

## KNOWLEDGE, ATTITUDE AND PRACTICES OF WASHING HANDS AMONG MOTHERS IN KARACHI, PAKISTAN

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### Abstract

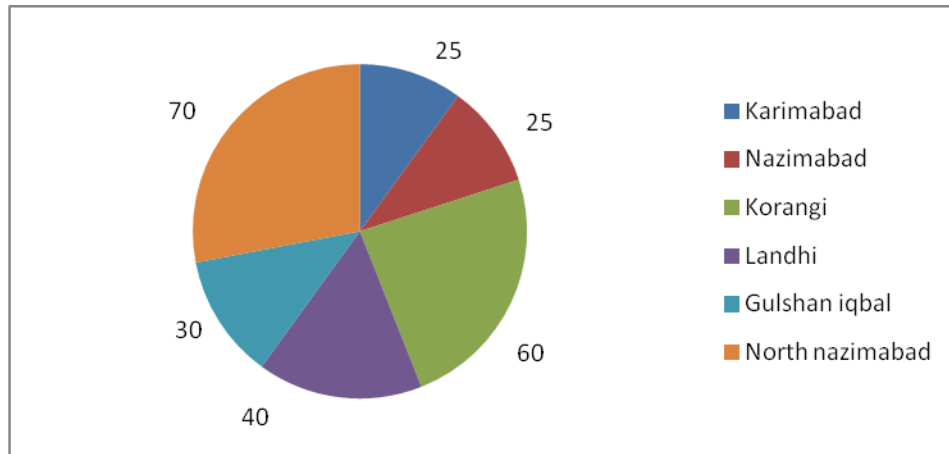
Survey has highlighted the significance of hand washing and also indicated the knowledge and practices among 250 mothers between the age group 22-35 in belong to Karachi, the cosmopolitan city of Pakistan by direct filling of questionnaire and short interviews. The results of the survey indicated that 24% were also not aware that gastroenteritis and diarrheal diseases can be transmitted to their kids due to their improper hand washing practices. Similarly, about 6% were reported of washing hands frequently each day and 72% spend hardly less than a minute in this activity. In addition to this, among interviewed mothers 60% responded washing hands with soap as compared to the 32% and 40% wash with some detergents and plain water respectively. Moreover, 56% mothers were found to have long nails and about 40% of them had dirt in them. In interview, 16% were found only educating their kids about hand washing procedures and 72% of the mothers were in favour of introducing a course of hand hygiene for school going kids.

### Introduction

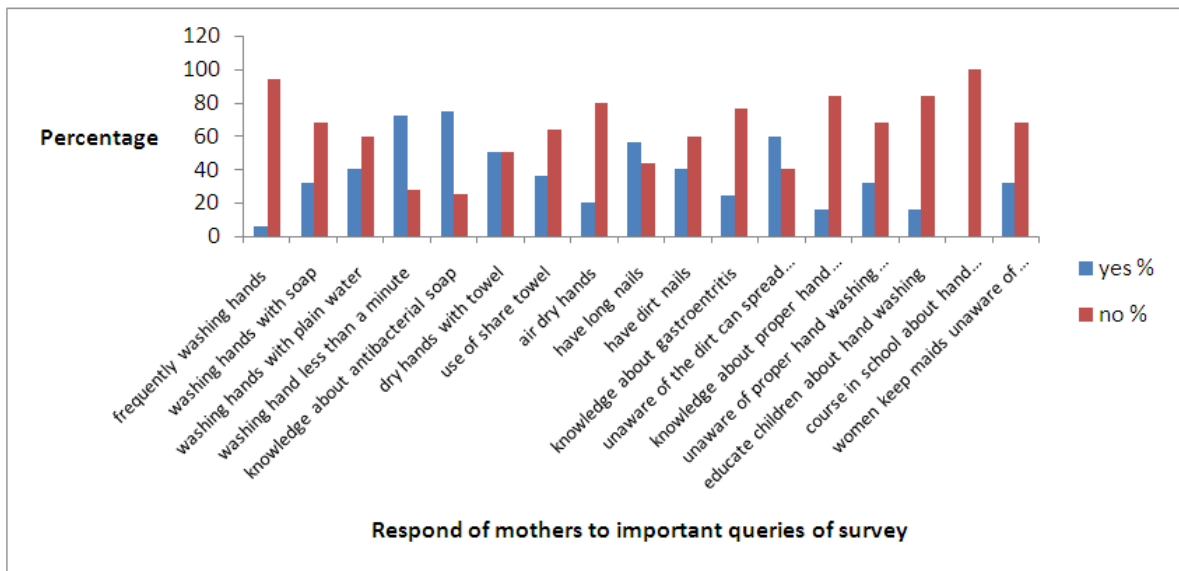
Being Muslims we believe that cleanliness is part of the faith. Also our prophet Mohammad (PBUH) has instructed every Muslim male or female that they must wash their hand frequently every day. Mothers make up an important part of a family. In Pakistani societies they are the one who are responsible for taking care of the family members and especially their children. However while the mother is busy in caring for her family the germs present on her hand spoils her efforts. These germs can find many routes e.g. food, water etc. from mother hand to the body of the family members and children, resulting in dangerous diseases like diarrhea, gastroenteritis etc. However safe hygiene practices can prevent occurring of such diseases (Esrey *et al*, 1985). Hand washing is one such practice that can reduce diseases like diarrhea (Curtis and Cairncross, 2003). It has been found for poor areas of Pakistan that hand washing with soap alone can reduce infection rate with diarrhea by 53% (Luby *et al*, 2004). Hand washing with disinfectant like soap can also result in lowering of respiratory infection; a condition associated with dirty hands (Luby *et al*, 2005), (Rabie and Curtis, 2005). These two conditions; diarrhea and respiratory infections are also the leading cause of children mortality with diarrhea claiming 1.87 million children of age less than five. Also two third of these children are from Africa and Asian regions (Boschi-Pinto *et al*, 2008). The pathogens that are responsible for diarrhea and respiratory diseases, include lamblia, pathogenic *Escherichia coli*, *Cryptosporidium parvum*, *Giardia*, *Shigella*, *Salmonella spp.*, *Streptococcus pneumonia*, *Vibrio cholerae*, *rotavirus*, *norovirus*, and *enteroviruses* ( Pickering *et al*, 2010). Germs from fecal contaminants are transferred mainly through contaminated hands (Curtis *et al*, 2003). When contaminated hands are touched with surfaces, objects or with other persons we can transfer pathogens (Curtis *et al*, 2000 and Curtis, 2003). Hospital workers do spread like Staphylococcal infections while dealing with various infected patients (Clive *et al*, 2008). For developing countries like Pakistan this is a big problem as families have low income but these dangers can be easily overcome by proper hand washing with soap. Soap was found to be an effective way of controlling hand transmitted pathogens (Larsen, 2003 and Luby *et al*, 2004) hence becoming the most effective option for preventing death of children in such families. However despite the presence of such conclusive evidence the hand washing practices still have low rates (typically 2-10%) around the world (Scott *et al*, 2003). The effectiveness of using soap as a disinfectant for hands can be found from other studies on Karachi itself in which it was found that families using soaps for washing hands have 53% in one study and 73% in another study, less chance of having diarrhea to those who doesn't wash hands with soap (Luby *et al*, 2004). This study was conducted to evaluate the mothers hand washing knowledge, attitude and practices. As, mothers are the one, responsible for cooking food and taking care of children, and therefore a much likely candidate for transmitting the pathogens to children and other family members so we focused on them.

**Materials and Methods**

The survey was conducted by designing a questionnaire comprising of a two dozen of queries based upon to evaluate the hand washing practices among mothers targeting the sample size of 250 mothers by random selection in various locations in Karachi Pakistan during a period of a couple of months in September-October , 2011. The study was conducted 6 important and highly populated areas of the Karachi –Pakistan approaching mothers over there in hospitals, in schools and other places. The questionnaire was also designed in Urdu language, a mother tongue in Pakistan for the convenience of some mothers during study who are not well in English.



**Fig. 1. Distribution of responding mothers in terms of number and locations in Karachi, Pakistan**



**Fig. 2. Response of mothers about hand washing practices to some important queries of survey**

## Results and Discussion

Out of the 250 mothers (of which 110 were working mothers) of age 22-35 years, only 6% reported that they wash hands frequently each day. 60% responded that they use soap to wash their hands as compared to the 32% and 40% reply for detergents soap and plain water respectively. Furthermore 72% mother reported that they wash their hands for less than a minute. When asked about the antibacterial soap only 75% had the idea of what it actually was. While answering to questions regarding how you dry your hands after washing them 56% mother reply was in favor of towels but out of this percentage 36% added that the towel they use is shared between members of the family, while as expected only 20% reported to be using air dryers for drying hand after washing. Furthermore about 56% mothers were found to have long nails and about 40% of them had dirt in them. Also round about 60% were unaware that nails could be the source of infections. Rather 32% didn't even know that diseases can spread by improper hand washing plus 24% were also not aware that gastroenteritis in their children can be caused from not washing their hands. It was surprising to know that only 16% of these mothers knew proper hand washing procedures. When inquired about hand washing before or after any activity mother reply to the following questions varied and it was noted that a limited number of them wash their hands. The following table gives information on their answers. Surprising results were found to the question about educating their children about hand washing practices. However, one of the studies conducted in America, In the 2011 survey, 89 % of parents were found to conduct a hand washing talk, compared with 83 percent in 2010 ([www.bradleycorp.com](http://www.bradleycorp.com), 2011). Only 16% mothers reported that they educate their children about the importance of hand washing. However this ratio was much higher (72%) when they were asked should school arrange a course for hand washing. Similarly, in another American studied, reported in news magazine that 89% did hand washing after using the restroom at school and very few reported to wash hands during the school day (Martin, 2011). In our study, those 32% women who keep maids to take care of their children they reported that they don't know whether or not their maid knows proper hand washing procedure.

## Conclusion

The results of the survey that we conducted among mothers to evaluate their knowledge and practices about hand washing are disheartening. We strongly realized this fact that there is a dire need to promote awareness among mothers so that they may protect their kids from catching infections. Germs can be transmitted in many ways, including: touching dirty hands, changing dirty diapers, through contaminated water and food, through droplets released during a cough or a sneeze, via contaminated surfaces and through contact with a sick person's body fluids and droplets. Moreover, good and proper hand washing is the first line of defense against the spread of many illnesses, from the common cold to more serious illnesses such as meningitis, influenza, hepatitis A, and most types of infectious diarrheal diseases. When kids come into contact with germs, they can somehow become infected simply by touching their eyes, nose, or mouth. And once they're infected, it's usually just a matter of time before the whole family comes down with the same illness.

## References

- Boschi-Pinto, C., Velebit, L. and Shibuya, K. (2008). Estimating child mortality due to diarrhoea in developing countries. *Bull World Health Organ* 86: 710-717.
- Clive, B., Simon, B., Shepherd, J. and Kerr, K.G. (2008). Increasing the frequency of hand washing by healthcare workers does not lead to commensurate reductions in staphylococcal infection in a hospital ward: *BMC Infectious Diseases*.
- Curtis, V. and Cairncross, S. (2003). Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *Lancet Infect Dis* 3: 275-281.
- Curtis, V., Biran, A., Deverell, K., Hughes, C., Bellamy, K. and Drasar, B. (2003). Hygiene in the home: relating bugs and behaviour. *Soc Sci Med* 57: 657-672.
- Curtis, V., Cairncross, S. and Yonli, R. (2000). Review: domestic hygiene and diarrhoea- pinpointing the problem. *Trop Med Int Health* 5: 22-32.
- Curtis, V. (2003). Talking dirty: how to save a million lives. *Int J Environ Health Res* 13: 73-79
- Esrey, S.A., Feachem, R.G. and Hughes, J.M. (1985). Interventions for the control of diarrhoeal diseases among young children: *improving water supplies and excreta disposal facilities*. *Bulletin of the World Health Organization* 63: 757-772.

- Larsen, (2003). Hygiene and health in developing countries: defining priorities through cost-benefit assessments. *Int J Environ Health Res* 13: 37-46
- Luby, S., Agboatwalla, M., Feikin, D. (2005) Effect of hand washing on child health: a randomised controlled trial. *The Lancet* 366: 225-233.
- Luby, S., Angboatwalla, M. and Painter, J. (2004). Effect of intensive hand washing promotion on childhood diarrhea in high-risk communities in Pakistan: a randomized controlled trial. *Journal of the American Medical Association* 291: 2547-2554.
- Martin, L.J. (2011). *Web Health News*.  
2011 <http://www.medicinenet.com/script/main/art.asp?articlekey=150469>
- Pickering, J., Alexandria, B., Mwanjali, M. and Davis, J. (2010). Efficacy of Water less Hand Hygiene Compared with Hand washing with Soap: A Field Study in Dar es Salaam, Tanzania, *Am. J. Trop. Med. Hyg.*, 82(2): 270-278.
- Rabie, T. and Curtis, V. (2005). Hand washing and risk of respiratory infections: a quantitative systematic review. *Tropical Medicine and International Health* 11: 269-278.
- Scott, B., Curtis, V. and Rabie, T. (2003). Protecting children from diarrhoea and acute respiratory infections: the role of handwashing promotion in water and sanitation programmes. *WHO Regional Health Forum* 7: 42-47.
- WWW.bradleycorp.com. (2011). Healthy Hand Washing Survey. <http://bradleycorp.com/handwashing/survey.jsp>.