

Knowledge and Practice of Personal Hygiene among Primary School Students in Sharjah-UAE

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Abstract Proper knowledge and practices of personal hygiene plays critical role in avoiding communicable diseases and benefit the primary school children to enjoy healthy and productive school life. The present study evaluated the knowledge and practices related to personal hygiene among primary school children in Sharjah. This cross-sectional study involving 428 primary school children was conducted in Sharjah, United Arab Emirates. Out of 428 students, 155 were from grade 1 (27%), 164 from grade 3 (38%) and 149 from grade 5 (35%). The mean age for students was 8.61 years (SD=1.91). The ability to define personal hygiene was significantly higher among girls (95%) (N=194) as compared to boys (82%) (N= 183). Parents and teachers were the most common source of knowledge providers about personal hygiene to the participants. With the existing knowledge and practices related to personal hygiene among the students, parents and teachers can play positive and significant role to improve it further.

Keywords Personal hygiene, Hand hygiene, Hand washing, Primary school children

1. Introduction

The increased burden of communicable diseases among school children due to poor personal hygiene practices and inadequate sanitary conditions remains a concern on the public health agenda in developing countries [1]. School children are particularly vulnerable to neglect of basic personal hygiene due lack of knowledge and practice [2]. Poor knowledge, practice of and attitudes to personal hygiene such as hand washing play major roles in the high incidence of communicable diseases and therefore has negative consequences for a child's long term overall development [3].

Improved awareness and hand hygiene practices especially among children have effectively reduced gastrointestinal and respiratory tract infections by up to 50% the two leading causes of childhood morbidity and mortality around the world [4-6]. In addition, studies have also shown that school children with better knowledge and practices of personal hygiene have fewer sick days and absenteeism in school and achieve higher grades [2, 7].

School is the place where health education regarding important aspects of hygiene, environment and sanitation, as well as social customs is being imparted [8]. Health is a key factor in school entry, as well as continued participation and

attainment in school. The teacher is the guardian of the child in school and plays a pivotal role in the whole process of primordial prevention [9]. Bearing in mind that school children have been consistently implicated in the spread of communicable diseases and that the school has been recognized as a vital setting for health promotion [10], this study was planned to assess personal hygiene in primary school children in Sharjah, United Arab Emirates. The aim of this study was to investigate existing knowledge and practices related to personal hygiene among primary school children between grade 1 and 5. The results from the study will help to understand the factors influencing the personal hygiene behaviors in primary school children and to overcome barriers in acquisition of proper knowledge and practices.

2. Methods

This is a cross sectional study involving 428 primary school students in Sharjah, United Arab Emirates (UAE). The students were selected based on the stratified random sampling technique, in which the schools were divided into male and female schools, and from each stratum we applied the systematic random sampling technique to choose the appropriate number. A questionnaire containing 35 questions was used to collect data including information about knowledge and practices related to personal hygiene. In addition to that, subjective observations of variables related to personal hygiene were performed. The study used SPSS (21) was used to enter and analyze the data using Chi-square

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and ANOVA statistical tests.

3. Results

A total of 428 students participated in this study, 224 boys (52.3%) and 204 girls (47.7%). 155 students were from grade 1 (26.9%), 164 were from grade 3 (38.3%) and 149 were from grade 5 (34.8%) The mean age for students was 8.6 years (SD=1.91). Two hundred seventy eight students (65%) had adequate perception about personal hygiene, but only 27% (N= 116) mentioned that personal hygiene was important to fight diseases (figure 1). The ability to define personal hygiene was significantly higher among girls (95%) (194 of 204) as compared to boys (82%) (183 of 224). Based on a quiz out of five, the average knowledge related to basic personal hygiene recorded among girls (4.45) was significantly higher than among boys (3.83) ($p<0.005$). Taking shower (62%) (N=265) and washing of hands (60%)

(N=257) were the two top ranked hygiene practices reported by the students. Before meals, after using toilets and after playing were the major episodes for washing of their hands (figure 2) and 71% (182 of 257) used soap and water regularly to wash their hands. The use of a hand sanitizer was reported by 38% (N=162) of the students however, the frequency of usages differ widely. The most common reasons for not washing their hands were forgetfulness and lack of time (N=235, 55% and N=77, 18% respectively). Brushing of teeth as a component of personal hygiene was realized only among 23% (N=98) of the students. After waking up in the morning and before going to bed were the two most common times when the students brushed their teeth (N=304, 71% and N=265, 62% respectively). Parents and teachers were the most common source of knowledge providers about personal hygiene to the participants (figure 3).

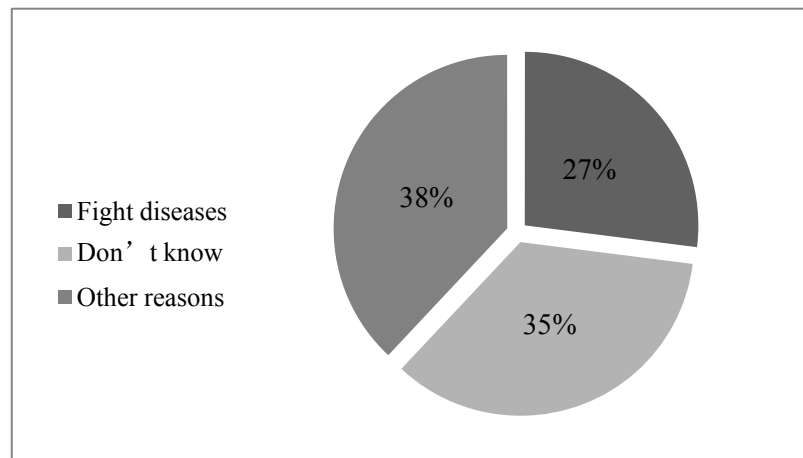


Figure 1. Students' perception about the importance of personal hygiene

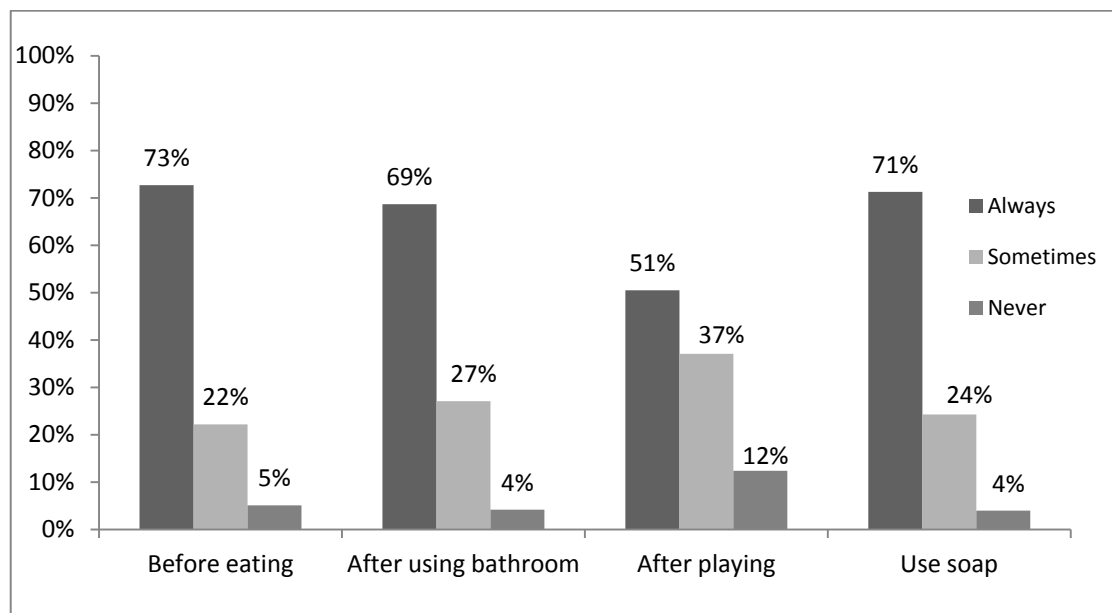


Figure 2. Hand washing practices as reported by students

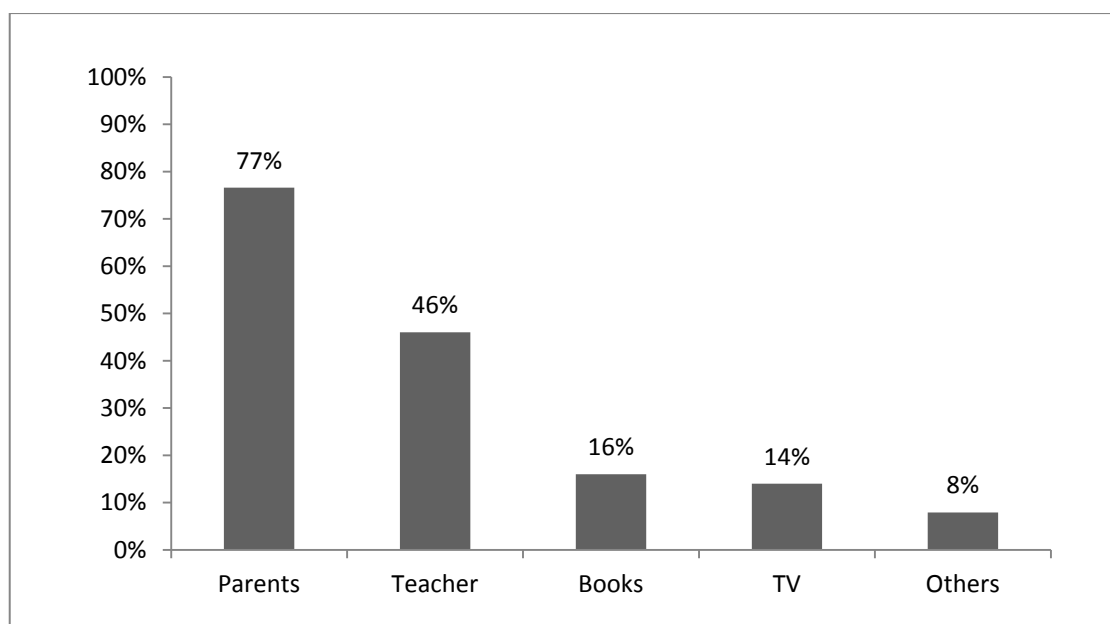


Figure 3. Information sources of personal hygiene

4. Discussion

In this study we assessed the knowledge and practices of personal hygiene among 428 primary school students in grade 1, 3 and 5. To begin with, 65% (N=278) of students (figure 1) had some perceptions about the importance of personal hygiene and could spell it out when interviewed. This was very encouraging finding as we know that hygiene practices are heavily influenced by individual's awareness, knowledge and attitude [2]. Schools are the right place to initiate this behaviour early in the childhood. In addition, the study observed that around half (46%) (N=197) of the students mentioned their teachers as a source of information regarding personal hygiene (fig 3). These observations clearly demonstrated that the schools and its teachers can play a vital role in imparting the knowledge and practices of personal hygiene very early in the Childs' life. It is well known that children are more receptive to learning and are very likely to adopt healthy behaviours at a younger age. Furthermore, they have also demonstrated that they can also be agents of change by spreading what they have learned in school to their family and community at large [2, 3].

We have observed that knowledge and practices of hygiene was well correlated with students wearing clean cloths and presentable appearance. We also found out that girls showed better knowledge and practices, related to personal hygiene, than boys. Based on a quiz out of five, the average knowledge related to basic personal hygiene recorded among girls (4.45) was significantly higher than among boys (3.83) ($p < 0.005$). Strikingly, the finding of the mean score for girls (4.15 ± 0.98) was significantly higher than that for boys (3.2 ± 1.4) [$P < 0.05$] in an Indian study as well [9]. This finding was expected as girls take care of

themselves, and care about their self-image more than boys. It was also noted that the knowledge and practices of personal hygiene was correlated to their academic achievements. This interesting observation goes with the notion that clean hands possess clean books that achieves better grades. [7, 11, 16]

Showering was the most important aspect of personal hygiene (62%) (N=265), as ranked by the students. This observation was unique to this study. We believe that the local hot, dry and dusty desert climate and adequate water availability might have influenced in ranking showering or bathing to be the most important hygiene practice among the students. This is in contrast to studies from Africa and Asia where the researchers have reported bathing and washing of hair are the least common practices of personal hygiene [2, 11] and the reason was due to inadequate water availability.

When it comes to hand washing, our results are consistent with previous studies [12, 13]. Just before eating, after using toilets and after playing were the major episodes when the students washed their hands and a great proportion of the study population (71%) used soap. As we know that hand washing with soap is the simplest cost effective health prevention technique; it was reassuring to observe this hand washing behaviour in majority of our students. Also, adequate hand hygiene is great deterrent to the spread of gastro intestinal and respiratory tract infections especially in children. Previous studies have shown that washing of hands using soap can prevent these infections and in turn reduces the absenteeism in the schools [14-16]. It was also interesting to note that hand sanitizer usages is also being encouraged as a practice of hand hygiene among the primary school children. The current study had several potential limitations including inappropriate responses from children and relying on subjective observations by the researchers.

5. Conclusions and Recommendations

The study concluded that personal hygiene knowledge and practices are satisfactory among the school children in Sharjah. Personal hygiene is not an isolated behaviour; instead it varies from person to person according to different factors. Intervention programs raising the awareness and importance of personal hygiene among school children through coordinated education measures by parents, teachers and media will be beneficial to impart these early in life. Based on our research finding we believe that the educational authorities in the country can develop and adopt policies and guidelines that will make way to have adequate access to resources, items and opportunities to maintain personal hygiene at school and home. Schools should provide hygiene education to kindergarten and early grade school children to supplement the training provided by parents and guardians, to ensure that all children learn at an appropriate age how to protect themselves and others from preventable exposure to illness and other hygienic hazards.

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Appendix

RESEARCH PROPOSAL DETAILS

What is the research question?

What are the knowledge and practices related to personal hygiene among primary school students in Sharjah?

Outline, briefly, the background to the research rationale, clarifying its significance.

The increased burden of communicable diseases among school children due to poor personal hygiene practices and inadequate sanitary conditions remains a concern on the public health agenda in developing countries. Health is a key factor in school entry, as well as continued participation and attainment in school. School is the place where health education regarding important aspects of hygiene, environment and sanitation, as well as social customs, is being imparted. The teacher is the guardian of the child in school and plays a pivotal role in the whole process of primordial prevention. (Soumya Deb *et al*, 2010). Poor knowledge and practice of and attitudes to personal hygiene such as hand washing play major roles in the high incidence of communicable diseases and therefore has negative consequences for a child's long term overall development.

School children are particularly vulnerable to neglect of basic personal hygiene (Postma *et al*, 2004; Oduntan; 1974;

Enahoro and Orok; 1986). The consequences in terms of morbidity and mortality are also more severe in them compared to adults.

The hands are probably the single most important route for transmission of infection in the home and community, as they are often in direct contact with the mouth, nose and conjunctiva of the eyes). They also come in contact with food and water that is consumed. Studies have revealed a strong and consistent causal link between poor hand hygiene and gastrointestinal infection. Certain respiratory infections (common cold, influenza virus infection, etc) have also been linked to poor personal hygienic practices. Bearing in mind that school children have been consistently implicated in the spread of communicable diseases (Monto AS, 2002) and that the school has been recognized as a vital setting for health promotion (Catalina Lopez-Quintero *et al*, 2009), we are planning to assess personal hygiene in primary school children in Sharjah.

Objectives

- How much do primary school students in Sharjah know about personal hygiene?
- What are the hand washing habits of primary school students in Sharjah?
- What are the teeth brushing habits of primary school students in Sharjah?
- What are the showering habits of primary school students in Sharjah?
- What is the source of knowledge of primary school students in Sharjah about personal hygiene?
- Is personal hygiene affected by gender?
- Is personal hygiene affected by academic achievement?
- Is personal hygiene affected by whether their parents work or not?

Methodology

Study Design

Choose the design that conforms to your research proposal

- ☐ Qualitative
- ☐ Ethnographic
- ☐ Grounded theory
- ☐ Historical
- ☐ Case studies
- ☐ Focus Groups
- ☐ Phenomenological

✓Others, specify: Cross Sectional (Quantitative)

How does the selected design relate (is appropriate to) fulfilment of study objectives?

Cross-sectional studies involve data collected at a defined time. The use of routinely collected data allows large cross-sectional studies to be made at little or no expense. This is a major advantage over other forms of epidemiological studies. Hence, our research design best fits to our study objectives.

Study Population**Target population**

Primary school students in Sharjah

Sample population (from sample will be chosen)

Primary school students in Sharjah studying in the public sector

Study population (actual sample selected)

As will be explained later, we are going to pick 6 schools (3 males and 3 females) to be the actual samples. This will be done after making the sample frame, after we get the list of public primary schools in Sharjah from the Ministry of Education.

Sampling**Sampling Method(s)**

After getting a list of public primary schools in Sharjah from the Ministry of Education, we are going to create a sampling frame. We are going to apply the stratified random sampling technique, in which we will divide the schools for male and female schools, and from each stratum we will apply the systematic random sampling technique to choose the appropriate number of schools.

Sample Size Needed

Using the formula $n = [4 p (1 - p)] / ME^2$, and assuming that the expected prevalence is 50% and the margin of error is 5%, 'n' will be 385. Hence, our sample size is 400 students, after adding 15 to the 385 as a margin for non-response

Sample Justification

The 400 students will equally be divided to 200 boys and 200 girls. As we picked grades 1, 3 and 5 to present the population, the 200 students divided by 3 will give approximately 67 students for each grade. Assuming that each class has between 20-25 students, we need to visit 3 schools for each gender. In other words, 22 students multiplied by 3 grades are 66, multiplied by 6 schools gives 396 students.

Inclusion/Exclusion Criteria

There are no inclusion/exclusion criteria; because there are no special requirements, socioeconomic status, geographic location or disease characteristics in our study, i.e it includes all students.

Research Instrument (Questionnaire filled by us as we interview the subjects)**Demographics:**

1) Gender:

1. Boy
2. Girl

2) How old are you?

.....

3) In which grade are you?

1. Grade 1
2. Grade 3
3. Grade 5

4) Does your mum work?

1. Yes
2. No

If yes, specify.....

5) Does your dad work?

1. Yes
2. No

If yes, specify.....

6) Academic achievement:

Knowledge:

7) What does personal hygiene mean?

.....
.....

8) What does personal hygiene include?

.....
.....

9) Is it important?

1. Yes
2. No

10) If yes, why?

.....
.....

	1. Agree	2. Don't know	3. Disagree
11) Being neat and clean keeps you healthy			
12) Brushing your teeth using tooth paste prevents teeth problems			
13) Washing your hand using soap is much better than using water only			
14) Biting your nail with your teeth is unhealthy			
15) Taking shower everyday is needed to keep you clean			

16) From where did you get the knowledge about personal hygiene?
(you can choose more than one)

1. Parents
2. Teacher
3. TV
4. Books
5. Others: Please specify

Practices:**Hand hygiene:**

Do you wash your hands:	1. Always	2. Sometimes	3. Never
18) Before eating?			
19) After using the toilet?			
20) After playing			
21) Do you use soap while washing your hands?			

22) Do you have a hand sanitizer?

1. Yes
2. No

23) How often do you use hand sanitizer instead of hands washing in school?

1. Always
2. Sometimes
3. Never

24) What is the main reason for skipping hand washing?

1. Far from the sink
2. No time
3. No need
4. Keep forgetting
5. Others

Oral hygiene:

Do you brush your teeth:	1. Always	2. Sometimes	3. Never
25) After waking up in the morning?			
26) After eating breakfast?			
27) After eating lunch?			
28) After eating sweets?			
29) After eating dinner?			
30) Before sleeping?			

31) How often do you brush your teeth?

1. Every day
2. Every other day
3. Two times per week
4. Once per week
5. Less than once per week

32) Do you visit the dentist?

1. Yes
2. No

33) If yes, how often do you visit the dentist?

1. Once a year
2. Twice a year
3. More than twice a year
4. When having pain only

Showering:

34) How often do you shower?

1. More than once daily
2. Once per day
3. Every other day
4. Twice per week
5. Once per week
6. Less than once per week

35) Do you shower alone?

1. Yes
2. No

36) If no, who helps you showering?

1. Mum
2. Dad
3. House maid
4. Others

Observation:**Objectively observed personal hygiene characteristics:**

	1. Yes	2. No
37) Clean clothes		
38) Finger nails clean		
39) Finger nails trimmed		
40) Clean face		
41) Eye discharge present		
42) Clean hair		

(End of Questionnaire)

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