

Original Research Article

A study to assess the knowledge, attitude and practice regarding handwashing during covid-19 pandemic among ASHA workers working under RHTC Najafgarh, Delhi, NCR

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Received: 31 July 2023

Revised: 06 September 2023

Accepted: 13 September 2023

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ABSTRACT

Background: The World Health Organization (WHO) has declared the coronavirus disease 2019 (COVID-19) a pandemic. Hand hygiene is a highly cost-effective investment, providing outsized health benefits for relatively little cost; truly a 'no-regrets' investment. In this study researcher want to assess the knowledge, practice and attitude of ASHA workers regarding hand washing during COVID-19 pandemic.

Methods: In this study interpretation of data collected from 100 ASHA workers through a structured knowledge questionnaire to assess the knowledge and Likert scale to assess the attitude and practice regarding hand washing during Covid-19 pandemic among ASHA workers. The non-probability, convenient sampling technique was used to select samples.

Results: The results showed that (66%) of ASHA workers had average knowledge, the remaining (31%) had good knowledge, (3%) had poor knowledge.

Conclusions: The study reveals the level of knowledge, attitude and practice of ASHA worker regarding hand washing during covid 19 pandemic was average. It suggests a need for improvement of hand hygiene practices and knowledge among health professional working under covid 19 pandemic.

Keywords: Covid -19, Corona, Hand washing, Pandemic, SARS

INTRODUCTION

The World Health Organization (WHO) has declared the coronavirus disease 2019 (COVID-19) a pandemic. A global coordinated effort is needed to stop the further spread of the virus. A pandemic is defined as "occurring over a wide geographic area and affecting an exceptionally high proportion of the population." The last pandemic reported in the world was the H1N1 flu pandemic in 2009. On 31 December 2019, a cluster of cases of pneumonia of unknown cause, in the city of Wuhan, Hubei province in China, was reported to the

World Health Organization. In January 2020, a previously unknown new virus was identified, subsequently named the 2019 novel coronavirus, and samples obtained from cases and analysis of the virus' genetics indicated that this was the cause of the outbreak. This novel coronavirus was named Coronavirus Disease 2019 (COVID-19) by WHO in February 2020. The virus is referred to as SARS-CoV-2 and the associated disease is COVID-19.¹

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Symptoms of COVID-19

are variable, but often include fever, cough, headache, fatigue, breathing difficulties, and loss of smell and taste. Symptoms may begin one to fourteen days after exposure to the virus. At least a third of people who are infected do not develop noticeable symptoms. Of those people who develop symptoms noticeable enough to be classed as patients, most (81%) develop mild to moderate symptoms (up to mild pneumonia), while 14% develop severe symptoms (dyspnea, hypoxia, or more than 50% lung involvement on imaging), and 5% suffer critical symptoms (respiratory failure, shock, or Several testing methods have been developed to diagnose the disease. The standard diagnostic method is by detection of the virus' nucleic acid by real-time reverse transcription polymerase chain reaction (RT-PCR), transcription-mediated amplification (TMA), or by reverse transcription loop-mediated isothermal amplification (RT-LAMP) from a nasopharyngeal swab.²

Centre for Disease Control and Prevention (CDC) 2018 Preventive measures include physical or social distancing, quarantining, ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The use of face masks or coverings has been recommended in public settings to minimize the risk of transmissions. While work is underway to develop drugs that inhibit the virus (and several vaccines for it have been approved and distributed in various countries, which have since initiated mass vaccination campaigns), the primary treatment is symptomatic. Management involves the treatment of symptoms, supportive care, isolation, and experimental measures “Our hands do so much for us. They are capable of a wide variety of functions like touching, grasping, feeling, holding, manipulating, caressing, and performing daily activities and more. They are a vitally important part of who we are and how we see ourselves”.³

According to World Health Organization estimates from (2016) Good hand hygiene is one of the most critical control strategies in outbreak management. Hand hygiene is defined as any method that removes or destroys microorganisms on hands. It is well-documented that the most important measure for preventing the spread of pathogens is effective hand washing. Germs are found everywhere. Germs are so small that cannot be seen. Germs can make person sick. They can get rid of germs by washing their hands. Generally, the person touches 15 objects in one minute. So easily they can get the infection which increases the mortality and morbidity thereby the cost of health care. Infection is the invasion of an organism's body tissues by disease-causing agents, their multiplication, and the reaction of host tissues to these organisms and the toxins they produce. Infectious disease, also known as transmissible disease or communicable disease is illness resulting from an infection. Hosts can fight for infections using their immune system. Infectious diseases resulted in 6.6 million deaths in 2014 according to global burden of infectious disease. The branch of

medicine that focuses on prevention of infections is called infectiology.⁴

According to India facts and statistics, (2015) Infection is classified into Acute (develop sudden onset less than 10 days, rapid progression and often with severe symptoms), Chronic(delayed onset slow progression), primary (initial infection that develop in healthy individual), secondary (infection develop in individual who already infected), localized (infection in specific location), systemic (infection spread to several region), endogenous (originated within the body), exogenous (originated from outside), nosocomial infection (hospital acquired infection), opportunistic infection (caused by microorganism), latent (after following infection the pathogen remain in tissues in a hidden form). Washing hands is the easiest way to stop germs from spreading and control transmission of infection. Washing hands at least five times a day reduces the risk of getting a cold, flu and other infections.⁵

METHODS

In this research study, a quantitative research approach was used. The research design was descriptive research design. The study aimed to assess Knowledge, attitude and practice regarding hand washing during COVID-19 Pandemic.

In this study, sample consists of ASHA Workers who are fulfilling the inclusion and exclusion criteria at selected PHC under RHTC Najafgarh, Delhi. Total 100 ASHA Workers were selected for the study. The non-probability, convenient sampling technique was used to select samples.

Inclusion criteria

Inclusion criteria for this study were ASHA workers who were willing to participate in the study. ASHA workers who were working in a community area in RHTC Najafgarh, Delhi, NCR, ASHA workers who were available during the study and ASHA workers who were able to speak and read Hindi.

Exclusion criteria

Exclusion criteria were ASHA workers who were selected for pilot study. ASHA workers who were not present at the time of data collection. ASHA workers who were dealing with covid patients.

The tool selected for the study was a structured questionnaire, which consisted of four sections, Section I: Socio-demographic variables, Section II: Consists of structured questionnaires on knowledge regarding hand washing, Section III: An observation practice checklist to assess the practice of ASHA workers on hand washing, section IV: Likert scale to assess attitude.

The tool was tested for reliability on 10 ASHA workers during pilot study by using Split half method and applying Karl Pearson's co-efficient of correlation and Spearman's Brown prophecy formula. The reliability co-efficient of structured knowledge questionnaire was $r=0.86$ and structured knowledge-based practice questionnaire was $r=0.90$, revealing that tool is reliable for administration for the main study.

The data obtained was analysed in terms of objectives of the study using descriptive and inferential statistics. Data analysis was conducted on characteristic variables, including age and gender, which were processed and analysed descriptively and presented in tables or graphs.

Descriptive statistics were used to draw the following conclusions: a) Frequency and percentage distribution to analyse the demographic data of ASHA workers; b) Mean, median, mode, standard deviation and range of knowledge practice and attitude;

Inferential statistics used to draw the following conclusions: a) Chi-square test to find the association between knowledge and practice scores and demographic variables; b) Karl Pearson Co-efficient of correlation to find out the correlation between knowledge, practice and attitude of ASHA workers regarding hand washing during Covid 19 pandemic.

RESULTS

Section I: description of socio-demographic variables of ASHA workers

This section deals with analysis and interpretation of ASHA workers with regards to age, gender, domicile, educational status of ASHA, educational status of spouse, occupational status of spouse, family income per month, religion, type of family, number of children. The data has been analyzed and presented in terms of frequency and percentage.

Section II: analysis and interpretation of knowledge of ASHA worker regarding hand washing during Covid-19 pandemic

Knowledge of 100 ASHA workers were assessed by using structured knowledge questionnaire and analyzed by descriptive statistics. The total scores were arbitrarily classified as poor (0-10), average (11-20), and good (21-30).

Data presented in Table 2 shows the level of knowledge of ASHA workers regarding hand washing during covid-19 pandemic. The major findings are (66%) of ASHA workers had average knowledge, the remaining (31%) had good knowledge, (3%) had poor knowledge. The mean of the knowledge regarding hand washing during covid-19 pandemic among ASHA workers is 18.59 with $SD \pm 3.74$.

Table 1: Frequency and percentage distribution of ASHA workers according to their socio demographic variable.

Demographic variables	Frequency	Percentage
Age		
25-35 Years	43	43
35 and above	57	57
Gender		
Male	0	0
Female	100	100
Domicile		
Urban	2	2
Rural	98	98
Educational status of ASHA		
Middle	32	32
High school	2	2
Higher secondary school	62	62
Above	4	4
Educational Status of spouse		
Literate	16	16
Primary school	44	44
High school	29	29
Higher secondary school	2	2
Others	9	9
Occupational status of spouse		
Labor	34	34
Agricultural	25	25
Government employee	13	13
Business and others	28	28
Family income per month		
Below Rs. 5000/-	37	37
Rs.5001-10000/-	15	15
Rs. 10001-15000/-	25	25
Rs. 15001 and above	23	23
Religion		
Hindu	97	97
Muslim	0	0
Sikh	1	1
Christian	2	2
Type of family		
Nuclear	56	56
Joint	19	19
Extended	25	25
Number of children		
One	29	29
Two	18	18
Three	25	25
Four and above	28	28

Table 2: Frequency and percentage distribution of ASHA workers according to their level of knowledge regarding hand washing during covid-19 pandemic.

Knowledge score	Frequency	Percentage
Poor knowledge	3	3
Average knowledge	66	66
Good knowledge	31	31
Mean	18.59	
SD	3.74	

Section III: Analysis and interpretation of attitude of Asha workers regarding hand washing during Covid-19 pandemic

Attitude of 100 ASHA workers were assessed by using Likert scale and analyzed by descriptive statistics. The total scores were arbitrarily classified as poor (10-23), average (24-37), and good (38-50).

Frequency and percentage distribution of ASHA workers according to their level of attitude regarding hand washing during COVID-19

Data presented in Table 3 shows the level of attitude regarding hand washing during covid-19 pandemic among ASHA workers. The major findings are (56%) of ASHA workers had poor level of attitude, the remaining (43%) had average level of attitude, (1 %) had good level of attitude. The mean attitude score regarding hand washing during covid-19 pandemic among ASHA workers is 23.32 with SD ± 5.41 .

Table 3: Frequency and percentage distribution of ASHA workers according to their level of attitude regarding hand washing during Covid- 19.

Level of attitude	Frequency (f)	Percentage (%)
Poor level of attitude	56	56
Average level of attitude	43	43
Good level of attitude	1	1
Mean	23.32	
SD	5.41	

Section IV: Analysis and interpretation of practice of ASHA workers regarding hand washing during covid-19 pandemic

Practice of 100 ASHA workers were assessed by using observation practice checklist and analyzed by descriptive statistics. The total scores were arbitrarily classified as poor (9-12), average (13-15), and good (16-18).

Frequency and percentage distribution of ASHA workers according to their level of practice regarding hand washing during COVID-19 pandemic among ASHA workers

Data presented in Table 4 shows the level of practice regarding hand washing during covid-19 pandemic among ASHA workers.

The major findings are (63%) of ASHA workers had average level of practice, the remaining (28%) had poor level of practice, (9 %) had good level of practice. The mean of the level of pre-test practice regarding hand washing during covid-19 pandemic among ASHA workers is 13.24 with SD ± 1.76 .

Table 4: Level of practice regarding hand washing.

Level of practice	Frequency (f)	Percentage (%)
Poor hand washing practice	28	28
Average hand washing practice	63	63
Good hand washing practice	9	9
Mean	13.24	
SD	1.76	

Section V: Association of findings with selected demographic variables

This section deals with the study of association of variable as knowledge, practice and attitude with selected demographic variables.

Section V-A: Association of level of knowledge with selected demographic variables

Table 5 shows that, since p-values corresponding to demographic variable ASHA worker is small (less than 0.05), the demographic variables such as education type of spouse and occupation of spouse was found to have significant association with the knowledge of ASHA worker regarding hand washing.

Section-V-B: Association of level of attitude with selected demographic variables

Table 6 shows that, since p-values corresponding to demographic variable ASHA worker is small (less than 0.05).

The demographic variables education type of spouse, occupation of spouse, family income per month, religion, type of family and number of children was found to have significant association with the attitude of ASHA worker regarding hand washing.

Section-V-C: Association of level of practice with selected demographic variables

Table 7 shows that, since p-values corresponding to demographic variable ASHA worker is small (less than

0.05), the demographic variables education type of spouse and religion were found to have significant association with the practice of ASHA worker regarding hand washing.

Table 5: Association of level of knowledge with selected demographic variables.

Variable	Knowledge			DF	Chi squire table	Chi squire calculated	P value	remark
	Average	Good	Poor					
Age (in yrs.)								
25-35 years	29	13	1	2	5.991	0.152	0.92	NS
35 and above	37	18	2					
Gender								
Male	0	0	0	2	5.991	0	1	NS
Female	66	31	3					
Domicile								
Urban	1	1	0	2	5.991	0.31	0.85	NS
Rural	65	30	3					
Educational status of ASHA								
Middle	18	14	0	6	12.59	4.4	0.22	NS
High school	1	1	0					
Higher secondary school	44	15	3					
Above	3	1	0					
Educational status of spouse								
Literate	10	5	1	6	12.59	9.55	0	S
Primary school	34	9	1					
High school	17	12	0					
Higher secondary school	0	2	0					
Others	5	3	1					
Occupational status of spouse								
Labour	19	15	0	6	12.59	6.86	0.03	S
Agriculture	16	7	2					
Government employee	9	4	0					
Business and others	22	5	1					
Family income per month								
Below Rs. 5000/-	22	15	0	6	12.59	4.42	0.11	NS
Rs.5001-10000/-	12	2	1					
Rs. 100001-15000/-	16	8	1					
Rs. 150001 and above	16	6	1					
Religion								
Hindu	64	31	3	6	12.59	0.37	0.83	NS
Muslim	0	0	0					
Sikh	1	0	0					
Christian	1	0	0					
Type of family								
Nuclear	32	22	2	4	9.488	4.95	0.08	NS
Joint	16	3	0					
Extended	18	6	1					
Number of children								
One	17	12	0	4	9.488	8.83	0.01	NS
Two	13	4	1					
Three	13	10	2					
Four and above	23	5	0					

Table 6: Association of level of attitude with selected demographic variables.

Variable	Attitude			DF	Chi squire table	Chi squire calculated	P value	remark
	Average	Good	Poor					
Age (yrs.)								
25-35 Years	23	1	19	2	5.991	4.56	0.1	NS
35 and above	20	0	37					
Gender								
Male	0	0	0	2	5.991	0	1	NS
Female	43	1	56					
Domicile								
Urban	0	0	2	2	5.991	0.72	0.69	NS
Rural	43	1	54					
Educational status of ASHA								
Middle	8	0	24	6	12.59	7.63	0.05	NS
High school	2	0	0					
Higher secondary school	31	1	30					
Above	2	0	2					
Educational status of spouse								
Literate	35	2	29	6	12.59	11.61	0.003	NS
Primary school	16	4	12					
High school	0	1	1					
Higher secondary school	0	0	0					
Others	0	0	0					
Occupational status of spouse								
Labour	11	0	23	6	12.59	15.87	0	S
Agriculture	7	0	18					
Government employee	13	0	0					
Business and others	12	1	15					
Family income per month								
Below Rs. 5000/-	11	0	26	6	12.59	24.09	0	S
Rs.5001-10000/-	8	1	6					
Rs. 100001-15000/-	6	0	19					
Rs. 150001 and above	18	0	5					
Religion								
Hindu	41	1	56	6	12.59	1.56	0.955	NS
Muslim	0	0	0					
Sikh	1	0	0					
Christian	1	0	0					
Type of family								
Nuclear	17	0	39	4	9.488	18.65	0	S
Joint	7	0	12					
Extended	19	1	5					
Number of children								
One	6	0	23	4	9.488	14.12	0	S
Two	11	1	6					
Three	11	0	14					
Four and above	15	0	13					

Table 7: Association of level of practice with selected demographic variables.

Variable	Practice			DF	Chi squire table	Chi squire calculated	P value	remark
	Average	Good	Poor					
Age (in yrs.)								
25-35 Years	28	3	11	2	5.991	0.44	0.8	NS
35 and above	35	6	16					
Gender								
Male	0	0	0	2	5.991	0	1	NS
Female	63	9	27					
Domicile								
Urban	0	1	1	6	12.59	0.19	0.12	NS
Rural	63	8	27					
Educational status of ASHA								
Middle	20	4	7	6	12.59	15.46	0	S
High school	1	1	0					
Higher secondary school	41	2	19					
Above	1	2	1					
Educational status of spouse								
Literate	43	6	17	6	12.59	20.63	0	S
Primary school	20	1	11					
High school	0	2	0					
Higher secondary school	0	0	0					
Others	0	0	0					
Occupational status of spouse								
Labour	20	5	8	6	12.59	3.12	0.22	NS
Agriculture	15	2	8					
Government employee	8	0	5					
Business and others	20	2	6					
Family income per month								
Below Rs. 5000/-	23	5	8	6	12.59	6.96	0.03	NS
Rs.5001-10000/-	12	1	2					
Rs. 100001-15000/-	17	1	7					
Rs. 150001 and above	11	2	10					
Religion								
Hindu	62	9	26	6	12.59	21.6	0.34	S
Muslim	0	0	0					
Sikh	0	0	1					
Christian	1	0	0					
Type of family								
Nuclear	33	7	15	4	9.488	2.08	0.35	NS
Joint	13	1	5					
Extended	17	1	7					
Number of children								
One	15	6	7	4	9.488	7.87	0.02	NS
Two	13	1	4					
Three	17	1	7					
Four and above	18	1	9					

DISCUSSION

In previous studies, assessment of knowledge, attitude and practices among Accredited Social Health Activists (ASHAs) towards COVID-19: a descriptive cross-

sectional study in Tripura, India. A descriptive cross-sectional was conducted in the state of Tripura, Northeast India, among ASHAs with 14-, 4- and 3-item self-administered questionnaire for knowledge, attitude and practice. Around 61.2% of participants had the mean

correct answer rate and the mean score of knowledge was 8.57 ± 2.25 ($\pm$ SD). As per Bloom's cut-off, it was observed that only 10% of the ASHAs had adequate knowledge, 30.9% showed positive attitude and 88% adhered to the good practices. It was observed that the indigenous ASHAs were 1.79 times more likely to adhere to the good practice of wearing masks during filed visits in the community (OR: 1.791, 95% CI: 1.059-3.028, $p=0.030$). Multinomial regression analysis showed that practice was significantly associated with fear of getting infected during service and the community's fearfulness of ASHAs spreading the disease. Urgent addressing of the provisions of support, guidance and training of grassroot level healthcare workers in rural tough terrains can ensure robust output from the existing community healthcare workers in future pandemic-like emergencies.²¹

Community participation is the active involvement of people from communities preparing for, or reacting to, disasters. True participation means the involvement of the people concerned in analysis, decision-making, planning, and programme implementation, as well as in all the activities, from search and rescue to reconstruction, that people affected by disasters undertake spontaneously without the involvement of external agencies. Health promotion was defined in the Ottawa Charter as "the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment."¹⁹

In present study, from the data analyzed, it was evident that the demographic variable majority 57% were in the age group of 35 and above years, 50% of ASHA workers were male and 50% were female, 98% of ASHA workers were from rural area, according to their educational status highest 44% of ASHA workers were completed primary school, educational status of spouse it shows that highest percentages 44% of spouse were completed primary school, occupational status of spouse it shows that highest percentages 34% of spouse were labour, family income per month it shows that highest percentages 37% of having below rs. 5000/- family income per month, majority 72% of asha workers were hindu, majority 56% of ASHA workers were from nuclear type of family and 29% of ASHA workers were having one child.

The major findings were (66%) of ASHA workers had average knowledge, the remaining (31%) had good knowledge, (3%) had poor knowledge. The mean of the level of pre-test knowledge regarding hand washing during covid-19 pandemic among ASHA workers is 18.59 with SD ± 3.74 . The mean of the level of post-test knowledge regarding hand washing during covid-19 pandemic among ASHA workers is 25.74 with SD ± 2.57 . The mean of the level of pre-test attitude regarding hand washing during covid-19 pandemic among ASHA workers is 23.32 with SD ± 5.41 . The mean of the level of

post-test attitude regarding hand washing during covid-19 pandemic among ASHA workers is 19.91 with SD ± 3.41 . The mean of the level of pre-test practice regarding hand washing during covid-19 pandemic among ASHA workers is 13.24 with SD ± 1.76 . The mean of the level of posttest practice regarding hand washing during covid-19 pandemic among ASHA workers is 15.76 with SD ± 1.42 . The demographic variables education, type of spouse and occupation of spouse was found to have significant association with the knowledge of ASHA worker regarding hand washing.

The limitations in this study were limited only to the ASHA workers and study was limited to 100 samples. Analysis of the study will be based purely on the basis of responses given by the ASHA workers. The study was limited to the experience level of the researches. Data collection for this study period was only for 2 weeks.

CONCLUSION

Hand washing is defined as washing hands with plain or antimicrobial soap and water. Action of performing hand hygiene for the purpose of physically or mechanically removing dirt, organic material, and/or micro-organisms. ASHA workers were having average knowledge, poor level of attitude and average level of practice initially but it increased to good knowledge, good level of attitude and good level of practice. The demographic variables education, type of spouse and occupation of spouse was found to have significant association with the knowledge of ASHA worker regarding hand washing.

ACKNOWLEDGEMENTS

We would like to thank the respondents who participated in this study, also the institute principal who facilitated the implementation of this research.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Bargoti A, Pal M. A study to assess the knowledge, attitude and practice regarding handwashing during covid-19 pandemic among ASHA workers working under RHTC Najafgarh, Delhi, NCR. *Int J Community Med Public Health* 2023;10:3783-91.