



Original Research Article

## A Cross-Sectional Study on Hand Washing Practices among Mothers in an Urban Slum Area

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### ABSTRACT

**Introduction:** An estimated 88 percent of diarrheal deaths worldwide are attributable to unsafe water, inadequate sanitation and poor hygiene. Clean water and hand washing are viewed as the most cost effective intervention for preventing diarrheal diseases. Various studies have highlighted that simple act of hand washing and basic hygiene behavior could prevent diarrhea, acute respiratory infections and skin infections. Despite much evidence supporting the effectiveness of personal hygiene behavior, they are yet to be practiced widely. It is observed that young children and their mother in developing countries fail to wash their hand adequately after fecal contact.

**Materials and methods:** The present cross-sectional study was carried out in the one of the urban slum area of the field practice area of dept of Community Medicine. Mothers of under five children were informed about utility of the survey and verbal consent was obtained in each instance. Questionnaire was prepared by adopting the theme of core questionnaire on sanitation by WHO. Components of sanitation like food handling and hand washing were covered in this questionnaire.

**Results:** A total of 242 mothers participated in the study. 71.49% mothers stated that hand washing was important in prevention of some or the other communicable diseases. However, 73.97% mothers felt that washing hands with only water was sufficient. Hand washing before preparing food is being practiced by 76.86% of mothers. Still 23.14 % reports that they are not practicing hand washing. Of all mother interviewed, 57.44% wash hands before serving food.

**Conclusion:** Hand washing is an important practice to reduce the burden of childhood morbidity and mortality and various communicable diseases like diarrhoea, ARI etc. However, both knowledge and practice of proper hand washing after critical moments still remains low among mothers.

**Key words:** Hand washing, urban slum, practice.

### INTRODUCTION

Communicable diseases continue to be the major contributor to global morbidity and mortality. Sixty two percent and 31 % of all deaths in Africa and south- Asia, respectively are due to infectious diseases.

<sup>(1)</sup> According to WHO estimates, 3.8 million children aged less than five die each year from diarrhea and acute respiratory tract infections. An estimated 88 percent of diarrheal deaths worldwide are attributable to unsafe water, inadequate sanitation and

poor hygiene. <sup>(2)</sup> Clean water and hand washing are viewed as the most cost effective intervention for preventing diarrheal diseases. <sup>(3)</sup> Various studies have highlighted that simple act of hand washing and basic hygiene behavior could prevent diarrhea, acute respiratory infections and skin infections. <sup>(4,5)</sup> Despite much evidence supporting the effectiveness of personal hygiene behavior, they are yet to be practiced widely. It is observed that young children and their mother in developing countries fail to wash their hand adequately after fecal contact. <sup>(6)</sup> Magnitude of the problem is more in urban slums with reduced access to safe water and sanitation. Children from poorest urban are three times more likely to die before the age of five than children from wealthiest urban and rural areas. Study conducted in Mumbai slum shows that 30% of all morbidity can be accounted for by water related infection. <sup>(7)</sup> Understanding usual hand washing is an important baseline assessment for any programme intended to improve sanitation, hand hygiene and water quality. However, there are limited data that have assessed the hand hygiene behavior of mothers particularly in slums. Keeping this in view present study was taken up to study the knowledge attitude practices relating to hand washing of mothers. The objective of the study was to assess hand washing behavior among the participants so as to identify and overcome barriers to proper hand hygiene practices.

## **MATERIALS AND METHODS**

Present cross-sectional study was carried out in the one of the urban slum area Shrinavasrao Thota which is urban field practice area of Department of Community Medicine, Katuri Medical College and Hospital, Guntur, Andhra Pradesh .Before the start of the study, permission was taken from College Ethical Committee. Data was

collected using a pre-designed and pre-tested proforma where trained medical undergraduates and paramedical staff under the supervision of a faculty member collected data by house-to-house survey. Mothers of under five children were informed about utility of the survey and verbal consent was obtained in each instance. Mothers not willing to participate in the study, with speech and hearing impairment were excluded from the study. The study period was October 2011 to December 2011. Questionnaire was prepared by adopting the theme of core questionnaire on sanitation by WHO. Components of sanitation like food handling and hand washing were covered in this questionnaire. The questionnaire was pretested in non study area and necessary changes were made accordingly. Data was entered in MS Excel and analyzed using statistical software SPSS Version 17.0.

## **RESULTS**

A total of 242 mothers participated in the study. Most of the mothers were between 26-30 years age group (37.60%) followed by 20-25 yrs age group (32.23%). Most of the mothers were educated upto 8-12 years of schooling (39.67%) followed by 5-7 yrs of schooling (22.31%). Majority of the respondent mothers were house wives (71.90%) and have a nuclear family (69.01%) (Table 1).

71.49% mothers stated that hand washing was important in prevention of some or the other communicable diseases. However, 73.97% mothers felt that washing hands with only water was sufficient. Only 48.35% and 28.09% mothers knew that hand washing could prevent diarrhoea and ARI among children respectively (Table 2).

Hand washing before preparing food is being practiced by 76.86% of mothers. Still 23.14 % reports that they are not practicing hand washing. Of all mother

interviewed, 57.44% wash hands before serving food. 75.21% mothers practice hand wash with soap after going to toilet (Table 3).

Table 1: Demographic characteristics of mothers (n=242)

Characteristics	No (%)
Age of mothers(yrs)	
Less than 20 yrs	21(8.68%)
20-25 yrs	78(32.23%)
26-30 yrs	91(37.60%)
Above 30 yrs	52(21.49%)
Monthly per capita income(in Rupees)	
Less than 5000 Rs	44(18.18%)
5000-10000 Rs	137(56.61%)
Above 10000 Rs	61(25.21%)
Education	
Illiterate	37(15.29%)
1-4 std	21(8.68%)
5-7 std	54(22.31%)
8-12 std	96(39.67%)
Graduate and above	34(14.05%)
Occupation of mothers	
Housewife	174(71.90%)
Service	40(16.53%)
Daily labourer	28(11.57%)
Type of family	
Nuclear	167(69.01%)
Joint	75(30.99%)

Table 2: Knowledge of hand washing among mother

Indicator	No (%)
Important for prevention of disease	
Yes	173(71.49%)
No	37(15.29%)
Don't know	32(13.22%)
Sufficient to wash hands with water alone	
Yes	179(73.97%)
No	52(21.48%)
Don't know	11(4.55%)
Benefits of hand washing	
Prevention of diarrhea	117(48.35%)
Prevention of ARI	68(28.09%)
Prevention of intestinal worm	46(19.01%)
Prevention of skin and eye infection	33(13.64%)

Table 3: Hand washing practices among mother

Characteristic	No (%)
Hand washing before preparing food	
Yes	186(76.86%)
No	56(23.14%)
Hand washing before serving food	
Yes	139(57.44%)
No	103(42.56%)
Hand wash with soap after defecation	
Yes	182(75.21%)
No	60(24.79%)

## DISCUSSION

The main purpose of washing hands is to cleanse the hands of pathogens and chemicals which can cause personal harm or

disease. Hand washing with soap removes transient potentially pathogenic organisms from hands and it is not sufficient to wash hands with only water after critical events like defecation. If individuals wash their hands, they are less likely to transmit pathogens from their hands to their mouths. This mechanism benefits the person washing his/her hands. (8)

This study showed that majority of the respondent mothers had knowledge that washing hands was important for prevention of communicable diseases, but only 48.35% and 28.09% respectively believed that this practice could prevent diarrhoea and ARI among children.

73.97% mothers also stated that hand washing with only water was sufficient after various critical moments. Of the mother surveyed, 75.21% were found to practice hand washing by soap after defecation. Limited knowledge appears to be constraint in this case. However, the translation of knowledge into sustainable behavior needs to be reinforced. Behavioral Intervention aimed to improve hand hygiene practices should focus on this important issue should be taken up in order to improve the hand hygiene practices of the respondents. Earlier studies by Ray et al have also highlighted similar findings. (9) In our study area 76.86% of the mother use hand washing before preparation of food which is encouraging. This differs from the study by Ray SK in two communities of eastern India where hand washing was not practiced before "preparing food" and after handling "raw vegetables". (10) Another finding of the present study was 57.44% women practicing hand washing before serving food. These behaviors need to be reinforced for preventing Fecal-Oral transmission of infectious agent.

The practice of hand washing with soap has been prominent in the last few years on the international hygiene agenda.

Although people around the world wash their hands with water, very few wash their hands with soap at critical moments (after using the toilet, after cleaning a child, and before handling food). Multimodal programmes for increasing hand hygiene compliance are now recommended as the most reliable, evidence-based method for ensuring sustainable improvement in hand washing practice. (11)

Hand hygiene improvement in health care has not been seen conventionally as a public health issue, though it does concern a health issue of significance to a subset of the population, especially under five children and their care givers. In resource constraint country like India, in addition to application of other tested interventions worldwide towards improvement in hand washing practices; health workers such as anganwadi workers, ASHA under the aegis of NHM should also be motivated and supported who have better penetration among the communities towards promotion of BCC activities to promote proper and regular hand washing practices.

## CONCLUSION

Hand washing is an important practice to reduce the burden of childhood morbidity and mortality and various communicable diseases like diarrhoea, ARI etc. However, both knowledge and practice of proper hand washing after critical moments still remains low among mothers. This study reiterates the need to spread importance of proper and regular hand washing through available evidence based BCC strategies and multiple dissemination channels.

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