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Research Article

# A Comparative Study to Assess the Knowledge and Attitude of School Going Children Regarding Importance of Personal Hygiene in Selected Rural and Urban Schools of Ludhiana, Punjab

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## Abstract

**Background:** The study's objectives were to assess the knowledge, attitudes, and relationship between rural and urban school-aged children's knowledge and attitudes about personal hygiene.

**Methods:** The study used a comparative research design. A stratified random sample selection procedure was utilized. One hundred samples (50 from rural areas and 50 from cities) were selected. The population of the study was rural and urban school going children 9–11 years. To examine the data, descriptive and inferential statistics were employed.

**Results:** The survey concluded that 40% (20) of rural schoolchildren and 44% (22) of urban schoolchildren had strong knowledge. About 96% (48) urban and 88% (44) rural schoolchildren valued personal cleanliness. The mean knowledge score of urban schoolchildren was 19.48, higher than rural children 16.52, and their mean attitude score was 74.18, much higher than rural children 68.10. The mean knowledge score of rural and urban children was statistically significant for age, mother's education, and source of information, but not for household type or monthly income. In rural children, class was significant while gender was non-significant. The mean attitude score of rural and urban school children was statistically significant for age, gender, class, but not for mother education, type of family, family monthly income, or source of information. Based on the study, rural and urban school children received personal hygiene advice. When feasible, guidelines should be flexible.

**Conclusion:** Children attending schools in urban areas had better knowledge than those attending schools in rural areas, but both groups of students shared a favorable outlook on the value of good personal hygiene.

**Keywords:** Attitude, knowledge, personal hygiene, school going children

## Introduction

The science of hygiene focuses on maintaining good health. A situation or behavior that promotes health maintenance and illness prevention, particularly through cleanliness, is referred to as hygiene. Personal hygiene and environmental hygiene are the two facets of hygiene. The primary goal of hygiene is to advance personal hygiene standards in the environments where people live. Looking tidy and clean is only one aspect of good hygiene. Moreover, it can stop the spread of infection. Consequently, maintaining proper hygiene has an impact on children's health and wellness as well as the individuals they interact with during the day.[1]

Personal hygiene refers to maintaining one's physical cleanliness and appropriate look, including one's body parts. Bathing, hair grooming, hand washing before and after eating or urinating, brushing teeth, cutting nails, and cleaning ears

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and nose are all examples of personal hygiene practices. The first step to grooming and good health is practicing personal cleanliness. Every exterior body part necessitates a minimum degree of regular attention. Hair, skin, teeth, hands, nails, and foot hygiene are a few good grooming practices for preserving personal hygiene. The common cold, the flu, and gastrointestinal disorders are some infectious diseases that spread due to poor hygiene. Yet, excellent hygiene teaches youngsters the value of maintaining personal cleanliness and guards against skin conditions, lice infestations, and worm infestation.[2]

A healthy generation starts with a healthy child. Unhealthy children have a direct impact on how the world will be in the future. One-third of our population are children. In the world, there are 200 million kids between the ages of 6 and 12. 40% of the middle schoolers among them are from India. Over 1400 million children worldwide are estimated by the WHO to have at least one type of worm infestation. Due to inadequate personal cleanliness, worm infestation is a widespread health issue among school-aged children around the world. In India, worm infestation is common at a rate of 12%. Dental caries, which affects 90% of kids, pediculosis in girls and boys, diarrhea, and scabies, which affects 25% of kids, and eye disorders that are brought on by poor eye hygiene affect 6.95% of kids. This could be a result of poor personal hygiene.[3]

Keratin, a living entity, is the main component of hair. It grows from follicles in the scalp, which are naturally greased by a material called sebum. The scalp has numerous sweat glands and is a place where dirt and dead skin cells accumulate. Oil, sweat, and dead skin cells all combine to make the hair greasy and dirty. Everyone produces a varied amount of sebum, resulting in dry hair. Checking for hair and scalp is critical to maintaining good personal hygiene. Hair care is also necessary to avoid pediculosis and lice. According to national goals, it should be lowered to 70–50% by 2004. Wash your hair once a week with soap or a gentle shampoo. Brush your hair with a soft bristles brush or a broad toothed comb 3–4 times per day. A high protein diet, coupled with additional fruits and vegetables, is required for strong and healthy hair.[4]

The eyes have been the most valuable human organ for the function of vision expressiveness and attractiveness eyes are crucial for being able to perceive the world clearly. The eyes are the most important sensory and acting organs, receiving 85% of all infection from the environment. Impaired eyesight has an impact on a person's freedom in self-care, career and lifestyle choices, feeling of self-esteem, safety, ability to interact with society, environment, and general quality of life. If a child's eyesight is lost or changed, his or her growth and development may be delayed, with consequences for the family structure. Many of the same eye disorders affect children as they do adults.[5]

Healthy feet are critical for feeling good and being active. Foot neglect can result in broken heels and other foot disorders. Foot hygiene is an important aspect of personal hygiene. We can avoid fungal infections and other foot problems by practicing good personal cleanliness. Cleaning your feet at least once a day is essential for healthy personal hygiene. After washing your feet, carefully dry them, paying specific attention to the bacteria-prone area between your toes. Cleaning the feet with soap and water every day is vital for healthy feet, and moisturizing lotion is applied after washing. Frequent foot check will aid in the prevention of foot disorders. Personal hygiene also includes keeping toenails clipped and clean.[6]

Health is incomplete without oral health, and achieving health for everyone by 2025 can only be accomplished through the channel of primary health care. The notion of dental health under the topic "Health for all by 2025 A.D." is a serious concern among humans because 95% of all humans suffer one or more oral problems at some point in their lives. The study discovered that oral debris is quite typically visible in mouths with poor oral hygiene in the age bracket of 5–8 years in the pediatric population.[7]

### Objective

The objectives of the study are as follows:

1. To assess the knowledge of rural and urban school going children regarding importance of personal hygiene
2. To assess the attitude of rural and urban school going children regarding importance of personal hygiene
3. To compare the knowledge and attitude of rural and urban school going children regarding importance of personal hygiene
4. To find out the relationship of rural and urban school going children's knowledge regarding importance of personal hygiene with selected demographic variables, that is, age, gender, class, education of mother, type of family, family monthly income, and source of information
5. To find out the relationship of rural and urban school going children's attitude regarding importance of personal hygiene with selected demographic variables, that is, age, gender, class, education of mother, type of family, family monthly income, and source of information.

## Methodology

### Research design

A comparative research design was used for the present study.

### Research setting

The study was conducted in the rural school, that is, Government Primary School Nathowal (Ludhiana) and urban school, that is, Government Primary Basic School Jagraon (Ludhiana).

### Population

The study was rural and urban school going children 9–11 years.

### Sample and sampling technique

The investigator adopted proportionate stratified random sampling with lottery method to select the sample and 100

schools going children were taken for study, that is, 50 rural and 50 urban school.

### Plan of data analysis

Analysis and interpretation of data was done in accordance with the objectives. It was done using descriptive and inferential statistics, that is, calculating mean, mean percentage, standard deviation, "*t*" test, ANOVA, and Chi-square test. Bar diagrams were used to depict the findings.

## Results

In rural school going children, majority of children were 11 years of age, most of them were girls, most of them were studying in 4th and 5th standard, educational status of their mothers was up to 1st–10th standard and 11th–12th standard, majority of children belongs to joint families having family monthly income of Rs ≤5000 and most of children got information regarding personal hygiene from friends and family members. In urban school going children, majority of school going children were 11 years of age, majority of school going children were girls and were studying in 4th and 5th standard, their mothers were having education up to 11th–12th standard, most of them belongs to joint families having family monthly income Rs ≤5000, and majority of children got information regarding personal hygiene through printed media [Table 1].

**Table 1: Frequency and percentage distribution of sample characteristics, *n*=100**

| Demographic variables | *n* | % | *n* | % | df | $\chi^2$ |
|---|---|---|---|---|---|---|
| 1. Age | | | | | | |
| a. 9 years | 15 | 30 | 16 | 32 | | |
| b. 10 year | 17 | 34 | 16 | 32 | 2 | 0.62$^{NS}$ |
| c. 11 year | 18 | 36 | 18 | 36 | | |
| 2. Gender | | | | | | |
| a. Male | 20 | 40 | 21 | 42 | 1 | 0.41$^{NS}$ |
| b. Female | 30 | 60 | 29 | 58 | | |
| 3. Class | | | | | | |
| a. 3rd standard | 16 | 32 | 16 | 32 | | |
| b. 4th standard | 17 | 34 | 17 | 34 | 2 | 0.00$^{NS}$ |
| c. 5th standard | 17 | 34 | 17 | 34 | | |
| 4. Education of mother | | | | | | |
| a. Illiterate | 8 | 16 | 9 | 18 | | |
| b. 1st–10th standard | 20 | 40 | 18 | 36 | 3 | |
| c. 11th–12th standard | 20 | 40 | 19 | 38 | | 0.85$^{NS}$ |
| d. Graduation and above | 2 | 4 | 4 | 8 | | |
| 5. Type of family | | | | | | |
| a. Nuclear | 17 | 34 | 17 | 34 | | |
| b. Joint | 30 | 60 | 33 | 66 | 2 | 3.14$^{NS}$ |
| c. Extended | 3 | 6 | 0 | 0 | | |
| 6. Family monthly income | | | | | | |
| a. ≤5000 | 17 | 34 | 21 | 42 | | |
| b. 5001–10000 | 16 | 32 | 17 | 34 | 3 | 3.16$^{NS}$ |
| c. 10001–15000 | 12 | 24 | 11 | 18 | | |
| d. ≥15001 | 5 | 10 | 1 | 2 | | |
| 7. Source of information | | | | | | |
| a. Electronic media | 4 | 8 | 9 | 18 | | |
| b. Printed media | 17 | 34 | 16 | 32 | 3 | 3.26$^{NS}$ |
| c. Family/Friends | 19 | 38 | 13 | 26 | | |
| d. Teachers | 10 | 20 | 12 | 24 | | |

NS: Non-significant at $P<0.05$ level

Table 2 reveals that most of 40% (20) rural school going children had good knowledge regarding personal hygiene, followed by 30% (15) had average knowledge, 18% (9) had poor knowledge, and only 12% (6) had excellent knowledge. About 44% (22) urban school going children had good knowledge regarding personal hygiene, followed by 28% (14) had average knowledge, 20% (10) had excellent knowledge, and only 8% (4) had poor knowledge.

Table 3 reveals that rural school going children had highest mean knowledge score 66.68% in the area of introduction, followed by 66.50% in eye care, 60.00% in feet care, 59.00% in hair care, 58.00% in ear care, 56.80% in hand care, and lowest 56.33% in the area of oral care, while urban school going children had highest mean knowledge score 71.50% in the area of eye care, 70.81 in introduction, 70.66% in feet care, 63.33% in ear care, 62.33% in oral care, 55% in hair care and lowest mean knowledge score 52.00% in the area of hand care. According to rank order in rural school going children highest rank in introduction and lowest in oral care, whereas in urban highest rank in eye care and lowest in hand care.

Table 4 reveals that 88% (44) rural school going children had positive attitude and only 12% (6) children had negative attitude toward importance of personal hygiene. 96% (48) urban school going children had positive attitude and only 4% (2) had negative attitude.

Table 5 reveals that mean knowledge score of urban school going children 19.48 was higher than rural children 16.52. The difference of mean knowledge score was found to be statistically significant at $P<0.05$ level. The mean attitude score of urban school going children 74.18 was higher than rural children 68.10. The difference of mean attitude score was found to be statically significant at $P<0.05$ level.

Table 6 indicates that maximum mean knowledge score 18.44 in 11 year rural school going children, followed by 16.35 in 10 years, and 14.50 in 9 year of age whereas, in urban school going children, highest mean knowledge score 20.16 among 11 year, followed by 19.18 in 9 year and 19.00 in 10 year of age. The relationship of age with mean knowledge score of rural and urban school going children regarding importance of personal hygiene was found statistically significant at $P < 0.05$ level.

Table 7 reveals that in rural school going children, mean knowledge score 17.28 was highest among boys and minimum 15.96 among girls. In urban school, mean knowledge score 21.23 was highest among boys and minimum 18.20 among

**Table 2: Frequency and percentage distribution of level of knowledge among rural and urban school going children regarding importance of personal hygiene, *n*=100**

| Level of knowledge | Criterion (%) | Score | *n* | % | *n* | % |
|---|---|---|---|---|---|---|
| Excellent | ≥81% | ≥25 | 6 | 12 | 10 | 20 |
| Good | 61–80 | 19–24 | 20 | 40 | 22 | 44 |
| Average | 41–60 | 13–18 | 15 | 30 | 14 | 28 |
| Poor | ≤40% | ≤12 | 9 | 18 | 4 | 8 |

Maximum score=30, Mininum score=0

**Table 3: Mean, mean percentage distribution and rank order of area wise knowledge of rural and urban school going children regarding importance of personal hygiene, *n*=100**

| Area of knowledge | Max score | Mean | Mean% | Rank | Mean | Mean% | Rank |
|---|---|---|---|---|---|---|---|
| Introduction | 5 | 3.28 | 66.68 | 1 | 3.54 | 70.81 | 2 |
| Hair care | 4 | 2.36 | 59.00 | 4 | 2.20 | 55.00 | 6 |
| Eye care | 4 | 2.66 | 66.50 | 2 | 2.86 | 71.50 | 1 |
| Oral care | 6 | 3.38 | 56.33 | 7 | 3.74 | 62.33 | 5 |
| Ear care | 3 | 1.74 | 58.00 | 5 | 1.91 | 63.33 | 4 |
| Hand care | 5 | 2.84 | 56.80 | 6 | 2.61 | 52.00 | 7 |
| Feet care | 3 | 1.80 | 60.00 | 3 | 2.12 | 70.66 | 3 |

Maximum score=30, Mininum score=0

**Table 4: Frequency and percentage distribution of level of attitude among rural and urban school going children regarding importance of personal hygiene, *n*=100**

| Level of attitude | % | Score | *n* | % | *n* | % |
|---|---|---|---|---|---|---|
| Positive | ≥60 | ≥60 | 44 | 88 | 48 | 96 |
| Negative | <60 | <60 | 6 | 12 | 2 | 4 |

Maximum score=30, Mininum score=0

**Table 5: Comparative mean score of knowledge and attitude of rural and urban school going children regarding importance of personal hygiene, *n*=100**

| Children | *n* | Mean | SD | Mean | SD |
|---|---|---|---|---|---|
| Rural | 50 | 16.52 | 4.83 | 68.10 | 7.10 |
| Urban | 50 | 19.48 | 4.59 | 74.18 | 8.22 |
| | | df=98 | t=3.60* | df=98 | t=3.37* |

Maximum knowledge score=30, significant at $P<0.05$ level, Minimum knowledge score=0, Maximum attitude score=100, Minimum attitude score=20

**Table 6: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with age, *n*=100**

| Age (in years) | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| 9 | 15 | 14.50 | 3.63 | 16 | 19.18 | 5.26 |
| 10 | 17 | 16.35 | 4.42 | 17 | 19.00 | 5.04 |
| 11 | 18 | 18.44 | 4.40 | 18 | 20.16 | 3.39 |
| | df | | | df | | |
| Between group | | 2 | | | 2 | |
| Within group | 47 | F=3.77* | | 47 | F=3.32* | |

Maximum score=30, Mininum score=0, significant at P<0.05 level

**Table 7: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with gender, *n*=100**

| Gender | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Boy | 20 | 17.28 | 3.79 | 21 | 21.23 | 3.15 |
| Girl | 30 | 15.96 | 4.78 | 29 | 18.20 | 5.06 |
| | df | | | df | | |
| Between group | | 1 | | | 1 | |
| Within group | 48 | $t=1.33^{NS}$ | | 48 | t=5.67* | |

Maximum score=30, Mininum score=0, NS: Non-significant at $P<0.05$ level, *significant at $P<0.05$ level

girls. The relationship of gender with knowledge score of rural school going children regarding importance of personal hygiene was found statistically non-significant at $P < 0.05$ level while in urban school going children, it was found significant at $P < 0.05$ level.

Table 8 indicates that maximum mean knowledge score 18.52 was among fifth standard in rural school going children, followed by 16.35 among 4th standard and 14.64 among third standard. Whereas, in urban, maximum mean knowledge score 20.47 was among fifth standard, followed by 19.11 among fourth standard, and 18.11 among third standard. The relationship of class of rural school going children with knowledge score regarding importance of personal hygiene was found statistically significant at $P < 0.05$ level while with class of urban school going children, it found statistically non significant at $P < 0.05$ level.

Table 9 reveals that maximum mean knowledge score 21.50 was among children whose mothers were graduate and above, followed by 17.85 up to 11th to 12th standard, 15.90 up to 1st–10th standard, and minimum 13.50 among those whose mothers were illiterate. Whereas, in urban school, maximum mean knowledge scores 22.75 among children whose mothers were graduate and above, followed by 20.36 up to 11th–12th standard, 18.83 up to 1st–10th standard, and minimum of 17.44 was among illiterate mothers. The relationship of education of mothers with knowledge score of rural and urban school going children regarding importance of personal hygiene found statistically significant at $P < 0.05$ level.

Table 10 reveals that rural school going children with extended families had maximum mean knowledge score 18.33, followed by 17.44 with nuclear families and least 16.40 with joint families. Whereas, in urban, highest mean knowledge score 20.05 children with nuclear families, followed by 19.18 with joint families. The relationship of type of family with mean knowledge score of rural and urban school going children regarding importance of personal hygiene was found statistically non-significant at $P < 0.05$ level.

Table 11 reveals that in rural, children had highest mean knowledge score 17.43 with family monthly income of Rs 5001–10000, followed by 17.05 with family monthly income of Rs. ≤5000, 16.60 with family monthly income of Rs ≥15001 and least 14.61 had monthly income of Rs 10001–15000. Whereas, highest mean knowledge scores 22.00 with family monthly income of Rs ≥15001. Followed by 20.76 with family monthly income of Rs. 5001–10000, 19.23 with family

monthly income of Rs. ≤5000, and least 17.63 with family monthly income Rs 10001–15000. The relationship of family monthly income with knowledge score regarding importance of personal hygiene was found statistically non-significant at $P < 0.054$ level.

**Table 8: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with class, *n*=100**

| Class | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| 3rd standard | 16 | 14.64 | 3.56 | 16 | 18.11 | 5.31 |
| 4th standard | 17 | 16.35 | 4.42 | 17 | 19.11 | 5.04 |
| 5th standard | 17 | 18.52 | 4.52 | 17 | 20.47 | 3.04 |
| **df** | | | | | **df** | |
| Between group | | 2 | | | 2 | |
| Within group | 47 | F=3.65* | | 47 | F=0.62$^{NS}$ | |

Maximum score=30, Non-significant at $P<0.05$ level, Minimum score=0, Significant at $P<0.05$ level

**Table 9: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with education of mother, *n*=100**

| Education of mother | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Illiterate | 8 | 13.50 | 4.24 | 9 | 17.44 | 4.33 |
| 1st–10th standard | 20 | 15.90 | 4.65 | 18 | 18.83 | 4.30 |
| 11th–12th standard | 20 | 17.85 | 3.52 | 19 | 20.36 | 4.87 |
| Graduation and above | 2 | 21.50 | 3.53 | 4 | 22.75 | 3.53 |
| | | **df** | | | **df** | |
| Between group | | 3 | | | 3 | |
| Within group | 46 | F=3.21* | | 46 | F=3.52* | |

Maximum score=30, Significant at $P<0.05$ level, Minimum score=0

**Table 10: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with type of family, *n*=100**

| Type of family | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Nuclear | 17 | 17.44 | 5.06 | 18 | 20.05 | 4.83 |
| Joint | 30 | 16.40 | 3.74 | 33 | 19.18 | 4.43 |
| Extended | 3 | 18.33 | 5.02 | - | - | - |
| | | **df** | | | **df** | |
| Between group | | 2 | | | 1 | |
| Within group | 47 | F=2.19$^{NS}$ | | 48 | F=0.37$^{NS}$ | |

Maximum score=30, NS: Non significant at $P<0.05$ level, Minimum score=0

**Table 11: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with family monthly income, *n*=100**

| Family monthly income (in Rs) | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| ≤5000 | 17 | 17.05 | 4.61 | 21 | 19.23 | 6.88 |
| 5001–10000 | 16 | 17.43 | 4.16 | 17 | 20.76 | 3.20 |
| 10001–15000 | 12 | 14.61 | 4.83 | 11 | 17.63 | 3.41 |
| ≥15001 | 5 | 16.60 | 2.60 | 1 | 22.00 | 3.00 |
| **df** | | | | | **df** | |
| Between group | | 3 | | | 3 | |
| Within group | 46 | F=1.13$^{NS}$ | | 46 | F=1.32$^{NS}$ | |

Table 12 indicates that in rural school, maximum mean knowledge score was 19.05 among school going children who got information by printed media, followed by 15.90 from their teachers, 15.05 by their family/friends and minimum 14.50 got information by electronic media. Whereas in urban school, highest mean knowledge score 19.82 who got information from family/friends, followed by 19.62 among those who had access to printed media, 19.16 got information from their teachers, 19.82 got information from their family/friends and minimum 16.77 who got information by electronic media. The relationship of source of information with mean knowledge score of rural and urban school going children regarding importance of personal hygiene was found statistically significant at $P < 0.05$ level.

Table 13 indicates that in rural children, maximum mean attitude score was 71.94 in 11 year of age, followed by 67.18 in 9 year and minimum 67.00 in 10 year. Whereas in urban, 77.88 in 11 year, followed by 73.05 in 10 years and minimum 71.56 in 9 year. The relationship of age with attitude score of rural and urban school going children regarding importance of personal hygiene was found statistically significant at $P < 0.05$ level.

Table 14 reveals that in rural school, maximum mean attitude score 69.03 was among school girls and minimum 61.47 among boys. On other hand, in urban school, maximum 76.52 among girls and minimum 71.90 among boys. The relationship of gender with attitude score of rural and urban school going children regarding personal hygiene was found statistically significant at $P < 0.05$ level.

**Table 12: Relationship of knowledge score of rural and urban school going children regarding importance of personal hygiene with source of information, *n*=100**

| Source of information | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Electronic media | 4 | 14.50 | 4.65 | 9 | 16.77 | 5.93 |
| Printed media | 17 | 19.05 | 3.56 | 16 | 19.62 | 4.25 |
| Family/Friends | 19 | 15.05 | 3.91 | 13 | 19.82 | 5.68 |
| Teachers | 10 | 15.90 | 5.19 | 12 | 19.16 | 5.14 |
| | **df** | | | **df** | | |
| Between group | 3 | | | 3 | | |
| Within group | 46 | F=3.37* | | 46 | F=3.10* | |

Maximum score=30, Significant at $P<0.05$ level, Minimum score=0

**Table 13: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with age, *n*=100**

| Age (in years) | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| 9 | 15 | 67.18 | 7.97 | 16 | 71.56 | 8.98 |
| 10 | 17 | 67.00 | 7.41 | 16 | 73.05 | 7.47 |
| 11 | 18 | 71.94 | 4.89 | 18 | 77.88 | 5.96 |
| | **df** | | | **df** | | |
| Between group | 2 | | | 2 | | |
| Within group | 47 | F=3.94* | | 47 | F=3.34* | |

Maximum score=30, Significant at $P<0.05$ level, Minimum score=0

Table 15 indicates that maximum mean attitude score 72.23 was found among rural school going children who were in fifth standard, followed by 67.17 in third standard and minimum 67.00 in 4th standard. Whereas in urban school, maximum mean attitude scores were 76.52 in fifth standard, followed by 73.58 in fourth standard children and 72.76 in third standard. The relationship of class with attitude of rural and urban school going children regarding importance of personal hygiene was found statistically significant at $P < 0.05$ level.

Table 16 indicates that maximum mean attitude score 72.50 among those whose mothers were graduate and above, followed by 68.87 in illiterate mother, 68.50 up to 11th–12th standard, and minimum 68.23 up to 1st–10th standard. Whereas, in urban school, maximum mean attitude scores 75.50 were found among those whose mothers were up to 1st–10th, followed by 74.73 in 11th–12th standard, 73.44 among those whose mothers were illiterate, and least 69.80 among those whose mothers were graduate and above. The relationship of education of mothers with mean attitude score of rural and urban school going children regarding importance of personal hygiene found statistically non-significant at $P < 0.05$ level.

Table 17 reveals that in rural, school going children with extended families had maximum mean attitude score 72.00, followed by 70.50 belongs to joint families and minimum 65.44 belongs to nuclear families. Whereas, in urban, highest mean attitude score was 73.66 in children who belongs to joint families, and least 72.66 among children who belongs to nuclear families. The relationship of type of family with attitude of rural and urban school going children regarding importance of personal hygiene was found statistically non-significant at $P < 0.05$ level.

Table 18 reveals that in rural children with family income of Rs. 5001–10000 had highest attitude score 69.62, followed by 69.60 with family monthly income Rs of ≥15001 or 69.53 with family monthly income of Rs 10001–15000 and least 67.23 with family monthly income of Rs ≤5000. Whereas in urban, maximum 76.23 with family monthly income of Rs. 5001–10000, followed 74.23 with family monthly income of Rs ≤5000, 72.09 with family monthly income of 10001–15000 and least 70.50 with income of ≤15000. The relationship of family monthly income with attitude of rural and urban school going children regarding personal hygiene was found statistically non-significant at $P < 0.05$ level.

Table 19 indicates that in rural school, highest mean attitude score was 71.30 among children who got information from their family and friends, followed by 67.00 got information from their teachers, 65.75 got information through electronic media

**Table 14: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with gender, *n*=100**

| Gender | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Boy | 20 | 61.47 | 6.48 | 21 | 71.90 | 6.10 |
| Girl | 30 | 69.03 | 8.90 | 29 | 76.52 | 8.49 |
| | **df** | | | **df** | | |
| Between group | 1 | | | 1 | | |
| Within group | 48 | t=2.61* | | 48 | t=2.76* | |

Maximum score=30, Significant at $P<0.05$ level, Minimum score=0

**Table 15: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with class, *n*=100**

| Class | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| 3rd standard | 16 | 67.17 | 7.72 | 16 | 72.76 | 9.87 |
| 4th standard | 17 | 67.00 | 7.41 | 17 | 73.58 | 7.41 |
| 5th standard | 17 | 72.23 | 4.88 | 17 | 76.52 | 5.68 |
| | **df** | | | **df** | | |
| Between group | 2 | | | 2 | | |
| Within group | 47 | F=3.25* | | 47 | F=3.71* | |

Maximum score=30, Significant at $P<0.05$ level, Minimum score=0

**Table 16: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with education of mother, *n*=100**

| Education of mother | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Illiterate | 8 | 68.87 | 8.06 | 9 | 73.44 | 7.00 |
| 1st–10th standard | 20 | 68.23 | 8.22 | 18 | 75.50 | 8.44 |
| 11th–12th standard | 20 | 68.50 | 6.42 | 19 | 74.73 | 8.06 |
| Graduation and above | 2 | 72.50 | 2.12 | 4 | 69.80 | 6.64 |
| | **df** | | | **df** | | |
| Between group | 3 | | | 3 | | |
| Within group | 46 | F=0.20$^{NS}$ | | 46 | F=2.71$^{NS}$ | |

Maximum score=30, Non-significant at $P<0.05$ level, Minimum score=0

**Table 17: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with type of family, *n*=100**

| Type of family | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Nuclear | 17 | 65.44 | 7.98 | 17 | 72.66 | 9.47 |
| Joint | 30 | 70.50 | 6.18 | 33 | 73.66 | 9.50 |
| Extended | 3 | 72.00 | 1.00 | - | - | - |
| | **df** | | | **df** | | |
| Between group | 2 | | | 1 | | |
| Within group | 47 | F=3.10$^{NS}$ | | 48 | F=0.07$^{NS}$ | |

Maximum score=30, NS: Non significant at $P<0.05$ level, Minimum score=0

**Table 18: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with family monthly income, *n*=100**

| Family monthly income (in Rs) | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| ≤5000 | 17 | 67.23 | 7.06 | 21 | 74.23 | 8.06 |
| 5001–10000 | 16 | 69.62 | 7.28 | 17 | 76.23 | 6.27 |
| 10001–15000 | 12 | 69.53 | 7.44 | 11 | 72.09 | 8.90 |
| ≥15001 | 5 | 69.60 | 6.94 | 1 | 1.00 | 0.00 |
| | **df** | | | **df** | | |
| Between group | 3 | | | 3 | | |
| Within group | 46 | F=0.40$^{NS}$ | | 46 | F=0.77$^{NS}$ | |

Maximum score=30, NS: Non-significant at $P<0.05$ level, Minimum score=0

**Table 19: Relationship of attitude score of rural and urban school going children regarding importance of personal hygiene with source of information, *n* = 100**

| Source of information | *n* | Mean | SD | *n* | Mean | SD |
|---|---|---|---|---|---|---|
| Electronic media | 4 | 65.75 | 6.65 | 9 | 73.22 | 7.88 |
| Printed media | 17 | 63.76 | 6.09 | 16 | 73.68 | 9.25 |
| Family/Friends | 19 | 71.30 | 7.32 | 13 | 74.64 | 8.56 |
| Teachers | 10 | 67.00 | 6.97 | 12 | 76.33 | 4.88 |
| | **df** | | | **df** | | |
| Between group | 3 | | | 3 | | |
| Within group | 47 | F = 1.48$^{NS}$ | | 47 | F = 0.34$^{NS}$ | |

Maximum score = 30, NS: Non-significant at $P < 0.05$ level, Minimum score = 0

and least 63.76 used printed media as source of information, Whereas in urban school, highest mean attitude score 76.33 was among school going children who got information from teachers, followed by 74.64 got information from family friends, 73.64 got information through printed media and least 73.22 among children who got information through electronic media. The relationship of source of information with attitude of rural and urban school going children regarding importance of personal hygiene was found statistically Non significant at $P < 0.05$ level.

## Discussion

The survey found that 40% of rural schoolchildren had good knowledge, 30% had average knowledge, 12% had excellent knowledge, and 18% had weak knowledge, while 44% of urban schoolchildren had good knowledge, 28% had average knowledge, 20% had excellent knowledge, and 8% had poor knowledge. As a result, it was established that urban schoolchildren had a higher degree of knowledge than rural schoolchildren. Private school students had 52% good knowledge and 48% poor knowledge, whereas government school students had 54% good knowledge, 26% average knowledge, and 20% poor knowledge of personal cleanliness.[8]

According to the study's findings, 88% (44) of rural youngsters had a positive attitude towards personal hygiene, whereas just 12% (6) had a negative attitude toward personal hygiene. Personal hygiene was viewed positively by 96% (48) of urban schoolchildren and negatively by 4% (2). As a result, it was established that the majority of rural and urban schoolchildren had a favorable attitude towards personal cleanliness. According to Oliveira *et al*. (2008)35, 80% had a favorable attitude towards personal hygiene and 20% had a negative attitude toward personal hygiene.[9]

They conducted a study to find out what children in Turkey knew and did about oral and dental health. The sample for the study was made up of 173 children. Face-to-face interviews were used to fill out a survey with questions about the children's dental health and oral hygiene. The study showed that 48% of the children were between the ages of 5 and 6, and 68.8% were not going to school. About 43.3% of the mothers of the children in the study had only finished primary school, and 74.6% of them were housewives.Furthermore, 49.1% of the kids had never had a cavity, 43.4% said they brushed their teeth after eating, and 30.6% said they did it at least once a day. More than 60% of the kids spent their allowance on acidic drinks, chocolate, chips, cola, candy, and other sweets. There was a strong link between how old the kids were and whether or not they had a cavity. There was a statistically significant link between how often the parents brushed their teeth and how often their children brushed their teeth. The same was true for how often the parents brushed their teeth.[10]

They carried out a study to see what effect a school health education program had on the personal hygiene of tribal school children in Wardha district and the diseases that came from that. The study looked at 145 elementary school kids between the ages of 6 and 8. A structured knowledge questionnaire and a health check-up were used to get the information. Health education was done with flip books, activities that showed how to do things, and planned sessions of a health education program. The number of children with clean teeth went up from 33.8% to 50%, and the number of children with dental caries went down from 8% to 5%. The researcher came to the conclusion that the school education program led to better personal hygiene and less disease.[11]

They conducted a cross-sectional study on personal hygiene among school going children with three health check-up camps organized in private schools of Pune. Total 450 students were included in study. Out of 450 students, 56.2% were boys and 43.8% were girls with age from 5 to 10 years. The major morbidities observed were dental caries (65.1%), upper respiratory tract infection (38.2%), ear wax (29.9%), and myopia (10.0%). Mean hygiene score was significantly higher in girls (4.32) than boys (3.95) and poor hygiene was observed in older boys. The researcher concluded that increasing myopia and poor dental hygiene denotes a changing morbidity pattern in private schools.[12]

## Conclusion

The survey concluded that 40% (20) of rural schoolchildren and 44% (22) of urban schoolchildren had strong knowledge. About 96% (47) urban and 88% (44) rural schoolchildren valued hygiene. The mean knowledge score of rural and urban children was statistically significant for age, mother's education, and source of information, but not for household type or monthly income. In rural children, class was significant while gender was non-significant. The mean attitude score of rural and urban schoolchildren was statistically significant for age, gender, class, but not for mother education, type of family, family monthly income, or source of information.

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## Conflicts of Interest

None.

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