

# Assessment of Knowledge and Practices regarding personal hygiene among students of Government schools of Jaipur city: A cross-sectional survey

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**Abstract**— *Hygiene practices are very important, poor hygiene results into various communicable diseases. These hygiene practices can have cultivated in Childhood. School children are particularly vulnerable to neglect the basic personal hygiene. So this study was conducted on 1385 school children to assess the status of knowledge and practices of their hygiene with the source of their knowledge. This study was conducted on 1385 students of 6 selected schools of Jaipur city. It was observed that it was observed that 98.4% had knowledge about body and clothes hygiene, 95.2% had knowledge about teeth brushing, 92.5% had knowledge about regular clothes washing, 89.2% had knowledge about soap use in personal hygiene, 50.3% had knowledge about use of toilet paper, 78.8% had knowledge about use of nail cutter and 37.1% knowledge about sanitary pad. And 97.3% practice for bath & brush teeth every day, 95.1% practiced for hand wash before meal, 74.3% practiced for hand wash before cooking, 66.6% practiced for hand wash after cooking, 90.2% practiced for hand wash after using toilet, 87.8% practiced for hand wash after handling garbage, 75.7% practiced for hand wash after handling animal, 73.6% practiced for cutting nails in < 7 days, 80.8% take hair cut out in < 1 month, 70.1% use soap as hygiene product, 42.7% use facial tissue as hygiene product and 50.1% use cotton swab as hygiene product.*

**Keywords:** *Hygiene, Knowledge, Practices, School Children.*

## I. INTRODUCTION

Hygiene practices vary widely and what is considered acceptable in one culture might not be acceptable in another. Communicable diseases continue to be the major contributor to global morbidity and mortality.<sup>1</sup> Sixty two percent and 31 % of all deaths in Africa and south-Asia, respectively are due to infectious diseases.<sup>2</sup>

Basic hygiene refers to practices that help to prevent the spread of diseases and maintain health.<sup>1</sup> It involves regular washing of the body(bathing), washing the hands when necessary, washing ones clothes, washing the hair, brushing the teeth, cutting the nails, and caring for the gums.<sup>2</sup> School children are particularly vulnerable to neglect of basic personal hygiene.<sup>3</sup>

Studies have revealed a strong and consistent causal link between gastrointestinal infection and poor hand hygiene.<sup>3</sup> Certain respiratory infections (influenza virus infection, common cold, etc) have also been linked to poor personal hygienic practices.<sup>11</sup> Of all the communicable diseases promoted by

helminthic infestation, poor personal hygiene contributes the greatest proportion. These helminths can infect the most vulnerable group i.e. children.<sup>3,4</sup>

Personal hygiene practices therefore plays an important role in preventing spread of respiratory infections, skin infections, helminthiasis, eye infections, food borne diseases, spread of new pathogens as in epidemics.<sup>4</sup>

Various studies have highlighted that simple act of hand-washing and basic hygiene behavior could prevent diarrhea, acute respiratory infection and skin infections.<sup>5,6</sup>

School children can be used as ambassadors of health messages to their homes and neighborhood and can act as changing agents.<sup>7</sup> Majority of the health problems affecting school children are preventable by promotion of hygienic practices through proper health education by the teachers, who are the first contacts. Teaching children the importance of good hygiene can install habits, which will improve their health for a lifetime. Beginning health hygiene habits at a young age will help an older children transition into adult hygiene routines.<sup>8</sup>

So this study was done to assess the knowledge and practices regarding personal hygiene among students of 6-12th Class of Government School of Jaipur city.

## II. METHODOLOGY

This cross sectional, school based, observational study was carried out on 1385 school children (class 6-12<sup>th</sup>) of selected government schools of Jaipur city in year 2017.

**Sample size** was calculated is 1150 at 95% confidence and 20% relative error to verify expected minimum 8% of prevalence of hand washing with antimicrobial solution among students in seed article . This sample size was round off to 1200 and is adequate to other variable also. For this study, 1385 students were included in study.

**Sampling technique:** Two stage sampling was done –

**First stage i.e. Selection of Schools:** A complete list of government school was procured from department of Education of Jaipur city and a complete list of Kendriya Vidhyalay School was procured from department of Kendriya Vidhyalay. Schools with strength less than 50 in class 6-12th were excluded from computer list to make study cost effective. It was decided to stratify total sample size according to type of school to ensure representativeness of sample weightage of each sub category of school was ascertained and total sample size was proportionately divided. Total six schools, assuming 200 students from each school, were selected by simple random sampling technique from each sub category. If permission from selected school authority was not granted it was replaced by another school again by simple random sampling technique from corresponding test subcategory. These selected schools were as follows:-

1. Kendriya Vidhyalay No. 1 Bajaj Nagar, Jaipur (Rajasthan) India
2. Government Senior Secondary School Sodala, Jaipur (Rajasthan) India
3. RNS Senior Secondary School Motikatala, Jaipur (Rajasthan) India
4. Government Senior Secondary School, Manak Chauk, Jaipur (Rajasthan) India
5. Government Girls Senior Secondary School, Gandhinagar II, Jaipur (Rajasthan) India
6. Government Girls Senior Secondary School, C Scheme, Jaipur (Rajasthan) India

**Second Stage i.e. Selection of Students:** All students who were present on the day of survey, of class 6th -12th class from selected school were enrolled. Students from which the written informed consent could not be obtained were excluded from study. Finally 1385 eligible students were included in this study.

After approval from ethical committee of SMS Medical College, Jaipur, the survey was started. As per above mentioned technique. Prior consent was taken from Principal of the school and parents of selected students, for this all principals of the selected schools were contacted well before data collection. A semi- structured questionnaire was used for entering the particulars of subjects. Privacy and confidentiality of data was ensured by not asking to write down names of the students and collection of questionnaire was done in a carton with only a slit and efforts was made that nobody else would peep into questionnaire while selected students are filling it. Data was summarized in MS excel worksheet in the form of the master chart. Qualitative data were expressed in percentages and quantitative data were expressed in mean with standard deviation.

### III. RESULTS

In this study, majority (61%) of students were in age group of 10-15 years followed by 16-19 years age group with slight male preponderance i.e. 56.9% v/s 43.1%. Regarding caste and religion, majority were Hindus (76.6%) and of general caste (35.7%). Majority (61.2%) of children belongs to nuclear family and Class IV (74.5%). (Table 1)

**Table 1**  
**Bio-socio-demographic distribution of study population (N=1385)**

S. No.	Variables	No.	%
1	Age Groups (in Years)	10-15	61
		16-19	39
2	Sex	Male	56.9
		Female	43.1
3	Religion	Hindu	76.6
		Muslim	22.5
		Others	0.9
4	Caste	General	35.7
		OBC	28.7
		ST	26.7
		SC	8.9
5	Type of Family	Nuclear	61.2
		Joint	38.8
6	Socio-economic Class	Class I	1.9
		Class II	8.2
		Class III	14.1
		Class IV	74.5
		Class V	1.3

Regarding knowledge of personal hygiene of student it was observed that 98.4% had knowledge about body and clothes hygiene, 95.2% had knowledge about teeth brushing, 92.5% had knowledge about regular clothes washing, 89.2% had knowledge about soap use in personal hygiene, 50.3% had knowledge about use of toilet paper, 78.8% had knowledge about use of nail cutter and 37.1% knowledge about sanitary pad. (Table 2).

**Table 2**  
**Status of knowledge of personal hygiene of study population (N=1385)**

Q. No.	Questions	Correct Knowledge	
		No.	%
1	Knowledge about body and clothes hygiene	1363	98.4
2	Knowledge about teeth brushing	1319	95.2
3	Knowledge about regular clothes washing	1319	95.2
4	Knowledge about soap use in personal hygiene	1235	89.2
5	Knowledge about toilet paper	697	50.3
6	Knowledge about nail cutter	1091	78.8
7	Knowledge about sanitary pad	514	37.1

Regarding practices of personal hygiene, present study observed that 97.3% practice for bath & brush teeth every day, 95.1% practiced for hand wash before meal, 74.3% practiced for hand wash before cooking, 66.6% practiced for hand wash after cooking, 90.2% practiced for hand wash after using toilet, 87.8% practiced for hand wash after handling garbage, 75.7% practiced for hand wash after handling animal, 73.6% practiced for cutting nails in < 7 days, 80.8% take hair cut out in < 1 month, 70.1% use soap as hygiene product, 42.7% use facial tissue as hygiene product and 50.1% use cotton swab as hygiene product. (Table 3)

**Table 3**  
**Status of Practices of personal hygiene of study population (N=1385)**

S. No.	Practice Variables	Correct Practice	
		Yes (Number)	Yes (%)
1	Practice for bath every day	1348	97.3
2	Practice to brush teeth every day	1348	97.3
3	Practice for hand wash before meal	1317	95.1
4	Practice for hand wash after meal	1170	84.5
5	Practice for hand wash before cooking	1030	74.3
6	Practice for hand wash after cooking	923	66.6
7	Practice for hand wash after using toilet	1249	90.2
8	Practice for hand wash after handling garbage	1216	87.8
9	Practice for hand wash after handling animal	1049	75.7
10	Practice for cutting nails in < 7 days	1020	73.6
11	Practice for hair cut in <one month	1120	80.8
12	Practice to use Soap as hygiene product	972	70.1
13	Practice to use Facial tissue as hygiene product	592	42.7
14	Practice to use Cotton swab as hygiene product	693	50.1

#### IV. DISCUSSION

In this present study, 56.9% were male students and 43.1% were female students. Similar to the present study, S.Y. Ansari et al (2014) also conducted such study on primary school children who reported males 57% whereas females are 43% in their study.<sup>8</sup> Similar to present study Mohammad al bashtawy et al (2015) conducted study on primary school children. Among sex majority of the participants are males 52.1% whereas females are 47.9%.<sup>9</sup>

Regarding caste and religion, majority were Hindus (76.6%) and of general caste (35.7%). Majority (61.2%) of children belongs to nuclear family and Class IV (74.5%) in present study. A similar study conducted in Kolkata by M. Sarkar (2013)<sup>10</sup> also reported maximum students were Hindus (73.08%).

In present study, regarding knowledge of personal hygiene of student it was observed that 98.4% had knowledge about body and clothes hygiene, 95.2% had knowledge about teeth brushing, 92.5% had knowledge about regular clothes washing, 89.2% had knowledge about soap use in personal hygiene, 50.3% had knowledge about use of toilet paper, 78.8% had knowledge about use of nail cutter and 37.1% knowledge about sanitary pad. A similar study conducted in Kolkata by M. Sarkar (2013)<sup>10</sup> reported proportion of primary school children having correct knowledge on combing hair, studying under adequate light, brushing teeth, washing hands before eating and trimming nails 48.08% vs. 74.04%, 8.65% vs. 40.38%, 50% vs. 65.38%, 84.62% vs. 96.15%, and 76.92% vs. 98.08%, respectively. An another similar study,<sup>11</sup> reported that 75% of students felt hand washing after defecation was important, while the majority of the participants reported that hand washing before and after meals was important (N=660, 99.7% and N=569, 85.7%, respectively).

The present study observed that total 97.3% practice for bath every day. Similar observations were made by Jayanta Kumar Ghose et al(2012)<sup>12</sup> S. Y. Ansari et al (2014)<sup>8</sup> Mohammad al bashtawy et al(2015).<sup>9</sup> P. Seeniwasan et al(2016) )<sup>13</sup> who reported 75.9%, 81%, 100%, 100% every day bath respectively.

In the Present study it was observed that 97.3% practice to brush teeth every day. Well in resonance to present study, S.Y. Ansari et al (2014),<sup>8</sup> Dr. B. Suresh et al (2015),<sup>14</sup> Mohammad al bashtawy et al (2015),<sup>9</sup> and P. Seeniwasan et al(2016) )<sup>13</sup> reported daily brushing of teeth in 100%.

In present study it was observed that 95.1% practiced for hand wash before meal. Almost similar was observed by S.Y. Ansari et al (2014),<sup>8</sup> S. Pati et al (2014),<sup>15</sup> Priyanka et al (2016)<sup>16</sup> and P. Seeniwasan et al (2016)<sup>13</sup> reported 98%,81%, 75.5% and 96.4% respectively.

In present study it was observed that 84.5% practiced for hand wash after meal. Similar observations were made by S.Y. Ansari et al (2014),<sup>8</sup> S. Pati et al (2014)<sup>15</sup> and Priyanka et al (2016)<sup>16</sup> reported 98%,81% and 51.1% respectively.

In present study it was observed that 90.2% practiced for hand wash after toilet. However Priyanka et al (2016)<sup>16</sup> reported only 18.1% but other authors like S.Y. Ansari et al (2014),<sup>8</sup> S. Pati et al (2014),<sup>15</sup> Dr. B. Sureshet al (2015)<sup>14</sup> and P. Seeniwasan et al (2016)<sup>13</sup> reported 98%, 81%, 66% and 91.6% respectively.

In present study it was observed that hand wash was practiced after handling garbage and after handling animals by 87% and 75.5%. However Priyanka et al( 2016) reported hand wash after handling garbage 3.5%.<sup>16</sup> that total 87.8% but S.Y. Ansari et al (2014) reported hand wash after handling animal by 90%.<sup>8</sup>

In this study 73.6% students practiced for cutting nails. Similar to this, S.Y. Ansari et al (2014) reported regular cutting of nails by 89%<sup>8</sup> and Mohammad al bashtawy et al (2015) ) by 82.8%.<sup>9</sup>

In this study, 80.8% of children had their haircut regularly within a month and Mohammad al bashtawy et al (2015) reported haircut taken by children within a month 87.1%.<sup>9</sup>

## V. CONCLUSION

It can be concluded from this present study that regarding knowledge of personal hygiene, knowledge about body and clothes hygiene, about teeth brushing, about regular clothes washing, about soap use in personal hygiene and about use of nail cutter, was very good of children but knowledge about use of toilet paper and about sanitary pad was not found very good.

Regarding practice of personal hygiene, bathing & brushing teeth every day, hand wash before meal, hand wash before cooking, hand wash after using toilet, hand wash after handling garbage, hand wash after handling animal, hair cut out in < 1 month, regular nail cut and use soap as hygiene product was with more than 70% of children whereas 66.6% practiced for hand wash after cooking, 42.7% use facial tissue as hygiene product and 50.1% use cotton swab as hygiene product.

### CONFLICT OF INTEREST

None declared till now.

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