

# Assessment of Awareness among Mothers Regarding Hand Hygiene and Safe Water in Urban Slum Areas of Southern Punjab

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## ABSTRACT

**Objective:** To assess knowledge of mothers regarding safe water, sanitation and hygiene in Basti Ghouz Pura, Shah Rukn-e-Alam, Multan.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** This study was conducted at the Community Medicine Department, Nishtar Medical University, Multan from October, 2019 to April, 2020.

**Materials and Methods:** This descriptive study was conducted after approval of synopsis from IERB & CPSP then total numbers of 227 mothers from Basti Ghouz Pura, Shah Rukn-e-Alam, Multan, fulfilling the inclusion criteria were selected. Informed consent from each woman was taken. Then all subjects were assessed for knowledge according to questionnaire as mentioned in operational definition.

**Results:** Mean age of our mothers was  $28.11 \pm 5.27$  years. Of these 227 mothers, 80 (35.2 %) belonged to poor families while 134 (59.0 %) belonged to low middle income families and 13 (5.7%) from upper middle class. Of these 227 mothers, 141 (62.1 %) had up to 2 children while 79 (34.8%) had more than 3 – 4 children. Nuclear family system was noted in 170 (74.9%) and 57 (25.1%) lived in joint family system. House structure was Kacha in 30 (13.2%) and 197 (86.8%) had pakka house structure. Of these 227 mothers, 217 (95.6%) were Muslims and 10 (4.4%) were non – Muslims. Of these 227 mothers, 60 (26.6%) had average level of knowledge and 167 (73.6%) had good level of knowledge.

**Conclusion:** High frequency of good level of knowledge was noted in our mothers. Level of knowledge was significantly associated with increasing age and socioeconomic status. Healthcare authorities should launch an effective media campaign to ensure sanitation, safe water and hygiene to avoid certain bacterial and viral illnesses which will not only improve quality of life of our general public but will also help local healthcare establishment to reduce their expenditures.

**Key Words:** Knowledge, Sanitation, Hand washing, Hygiene

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## INTRODUCTION

Sanitation commonly reflects to the establishment of various amenities and services targeting the disposal of urine and faeces of humans safely.<sup>1</sup>

As per recent guidelines World Health Organization (WHO) "Hygiene corresponds to circumstances and

attitudes which may help for maintaining health for the prevention the outbreak of infectious diseases".<sup>2</sup> Sanitation is also denoted as major predictor for better quality of life and individual well being as safe drinking water, sanitation and healthier attitudes of hygiene have significant impact to sustain their healthy life, for every human being. .

WHO/UNICEF Joint Monitoring Programs regarding safe water provision and sanitation have estimated that around 36 % (more than 2.5 billion) of the world population lacks required facilities for proper sanitation and approximately one billion individuals across the world are still consuming drinking water from unsafe sources.<sup>3</sup>

Furthermore, it has been reported that knowledge and practice for proper hand washing among different communities still remains below standards. Particularly among young children, who cannot wash their own hands properly by themselves and hence are unable to break the chain of transfer of microbial agents from their hands to their mouth. However, these may be

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benefited from lower transmission of various pathogenic agents (particularly those causing diarrhea among young children) from their parents who are washing their hands properly, usually with soap and clean water.<sup>4,5</sup>

Though majority of world population is cleaning their hands with water, however use of soap still remains quite low and fewer people have been reported to use it for different reasons. Proper Hand washing with soaps can remove get rid of various pathogens quickly and efficiently; furthermore proper and regular hand washing practices among mother of young children is associated with significant decrease in transmission of infectious diseases in these children, low hospital admission due to infectious illnesses and low mortality rates<sup>6,7</sup>. These parameters lead to a healthier life of our next generation and allows them to grow better, improving their quality of life.<sup>8-10</sup> Shah et al<sup>8</sup> recruited 420 mothers for assessment of knowledge regarding proper hand washing and reported that most of the mothers reported appropriate knowledge (74.8%) and poor knowledge (25.71%) on water, sanitation and hygiene. In another study reported by Sibya et al<sup>9</sup>, also reported that 40% mothers had good knowledge regarding hand hygiene and sanitation, 42% had average knowledge and 18% were with poor knowledge.

There is still limited literature available regarding mother's knowledge regarding water, sanitation and hygiene in urban slums areas of Multan as available literature was generally targeted towards young children and their teachers aiming towards improvements in their school based interventions. Hence, this study was done for assessing the knowledge of mothers regarding water, sanitation and hygiene in an urban slums area of Multan.

## MATERIALS AND METHODS

This Descriptive study was approved by Institutional Ethical Review Board (IERB) of Nishtar Medical University, Multan. A list of Basti Ghouz pura and Shah Rukan e Alam, total population (almost 10,000) and households (1756) was obtained by population department Multan. By simple random sampling method 227 households was selected by lottery method from 10-10-2019 to 09-04-2020. First respondent mother from each household was selected to make up for our sample size of 227. Mothers from Basti Ghouz Pura, Shah Rukan – e – Alam of Multan (one mother from each household), aged 18 – 40 years were included. Mothers not willing to participate were excluded from our study. The study was conducted after approval of synopsis from REU of CPSP then total numbers of 227 mothers from Basti Ghouz Pura Shah Rukn-e-Alam Multan fulfilling the inclusion criteria were selected. The calculated sample size was 227 mothers with 95% confidence level, 5% margin of error

and taking percentage of poor knowledge as 18.0%.<sup>9</sup> Informed consent from each woman was taken. Then all subjects were assessed for knowledge. It was assessed by a questionnaire having 15 questions. Questions that are not answered or answered irrelevantly were given 0 score and questions whom answers give relevant information was considered correct and was given 1 score, according to which people's knowledge was classified into three categories:

- **Poor knowledge** = score 0-5
- **Average knowledge** = score 6-10.
- **Good knowledge** = score of 11-15.

All the data (age, socioeconomic status (high/upper middle/lower middle/lower), number of children, family type (nuclear/joint), house structure (kaccha/pakka), religion (muslim/non-muslim), occupation of father (employed/unemployed), family income per month and knowledge (good/average/poor)) was recorded on the specially designed proforma by the researcher conducting the study herself. Statistical analysis was performed using SPSS version 25. Mean and standard deviation was calculated for age and number of children. Frequency and percentage were calculated for socioeconomic status (high/upper middle/lower middle/lower), number of children, family type (nuclear/joint), house structure (kaccha/pakka), religion (Muslim/non-Muslim), occupation (employed/unemployed) and knowledge (Good/Average/Poor). Effect modifiers like age, number of children, socioeconomic status (high/upper middle/lower middle/lower), number of children, family type (nuclear/joint), house structure (kaccha/pakka), religion (muslim/non-muslim) and occupation (employed/unemployed) were controlled by stratifying with chi – square test at 95 % CI.

## RESULTS

A total of 227 mothers meeting inclusion criteria were included in this study. Mean age of our mothers was  $28.11 \pm 5.27$  years (range; 20 to 40 years). Of these 227 mothers, 80 (35.2 %) belonged to poor families while 134 (59.0 %) belonged to low middle income families and 13 (5.7%) from upper middle class. Of these 227 mothers, 141 (62.1 %) had up to 2 children while 79 (34.8%) had more than 3 – 4 children. Ninety nine (43.6%) were illiterate and 128 (56.4%) were literate. Of these 227 mothers, 187 (82.4%) were housewives and 40 (17.6%) were working ladies. Nuclear family system was noted in 170 (74.9%) and 57 (25.1%) lived in joint family system. House structure was Kacha in 30 (13.2%) and 197 (86.8%) had pakka house structure. Of these 227 mothers, 217 (95.6%) were Muslims and 10 (4.4%) were non – Muslims. Of these 227 mothers, 60 (26.6%) had average level of knowledge and 167 (73.6%) had good level of knowledge. (Table-1).

**Table No.1: Stratification of Knowledge with regards to study variables**

Age	Knowledge		P – value
	Average (n=60)	Good (n=167)	
Less than 25 Years (n=82)	24	58	0.664
25 – 35 Years (n=112)	29	83	
More than 35 Years (n=33)	07	26	
Socioeconomic status			
Poor (n=80)	39	41	0.001
Low Middle Class (n=134)	21	113	
Upper Middle (n=13)	00	13	
Literacy			
Illiterate (n=99)	21	78	0.131
Literate (n=128)	39	89	
Occupation			
Housewife (n=187)	50	137	0.998
Working (n=40)	10	30	
Family Type			
Nuclear (n=170)	40	130	0.117
Joint (n=57)	20	37	

## DISCUSSION

Hand hygiene plays crucial role regarding control of infectious diseases<sup>11</sup>. Ignaz Semmelweis in Vienna, Austria, and Oliver Wendell Holmes in Boston, USA, highlighted the importance of hand hygiene in the healthcare settings during mid of 19<sup>th</sup> century<sup>12</sup>. During last decades, hand hygiene compliance is reported to be lower all over the world<sup>13, 14</sup>. Different research studies from different parts of the world have described to range from 20–85.5%<sup>15</sup>. It has been reported in different studies that existing situation of hand hygiene across the world have described some factors accounting for this poor compliance in healthcare facilities including clinician's status (rather than nurse), male gender, lack of role models, working duty hours (or weekend), lack of facilities in terms of personnel, overcrowding in healthcare setups, and insufficient time<sup>16, 17</sup>.

A total of 227 mothers meeting inclusion criteria were included in this study. of our study. Mean age of our mothers was  $28.11 \pm 5.27$  years (range; 20 – 40 years) while 112 (49.3 %) were aged 25-30 years. A study

conducted by Shah et al<sup>8</sup> has also reported similar age groups of mothers, similar to that of our study results. A study conducted by Pai et al<sup>10</sup> has also reported that majority of mothers belonged to the age group of 20 – 29 years which is in compliance with our study results. A study conducted by Kuberan et al<sup>18</sup> has also reported  $29 \pm 7$  years mean age, close to our results.

Of these 227 mothers, 80 (35.2 %) belonged to poor families while 134 (59.0 %) belonged to low middle income families and 13 (5.7%) from upper middle class. Of these 227 mothers, 141 (62.1 %) had up to 2 children while 79 (34.8%) had more than 3 – 4 children. A study conducted by Shah et al<sup>8</sup> has also reported predominance of middle income families and similar trends of literacy, similar to our results. A study conducted by Pai et al<sup>10</sup> has also reported 23 % families with lower socioeconomic status, similar to that of our study results. A study conducted by Kuberan et al<sup>18</sup> has reported similar results.

Of these 227 mothers, 187 (82.4%) were housewives and 40 (17.6%) were working ladies. Nuclear family system was noted in 170 (74.9%) and 57 (25.1%) lived in joint family system. However, a study conducted by Shah et al<sup>8</sup> has reported similar higher proportions of working ladies, contrary to our findings. A study conducted by Pai et al<sup>10</sup> has also reported 76.7% mothers were housewives which are in compliance with our study results. A study conducted by Kuberan et al<sup>18</sup> has reported 32 % joint family system which is in compliance with our study results.

Of these 227 mothers, 60 (26.6%) had average level of knowledge and 167 (73.6%) had good level of knowledge. A study conducted by Shah et al<sup>8</sup> has also reported similar 74.8 % good level of knowledge which is similar to that of our study results.

## CONCLUSION

High frequency of good level of knowledge was noted in our mothers. Level of knowledge was significantly associated with increasing age and socioeconomic status. Healthcare authorities should launch an effective media campaign to ensure sanitation, safe water and hygiene to avoid certain bacterial and viral illnesses which will not only improve quality of life of our general public but will also help local healthcare establishment to reduce their expenditures.

### Author's Contribution:

Concept & Design of Study:	Ayesha Saddique
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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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