

Awareness of Hand-Washing among New Misali Cadet School Students, Dera Ghazi Khan

ROZINA SHAHADAT KHAN¹, DUHAA RAFIQUE², SAMIA BUTT³, NOOR US SABAH⁴, AHMAD JAHANZAIB⁵, GHANIA WAQAR⁶, ASIM JAVED⁷, MUHAMMAD USAMA⁸, ANEEZA ASHFAQ⁹, SHAHZAIB HASSAN¹⁰

¹HOD/Assistant Professor of Community Medicine, ²⁻¹⁰MBBS Final Year Students, D.G. Khan Medical College Dera Ghazi Khan

Correspondence to: Dr. Rozina Shahadat Khan Cell 0321-4901461 E-mail: dr.rozinakhan@live.co

ABSTRACT

Background: Hand washing is a simple and inexpensive preventive practice that has been around to thwart infectious diseases for centuries. With corona virus on the rise, its importance cannot be overstated.

Aim: To assess the awareness of hand-washing among 3-11 years old

Study Design: Cross-sectional comparative study

Place and Duration of Study: New Misali Cadet School Students, Dera Ghazi Khan from 1st September 2019 to 31st March 2020.

Methodology: Eighty five respondents were included. The responses for demographic, hand washing and level of awareness variables were gathered using a structured pre-tested questionnaire.

Results: There were 65 males and 20 were females. Thirty three (38.80%) respondents had age between 3-6 years & 52(61.20%) were between 7-11 years of age. Eighty (94.11%) claimed to be aware of hand washing but only 60 (70.60%) were found having satisfactory level of Awareness. Seventy six (89.4%) of them claimed to know the method of hand washing and 52(61.2%) practiced it more than twice a day. Forty seven (55.29%) got awareness from school. Fifty two (61.18%) were aware of benefits of hand washing like prevention of transmission of communicable diseases and 50 (58.80%) were aware of harms of not washing hands like susceptibility to fatal diseases such as diarrhea. Significant association was found between level of awareness and awareness of benefits of hand washing and. harms of not practicing it properly.

Conclusion: Irrespective of under developed and remote city status, the school children of Dera Ghazi Khan are as well aware of hand washing as the school children of other developing countries. But the lower satisfactory percentages of hand washing awareness levels asserts the need for more awareness campaigns at the community and institutional level to thwart infectious diseases especially with corona virus on the rise.

Keywords: Hand washing, Awareness, Level of awareness

INTRODUCTION

WHO defines hand hygiene as a general term referring to any action of hand cleansing.¹ Hand washing also known as hand hygiene, is the act of cleaning ones hands with soap (or equivalent materials) and water to remove viruses/bacteria/microorganisms, dirt, grease, or other harmful and unwanted substances stuck to the hands. Drying of the washed hands is part of the process as wet and moist hands are more easily recontaminated".² Proper hand washing practice in school children is necessary to prevent infectious diseases such as diarrhea which is one of the leading causes of death amongst children under 5 years of age.³ That is why WHO considers hand washing as a crucial tool in order to prevent nosocomial infections.⁴ Epidemiological studies conducted on hand hygiene have shown that it makes a substantial contribution in preventing epidemics and outbreaks. In countries of the East Mediterranean region such as Egypt, Saudi Arabia: 63-73% people practiced proper hand washing and were aware about its importance.⁵ In another study, it was shown that proper hygienic habits such as hand washing reduces diseases such as diarrhea by 42-48% and overall GIT diseases lesser than 51% amongst youngsters who washed their hands regularly.⁶ Another study showed that the mortality rates related to diseases such as diarrhea can be decreased by almost 50% if hand washing with soaps is introduced as a behavioral change among children.⁷

A study conducted in 54 countries in 2015 showed that the prevalence of hand washing is low i.e. only 38.7%

people practiced proper hand washing.⁸ Another study showed that the older children showed more awareness regarding hand washing as compared to younger children.⁹ In gender disparity studies, women – folk/females washed their hands more as comparative to males. Women washed their hands 83% while only 74% of men did the same as shown by a study by the American society for microbiology in 2003. In studies conducted among school children, 52% had adequate knowledge about proper hand hygiene. 36.2% washed hands with soap before meals and 14.8% were reported to wash their hands after using the toilet.¹⁰ A referenced study shows that 40% students learnt about hand washing from school/teacher and 54.2% by parents.¹¹ In many countries, awareness about hand washing is low. A 4 point scale for level of awareness was used with 0 being the minimum and 4 being the maximum. 58.8% had a score of 4, 18.2% had a score of 3, 20% score of 2, 2.9% had a score of 1.¹² Studies have been conducted previously in Pakistan about hand hygiene, but we found scarce information regarding awareness of hand washing in the under developed city of Dera Ghazi Khan. Current study is designed to assess the awareness of hand-washing among 3-11 years old New Misali Cadet School Students.

MATERIALS AND METHODS

This cross-sectional comparative study was conducted among 85 (3-11 yrs) students of New Misali Cadet Primary School, Dera Ghazi Khan from 1st September 2019 to 31st

March 2020. The responses were collected using a structured pre-tested questionnaire after administrative approval from the New Misali Cadet School and ethical approval from the ethical board DGKMC, Dera Ghazi Khan. Data was analyzed using SPSS version 24. The questionnaire was designed to gather maximum information regarding the study such as age, sex, frequency of hand washing, whether they wash their hands with soap, and hand hygiene behaviors. For hand washing, the participants should first start with making their hands thoroughly wet. After that, they should apply soap and scrub hands together for at least 15 seconds if not more. Hand washing awareness score was based on 10 questions such as whether hand washing was important, frequency of hand washing should hands be washed before wash before Meals, washing hands before and after using toilets and if hand washing could prevent transmission of communicable diseases. Level of awareness was assessed by formulating a 5- point scale starting from <5 to 8-10 scores. <5 to 6 scores considered as unsatisfactory and 7-10 as satisfactory scores. Significance between two observed frequencies was checked by applying Chi Test and finding out its P value. Chi square test was applied to compare the previous knowledge of benefits of hand washing and harms of not practicing it properly with the Level of Awareness. The p value < 0.05 was the cut off point for statistical significance.

RESULTS

Among 85 respondents 65 were males and 20 were females. 33 (38.80%) respondents had age between 3-6 years and 52 (61.20) % was between 07-11 years of age. Out of 85 the respondents who claimed to be aware of hand washing were 80 (94.11%). Only 60 (70.58%) reached the satisfactory levels of hand washing (Table 1)

A good majority, 76 (89.40%) of them claimed to know the method of hand washing and 96.50% of the

respondents used water and soap. Approximately one third (32.94%) practiced it twice a day while 52 (61.2%) more than twice a day, 5 (5.88%) were unsure. There were 81 (95.29%) of the respondents who wash their hands before and after using toilet while 77 (90.58%) of them wash their hands before and after every meal. Of all respondents 55 (64.7%) reported availability of hand washing facility at school while 47 (55.29%) got awareness from school with 30 (63.82%) at satisfactory level and 37 (43.52%) from parents with 29 (78.37%) at satisfactory levels. benefits of hand washing like prevention of transmission of communicable diseases were known by 52 (61.18%), whereas 48 (56.47%) were aware of harms of not washing hands like susceptibility to fatal diseases such as diarrhoea. Twenty out of 85 students were females out of which 15 (75%) had satisfactory level of awareness about hand washing in comparison to 65 males out of which 45 (69.23%) had satisfactory level of awareness. Out of 31/85 of 3-6 years age group 22 (70.98%) were at satisfactory level and 50/85 of 7-11 years age group 38(76%) were at satisfactory level (Tables 2-5)

Significant association found between previous knowledge of benefits of hand washing and harms of not practicing it properly with the level of awareness (Tables 6).

Table 1: Age and gender distribution of the school children asked for awareness about hand washing

Age & Gender	Are you aware about hand washing		
	Yes	No	Total
3-6 years			
Male	24	1	25
Female	6	2	8
7-11 years			
Male	40	-	40
Female	10	2	12
Total	80	5	85

Table 2: Frequency of awareness according to age

Are you aware about hand washing	What do you use to wash your hands with					
	Soap and water			Just Water		
	Scrubbing for 15-20 sec.	Scrubbing for >20 sec.	Not sure	Scrubbing for 15-20 sec.	Scrubbing for >20 sec.	Not sure
3-6 years						
Yes	7	12	9	-	1	1
No	1	-	2	-	-	-
7-11 years						
Yes	13	17	16	1	-	-
No	1	1	-	-	-	-

Table 3: Level of awareness for various factors about hand washing practices

Factors related to level of awareness	Level of Awareness				
	<5 score	5 score	6 score	7 score	8-10 score
Are you aware about the method of hand washing					
Yes	2	5	13	13	43
No	2	2	1	4	-
What do you use to wash your hands with					
Soap and water	3	7	12	17	43
Just water	1	-	2	-	-
If you do scrubbing then for how long					
15 to 20 sec	2	5	5	4	10
> 20 sec	-	1	5	8	17
Not sure	2	1	4	5	16
How many times a day do you wash your hands					

Twice a day	2	5	7	4	10
> Twice a day	1	2	6	11	32
Not sure	1	-	1	2	1
Wash your hands before and after every meal					
Yes	4	5	10	16	42
No	-	2	4	1	1
Wash your hands before and after using the toilet					
Yes	3	6	12	17	43
No	1	1	2	-	-
Aware of benefits of hand washing					
Yes	1	3	7	8	33
No	3	4	7	9	10
Aware of harms of not doing hand washing					
Yes	1	1	5	9	34
No	3	6	9	8	9
Source of awareness regarding hand washing					
Teacher	4	4	9	12	18
Parents	-	3	5	5	24
Campaigns	-	-	-	-	1
Availability of hand washing facilities at school					
Yes	1	1	7	12	34
No	3	6	7	5	9

Table 4: Gender based Hand washing awareness level

Gender	Hand washing in practice		Level of awareness		Total
	What do you use to wash	Scrubbing your hands	Unsatisfactory <5 to 6	Satisfactory 7 to 10	
Male	Soap and water	15 to 20 sec	8	9	17
		> 20 sec	5	20	25
		Not sure	5	16	21
	Just water	15 to 20 sec	1	-	1
		> 20 sec	1	-	1
		Not sure	-	-	-
Female	Soap and water	15 to 20 sec	3	5	8
		> 20 sec	-	5	5
		Not sure	1	5	6
	Just water	15 to 20 sec	-	-	-
		> 20 sec	-	-	-
		Not sure	1	-	1

Table 5: Age based hand washing awareness

Level of awareness	Scrubbing	Level of awareness		Total
		Unsatisfactory <5 to 6	Satisfactory 7 to 10	
3-6 years using Soap and water	15 to 20 sec	5	3	8
	> 20 seconds	2	10	12
	Not sure	2	9	11
3-6 years using Just water	>20 sec	1	0	1
	Not sure	1	0	1
7-11 years using Soap and water	15 to 20 sec	6	11	16
	> 20 sec	3	15	18
	Not sure	4	12	16
7-11 years using Just water	15 to 20 sec	1	-	1
Total		25	60	85

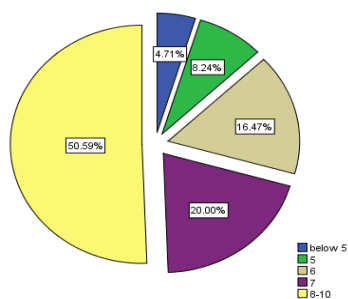


Fig. 1: Pie graph presenting levels of awareness among school children

Table 6: Level of awareness

Variable	Unsatisfactory	Satisfactory	Chi square	P value
Are you aware of harms of not washing hands				
Yes	7	43	13.89	<0.001
No	18	17		
Are you aware of benefits of hand washing				
Yes	11	41	4.40	0.036
No	14	19		

DISCUSSION

The primary purpose of this study was to assess the awareness of hand washing among 3-11 year olds. It also

assessed if hand washing compliance is influenced by children of a certain age-group or gender and if children are more receptive to guidelines and instructions given to them by their parents or teachers in school children (aged 3–11) in New Misali Cadet School, D.G. Khan. According to a study conducted among school children 52% were adequately aware of hand washing with 36.2% washing hands before/after meals while 14.8% washing hands after using toilets.¹⁰ However our study shows that the percentage of children showing satisfactory level of awareness about washing hands is 60 (70.58%). Seventy seven (90.6%) respondents were washing hands before/after meals and 81 (95.3%) washing after using the toilets. Gender comparison study showed that females washed their hands more as compared to males. And results remain the same in our study with 75.00% female showing satisfactory level of hand washing awareness in comparison to 69.23% levels in males. Our Study reveals that 41 (48.23%) had satisfactory levels of awareness of benefits of hand washing and 43 (50.59%) had shown satisfactory levels of awareness of harms of not washing your hands like susceptibility to fatal diseases such as diarrhoea. As studies have shown that hand washing reduces diarrhoea by 42-48%.⁶

In many countries, awareness about hand washing is low. However, when we evaluated the levels of awareness among children on a 5 point scale a total of 50.59% had a score of 5, 20.00% had a score of 4, 16.47% had a score of 3, 8.24% score of 2, and 4.71% score of 1. However, in another similar study, a 4 point scale was used with 0 being the minimum and 4 being the maximum. 58.8% had a score of 4, 18.2% had a score of 3, 20% score of 2, 2.9% had a score of 1¹² the study referenced above was taken from a developing country showing similarity of levels of awareness among developing countries. A referenced study shows that 40% students learnt about hand washing from school/teacher and 54.2% by parents.¹¹ 47 (55.29%) got awareness from school with 30 (63.82%) at satisfactory level and 37 (43.52%) from parents with 29 (78.37%) at satisfactory levels. another study has shown that the older children are more aware of hand washing as compared to younger children.⁹ In our study 7-11 years are more aware of hand washing practices than 3-6 years old children.

CONCLUSION

The irrespective of under developed and remote city status, the school children of Dera Ghazi Khan are as well aware of hand washing as the school children of other developing countries. In spite of Significant association between knowing benefits of hand washing practices and the harms of not practicing it with the level of awareness the percentage satisfactory level of hand washing awareness remained almost 50%. Likewise contribution of lower satisfactory levels of awareness by parents and teachers asserts the need for more awareness campaigns at the community and institutional level to thwart infectious diseases especially with corona virus on the rise.

REFERENCES

1. WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Class is safer care. Geneva: WHO 2009.
2. "Show Me The Science – How to Wash Your Hands". www.cdc.gov. 4 March 2020 .Retrieved 6 March 2020.
3. Luby SP, Agboatwalla M, painter J, Altaf A, Billhimer W, Keswick B, Hoekstra RM. Combining drinking water treatment and hand washing for diarrhea prevention , a cluster randomized controlled trial . Trop Med Int Health 2006.
4. Gunter Kampf, PD Dr. Med: Harald Löffler Prof. Dr. Med; and Petra Gastmeier, Prof. Dr. Med. 2009.
5. KAP study of health care workers regarding hand hygiene guidelines in Al. Qassim, Saudia Arabia Badriah Abdul Aziz Al Rawji, Ebtehal Suleiman. March 2018
6. Hand Hygiene Intervention Strategies to Reduce Diarrhea and Respiratory Infections Among School Children in Developing countries: BALWANI Chingatchifwe Mbakaya, Paul H. Lee, and Regina L.T Lee, 2013
7. Curtis, Val: cairncross, Sandy. "Effect of washing hands with soap on diarrhea risk in community: a systematic review" Lancet Infect Dis 2003.
8. Retrieved 20th March 2017. WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply & Sanitation.
9. Assessment of hand washing habits among school students aged 6-18 years in Jordan, Muhammad Al.Bashtawy, and Feburary 2017.
10. Vivas AP, et al. Knowledge, Attitudes and Practices (KAP) of Hygiene among School Children in Angolela, Ethopia. Pren Med Hyg-2010.
11. A Study to Assess the Knowledge & Practice of hand washing among School going adolescents in Chennai, Stanley Medical College, August 2016.
12. Ubheeran J, Biranjia-Hwdoyal SD. Effectiveness of hand washing hygiene education among a random sample of women from the community. 2017.