



Personal Hygiene Among Primary School Children Aged 6-11 Years in Urban Area of Barwala, Haryana

¹Ritu, ²Saluja Neelu, ³Kumari Sneh *, ⁴Pandey S.M., ⁵Dheeraj, ⁶Saini Roopak

¹Senior Resident, ²Professor, ³Associate Professor, ⁴Assistant Professor (Stats.),

^{5,6}Postgraduate Student,

Department of Community Medicine,

¹Maharishi Markendeshwar College of Medical Science and Research Sadopur, Ambala

^{2,3,4,5,6}Maharaja Agrasen Medical College, Agroha.

***Corresponding Author:**

Kumari Sneh

Associate Professor, Department of Community Medicine,

Maharaja Agrasen Medical College, Agroha

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Abstract

Background: Personal hygiene is very important for living a healthy life. Hygiene plays a vital role in preventing some of the common communicable disease which spread mainly through water, food, personal contact and surrounding environment.

Objective: To find out the status of personal hygiene among primary school children and its association with various socio-demographic factors.

Methodology: This cross-sectional study was carried out in government primary schools located in urban area of Barwala of district Hisar, Haryana. Out of a list of all the 10 government primary schools located in the area, 5 were randomly chosen for the study. A total of 560 school children between 6 years to 11 years were included in the study. To cover the desired sample size 112 students from each of the selected schools were interviewed and examined. Twenty eight (14 boys and 14 girls) students from each class (2nd-5th) were selected by simple random sampling. The primary tool in this study was predesigned and pretested questionnaire for recording of individual information. Statistical analysis was done by using Percentages and chi-square test.

Result: Out of 560 children 234 (41.7%) children had poor personal hygiene followed by good (35%) and fair (23.2%) personal hygiene. Association of personal hygiene with age, socio-economic status, type of family, literacy status of parents and occupation of father was found to be highly significant.

Conclusion: Poor personal hygiene was reported in more than 40% children. Promotion of hygienic practices through proper health education by the teachers can prevent majority of the health problems affecting school children.

Keywords: Personal hygiene | School children| Urban

Introduction

Personal hygiene is very important for living a healthy life free from diseases. It includes bathing, clothing, washing hands after toilet, care of nails, feet and teeth; etiquettes of spitting, coughing, sneezing, personal appearance, and healthy habits inculcation in the young people. ^{1,2} Hygiene plays a vital role in

preventing some of the common communicable disease which spread mainly through water, food, personal contact and surrounding environment. Training on personal hygiene should start at a very young age and should continue through school-age.³

Globally, communicable diseases are prevalent among school age children and the exposure to variety of pathogens causing preventable diseases in school population is inevitable. Communicable diseases like acute respiratory and intestinal infections are the primary causes of morbidity and mortality among young children especially in developing countries.⁴ Underlying factors mainly rests on poor personal hygiene and inadequate sanitation practices leading to school absenteeism and life threatening illnesses among children.⁵ Frequent attacks of infection predispose young children to malnutrition and can form a vicious circle and retard children's physical and cognitive development.⁶ Numerous studies have illuminated that effortless act of hand-washing and basic hygiene behaviour could prevent diarrhoea, acute respiratory infection and skin infections.^{7, 8} This study was conducted with the objective of finding out the status of personal hygiene among primary school children studying in government primary schools of Barwala block of district Hisar, Haryana.

Material And Methods

Ethical clearance for conducting this study was obtained from the Institutional Ethical Committee. For the purpose of study a list of all government primary schools located in urban area of Barwala was taken from the Block Education Office Barwala. There are 10 government schools in this block out of which 5 schools were randomly selected. A total of 560 students (280 boys & 280 girls) were included in the study and to cover the desired sample size 112 students from each of the selected schools were interviewed and examined. Twenty eight (14 boys

and 14 girls) students from each class were selected by simple random sampling.

Inclusion Criteria:

1. Children aged between 6-11 years.
2. Children who were present on the day of examination.

Exclusion Criteria:

1. Children below 5 years and above 11 years.
2. Children who were absent for three consecutive visits.

A written permission from the District Education Office (DEO) Hisar was obtained prior to conducting the study. After explaining the purpose of study to the principals of concerned schools, the study subjects were interviewed and thoroughly examined by investigator herself in a separate classroom which was made available for the purpose. Predesigned and pretested proforma was used for recording the information. The date of birth of the student was taken from the school records and the actual age of the child was recorded in years. Socio economic status was categorized using the Modified Kuppuswamy classification⁹ for urban families. For monthly income of the family, statements were taken from parents through school authorities.

The child was examined for personal hygiene and asked questions about his/her daily bathing habits, washing of hands with soap etc. Personal hygiene for the purpose of this study was categorized and scored arbitrarily on the basis of the following:

Personal hygiene of child:

Factors	SCORE		
	2	1	0
Hairs	Clean	-	Dirty
Nails	Trimmed	-	Untrimmed
Mouth / teeth	Clean	-	Dirty
Bathing	Daily	Irregular	-
Ears	Clean	-	Dirty
Clothing	Clean	-	Dirty

Footwear	Clean	Dirty	No
Washing hands	Yes	-	No
Washing of hands after toilet with soap	Yes	With water only	No
Total score	18		
Criteria for personal hygiene of children	Poor <9,	Fair 9-15,	Good 16-18

The data thus collected was first coded and then transferred on the MS excel sheet and then exported to Statistical Package for Social Studies (SPSS version 20.0) software from which simple as well as correlative table were prepared, analysed and statistically evaluated using appropriate statistical tests.

Results

Table 1 shows that majority (48.1%) of children having poor personal hygiene belonged to the age group of 7 years followed by 6, 10 & 11 years age group (46.2%, 45.8% & 44.7% respectively). This difference in prevalence of personal hygiene in relation to age was found to be statistically significant (p< 0.05).

Table 2 shows that out of total children, 41.7% (44.6% boys and 38.9% girls) had poor personal hygiene, 35% had good personal hygiene and 23.2% had fair personal hygiene. More girls (37.1%) showed good personal hygiene score as compared to boys (32.9%). However, this difference in prevalence of personal hygiene in relation to gender was statistically insignificant (p>0.05).

Table 3 shows that poor personal hygiene was maximum in OBC (46.6%) followed by SC (41.8%) and general (38.6%) caste. However this difference in prevalence of personal hygiene in relation to caste was found to be statistically insignificant (p> 0.05).

Table 4 shows that poor personal hygiene was more (46.1%) in children belonging to nuclear families as compared to those belonging to joint families (31.3%). This difference in prevalence of poor personal hygiene in relation to type of family was found to be highly significant (p< 0.001).

Table 5 shows that poor personal hygiene was more (60.78%) in children of illiterate fathers. Personal

hygiene improved with increase in literacy status of fathers. This difference, in prevalence of personal hygiene in relation to literacy status of fathers was found to be statistically highly significant (p<0.001).

Table 6 shows that poor personal hygiene was more (52.81%) in children of illiterate mothers. Personal hygiene improved with increase in the literacy status of mothers and this difference in prevalence of personal hygiene in relation to literacy status of mothers was found to be statistically highly significant (p<0.0001).

Table 7 shows that poor personal hygiene was maximum (56.6%) in children of semi-skilled workers followed by children whose fathers were non-skilled workers (46.8%), semi-professionals (38.1%), clerk/shop owner/ farm owners (37.5%), skilled workers (34.1%) and professionals (20%) & this difference, in prevalence of personal hygiene in relation to occupation of fathers was found to be statistically highly significant (p<0.001).

Table 8 shows that poor personal hygiene was maximum (100%) in children of professional mothers followed by children whose mothers were semi-skilled workers clerk/shop owner/ farm owners (66.7%), skilled workers (48.7%), housewives (41.3%) and non-skilled workers (39.3%) but this difference in prevalence of personal hygiene in relation to occupation of mothers was found to be statistically insignificant (p>0.05).

Table shows 9 that poor personal hygiene was maximum (58.3%) in children who belonged to lower social class followed those who belonged to upper lower, lower middle and upper middle class (44.9%, 38.3%, 35.7% respectively) and this difference in prevalence of personal hygiene in relation to social class was found to be statistically significant (p<0.05).

Table 1: Association of personal hygiene with age

Age (in years)	Personal hygiene				χ^2 26.747 (df=10)	p-value 0.003
	Poor	Fair	Good	Total		
6	30 (46.2%)	3 (4.6%)	32 (49.2%)	65		
7	38 (48.1%)	16 (20.3%)	25 (31.6%)	79		
8	40 (38.5%)	25 (24.0%)	39 (37.5%)	104		
9	48 (34.3%)	36 (25.7%)	56 (40%)	140		
10	44 (45.8%)	26 (27.1%)	26 (27.1%)	96		
11	34 (44.7%)	24 (31.6%)	18 (23.7%)	76		
Total	234	130	196	560		

Table 2: Association of personal hygiene with Gender

Sex	Personal hygiene				χ^2 1.952 (df=2)	p-value 0.377
	Poor	Fair	Good	Total		
Boys	125 (44.6%)	63 (22.5%)	92 (32.9%)	280		
Girls	109 (38.9%)	67 (23.9%)	104 (37.1%)	280		
Total	234 (41.7%)	130 (23.2%)	196 (35%)	560		

Table 3: Association of personal hygiene with caste

Caste	Personal hygiene				χ^2 5.947 (df=4)	p-value 0.203
	Poor No.(%)	Fair No.(%)	Good No.(%)	Total No.(%)		
General	88 (38.6%)	49 (21.5%)	91 (39.9%)	228 (100%)		
OBC	69	31	48	148		

	(46.6%)	(20.9%)	(32.4%)	(100%)		
SC	77 (41.8%)	50 (27.2%)	57 (31.0)	184 (100%)		
Total	234	130	196	560		

Table 4: Association of personal hygiene with type of family

Type of family	Personal hygiene				χ^2 16.205 (df=2)	p-value <0.001
	Poor	Fair	Good	Total		
Nuclear	183 (46.1%)	95 (23.9%)	119 (30.0%)	397		
Joint	51 (31.3%)	35 (21.5%)	77 (47.2%)	163		
Total	234	130	196	560		

Table 5: Association of personal hygiene with literacy status of fathers

Literacy status of father	Personal hygiene				χ^2 37.531 (df=6)	p-value <0.0001
	Poor	Fair	Good	Total		
Illiterate	62 (60.78%)	22 (21.56%)	18 (17.64%)	102		
Primary ¹	66 (50.38%)	34 (25.95%)	31 (23.66%)	131		
Middle ²	19 (41.30%)	6 (13.04%)	21 (45.65%)	46		
High School	50 (33.11%)	34 (22.52%)	67 (44.37%)	151		
Intermediate ³	29 (28.15%)	32 (31.06%)	42 (40.77%)	103		
Graduate ⁴	5 (29.41)	0 (0%)	12 (70.58%)	17		
Post Graduate ⁵	3 (30%)	2 (20%)	5 (50%)	10		
Total	234	130	196	560		

Note: For calculation of χ^2 , 1+2 and 3+4+5 have been merged.

Table 6: Association of personal hygiene with literacy status of mothers

Literacy status of mother	Personal hygiene					χ^2	p-value
	Poor	Fair	Good	Total			
Illiterate	75 (52.81%)	40 (28.17%)	27 (19.01%)	142	37.633 (df=6)	<0.0001	
Primary ¹	100 (49.26%)	45 (22.17%)	58 (28.57%)	203			
Middle ²	21 (27.63%)	13 (17.11%)	42 (55.26%)	76			
High School	31 (32.98%)	22 (23.40%)	41 (43.62%)	94			
Intermediate ³	4 (11.43%)	9 (25.71%)	22 (62.86%)	35			
Graduate ⁴	2 (33.33%)	1 (16.66%)	3 (50%)	6			
Post Graduate ⁵	1 (25%)	0 (0%)	3 (75%)	4			
Total	234	130	196	560			

Note: For calculation of χ^2 , 1+2 and 3+4+5 have been merged

Table 7: Association of personal hygiene with occupation of fathers

Occupation	Personal hygiene					χ^2	p-value
	Poor	Fair	Good	Total			
Unemployed ^a	-	-	-	-	29.025 (df=8)	<0.0001	
Non-skilled worker ^b	73 (46.8%)	43 (27.6%)	40 (25.6%)	156			
Semi-skilled Worker	47 (56.6%)	15 (18.1%)	21 (25.3%)	83			
Skilled worker	57 (34.1%)	42 (25.1%)	68 (40.7%)	167			
Clerk/Shop owner/ Farm owner	48 (37.5%)	29 (22.7%)	51 (39.8%)	128			
Semi-Professional ^c	8 (38.1%)	1 (4.8%)	12 (57.1%)	21			

Professional ^d	1 (20%)	0 (0%)	4 (80%)	5		
Total	234	130	196	560		

Note: For calculation of χ^2 , a+b and c+d have been merged.

Table 8: Association of personal hygiene with occupation of mothers

Occupation	Personal hygiene				χ^2	p-value
	Poor	Fair	Good	Total		
Housewife	166 (41.3%)	94 (23.4%)	142 (35.3%)	402	0.143 (df=2)	0.931
Non-skilled worker ^a	44 (39.3%)	25 (22.3%)	43 (38.4%)	112		
Semi-skilled worker ^b	2 (66.7%)	1 (33.3%)	0 (0%)	3		
Skilled worker ^c	19 (48.7%)	9 (23.1%)	11 (28.2%)	39		
Clerk/Shop owner/ Farm owner ^d	2 (66.7%)	1 (33.3%)	0 (0%)	3		
Semi-Professional ^e	0 (0%)	0 (0%)	0 (0%)	0		
Professional ^f	1 (100%)	0 (0%)	0 (0%)	1		
Total	234	130	196	560		

Note: For calculation of χ^2 , a+b+c+d+e+f have been merged together.

Table 9: Association of personal hygiene with social class

Social Class	Personal hygiene				χ^2	p-value
	Poor	Fair	Good	Total		
Upper ^a	0 (0%)	0 (0%)	1 (100%)	1	10.841 (df=4)	0.028
Upper middle ^b	20 (35.7%)	14 (25.0%)	22 (39.3%)	56		
Lower Middle	79 (38.3%)	40 (19.4%)	87 (42.2%)	206		

Upper Lower ^c	128 (44.9%)	73 (25.6%)	84 (29.5%)	285		
Lower ^d	7 (58.3%)	3 (25.0%)	2 (16.7%)	12		
Total	234	130	196	560		

Note: For calculation of χ^2 , a+b and c+d have been merged.

Discussion

In our study, age was found to have a significant association with personal hygiene of children ($p < 0.05$). In contrast, age of children was found to have non-significant association with hygienic score of students by Mangal N et al.¹⁰ Whereas, Albastawy M et al.¹¹ observed that good personal hygiene practices were exhibited in older children than in younger ones. He reported maximum (28.2%) children with poor personal hygiene in the age group of 6-9 years.

In the present study, girls were found to be more aware of and more engaged in hygienic practices than boys. More girls (37.1%) were reported to be observing good personal hygiene than boys (32.9%). Out of total children, 41.8% (44.6% boys and 38.9% girls) children had poor personal hygiene. Similar trends have been observed by Motakpalli¹², where more girls (65.9%) reported higher levels of good personal hygiene than boys (60.5%), and by Deb et al.¹³ who also reported higher level of good personal hygiene in girls (44.44%) than boys (19.4%). However, Elsabaghet al.¹⁴ reported contrary findings with 63.3% of boys observing good hygiene as compared to 45.6% of girls.

Poor personal hygiene was maximum in OBC (46.6%) followed by SC (41.8%) and general (38.6%) caste. However this difference in prevalence of personal hygiene in relation to caste was found to be statistically insignificant ($p > 0.05$). Habits of personal hygiene are mostly acquired during childhood, and are, therefore, influenced by one's family. In our study, poor personal hygiene was more (46.1%) in children belonging to nuclear families as compared to those belonging to joint families (31.3%) and this difference in prevalence of poor personal hygiene in relation to type of family was found to be highly significant ($p < 0.001$). In contrast, type of family was found to have a non-significant

association with hygienic score of students by Mangal N et al.¹⁰

In the present study, parent's literacy status was found to be significantly associated with personal hygiene of children ($p < 0.001$). Parent's literacy status was also found to be significantly associated with personal hygiene scores of students by Mangal N et al.¹⁰ Statistically significant association was also observed between practices of personal hygiene among primary school children and literacy status of their mother ($p < 0.001$) by Sarkar M et al.¹⁵ This finding shows that parental education plays a very important role in inculcating habits of personal hygiene among their children. Therefore, continuing health education program directed towards the parents with a special emphasis on their role to improve the habits related to personal hygiene of their children may be beneficial.

In the present study, prevalence of personal hygiene in relation to fathers occupation was found to be statistically highly significant ($p < 0.001$). Similarly, father's income was found to have significant association with personal hygienic scores of students by Mangal N et al.¹⁰

Conclusion And Recommendations

In this study poor personal hygiene was reported in more than 40% children. Promotion of hygienic practices through proper health education by the teachers can prevent majority of the health problems affecting school children. Routine screening should also be done in every school for maintenance of adequate personal hygiene in children.

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