

Prevalence Of Knowledge And Importance Of Hand Washing And Its Technique Among School Children In A Semiurban Place In South India

Dr.Subramanian .V¹,Dr.Santosh Kumar K²,Dr.Sruthi N.Anandhan³

¹Assistant professor in Pediatrics, Department of Pediatrics, Saveetha Medical College and Hospital, Thandalam, Chennai, India

²Associate professor in Neonatology, Department of Neonatology, Saveetha Medical College and Hospital, Thandalam, Chennai, India

³ MBBS Student, Saveetha Medical College and Hospital, Thandalam, Chennai, India

ABSTRACT

Background: *Developing countries have an increased burden of communicable diseases which are influenced by poor personal hygiene practices. Hand washing, especially with soap and water at all critical times has been accepted worldwide as an effective intervention to prevent the spread of communicable diseases. Despite the proven effectiveness, the practice of effective hand washing is found to be poor in developing countries. This study is aimed at assessing the knowledge and practice of hand washing among school students, who are at an increased risk of communicable diseases like diarrhoeal diseases, ARI's and other hygiene related diseases*

Methods Design and Setting: *An institution-based cross sectional study was carried out among 440 students in a school in South India. A validated semi-structured questionnaire containing 36 questions was used to collect the required data after getting a consent.*

Place of study: *Schools around Saveetha medical college hospital, a tertiary care teaching hospital in Chennai.*

Results: *The study was conducted among 440 students among which 255 were boys and 186 were girls. Majority of children in the population have general know the importance of hand washing in day to day life as 88.18% (n= 388). The awareness about the substance that they use for washing their hands ,the time at which they washed their hands, the reason for hand washing , the awareness about infections prevented by hand washing, the awareness about hand washing technique and the steps involved, the availability of soap or sanitizer in the school were all studied and children showed good knowledge and practice about hand washing .*

Conclusions: *To conclude, the knowledge regarding hand washing is good, but the practice of hand washing and hand washing with soap and water after using the toilet is poor. This study suggests that awareness about practice of hand washing is needed in children.*

Keywords: *Practice, communicable diseases, personal hygiene, hand washing, school students, South India.*

1. INTRODUCTION

Hand washing is one of the cost effective and worldwide-approved approaches to break the chain of communicable diseases [1,2,3]. The WASH programme by UNICEF in 2012 acknowledged hand washing as a cost-effective technique in preventing communicable diseases[4,5]. According to WHO, two million people every year die due to diarrheal diseases. The most vulnerable group among them are children. The burden is increased in developing countries due to poor sanitation, population, crowding and poverty [4,5,6,7]. The importance of hand washing has been emphasized by the finding from systemic review conducted by Curtis et al in 2003 and Rabie et al in 2006 which revealed that washing hands with soap reduces diarrhea by up to 43% and pneumonia by 23% [2,3]. Hand washing is very important among the children as diarrhea and pneumonia are common among them. Nearly 90% of child deaths occurring due to diarrhea and pneumonia occur in the 5 most populous and poor countries: India, Nigeria, Democratic republic of Congo, Pakistan and Ethiopia. This brings to light the importance of hand washing in a country like India [2,3,5,6,7]. The most often encountered difficulties for the lack of practice of hand washing is lack of infrastructure, lack of awareness, lack of motivation or all the above. People around the world celebrate “Global hand washing day” during which lessons and events are held to raise awareness about the importance of hand washing [5,6]. Despite such efforts, the awareness remains poor due to the lack of widespread participation. Hand washing is referred to as a “do-it yourself vaccine” [5,6,7]. It includes five simple and effective steps that can be carried out to protect oneself from diseases and prevent the spread of infections to others. The knowledge of personal hygiene and cleanliness is a major responsibility of schools and parents. With this in mind, this study has been conducted in a school in a cosmopolitan city in South India.

Aims and objectives of this study was to determine

- The awareness and practice of hand washing,
- The awareness about any media used as cleansing agent for hand washing
- To find out the practices of hand washing and its technique
- Role of mothers education and provision of facilities for hand hygiene.

2. METHODS

An institution-based cross-sectional study was carried out with a sample size of 440 students from November 2019 to March 2020.

A validated semi-structured questionnaire containing 36 questions was distributed to the students in Google forms format. Among the 36 questions, 14 questions were knowledge based and 14 questions were practice based questions. The study was conducted after getting consent from the school principal. With the increasing trend of COVID-19, the participation of students in the study was encouraged by the school management. The study was conducted among 440 students of class 6 to class 10 among which 255 were boys and 186 were girls. The students were briefed that the data regarding the study would be kept confidential and hence should answer the questions according to what they actually do. They were also told that the participation in the study was voluntary.

Inclusion criteria

All School going students from class 6 to class 10 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.

3. RESULTS

The study was conducted among 440 students among which 255 were boys and 186 were girls.

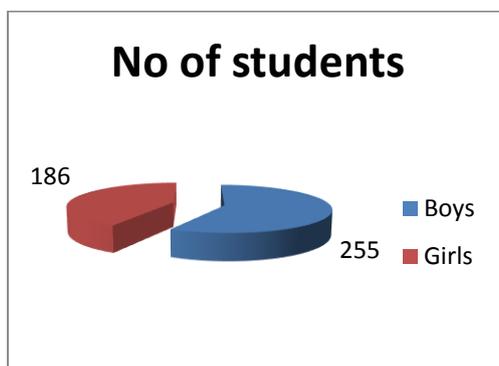


Figure 1.No of students

The Study showed that majority of children in the population have general know the importance of hand washing in day to day life as 88.18% (n= 388).Majority of the students knew that hand washing is essential to prevent infection and lead a healthy life Regarding the awareness about the substance that they use for washing their hands, about 15% (n=66) told they used only clean water to rinse their hands, 20% (n= 88) use bathing soap, 35.9% (n =158) used medicated soap, 29.1% (n=128) used hand washes like sanitizers, alcohol based washing agents.

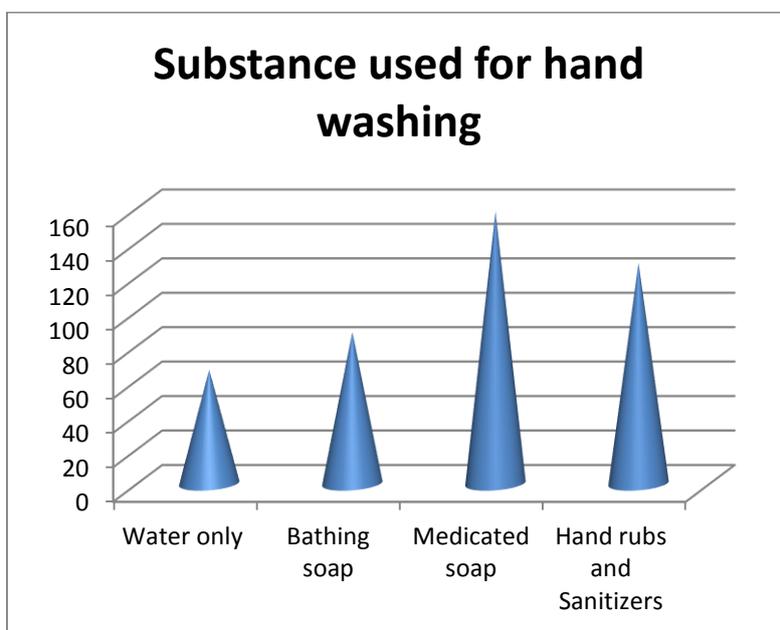


Figure 2.Substance used for Hand washing

Regarding the time at which they washed their hands, 10.2% (n=45) admitted to wash hands only when told by the parents, 65.9% (n=290) washed their hands before meals, 23.9% (n= 105) after using the restroom.



Figure3. Time when hand washing is performed

Regarding the reason for hand washing the children responded by saying that the most common reason was to keep hands clean 55.7% (n=245), told by parents as culture practice



Figure 4. Reason for Hand washing

10.23% (n=45), media awareness 6.8% (n=30), done by others so I also do 15.9% (n=70), to prevent infections 11.36% (n=50).

Regarding the awareness about infections prevented by hand washing students responded as 2.7% (n=12) thought it prevented eye infections, 10.9% (n=48) thought it

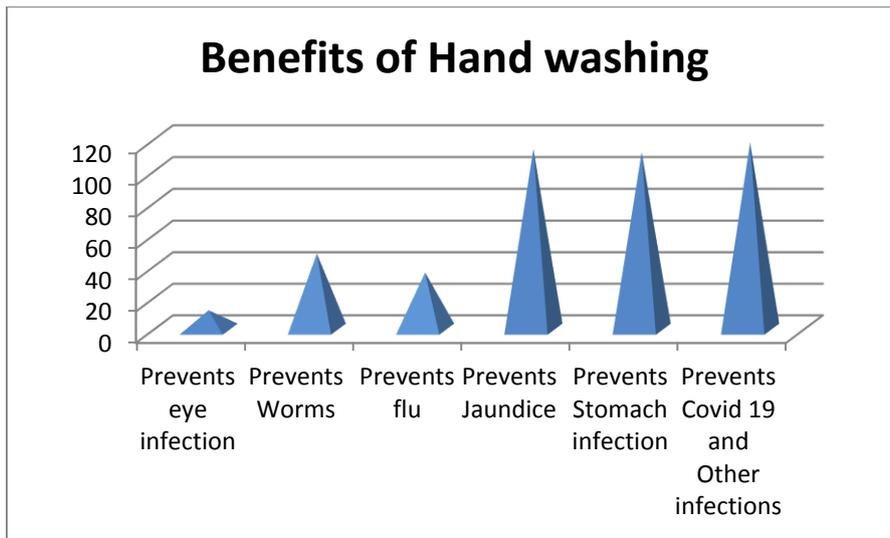


Figure 5. Benefits of Hand washing

prevents stomach worms, 8.1% (n=36) told it prevented swine flu, while 25.9% (n=114) students told it prevented jaundice, 25.4% (n=112) prevented vomiting and stomach pain, rest said it prevents many infections and Covid-19 26.82% (n =118).

Regarding the awareness about hand washing technique and the steps involved majority 90.9% (n=440) didn't know about the 6 steps of hand washing the rest knew about the six steps of hand washing and were practicing them.

Regarding the availability of soap or sanitizer in the school majority of the students said that the schools did not provide the same 90.4% (n=398), while all said that there was water provision and rest room provision in their schools

Regarding the education status of the mother, majority of mothers received education till 10th standard 50.22% (n=221) about, 10.22% (n=45) were mothers who studied till 12th std, Mothers who have studied only till standard 4th were 5.4% (n= 24). Mothers that have graduated from a university were 20.9% (n=92) whereas 13.18% (n=58) haven't perceived any formal education.

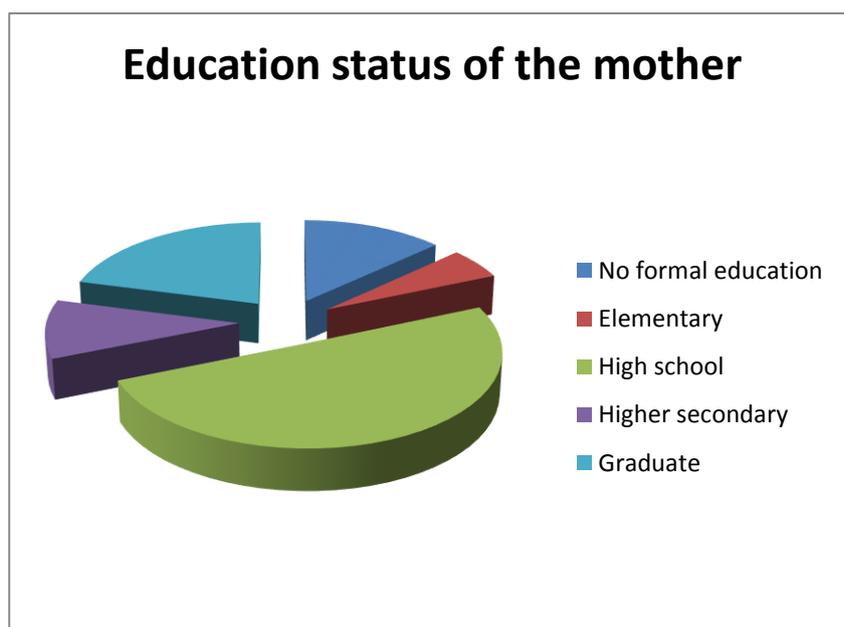


Figure 6. Education status of the Mother

4. DISCUSSION

Hand washing is an important health care initiative to prevent spread of infection [8]. It has been over 150 years since Semmelweis demonstrated the effectiveness of hand washing in preventing nosocomial infections [8,9]. However even today there is low compliance with hand-washing initiatives among health care professionals and others. [10-13].

Knowledge about the hand washing and its importance plays a key role in prevention of infections and infestations. In our study we demonstrated that there was awareness about hand washing among the school students with respect to what to use for hand washing, what are the diseases prevented by hand washing and technique of hand washing.

The results of our study are similar to previous reports by Dajaan DS et al [14] in Ghana and by Ray SK et al [15] in India and by Bashtawy M et al [16] in Jordan where almost all students believed that hand washing is important and its role in preventing diseases.

However in our study the most common time for hand washing was before meals which are dissimilar to the report by Dr. Dubik in Ghana where the most common time to wash hands was after the use of toilet.

In our study almost 30 % of students responded that they used alcohol hand rub or sanitizer which is slightly on the higher side and contrary to previous reports. However, this can be explained by the fact that study was conducted during the outbreak of COVID 19 pandemic and probably the awareness created during the outbreak could have influenced the results.

Regarding the reason for hand washing majority of the children said they hand washed to keep and the hands clean and prevent infections. These findings are similar to previous reports by Dajaan DS et al and Pratinidhi SA et al. [17]

In the study by Ashutosh Shrestha et al in India [18], he tried to educate the school children about hand washing practices by verbal and written explanation over hand washing 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 hand washing from (41.43%) to (60.87%).

Provision of soap has been shown to be effective in promoting hygiene habits and preventing and controlling the spread of communicable diseases in previous studies [19,20]. However, in our study it was noticed that most of the schools were not providing the same. 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. [21,22,23] Hence steps must be taken to promote the provision of adequate soaps, alcohol hand sanitizers etc in the schools on a regular basis.

5. CONCLUSION

The Study revealed the widespread acceptance, awareness about importance of hand washing among school children. Children have knowledge about hand washing especially due to increased awareness created by the media and as a culture practice by the family and mother. Mother's education status was again found the influence the hand washing behavior among the school students. There were few hindrances to hand washing like absence of adequate soaps in the schools which needs to be looked into. More-intensive efforts and frequent sensitization is needed by implementing Sanitization programs especially with the pandemic of Covid-19.

6. REFERENCES:

- [1] Pandve HT, Chawla PS, Giri PA, Fernandez K, Singru SA. Study of hand washing practices in rural community of Pune, India. *Inter J Commu Med Public Health*. 2017;3(1):190-3.
- [2] Rabbi SE, Dey NC. Exploring the gap between hand washing knowledge and practices in Bangladesh: a cross-sectional comparative study. *BMC Public Health*. 2013;13(1):89.
- [3] Curtis V, Cairncross S. Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *Lancet Infect Dis*. 2003;3(5):275-81.
- [4] WHO guidelines on hand hygiene in health care. First global patient safety challenge. Available at: <http://www.who.int/patientsafety/en/>. Assessed on 14 November 2019.
- [5] Global Handwashing Day- October 15. Available at: <http://vikaspedia.in/health/sanitation-andhygiene/global-handwashing-day>. Assessed on 6 November 2015
- [6] Monto AS. Epidemiology of viral respiratory infections. *Am J Med*. 2002 Apr 22;112(6):4-12.
- [7] The Global Public-Private Partnership for Handwashing. Retrieved 18 April 2015. https://en.wikipedia.org/wiki/Global_Handwashing_Day. Accessed 14 November 2019.
- [8] Best M, Neuhauser D. Ignaz Semmelweis and the birth of infection control. *BMJ Quality Safety*. 2004;13(3):233-4.
- [9] Jarvis WR. Handwashing-the Semmelweis lesson forgotten? *Lancet*. 1994;344:1311-12.
- [10] Sproat LJ, Inglis TJJ. A multicentre survey of hand hygiene practice in intensive care units. *J Hosp Infect*. 1994;26:137-48 .
- [11] Boyce JM, Pittet D. Guideline for hand hygiene in health-care settings: recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *Infect Control Hospital Epidemiol*. 2002;23(12):3-40.
- [12] Yalçın SS, Yalçın S, Altın S. Hand washing and adolescents. A study from seven schools in Konya, Turkey. *Inter J Adolescent Med Health*. 2004;16(4):371-6.
- [13] Bolt E, Shordt K, Krukkert I. School sanitation and hygiene education results from the assessment of a 6-country pilot project. Delft, Netherlands: International water and sanitation centre; 2006. Sustainability. 2013;5(9):3702-21.
- [14] Dajaan DS, Addo HO, Ojo L, Amegah KE, Loveland F, Bechala BD, Benjamin BB. Hand washing knowledge and practices among public primary schools in the Kintampo Municipality of Ghana". *IJCMPH*. 2018;5(6):2205-16.
- [15] Ray SK, Dobe M, Lahiri A, Basu SS. Hand washing practices in urban and rural communities in and around Kolkata, West Bengal. *Ind J Public Health*. 2009;53(3):192-5.
- [16] AL Bashtawy M. Assessment of hand-washing habits among school students aged 6-18 years in Jordan. *Brit J School Nursing*. 2017;(12):30-6. 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
- [17] Shrestha A, Angolkar M. Improving hand washing among school children: an educational intervention in South India. *IOSR J Dental Medica Sci*. 2015;8:81-5.

- [18] Luby SP, Agboatwalla M, Bowen A, Kenah E, Sharker Y, Hoekstra RM. Difficulties in maintaining improved handwashing behavior, Karachi, Pakistan. *Am J trop med hygiene*. 2009;81(1):140-5.
- [19] Peterson FA, Roberts L, Toole MJ, Peterson DE. The effect of soap distribution on diarrhoea: Nyamithuthu Refugee Camp. *Intern J Epidemiol*. 1998;27(3):520-4.
- [20] 21. Aiello AE, Larson EL, Levy SB. Consumer antibacterial soaps: effective or just risky?. *Clinical Infect Dis*. 2007;45(2):137-47.
- [21] White CG, Shinder FS, Shinder AL, Dyer DL. Reduction of illness absenteeism in elementary schools using an alcohol-free instant hand sanitizer. *J School Nursing*. 2001;17(5):248-65.
- [22] Lopez-Quintero C, Freeman P, Neumark Y. Hand washing among school children in Bogota, Colombia. *Am J Public Health*. 2009;99(1):94-101.