimming not done by mostly students. Overall personal hygiene practice was done regularly by 41.6% students, irregularly by 24.6% and never practiced in last week by 33.8%students and this difference was found statistically significant($p<0.05$). Most of the students receive knowledge about hand & personal hygiene from their teacher followed by parents but this difference was not found to be significant ($p>0.05$) while another study reported that Approximately 52% of students were classified as having adequate knowledge of proper hygiene. Most students reported hand washing before meals (99.0%), but only 36.2% reported using soap. Although 76.7% of students reported that washing hands

after defecation was important, only 14.8% reported actually following this practice. Students with adequate knowledge of proper [10]. Similar results by a study [11] and another study shows wide gap between practice and knowledge of personal hygiene among the primary school children living in the slum area [12].

Conclusion and Recommendation

The prevalence of hand hygiene practices was quite satisfactory among school children but personal hygiene practices were quite low. Promotion of correct practices and behaviour change of bad practices by students should be encouraged by teacher in the school. Hand-washing & personal hygiene practices should be incorporated into the school curriculum. Awareness about hygienic practices should be given to parents and community.

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