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An Exploratory Study to Assess the Level of Knowledge and Skills Regarding Hand Hygiene among Housewives, in Selected Rural Community of Haridwar, Uttarakhand, India

Arti[1], Megha[2]

[1]Nursing Tutor, Shri Swami Bhumanand College of Nursing, Haridwar, Uttarakhand, India
Corresponding Author Email: *negi4482[at]gmail.com*

[2]Nursing Tutor, Shri Swami Bhumanand College of Nursing, Haridwar, Uttarakhand, India

Abstract: ***Introduction: Hand hygiene plays an important role in preventing spread of disease and illnesses. Hands were the most exposed part of the body. Handling objects, Food preparation, cleaning objects, Touching pet animals, Shaking of hands and petting are some of the activities in which hands are used, these activities results in contamination of hands. Poor hand hygiene practices of housewives leads to major threat to the health of children and other family members. Method: An exploratory study was conducted among the housewives of Bahadarpur Jatt, Haridwar. A self structured knowledge questionnaire and skill checklist was used to collect data from subjects regarding hand hygiene. Result: A total of 100 housewives were participated in this study. According to the findings of the study, Majority 48% had average knowledge regarding hand hygiene. Housewives who wash their hands with soap and water after defecation (100%), before cooking food (89%), before eating food (94%), after touching animals (81%), after blowing nose (99%), after touching dustbin (95%), before serving food (77%), during/ after travelling (66%), after brooming (84%) and after dusting/moping (100%). Conclusion: The study shows that there is high percentage of housewives who practiced hand hygiene with soap and water after the critical moment of hand hygiene. The findings indicate that there is need of health education program targeting the housewives for encouraging them and their sustainable hand hygiene practice is recommended.***

Keywords: Assess, hand hygiene, Housewives, Level of Knowledge, skills.

1. Introduction

Hand hygiene is as old as a man; it is not a recent practice. Hand washing practices were used by Jews before eating. We can clean our hands with the help of soap and water by rubbing them thoroughly and rinsing under running water. Removal of microorganisms is the important principle of hand washing.[1]

Handling objects, Food preparation, cleaning objects, Touching pet animals, Shaking of hands and petting are some of the activities in which hands are used, these activities results in contamination of hands. Transmission of germs occurs by eating and preparing food with contaminated hands, which causes ill health.[2]

Hand washing with soap and water is more preferable than hand washing with water only because application of water alone is not capable to remove fat, oil and protein which are component of organic soil. Therefore it is necessary for removal of dirt and microorganisms from skin to apply additional soap. Warm water is more effective than cold water.[3]

Many people in low income communities use ash and soil rather than soap for washing their hands. These agents are more effective than washing hands with water alone and less effective than washing hands with soap and water. WHO recommended ash or sand as a alternative to soap when soap is not available. Ash is more effective than soil because of its alkaline property.[4]

Diarrheal diseases and pneumonia are the top two killer diseases of young children due to which about 1.8 million children under the age of 5 die each year around the world.1 out of every 3 children who get sick by diarrhea and respiratory infections such as pneumonia could be protected by following hand washing.[5,6]

Inadequate hand hygiene amounts 2,90,000 deaths. Most of the studies confirmed that the diarrheal infections, ARI, eyes, skin and helminthes infections in children can be reduced by following hand washing with soap at critical moments.[7] The spread of microorganisms occurs through contact (direct or indirect), air, food, vectors. Interrupting the chain of transmission should be the preventive strategies, for which hand hygiene is the only cheapest and most effective measure.[8]

Microorganisms can be suspended by washing hands properly, and infectious diseases can be reduced by following proper hand washing technique.[9] Global hand hygiene council conducted a study in 2012 and reveals result that there is poor level of hand hygiene among Indians. Only 42% Indian said that hand hygiene is necessary and effective way to prevent flu and viral infections. 29% do not wash their hands after coughing and sneezing, and 70% not wash for the recommended duration (at least 20 second). [10]

The studies show that microorganisms can survive on hands for up to 3 hours. A sneeze releases up to 1,00,000 bacteria into the environment. The fingertips and elbow contains 2 to 10 millions of bacteria and almost 80% of disease causing

bacterias were transmitted by hands. Hands spread 1000 times more germs when they are wet. Out of one in five people do not wash their hand and those that do, only 30% used soap.[11]

Appropriate hand hygiene also includes cleaning and trimming of fingernails. Longer nails may harbor more dirt and germs than short nails, thus potentially contribute in the spread of infection. Fingernails should be kept short and undersides should be cleaned with soap and water frequently. Finger nails should be cut at least once in a week.[12]

Previous studies shows that washing the hands from soap and water can reduce the diarrheal infections by 47% and respiratory tract infections by 23%, hence practicing hand washing may be more effective than a single vaccine in preventing the transmission of pathogens. Parents who wash their hands more frequently with soap and water have less chance to transmit diarrheal pathogens to their children.[13]

Unfortunately, even in present time the knowledge and practices of hand washing is poor. UNICEF states that the hand washing rates are low all over the world. The observed rates of hand washing at critical moments such as, before handling food and after using toilet range from 0% to 34%.[14]

Center of Disease control created guidelines for critical moment of hand hygiene. Some critical moments for hand hygiene include before, during and after cooking food, before eating food, after using toilet, after blowing nose, sneezing and coughing, after touching animals, animal feeding or disposing animal or human waste, before and after treating wound and sick person.[12]

In order to promote the Hand hygiene **UNICEF** declared 15 October as **Global Hand washing day** since 2008. It is a campaign to motivate and mobilize people all over the world to improve their hand washing practices. The main aims of this campaign are to: Foster and support a general culture of hand washing with soap in all societies.[15]

Objectives of the Study

1) To assess the level of knowledge regarding hand hygiene among housewives.
2) To assess the skills regarding hand hygiene among housewives.

2. Materials and Methods

Research Approach: In this study the researcher used the Quantitative research approach.

Research Design: Research design planned to use for this study was Exploratory Research Design.

Population: In this study population was the housewives who falls between the age group of 22-50 years in Bahadarpur Jatt, Haridwar.

Setting and Sample Size: Present study was conduct on 100 housewives from Bahadarpur Jatt, Haridwar.

Sampling Technique: In present study Snowball Sampling technique was used.

Criteria for Selection of Samples

Inclusion Criteria:

- Housewives who falls between age group of 22-50 years.
- Those who were present at the time of data collection.

Exclusion Criteria:

- Housewives who does not falls between the age group of 22-50 years.
- Housewives who were not interested to participate.

Instrument/ tools:-

In the present study following tools were used-

- Demographic profile
- Knowledge Questionnaire
- Skill Checklist

Description and development of tools

Tool No. 1: Demographic profile

The Demographic Profile was included in the items depending upon the background information of the Housewives. It included Age, religion, education, type of family, no. of children in family, previous knowledge regarding Hand hygiene and source of knowledge. This tool had factual information so it does not containing scoring.

Tool No. 2: knowledge questionnaire

Based on related literature, opinion of validators and investigators own knowledge, questionnaire was developed to assess the subject's knowledge regarding Hand hygiene. The sum of 15items regarding knowledge was given to assess the knowledge.

Scoring of tool

In the questionnaire each question had two responses from dichotomous options, where subjects were asked to select the most appropriate answer. The correct response was given score of one and incorrect response was given a score of zero. Knowledge score was arbitrarily classified as good level of knowledge ranges from [13-15], average level of knowledge range from [9-12], poor level of knowledge range from [5-8]

Tool No. 3- Skill Checklist

Structured skill checklist was developed to determine the skills of Housewives of Hand hygiene. The tool was developed on the related review of literature, opinion of validators and investigators own experiences.

Scoring of tool

The checklist consists of 10 skills. Each skill contains two options- Yes and No. Positive answer were scored '1' marks, and negative answer scored '0' marks.

Content validity

The prepared tools along with problem statement, objectives and criteria checklist were given to three Nursing experts to ensure content validity.

Tools

Demographic profile and other two tools, knowledge and skill checklist was given to three validators from different fields. The 100% agreement was achieved for the tool by the

validators. Knowledge Questionnaire has 15 items. Skill checklist has 10 items.

Data collection
Test was conducted by using Knowledge Questionnaire and Skill Checklist.

Procedure for data collection
The data was collected after taking Administrative permission from Principal, Ethical committee of College of Nursing, Ranipur Jhal, Haridwar and Head of the Village.

Plan for data analysis
The analysis of data was calculated on the basis of objectives. Demographic data was described in the terms of frequency and percentage.

3. Result

Section 1

Table 1: Frequency distribution of Demographic Profile

S. No.	Demographic variable		Frequency (n)	Percentage (%)
1.	Age	22-36years	71	71%
		37-50years	29	29%
2.	Education	Informal education	05	05%
		Secondary	75	75%
		Graduation	13	13%
		Post Graduation	07	07%
3.	Type of family	Nuclear	43	43%
		Joint	57	57%
4.	No. of children	1-3	74	74%
		4-6	26	26%
5.	Previous knowledge regarding hand hygiene	Yes	100	100%
6.	Source of information regarding hand hygiene.	Family	82	82%
		Television	08	08%
		School	10	10%

Data presented in table: 1, depict the frequency distribution of demographic profile.

Most (71%) subjects were between the age group of 22-36 years and (29%) were between the age group of 37-50 years.

Most (75%) had secondary education, (13%) subjects were graduate, (07%) were post graduate and remaining (05%) had informal education.

Most (47%) of subjects are from Joint family and (43%) are from nuclear family. Most 74% of subjects have 1-3 children and 26% have 4-6 children.

Maximum (100%) subjects had previous knowledge regarding hand hygiene. Source of information among (82%) subject was family, (10%) school and (8%) television.

Section B

Distribution of level of knowledge of Housewives regarding Hand hygiene

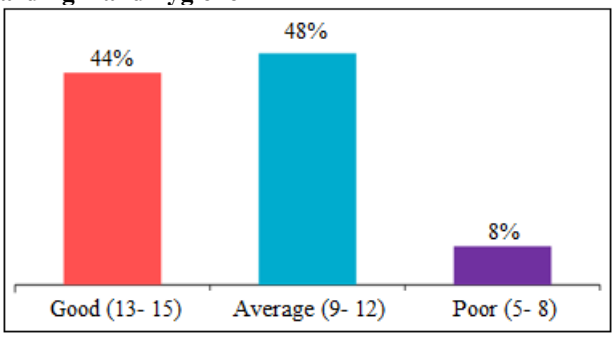

Figure 1: Bar graph showing percentage wise Distribution of subjects according to level of knowledge regarding hand hygiene

Data presented in fig. 4.1; depicts the category scoring of knowledge the majority of housewives 48% had average level of knowledge, 44% housewives showed good level of knowledge, and only 8% housewives had poor level of knowledge regarding hand hygiene.

Section 3

Table 2: Skill Item analysis

S. No	Skill	Yes	No
1	Wash hands after using toilet.	100%	0%
2	Wash hands before cooking food.	89%	11%
3	Wash hands before eating food.	94%	6%
4	Wash hands after touching animals.	81%	19%
5	Wash hands after blowing nose.	99%	1%
6	Wash hands after touching dustbin.	95%	5%
7	Wash hands before serving food.	77%	23%
8	Wash hands during/ after travelling.	66%	34%
9	Wash hands after brooming.	84%	16%
10	Wash hands after dusting /moping	100%	0%

Data presented in table no. 2 depicts the percentage of skill items. Majority 100% of housewives agreed that they wash their hands after using toilets, 89% before cooking food, 94% before eating food, 81% after touching animals, 99% after blowing nose, 95% after touching dustbin, 77% before serving food, 66% during/ after travelling, 84% after brooming and 100% after dusting/moping.

While 11% of women do not wash their hands before cooking food, 6% before eating food, 19% after touching animals, 1% after blowing nose, 05% after touching dustbin, 23% before serving food, 34% during/ after travelling and 16% after brooming,

4. Conclusion

The study shows that there is high percentage of housewives who practiced hand hygiene with soap and water after the critical moment of hand hygiene. The findings indicate that there is need of health education program targeting the housewives for encouraging them and their sustainable hand hygiene practice is recommended

Conflict of Interest

The authors have no conflicts of interest regarding this investigation.

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