A Community Based Cross Sectional Study on Knowledge, Attitude and Hand Hygiene Practices among Mothers of Under Fives

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Abstract

The study aimed at assessing the Knowledge, Attitude and hand hygiene Practices among mothers of under fives. The study was conducted in a selected community area, Kancheepuram District, Tamil Nadu, India.

A Convenient sampling technique was used to select 109 mothers of under fives. The research tool consisted of a structured interview schedule to assess the demographic profile of the sample, a structured questionnaires to assess the knowledge and practice and a structured opinionnaire to assess the attitude of the hand hygiene.

The study findings revealed that nearly 89% of the mothers of under fives had good knowledge on hand hygiene (>70% knowledge score), while 12% of the mothers had moderate knowledge on hand hygiene (>30%-70%score).

The study also revealed that 100%of the mothers attitude towards hand hygiene was neutral (>30%-70% Attitude score).

The study also revealed that 53% of the mothers had good practice of hand hygiene (>70% practice score), while 47% of the mothers had moderate practice of hand hygiene (>30%-70% practice score).

This study revealed that most of the mothers of under fives had good knowledge on hand hygiene and that they shared a neutral attitude towards hand hygiene, however hand hygiene practices need to be promoted as only 53% of the mothers had good hand hygiene practices .

Keywords: *Knowledge, Attitude, Practice, Hand hygiene, Mothers, Under fives.*

Introduction

Hand hygiene is the leading measure to prevent cross transmission of microorganisms. This concept has been aptly used to improve understanding, training, monitoring and reporting hand hygiene among health care works. Because they spend more time with patients than any other HCWs, their compliance with hand washing guideline seems to be more vital in preventing the disease transmission among patients **D. Pittetetal 2000[1].**

Hand hygiene is the important element of infection control activities. This is because enough scientific evidence supports the observation that if properly implemented, hand hygiene along can significantly reduce the risk of cross transmission of infection in health care facilities (HCFs) **Boyce JM 2002[2].**

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Hygiene behavior influences the transmission of water and sanitation related diseases. Hand hygiene is globally accepted as the single most effective measure to interrupt the chain of transmission Nurul A Mohamed et al 2016[3]**.**

The Global Burden of Disease Study notes unsafe water, sanitation and poor hand hygiene as a major risk factor driving death and disability resulting from these conditions **Institute for Health Metrics and Evaluation 2017[4].**

According to World Health Organization (WHO), hand hygiene refers to any action of hand cleansing, ie, act of cleaning one's hands with or without the use of water or another liquid, or with the use of soap, for the purpose of removing soil, dirt and/or microorganisms Boyce JM et al 2002[5].

Hand hygiene is critical to prevent leading causes of death and diseases in children, particularly diarrhea and acute respiratory infections (ARI) .

Globally, more than 3.5 million children younger than 5 years of age specially in the developing countries die from diarrhoea and acute lower respiratory tract infections Ergin A Matthews Z 2005[6,7]. According to Indian facts and statistics 2016, around 6.3 million children die under age five due to diarrhoea and acute respiratory infection .

A meta-analysis on 30 hand hygiene studies found that improvements in hand washing reduced the incidence of upper respiratory tract infections by 21% and gastrointestinal illnesses by 31% **Dyer DL et al 2000[8].**

Material and Method

Research Approach and Design: A cross sectional community based study with a descriptive design was used in this study.

Research Setting: The study was conducted at Pooncheri, rural community setting, at Kanchipuram District, Tamil Nadu, India.

Population: The population for the study included all the mothers at Pooncheri,rural community setting.

Sample: The sample included the mothers of under fives.

Sample Size Estimation:

Community	No of Streets	Prevalence of mothers of under fives
Pooncheri	5	150

According to open source epidemiologic statistics for public health, Scaeffer Mendenhall W et al 1990[16].

Sample Size for Frequency in a Population:

Population size (for finite population correction factor or fpc (*N*):	150
Hypothesized % frequency of outcome factor in the population (*p*):	50%+/-5
Confidence limits as % of 100(absolute +/-%) (*d*):	5%
Design effect (for cluster surveys-*DEFF*):	1
Sample Size (*n*) estimation at 95% Confidence Level 109	

Sampling Technique: A Convenient sampling technique was used to select the samples.

Sample Criteria:

Inclusion Criteria: Mothers of under fives

Exclusion Criteria: Mothers not willing to participate in the study.

Research Tool:

1. Knowledge Questionnaire on hand hygiene consisted of 15 statements which was assessed as No (1 mark), Not Sure (2 marks) and Yes (3 marks), Maximum score — 45

Categorization of level of knowledge on hand hygiene by percentage:

S.No.	Level of knowledge on hand hygiene	(%)
1.	Poor Knowledge	0-30%
2.	Moderate Knowledge	>30%-70%
3.	Good Knowledge	>70%

2. The opinionnaire on Attitude towards Hand hygiene consisted of 12 statements of which 7 were positive statements and 5 were negative statements which were assessed using a five point likert scale.

The positive statements on Attitude was scored in the forward direction as (Strongly disagree = 1, disagree = 2, Not sure = 3, agree = 4, strongly agree = 5). While the negative statements towards Attitude was scored in the reverse direction as (Strongly disagree = 5, disagree = 4, Not sure = 3, agree = 2, strongly agree = 1).

Maximum score — 60

Categorization of level of Attitude towards Hand hygiene in percentage:

S.No.	Level of Attitude towards hand hygiene	(%)
1.	Negative Attitude	0-30%
2.	Neutral Attitude	>30%-70%
3.	Positive Attitude	>70%

3. The Questionnaire on Hand hygiene practices consisted of 24 statements under three domains (cleansing agents used for hand washing,use of soap as a cleansing agent at critical times,use of only water as a cleansing agent at critical times and reasons for not washing hands).

The Questionnaire on Hand hygiene practices were assessed using a five point likert scale (Never -1, Seldom-2, Sometimes -3, Always -4 and Almost Always-5).

Maximum score — 120

Categorization of level of Hand Hygiene Practices in percentage:

S.No.	Level of practice on hand hygiene	(%)
1.	Poor practice	0-30%
2.	Moderate practice	>30%-70%
3.	Good practice	>70%

Reliability of the research tools: The reliability of the research tools developed were assessed, the Karl Pearson's correlation coefficient "r" was computed and it was found to be above 0.70 for the all the three questionnaires developed for the study namely structured questionnaire on knowledge, structured opinionnaire on attitude and structured questionnaire on practice of hand hygiene respectively. As the research tools were found to be reliable the same were used in the main study .

Findings and Discussions

The Discussion is Presented as Follows:

1. Assess Knowledge on hand hygiene, including importance of hand hygiene, critical times for hand hygiene and appropriate ways to clean hands.

In the study it was observed that 89% of the samples had good knowledge on hand hygiene, while 12% of the samples had Moderate knowledge on hand hygiene and only 0% of the samples had poor knowledge on hand hygiene.

Manandhar P, chandyork 2017[9], in their study found that all the students had knowledge about the hand washing technique before meal and after defecation. Almost all (99.4%) students reported that they wash hand before meal and 92.4% students reported that they practiced hand washing after defecation although students had hand washing knowledge; proper hand washing practices was lagging behind.

2. Assess hand hygiene facilities at the household level.

Hand washing spaces in the household premises: In the study it was observed that in majority of household nearly 71% were in the in/near the kitchen, while 14% were in the in/near the toilet, 12% were in the in/near the front/back yard and remaining of them were in the Other places, specify dining room, garden area.

Water availability at hand washing sites: In the study it was observed that in majority of the household nearly 61% had facilities of running water (pipe/ overhead tank/hand pump), while in 21% of household were not available in close proximity/brought from elsewhere, among 14% of household water was stored in storage container and remaining in remaining 4% of household no water was available.

Hand washing agent available at hand washing sites: In the study it was observed that in majority of household, nearly 74% water and soap was available at hand washing sites, while in 12% of household there was only Water available at hand washing site only, while in 9% of household Hand sanitizer was available, in 4% of household there was Ash available near hand washing site and in 1% of household Other's such as sand, mud,hand washing solution, hand anti-septic solution and glycerin.

3. Assess Attitude towards hand hygiene.

Table 1: Distribution of the Mother's Attitude towards Hand hygiene. N=109

Demographic Characteristic	Category	Frequency	Percentage
Attitude towards hand hygiene	Negative Attitude 0-30%	0	0%
	Neutral Attitude >30-70%	109	100%
	Positive Attitude >70%	0	0%

Table 1 describes that 100% of mothers have neutral attitude towards hand hygiene

4. Explore hand hygiene practices.

Table 2: Distribution of the samples with reference to practice on hand hygiene. N=109

Demographic Characteristics	Category	Frequency	Percentage
Hand hygiene Practices	Poor practice 0-30%	0	0%
	Moderate practice >30%-70%	51	47%
	Good practice >70%	58	53%

Table 2 describes that 53% of the mothers have Good hand hygiene practices, while 47% of the mothers have moderate hand hygiene practices.

5. Correlate the Knowledge with Attitude and Practice of hand hygiene among the mothers.

A positive correlation between mothers knowledge with attitude and practice of hand hygiene was found.

This indicates that the mothers with good knowledge on hand hygiene is more likely to have a neutral attitude towards hand hygiene and also have good practice on hand hygiene.

6. Associate the Knowledge, Attitude and Practice of hand hygiene with selected demographic variables of the mothers.

There was a statistical significant association between level of knowledge, Attitude and practice of hand hygiene among mother's of under fives. Its show that family type had significant association with knowledge levelof hand hygiene at ($P < 8.14$) and exposure to information hand hygiene had a significant association with knowledge on hand hygiene at ($P < 7.532$) .

Conclusion

This study was carried out to assess the level of knowledge, attitude and hand hygiene practices among mothers of under fives. The study findings revealed that nearly 89% of the samples had high knowledge on hand hygiene, 100% of samples had neutral attitude towards hand hygiene and 53% of the samples had Good practice on hand hygiene. There was a positive correlation ($r=0.32$) between knowledge and attitude towards hand hygiene. The Study concluded that mothers of under fives with good knowledge had a neutral attitude towards hand hygiene.

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Conflict of Interest: The Authors declare that there is no conflict of Interest.

Source of Funding: Self.

Ethical Clearance: The Study was done with the approval of the UG committee, Institutional Ethics Committee, HOD of community medicine department CHRI. Informed consent was obtained from the mothers of under fives, who were assured of strict anonymity and confidentiality during this survey.

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