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Research Article

Study of knowledge and practices of hand washing among mothers having children under 5 years of age in urban field practicing area of Kakatiya Medical College, Warangal, Telangana, India

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ABSTRACT

Background: Hand washing is viewed as most cost effective intervention for reducing global infections like diarrhoea, acute respiratory tract infections. According to WHO estimates, 3.8 million children aged less than five die each year from diarrhoea and ARI. WHO defines hand washing as washing hands with soap and water (HWWS) thoroughly following the five critical moments i.e. after defecation, after cleaning child's bottom who had defecated, before cooking, eating and feeding child. Objectives of the study was to study the socio demographic profile of mothers, to study the hand washing practices among mothers having children under 5 years of age and factors influencing them and to impart knowledge about the importance of hand washing

Methods: A community based descriptive cross sectional study was undertaken on mothers randomly selected in rangampet, urban field practising area of KMC, Warangal. A total of 150 mothers were interviewed using a pre-designed semi-structured questionnaire. The data was analyzed using SPSS version 22.00.

Results: Mothers who washed their hands with soap and water after defecation (79.3%) and after cleaning child's bottom (82.7%) before cooking (44.7%), before eating (44.7%) and before feeding the child (41.3%). The women who didn't wash their hands properly (used only water) after defecation (20.7%) and after cleaning a child who has just defecated (17.3%) cited the absence of soap or water at the designated site of hand washing as the reason for not doing so. 78.7% have told that hand washing is important in prevention of diseases. 16.7% have given the response that they don't know the importance of hand washing.

Conclusions: The study shows hand washing after critical moments is critically low. It can be suggested that interventions by educating target an increase in hand washing practices. Innovative social marketing approaches may help in adoption of proper hand washing behaviour.

Keywords: ARI, Critical moments, Diarrhoea, HWWS, Social marketing approach

INTRODUCTION

Hand washing: clean hand saves lives is defined as physical removal of micro-organisms from the hands using soap (plain or antimicrobial) and running water. According to WHO estimates, 3.8 million children aged less than five die each year from diarrhoea and ARI. An estimated 88% 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 and ARIs. According to WHO, proper handwashing was defined as washing hands with soap and water (HWWS) thoroughly following the five critical

moments i.e., after defecation, after cleaning child's bottom who had defecated, before cooking, before eating and before feeding child. half of all the child deaths occur each year are due to diarrhoea and acute respiratory infections, both of which are transmitted from person to person during everyday interaction, through droplet and airborne spread, through skin contact and through contamination of the environment.[1] Current epidemiological evidence indicates that HWWS prevents about 30-47% of child diarrhoeas and 23% of respiratory infections.[2-5] Hands are washed with soap only about 5-15% of key occasions (such as after the toilet or after cleaning up a child).[6] Objectives of the study was to study the socio-demographic profile of mothers, to study the hand washing practices among mothers having children under 5 years of age and to impart knowledge about the importance of handwashing.

METHODS

The urban areas of Kakatiya Medical College divided into 3 sub divisions called Rangampet, Tummalkunta and Peddammagadda of which Rangampet formed the study setting. A cross-sectional study was carried out between August to October 2015. A total of 150 mothers were selected conveniently due to feasibility reasons. The mothers were explained about the purpose and utility of the survey, informed oral consent was obtained from each participant and interviewed by administering pre-designed semi structured questionnaire which was used to collect data regarding the socio-demographic profile & hand washing knowledge and practices. The study tool was developed following a meticulous appraisal of literature and validated by expert review. The data was entered into Microsoft Excel and analyzed using Statistical Package of Social Sciences (SPSS) version 22.00, frequency and percentages were reported to explore the socio-demographic profile and handwashing practices amongst the respondents. Chi-square test was used to find out the association between socio-demographic variables on handwashing practices following the critical moments. Statistical significance was set at p-values ≤ 0.05.

RESULTS

As Table 1 shows that among all participants mothers were between 20-25 years with Mean age of 25 years and 40% were illiterates and 48.5% were unemployed, 61.3% were Hindus belonging to upper middle class, 48.3% have pacca house with 50% staying in joint family. Among them only 74 % have toilets at home and 54.7% have handwash area at home and only 54.7% people have availability of soap at hand wash area.

As Table 2 shows that majority of the mothers wash their hands with soap and water after defecation (79.3%) and after cleaning child's bottom (82.7%) before cooking (44.7%), before eating (44.7%) and before feeding the child (41.3%).

Table 1: Socio-demographic profile of study population.

Socio-demographic profile	No. (%)
Age of Mothers (In Years)	
<20	09 (6.0%)
20-25	85 (56%)
26-30	45 (30%)
>30	11 (7.3%)
Education	
Illterate	60 (40.0%)
Schooling	29 (19.3%)
Intermediate	11 (7.3%)
Graduates	50 (33.4%)
Occupation	
Professional	05 (3.3%)
Semiprofessionals	02 (1.3%)
Skilled	43 (28.7%)
Unskilled	27 (18.0%)
Unemployed	73 (48.7%)
Religion	
Muslim	31 (20.7%)
Hindu	92 (61.3%)
Christian	27 (18%)
Percapita income	
Upper middle	68 (45.3%)
Middle	45 (30.0%)
Lower middle	37 (24.7%)
Type of house	
Pacca	68 (48.3%)
Semipacca	45 (30.0%)
Kaccha	37 (24.7%)
Type of family	
Nuclear family	73 (48.7%)
Joint family	76 (50.7%)
Extended family	01 (0.7%)
Toilet status at home	
Yes	111 (74.0%)
No	39 (26.0%)
Hand wash area	
Yes	82 (54.7%)
No	68 (48.3%)
Location of hand wash area	
Bathroom	84 (56%)
Outside	66 (44%)
Soap availability at hand wash area	
Yes	82 (54.7%)
No	68 (45.3%)

The women who didn't wash their hands properly (used only water) after defecation (20.7%) and after cleaning a child who has just defecated (17.3%) cited the absence of soap or water at the designated site of hand washing as the reason for not doing so as Table 3 shows that mothers who told hand washing is important in prevention of diseases was (78.7%) and who dint know was (11.3%) and mothers who told ARI is prevented were (22%), both ARI and diarrhoea (22%), only diarrhoea (17.3%),

allergy (7.3%), multiple answers were given by (14%) and (16.7%) told that they do not know about the diseases prevented.

Table 2: Hand washing knowledge and practices among study population.

Hand washing practices among mothers	With water and soap	With water only
Before cooking	67 (44.7%)	83 (55.3%)
Before eating	67 (44.7%)	83 (55.3%)
Before feeding	62 (41.3%)	88 (58.7%)
After own defecation	119 (79.3%)	31 (20.7%)
After child defecation	124 (82.7%)	26 (17.3%)

As Table 4 shows that 70% mothers told that hand washing is important in prevention of diseases out of which only 26% are graduates. 21% mothers have responded that they don't know the importance of hand washing.

As Table 5 shows that when association was found between soap availability at wash area and HWWS after defecation p value was found to be 0.001 and soap availability at wash area and HWWS after child defecation P value was found to be 0.001 which is highly significant.

As Table 6 shows that the p-value was found to be 0.001 between location of wash area and HWWS after defecation and after child defecation which was found to be highly significant.

Table 3: Knowledge about hand washing amongst study population.

Participants who told hand washing is imp in prevention of diseases	No. (%)
Yes	**118 (78.7%)**
No	**15 (10%)**
Don't know	**17 (11.3%)**
Diseases prevented by hand washing-	
ARI	33 (22%)
ARI & diarrhoea	33 (22%)
Diarrhoea	26 (17.3%)
Allergy	11 (7.3%)
Multiple diseases	21 (14%)
Don't know	25 (16.7%)

Table 4: Determinants of hand washing practices amongst study population.

Education	Important in prevention of diseases			Total
	Yes	**No**	**Don't know**	
Illiterate	39 (26%)	14 (9%)	7 (5%)	60 (40%)
Schooling	16 (11%)	6 (4%)	9 (6%)	31 (20.6%)
Intermediate	11 (7%)	0	0	11 (7%)
Graduate	39 (26%)	5 (3.3%)	5 (3.3%)	49 (33%)
Total	105 (70%)	25 (16%)	21 (14%)	150 (100%)

Table 5: Soap availability at wash area in relation to HWWS after own defection and after child's defecation.

Soap availability at wash area	HWWS after defecation		
	Yes	**No**	**P-value**
Yes	78	4	
No	41	27	0.001
Total	119	31	
Soap availability at wash area	**HWWS after child defecation**		
	Yes	**No**	**P-value**
Yes	80	2	
No	44	24	0.001
Total	124	26	

Table 6: Location of wash area in relation to HWWS after defecation and after child's defecation.

Location of wash area	HWWS after defecation		P-value
	Yes	No	
Bathroom	81	3	0.001
Outside	38	28	
Total	119	31	
Location of wash area	**HWWS after child defecation**		**P-value**
	Yes	**No**	
Bathroom	83	1	0.001
Outside	41	25	
Total	124	26	

DISCUSSION

Majority of the mothers wash their hands with soap and water after defecation (79.3%) and after cleaning child's bottom (82.7%) before cooking (44.7%) in contrast to the results obtained in this study done by Scott BE et al.[7] before eating (44.7%) and before feeding the child (41.3%) which is lower than washing hands after defecation and after child defecation and results were similar obtained by study done by Rabbi SE in Bangladesh.[8] The women who didn't wash their hands properly (used only water) after defecation (20.7%) and after cleaning a child who has just defecated (17.3%) cited the absence of soap or water at the designated site of hand washing as the reason for not doing so. Mothers who told hand washing is important in prevention of diseases was (78.7%) and who didn't know was (11.3%) in contrast to the results obtained by study done by K. Seema et al,[9] Where 96.7% mothers know that hand washing is important in prevention of diseases and mothers who told ARI is prevented were (22%), both ARI & diarrhoea (22%), only diarrhoea (17.3%), allergy (7.3%), multiple answers were given by (14%) and (16.7%) told that they do not know about the diseases prevented.

In another study done by Pandve HT et al.[10] Revealed that almost 80% of the study participants used water with soap for hand washing. Around 12% were using only water for hand washing. All the study participants (100%) were practicing hand washing after defecation, while 95% study participants were practicing hand washing before and after handling any food item.The present study also showed an association between location of the designated place for hand washing and soap availability with the practice of HWWS after defecation and after cleaning the child who had defecated. In a study done by Luby SP et al.[11] Presence of water and soap at the designated place to wash hands were significantly associated with washing hands with soap after fecal contact. Mother's education was associated with HWWS after defecation and after cleaning child's bottom. Past studies have reported similar findings from Bangladesh by Rabbi et al and Luby S et al and from Ghana by Scott et al in contrast to the study done by Biran A et al.[1,2,5,12] Which showed that there is no association between mothers education and HWWS after defecation and after cleaning child's bottom. The present study had some limitations. The results of this study could be generalized as convenient sampling was done.

Recommendations

It was found that there is lack of knowledge among mothers about hand washing. The knowledge gap among the mothers regarding the benefits of handwashing in reducing diarrhoeal and ARI episodes of the children could be tackled by intensive health education activities. Innovative social marketing approaches may help in adoption of hand washing behaviour.

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