International Journal of Contemporary Pediatrics
Pratinidhi SA et al. Int J Contemp Pediatr. 2020 Jan;7(1):24-29
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: http://dx.doi.org/10.18203/2349-3291.ijcp20195569

Original Research Article

Study of knowledge and practices related to handwashing in school going children of a rural community

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Received: 02 November 2019
Accepted: 20 November 2019

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ABSTRACT

Background: A questionnaire-based study was conducted in rural schools of Maval taluka of Pune district to assess the knowledge about hand washing practices and behavior in school going children. It is well known that hand contamination plays a major role in faeco-oral transmission of diseases. Hand washing is well recognized preventable tool in disease prevention.
Methods: A questionnaire-based study on hand washing practices and behavior in school going children in Maval taluka was carried out on 340 volunteers (students) from grade 6 to 8 of rural area of Maval taluka, Pune District. Maharashtra. Statistical analysis was done by using percentages and proportions.
Results: A total of 340 students from grade 6 to 8 participated in the study. Majority were from age 11-13 years (n= 147). Almost all (n=320, 93%) were knowing the practice of handwashing. Majority (n=209,61%) were using soap in some form for cleaning of hands. Many (n=250,73%) were having practice of washing hands before meals. Almost all (n=309, 91%) were knowing the reason for washing of hands. The benefits and prevention of diseases were known to majority of students (n= 295,87%) Nail trimming was done once a week in almost all students.(n=250,73%) Reason for trimming of nails was known to many (n=326, 96%) as it prevents the spread of the disease, only (n=14,4%) were not aware of the reason for trimming of the nails. About (n=201, 59 %) of mothers had formal education upto tenth std.
Conclusions: Majority of the students used water and soap for hand washing and knew the importance of hand cleaning to prevent many diseases.

Keywords: Handwashing, Hygiene, Maval, School students

INTRODUCTION

Hand washing is well documented tool to prevent disease.[1] Hand washing is considered as one of the most effective hygiene promotion activities for public health in developing countries.[2] The norm of washing hand has been used for less than 2 centuries. Ignaz Semmelweis, a Hungarian doctor working in Vienna General Hospital, was known as the father of hand hygiene. Remarkable improvements have been made in the past century in the fight against communicable diseases, yet a significant amount of mortality and morbidity worldwide can still be attributed to these conditions.[3] Respiratory infections and diarrheal diseases the two leading causes of disease burden globally are responsible for half of all child deaths each year.[4] The burden of communicable disease remains predominantly acute in developing regions of the world, 5 and children remain particularly vulnerable.[6]

In controlling communicable diseases, many developing nations have yet to achieve effective vaccination coverage and remain plagued with poor sanitary conditions.[7] Basic personal hygiene behaviors, such as hand washing, are still not widely practiced.[8] In developing countries the most common form of hygiene is considered to be hand washing. It is an effective measure to bring a control on transmission of various communicable diseases. Alcohol-based hand rub requires less time, is microbiologically more effective and is less irritating to skin than traditional hand washing with soap and water.[9] In a nutshell the simple action of handwashing can reduce the rate of mortality from these deadly diseases by almost 50 percent.[10]

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, author assessed the prevalence and individual and contextual determinants of proper hand-washing behavior and positive hand-washing intentions among school children.[11] There is increased research needed into the impact of hygiene, and collaboration in organizations such as the Global Hand washing partnership.[3-12] This study was conducted among the school going children to check awareness regarding hand washing practices and its benefits.

Aims and objectives of this study are as follows,

- To know awareness and practice of hand washing,
- To find awareness of any media used as cleansing agent for hand washing,
- To study association between hand washing and infections,
- To find out any knowledge about nail trimming and infections.

METHODS

A questionnaire-based study was conducted by formulating a questionnaire with the help of Community Medicine department which consisted of nine validated peer reviewed questions covering every basic aspect regarding hand washing.

Study area and population

This study was conducted in volunteering students from the grade 6th to 8th in various rural schools in Talegaon Dabhade, Dehu road, Vadgaon, Lonavla from Maval taluka, Pune District. Sample size was 340. Study took over a period of two months (July - September 2019). As the study was question based study, ethical clearance was not required.

Inclusion criteria

All School going students from grade 6 to 8 willing to participate were included in the study.

Exclusion criteria

Sick children and students who were not willing to participate were excluded from the study.

Statistical analysis was done by using percentages and proportions. Using excel data sheets.

RESULTS

The study included a total of 340 students out of which 58% (n= 198) were boys and 42% (n=142) were girls from various schools and standards (Figure 1).

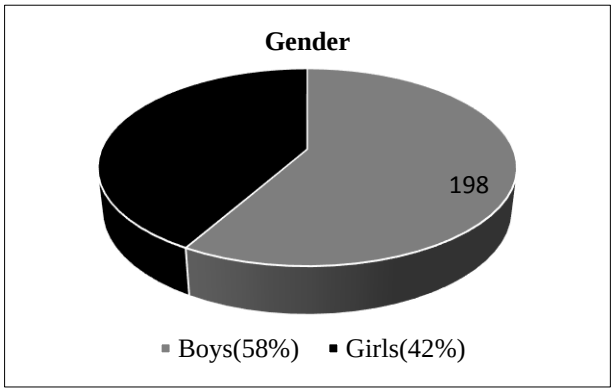

Figure 1: Gender distribution.

The Study showed that majority of children in the population have general know the importance of hand washing in day to day life as 93% (n= 320) (Figure 2).

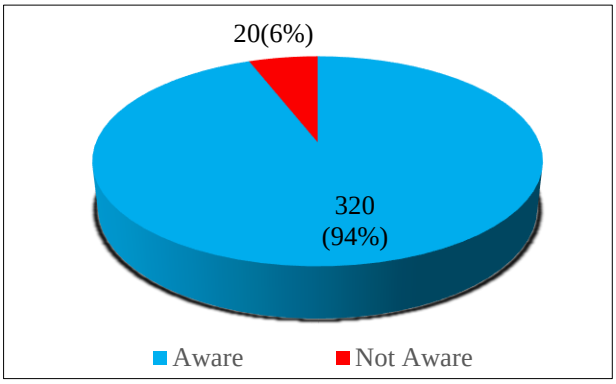

Figure 2: Awareness of hand washing.

The students admitted that hand washing is a necessity to live a healthy life. The students showed variable response with regards to the substance that they use for washing their hands, about 14% (n=46) told they used only clean water to rinse their hands, 28% (n= 97) use bathing soap, 33% (n =112) used medicated soap, 15% (n=51) used hand washes like sanitizers, alcohol based washing agents (Figure 3).

When asked on the time at which they washed their hands, 5% (n=15) admitted to wash hands only when told

by the parents, 73% (n=267) washed their hands before meals, 22% (n= 75) after using the restroom (Figure 4).

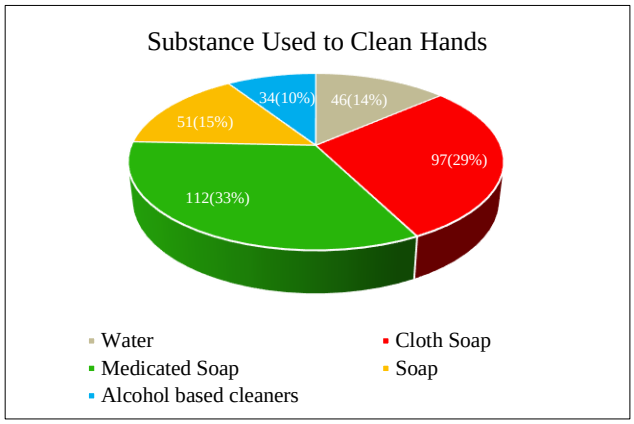

Figure 3: Media used as cleansing agent.

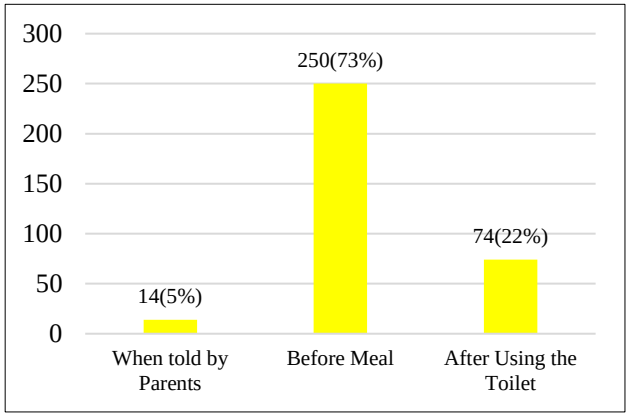

Figure 4: Time at which cleaning of hands done.

Upon asking the reason for washing their hands the children responded as told on television as 4% (12) , 9% (n=24) told did it as orders of the parents, 5% (n=16) did it because it was a commonly done by other people, 18% (n=50) told that it was done to get rid of soil and dust from the hands, 63% (n= 205) answered that it was to get rid of pathogens, 10% (n=33) told it was to cool their hands (Figure 5).

When asked the effects of hand washing on health students responded as 3% (n=10) thought it prevented conjunctivitis, 40% (n= 138) thought it prevents stomach ache, 6% (n=20) told it prevented swine flu, while 38% (n=131) students told it prevented conjunctivitis, stomachache, jaundice and swine flu, only 4% (n=12) could not answer (Figure 6).

On asking about nail trimming practices, they were asked if they let their nails grow, 86% (n=293) admitted they allowed their nails to grow while rest 14% (n=47) cut their nails regularly (Figure 7) and when asked if it was hygienic to have long nails students responded as 93% (n= 324) told it was unhygienic while the rest thought it was okay to let the nails grow (Figure 8).

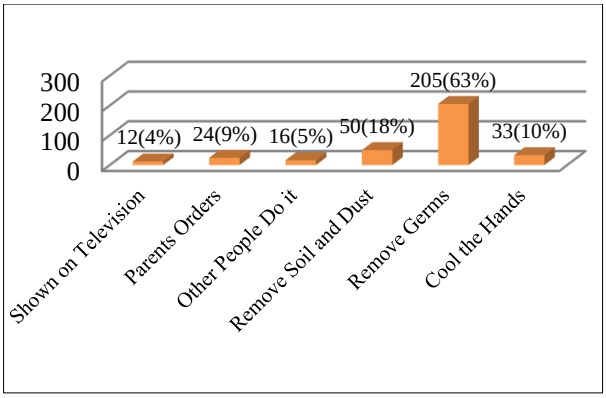

Figure 5: Necessity/ Reason to clean hands.

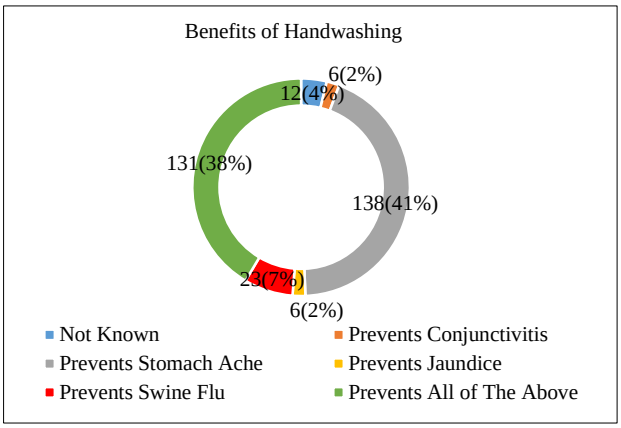

Figure 6: Awareness about disease prevention by handwash.

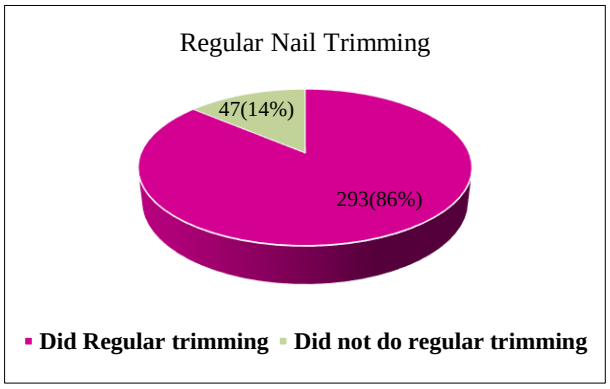

Figure 7: Nail trimming practices.

The frequency of trimming their nails was asked as in (Figure 9) to the students and they responded as 73% (n=250) cut their nails once a week, 8% (n=26) trimmed it once a month.

Figure 10 shows, the reason given by the students for trimming the nails was that 8%(n=27) said it was because the nails didn't look good, 57% (n=194) told long nails can work as carrier and spread diseases while 31% (n=105) admitted it was both of the above reasons and 4% (n=14) did not know the reason for trimming nails.

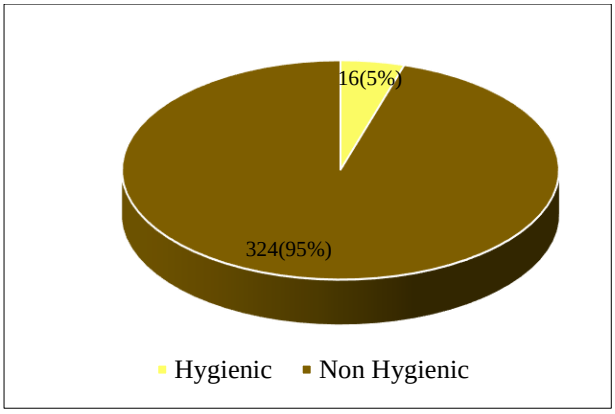

Figure 8: Idea about long nails - if hygienic or nonhygienic.

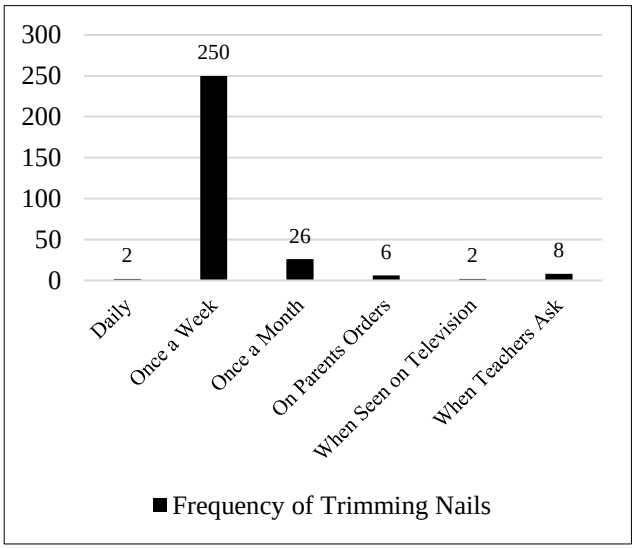

Figure 9: Frequency of nail trimming.

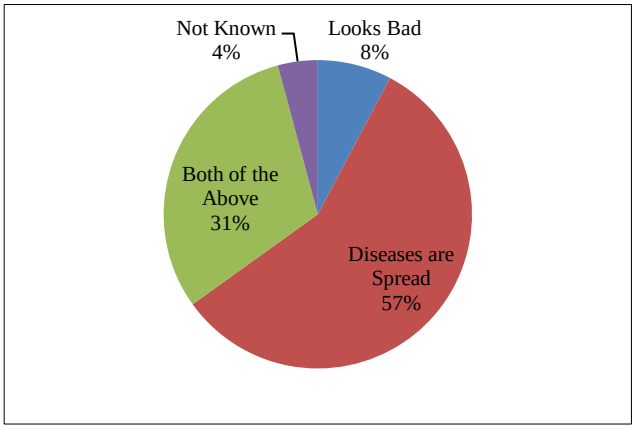

Figure 10: Reason for trimming of nails.

Figure 11 illustrates majority of mothers received education till 10th standard 59.1% (n=201) about, 10% (n=34) were mothers who studied till 12 std, Mothers who have studied only till standard 4th were 4.3% (n= 13). Mothers that have graduated from a university were 19.7% (n=67) whereas 7.5% (n=25) haven't perceived any formal education.

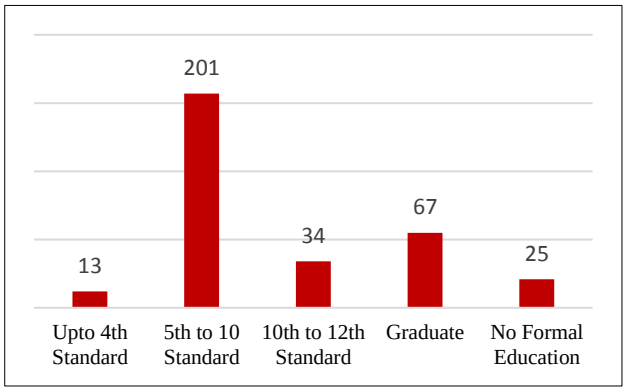

Figure 11: Mothers education status.

DISCUSSION

Although 150 years have passed since Semmelweis demonstrated the effectiveness of hand washing in preventing nosocomial infections, low compliance with hand-washing initiatives is still noted among health care professionals and school children alike.[13-18] Everyone knows importance of hand washing and the purpose behind it is one of the basic method to prevent diseases. The students in schools are aware of the fact that hand washing is an important practice and helps to keep clear of multiple diseases. Similar results are found in studies conducted by Dr. Dubik S. Dajaan in Ghana and by Dr. Mohammed AlBashtawy in Jordan and by Dr. Ashutosh Shrestha where almost all students believed that hand washing is important and its role in preventing diseases.[19-21] However, differences are seen when asked about time for washing hands in the study washing hands before meals appear to be the most common time 73% (n=250) while in the study by Dr. Dubik in Ghana most common time to wash hands was admitted to be after the use of toilet. Ray et al, from Kolkota reported that 100% respondents interviewed practiced hand washing after defecation either with soap (59%) or with plain water, ash and mud (41%).[22] The frequency of hand washing varies from 35% to 80%. In the study by Dr. Mohammed ALBashtawy, 68.5% of students used soaps to clean their hands while in this study 85% students used soap or similar disinfectant.[20] The Idea about Nail Hygiene was masked by students opting to the fact that it was unhygienic to have long nails and nails can potentially spread diseases. This finding were similar to Dajaan DS et al, where about 59% of students washed their hands to get rid of germs and prevent disease.[19]

Considering mothers education, majority of mothers (59%) had minimally studied till 10th grade while in the case of study by Dajaan DS et al, 43% of mothers had no formal education.[19] In article published by Alyssa Vivas it was observed that prevalence of handwashing practices was high but there was disconnection between belief and

actual practice that is, out of 76.7% of students that admitted that hand washing was important only 14.8% actually washed their hands after defecating, also it was observed that use of soap was not so common 36.2% only that must be attributed to the lack of soap in the school.[22] In the study by Dr. Ram Bilakshan Sah from Nepal, it was found that helminthic infestations were higher in students that had unclean nails (21.7%) whereas students with clean nails had a prevalence of (6.2%).[23] Also, prevalence was high about (32.5%) in students who were habitual in biting their nails. Similar results were found by Robert Mirisho by his study in Ghana it showed close relation between the practice of handwashing after use of toilet and prevalence of helminthic diseases in the children with margin of 0.04 times less likely to be infected by the worms.[24] In the study conducted by Gupta et al, the results have depicted that both rural and urban respondents have good knowledge on basic hand hygiene and it has been attributed to their usual understanding on personal as well as hand hygiene acquired from formal and informal learning processes.[25] In a Study conducted in Ethiopian children they had findings of need for more hand washing and hygiene education in schools and provide objective evidence that may guide the development of comprehensive health and hygiene intervention programs in rural Ethiopian schools.[26] In the study by Ashutosh Shrestha in Belgaum India, he tried to educate the school children about handwashing practices by verbal and written explanation over handwashing practices then the pre and post test variables were compared he found there was significant increase in hand washing knowledge from (53.86%) to (77.54%) and prevalence of handwashing from (41.43%) to (60.87%).[23] He also found that there was increase in use of soap in handwashing after playing but that was not statistically significant.[22]

Provision of soap has been shown to be effective in promoting hygiene habits and preventing and controlling the spread of communicable diseases.[27,28] Hand washing with a generous amount of clean water is effective at reducing the presence of some viruses, but the use of soap (or alternative rubbing agents) is vital to remove contamination from bacteria, parasites, and fungi.[29,30-32] Alcohol-based hand sanitizers may be considered as an alternative to soap but the risk of poisoning and intoxication and the high cost must be weighed carefully, especially in developing countries.[33,34]

CONCLUSION

The Study revealed the widespread acceptance, awareness and importance of handwashing among school children. Even though Children have basic idea about hand washing it is still not completely prevalent and is often ignored by the young minds on a daily basis due varying number of causes. More-intensive efforts and frequent sensitization is needed by implementing Sanitization programs and celebrating hand washing day to transform children more. This study indicated that there was a knowledge gap in the areas of knowing importance of sanitization and practice gap of cleaning of hands after toilet use, in the study subjects in spite of their knowledge.

ACKNOWLEDGEMENTS

Authors acknowledge the management and Research society. Authors are also thankful to all children who actively participated in the project. Special thanks to Dr. Asha K Pratinidhi for reviewing the article. Authors also thank to Miss Maithili Kukade and Miss Pranali Jadhav who helped in data collection.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Pratinidhi SS, Haribhakta SV, Ambike DA, Bhole O, Kankariya B. Study of knowledge and practices related to handwashing in school going children of a rural community. Int J Contemp Pediatr. 2020;7:24-9.