Knowledge and Practices regarding Personal Hygiene in School Going Children of Uttarakhand

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Abstract

Personal hygiene refers to set of individual practices and conditions that help maintain health and prevent the spread of diseases. Maintaining personal hygiene is important for social health, physical health and psychosocial health. The present study aimed to assess the knowledge and reported practices of school going children regarding personal hygiene with a view to develop an information booklet. The study adopted cross sectional design to collect data from 410 school going children in rural villages of Haldwani block, Uttarakhand. The children were recruited via convenient sampling technique. It was found that majority (n=230, 56.09%) school going children had moderate knowledge of personal hygiene. The overall practices of children were found to be appropriate for 366 (89.51%) children. Regarding knowledge and hygienic practices, mother's education plays vital role for school going children. Also, teachers with parents can play a pivotal role in providing health education regarding personal hygiene from early stage of childhood itself for longevity and to protect from illnesses.

Key words: Knowledge, Practices, Personal hygiene, School-going children

We all have heard the old saying, 'Health is Wealth'. Health and hygiene are two essential aspects of a good life. This is because one cannot enjoy a wholesome life without good health. Health means the state of being physically, mentally, and socially well. A good health leads to good life. It is essential to be healthy and hygienic to build our immune system too.

According to World Health Organisation, 3.8 million children under five years die from diarrhea and acute respiratory tract infection per year (WHO, 2011). In developing countries children live in extreme conditions like poverty, peri-urban dwelling, poor availability of drinking water, improper sanitation and poor hygiene which leads to major health problems in them like diarrheal disease, skin diseases, worm infestation and dental caries (WHO, 2017).

Most of the health problems affecting school children are preventable by promotion of hygienic practices through proper health education. There are 6.3 lakh schools in India, out of which 128.3 million are primary school, 50 million are upper primary school. In our country 1,600 children die every day due to diarrheal disease having the cause of poor hand hygienic practice (George et al, 2018).

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According to WHO, intestinal parasitic infections are a major public health problem, particularly in the developing countries like India. Billions of people are affected globally, majority being school going children. Around 600 million school-age children live in areas where these parasites are endemic (Bansal et al, 2018) . Worm infestations have a close relationship with the socio-demographic and ecological factors like poverty, illiteracy, poor personal and environmental hygiene. From school going children, the entire family may eventually get worms and suffer. Worm infestations are generally unnoticed but can lead to significant problems like malnutrition, anaemia, stunted physical growth and poor academic performance (Leena et al, 2014).

Globally, around 305 million school age children (5 - 15 years) are affected from anaemia. Factors contributing to the high prevalence of anaemia include inadequate consumption of nutritious foods, lack of access to health care service, and inefficient utilisation of available micronutrients as a result of infectious diseases, particularly helminthic infections (Dijokic at al, 2010)

The above mentioned conditions can be prevented by good personal hygiene (Sarkar, 2013). Many studies (George et al, 2018; Khatoon et al, 2017) have shown that personal hygiene is poor in school going children thereby leading to morbidity. Educating students on correct hygienic practices can be low cost and effective measure for not only

disease prevention but also help prevent absenteeism due to illness in future (Leena et al, 2014). A study done in Lucknow showed that school-based hygiene and keeping school environment clean is important for decreasing the rate of communicable diseases (Khatoon et al, 2017; Maji & Samanta, 2021) Currently, the data on status of personal hygiene in school children is very less in Uttarakhand and awaking the children regarding maintenance of healthy habits will help improve the health of children in school age group.

Need for the Study

Personal hygiene is an important aspect for the health of an individual. Without good hygienic habits one is set to be prone to many illnesses or diseases. The major reason for poor health among school age children is the lack of awareness about the health benefits of good personal hygiene. Diarrhoeal diseases, skin diseases, worm-infestations and dental diseases are most commonly associated with poor personal hygiene (Sarkar, 2013).

The World Health Organisation estimates that Southeast Asia contributes to about 27 percent of the global burden of infectious and parasitic diseases and 30 percent of respiratory infections (WHO, 2021). The primary cause of morbidity and mortality among young children in developing countries is respiratory and intestinal infections (WHO, 2022), which can be prevented by accessibility to safe water, adequate sanitation and better hygienic practices in children (UNICEF, 2012).

An observational study conducted on health status of children and school health services in Doiwala Block, Dehradun, Uttarakhand revealed that clinical anaemia was higher in girls i.e. 155 (46.7%) than boys 88 (34.1%). Worm infestation was higher in boys 168 (65.1%) than girls 192 (57.3%). Overall abnormal visual-acuity 29 (8.5%) or eye abnormality 25 (14%) was observed in children. Dental caries 137 (53.1%) and dermatitis 42 (16.3%) were more in boys. Healthy habits like daily bathing 276 (82.6%), daily teeth brushing 204 (61.1%), mouth rinsing after meal 177 (53%) and hair clean / combed 268 (80.2%) were more in girls than boys while trimming of nail was equally noticed (n=183, 55%) among both the groups. It was concluded that students had low awareness and negligent behaviour about personal hygiene. By active involvement of school teachers, improvement can be achieved in personal hygiene of school children and reduction in related morbidities (Sarkar, 2013).

Considering low status of hygiene of rural children, a research study was conducted to identify the level of knowledge and practices of school going children regarding personal hygiene with a view to develop an information booklet and distribute the same to the mothers of the school going children based on the level of awareness and practices of personal hygiene.

Review of Literature

Rehman et al (2015) conducted a cross sectional study on knowledge of primary school children about personal hygiene in Government school, Asal Suleiman, Lahore. The sample consisted of 100 children of primary school and those of secondary school were excluded. Each student was given equal number of proformas (12 each) and data was collected via interview method. The results revealed that 91 (91%) were having knowledge about personal hygiene. Majority 98 (98%) children used water for cleaning perineal area, 90 (90%) children brush teeth once a day, 51 (51%) children took bath daily and washing uniforms daily were only 18 (18%). The study concluded that children did not possess knowledge about importance of personal hygiene and were also not practicing it. The need for proper implementation of school health programme by health professional in collaboration with teachers and parents was emphasised that could create awareness regarding practice of personal hygiene among school children.

Another cross-sectional study by Ghanim et al (2016) was done on knowledge and practice about personal hygiene amongst primary school children in Sharjah, UAE. The sample consisted of 428 school children selected by stratified random sampling technique. Structured questionnaire on knowledge and practices related to personal hygiene was used. Also, subjective observations of variables related to personal hygiene were performed. The results showed that 278 (65%) children had adequate knowledge regarding personal hygiene; knowledge of 194 (95%) girls was higher than boys 183 (82%). For practices it was reported that 265 (62%) took shower, 257 (60%) washed their hands and 98 (23%) children brushed their teeth. The study concluded that parents and teachers play an important role in positive and significant role in improving the personal hygiene of school going children.

Rahman et al (2019) conducted a cross sectional study to assess knowledge and practices of personal hygiene among primary school children in Dhaka, Bangladesh. The sample consisted of 120 primary school going children (grade I to V) selected from three schools of nearby slum area. A pre-designed, pre-tested and structured questionnaire was used. Results showed that 46 (38.33%) children brushed their teeth twice in past weeks and 28 (23.33%) children brushed their teeth once in past week, 100 (83.33%) children washed their hands before eating and only 20 (16.67%) had not

washed their hands before eating, 52(52%) had not used soap for washing hands. The study concluded that regular reinforcement should be done to increase the effectiveness of a health education programme to improve personal hygiene.

Similar cross-sectional study by Almoslem et al (2021) was done to assess knowledge, attitudes and practices about hand washing in school going children of Saudi Arabia. The sample consisted of 271 children from 30 schools selected by two-staged random sampling technique. In the first stage, every 35th school was randomly selected from a list of 1,068 schools in the major three cities in the Eastern Province. In the second stage, every 3rd student was randomly selected from a students' list of each school. The results showed that a majority of children had a high level of knowledge on hand hygiene. Maximum 124 (46%) children had knowledge of hand washing as a protective measure to prevent diseases and 108 (34%) had knowledge of hand washing that it helps to remove dirt. Most 141 (52%) children washed their hands with soap after using the toilet and majority i.e. 236 (87%) school children used water and soap to wash their hands. The level of education of mothers of students had a significant relationship to hand hygiene practices (p=0.044) and most students (87%; p=0.001) recognised that washing hands with water and soap at school is significant. The study concluded that knowledge and practices of hand washing is good in school going children yet further health education is needed to improve the hand hygiene. More improvement can be done by conducting specific health education programmres to emphasise the role of hand washing in health hygiene.

Objectives

1. To assess the (a) knowledge and (b) personal hygiene of school going children.
2. To find the association between reported personal hygiene practices of school going children with selected socio demographic variables.
3. To develop and administer cartoon-based information poster.

Hypothesis

The hypothesis was tested at 0.05 level of significance.

H1: There will be significant association between practices regarding personal hygiene of school going children with selected sociodemographic variable.

H0: There will be no significant association between practices regarding personal hygiene of school going children with selected sociodemographic variable.

Methodology

A cross sectional study was conducted among 410 children aged 7 to 10 years in rural area of Haldwani block, Uttarakhand. The sampling technique selected for the study was non-probability-convenient sampling. The data was collected using structured knowledge questionnaire and reported practice checklist regarding personal hygiene. Validity of the tools were established by giving it to five experts in the field of Child Health Nursing, Community Medicine, Paediatrics and Dentistry. Reliability of knowledge questionnaire was established through split half method (r=1.96) and for reported practice checklist was established through test re-test method (r=0.96). The tools were found to be reliable. The data was collected by interview method. and analysed by SPSS software version 20.0. Ethical permission was sought from Institutional Ethical Committee (IEC), Pal

Table 1: Sample characteristics of school going Children (n=410)

Variables	Frequency (f, %)
Age in years	
7-8 years	244 (59.51)
9-10years	166 (40.49)
Gender	
Male	218 (53.18)
Female	192 (46.82)
Religion	
Hindu	404 (98.54)
Muslim	2 (0.48)
Sikh	4 (0.98)
Educational standard of child	
1-2 class	228 (55.60)
3-5 class	182 (44.40)
Father's education	
No formal education	53 (12.93)
Primary education	47 (11.46)
Middle education	94 (22.93)
Secondary education	128 (31.22)
Senior secondary	65 (15.85)
Graduation & above	23 (5.61)
Mother's education	
No formal education	99 (24.14)
Primary education	71 (17.32)
Middle education	106 (25.86)
Secondary education	81 (19.76)
Senior secondary	37 (9.02)
Graduation & above	16 (3.90)
Family type	
Nuclear	337 (82.20)
Joint	73 (17.80)
Family income per month (Rs)	
5,000 - 20,000	386 (94.14)
20,001 - 35,000	17 (4.14)
35,001 - 50,000	5 (1.21)
50,001 - 65,000	1 (0.25)
65,001 - 80,000	1 (0.25)

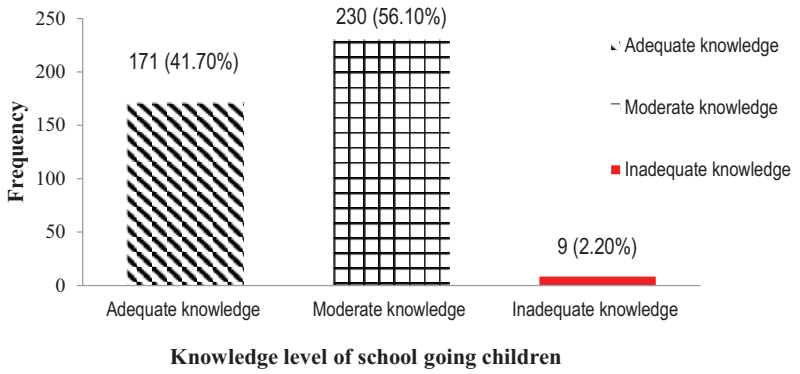

Fig 1: Frequency and percentage distribution of knowledge level regarding personal hygiene.

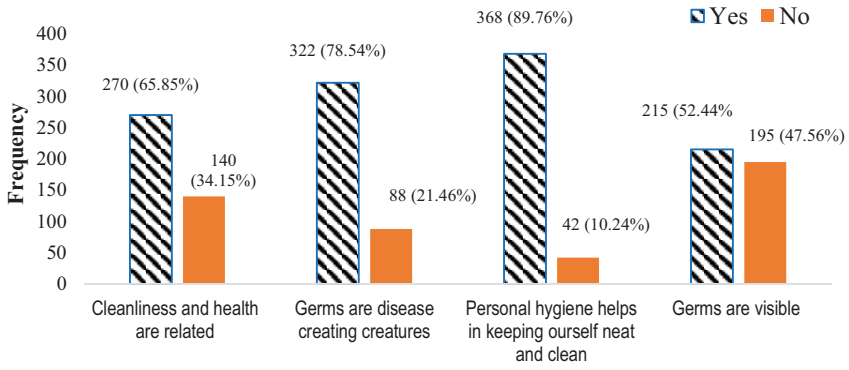

Fig 2: Frequency and percentage distribution of knowledge score of school going children regarding hygiene (n=410).

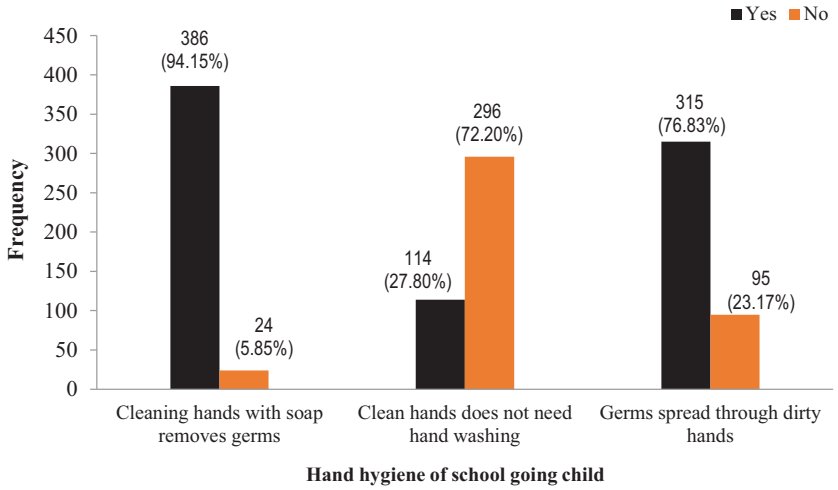

Fig. 3: Frequency and percentage distribution of knowledge score of school going children regarding hand hygiene.

College of Nursing & Medical Sciences, Haldwani, Uttarakhand. Informed written consent was obtained from all parents of the children selected in the study.

Results

Demographic characteristics

Findings revealed that 244 (59.51%) school going children were in the age group of (7-8) years. Mostly (n=218, 53.18%) school going children were males. Majority (n=404, 98.54%) school going children belonged to Hindu religion. Maximum (n=228, 55.60%) were studying in 1/2 classes. Most fathers (n=128, 31.22%) had education till secondary school and 106 (25.86%) mothers of school going children had education till middle school. Majority (n=386 94.14%) school going children had family income of 5000 – 20,000 per month (Table 1).

Knowledge regarding personal hygiene

Maximum of 230 (56.09%) of school going children had moderate knowledge regarding personal hygiene and only 9 (2.19%) had inadequate knowledge (Fig 1) (n=410)

Area-wise personal hygiene regarding self, hand, oral, bathing and hair is described in Figs 2-5 (n=410)

Reported practices regarding personal hygiene

Maximum of 366 (89.51%) children had appropriate hygienic practices and only 44 (10.40%) children had inappropriate hygienic practices (Fig 6). Area-wise hygienic practice is described in Table 2.

Association between reported Personal Hygiene Practices

Variables i.e. educational standard (χ^2=7.62, p=0.004) and mother's education (χ^2=6.30, p=0.012) were found to be associated with practice scores of personal hygiene as described in Table 3. Hence, the null hypothesis was accepted for family income only.

Develop and administer cartoon-based Information Poster

According to the results of the study researcher had developed and administered Cartoon-based information poster (CBIP) to the rural school going children who had moderate and inadequate knowl-

Table 2: Reported hand and oral and other hygiene practices of school going children (n=410)

Areas	Always	Not always
	F / %	F / %
Hand hygiene		
Wash hands with soap and water	47 (11.46)	363 (88.54)
Wash hands for 20-30 sec	35 (8.53)	375 (91.47)
Hand washing after toileting	251 (61.21)	159 (38.79)
Hand washing before eating	183 (44.63)	227 (55.37)
Hand washing after eating	327 (79.75)	83 (20.25)
Oral hygiene		
Use brush and tooth paste	405 (98.78)	5 (1.22)
Brushing of teeth only in morning	88 (21.46)	322 (78.54)
Brushing of teeth at morning and before sleeping	5 (1.22)	405 (98.78)
Rinse mouth after awaking	59 (14.39)	351 (85.61)
Nail hygiene		
Cut nails with nail cutter	318 (77.56)	92 (22.44)
Cut your nails once a week	56 (13.65)	354 (86.35)
Nail biting	214 (52.20)	196 (47.80)
Bathing and hair combing		
Use soap and water for bathing	183 (44.63)	227 (55.37)
Use comb for hair combing	323 (78.78)	87 (21.22)

edge regarding personal hygiene. It included health benefits in the following areas: Oral hygiene, Hand hygiene, Nail hygiene, Bathing and combing.

Discussion

In present study, majority of school going children had moderate knowledge of personal hygiene. Thus, it was identified that there is a need for an awareness programme that might help them to maintain personal hygiene and lead a healthy life throughout. The findings of the present study were not consistent with a study conducted by Sarkar (2013) on knowledge and practices regarding personal hygiene among primary school children. It was found that 75 percent had good knowledge regarding personal hygiene, 2.88 percent had excellent knowledge and 22.12 percent had poor knowledge. The present study was consistent with the study conducted by Rahman et al (2019) to assess knowledge and practices regarding personal hygiene among primary school students found that 52 (52%) don't use soap while washing hands and 48 (48%) did not use soap while washing hands. Another study results were consistent with the present study results. It was found that 95.1 percent practiced for hand wash before meal, 74.3 percent practiced for hand wash before cooking, 66.6 percent practiced for hand wash after cooking, 90.2 percent practiced for hand wash after using toilet, 87.8 percent practiced for hand wash after handling garbage, 75.7 percent practiced for hand wash after handling animal. Consistent findings were also reported by a study done among school going children of Udham Singh Nagar regarding personal hygiene practices. It was found that 75.09 percent children washed their hands before taking meal and only 17.99 percent children washed their hands with soap (Singh et al, 2018). Findings were also parallel with the study conducted by Ahmadu et al (2013) which found that there was a statistically significant association between age of child and practices scores regarding personal hygiene ($p<0.05$).

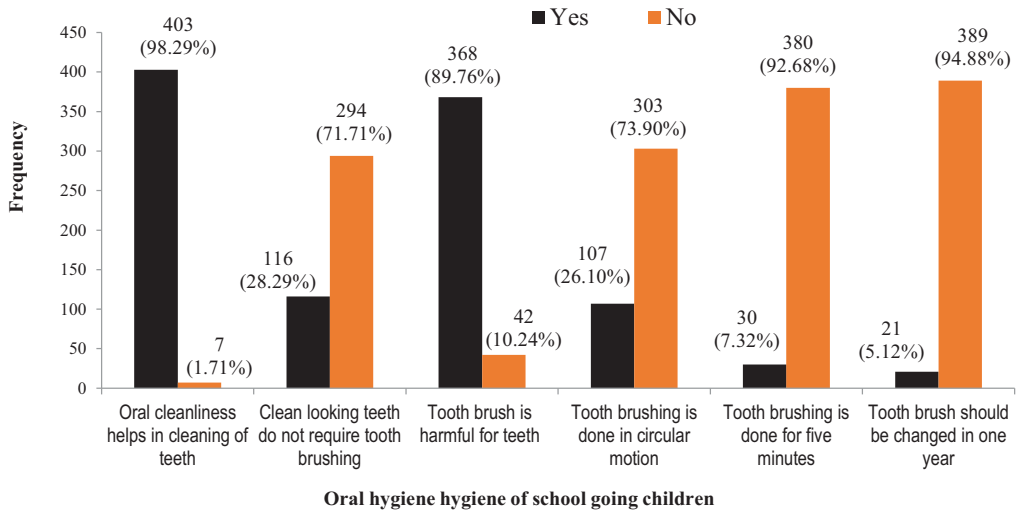

Fig 4: Frequency and percentage distribution of knowledge score of school going children regarding oral hygiene.

Recommendations

- A comparative study can be conducted between rural and urban school going children regarding personal hygiene.
- A similar study can be conducted (a) by child-to-child approach to identify knowledge and practices regarding personal hygiene, (b) in older age group of school going children.
- An experimental study can be conducted in rural school going children regarding personal hygiene.
- Health education

Table 3: Association between reported practices of school going children regarding personal hygiene with their selected socio-demographic variables (*n* = 410)

Sample characteristics	Practice scores		df	χ2	p value
	Below median <14	Above median >14			
Educational standard of child					
1-2 class	34	210	1	7.62	0.004*
3-5 class	9	157			
Mother's education					
Below secondary education	37	239	1	6.30	0.012*
Above secondary education	7	127			
Family income per month (Rs)					
5,000 - 20,000	43	343	4	2.98	0.560
20,001 - 35,000	0	17			
35,001 - 50,000	0	5			
50,001 - 65,000	0	1			
65,001 - 80,000	0	1			

sessions can be conducted by teachers through videos, pamphlets, charts regarding personal hygiene.

- Projects can be organised in the community for educating the parents regarding personal hygiene.

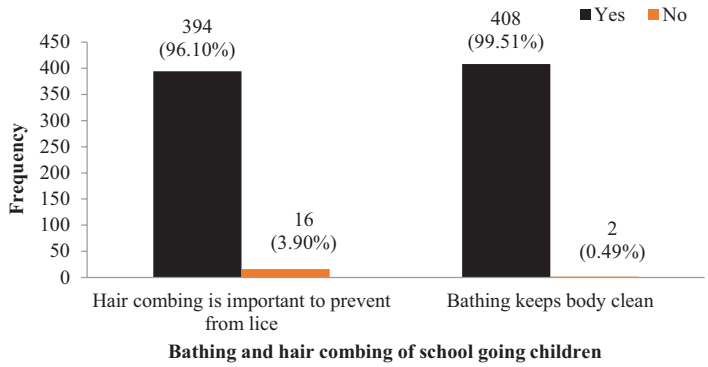

Fig 5: Area-wise frequency and percentage distribution of knowledge scores regarding bathing and hair combing.

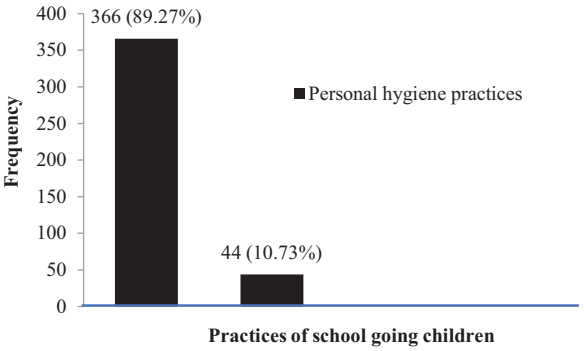

Fig 6: Reported practices regarding personal hygiene of school going children.

Implications

Nursing practice

- Community nurses can create awareness programme for school going children in schools to make them understand the value and benefits of maintaining personal hygiene, also the consequences of not maintaining the personal hygiene.
- Awareness can also be given to parents of the school going children and make them understand the importance of maintaining good personal hygiene in their children.

Nursing Research

- The results of the study can serve as a basis for further studies to be conducted in the area to find out the solution as what can be done to improve personal hygiene knowledge among the school going children.
- The study can serve as the basis for future studies in the area of concern on a larger scale or for replication in the urban areas.

Limitations of the study

- The present study was limited to only rural school going children.
- While collecting the data, it was found that homes of school going children were scattered from one another which led to difficulty in gathering the data.
- The reported practice checklist was related to behavioural aspect of school going children; there might be possibilities of bias since children may not like to confess hand washing before eating, brushing once a day, bathing once a day.
- Practices were not directly observed by the researcher.
- Due to covid pandemic situation, some parents did not allow for data collection.

Conclusion

The present study concluded that most of the school going children had moderate knowledge regarding personal hygiene and their reported hygienic practices was found to be appropriate. Our country's future depends upon health of its children. Parents and teachers in the schools play an important role in shaping the behaviour of children particularly health. School health education programme also plays an important role in inculcating healthy habits in children.

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