Int. j. adv. multidisc. res. stud. 2025; 5(6):775-781

Received: 01-10-2025
Accepted: 10-11-2025

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

A Quasi Experimental Study to Assess the Effectiveness of Self-Instructional Module on Knowledge Regarding Hand Hygiene During COVID-19 Pandemic among People Residing in Selected Area of Selected City

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Abstract
"A quasi experimental study to assess the effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city"

Objectives of Study
- To assess the pre-test knowledge score regarding hand hygiene during COVID - 19 pandemic among people residing in selected area of selected city.
- To assess the post-test knowledge score regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.
- To find the effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.
- To find out the association between the pre-test knowledge score with their selected demographic variables.

Hypothesis
- **H1**- There is a significant difference between the pre-test and post-test knowledge score regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.
- **H2-** There is a significant association between the pretest knowledge score with their selected demographic variables.

Assumptions
- People will have some knowledge regarding hand hygiene during COVID-19 pandemic.
- Self-instructional module will improve the knowledge regarding hand hygiene among people.
- Self-instructional module will improve attitudes regarding hand hygiene among people.
- Self-instructional module will improve the practices by health education regarding hand hygiene among people.

Keywords: COVID-19, Hygiene, India

Introduction
This chapter deals with the description of research methodology adopted by the investigator. Methodology is a systematic way to solve research problems. It helps the researcher to project a blue print of the research undertaken. Research methodology involves the systematic procedure by the researcher, which starts from initial identification of the problem to its final conclusion. The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation. The study conducted was quasi experimental study to assess the effectiveness of self- instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.

The steps undertaken for gathering and organizing the data collected were; research approach, research design, setting, population, sample and sampling techniques, criteria for selection of samples, development and description of tools, pilot study, data collection and plan for data analysis.

Research Approach
The nature of the problem selected and objectives to be accomplished an experimental approach was considered appropriate for the present study.

Research Design
Research design incorporates the most important methodology decisions that a researcher makes in conducting a research study. It depicts the overall plan for organization of scientific investigation. Pre- experimental one group pre-test and post-test design was selected in order to evaluate the effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.

Group	Pre-test	Intervention	Post test
Experimental group	O_1	X	O_2

Fig 2: Schematic representation of research design

Key:
O1- Pre-test: for assessing the knowledge, structured knowledge questionnaire was used.
X- Structured teaching programme of self-instructional module on knowledge regarding hand hygiene.
O2- Post-test: for assessing knowledge structured knowledge questionnaire was used.

Sampling Technique
Sampling is a process of selecting representative units of a population for the study in a research. It is the process of selecting a subset of a population. In order to obtain information regarding a phenomenon in a way that represented entire population. The sampling technique used in this study was a probability simple random sampling. This entails the use of the most readily available person in this study, until the desired sample is reached. Peoples who met the criteria for sample selection was selected for the study.

Sample Size
The sample size for the present study was 60.

Presentation of Data
Section A: In this section the description of socio demographic variables of the subject was drawn and its percentage analysis is shown.
Section B: To assess pre-test knowledge score regarding hand hygiene during COVID -19 pandemic among people.
Section C: To assess post-test knowledge score regarding hand hygiene during COVID -19 pandemic among people.
Section D: To find the effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people.
Section E: To find out the association between the pre-test knowledge score with their selected demographic variables.

Section A: Description of Socio Demographic Variables.

Table 2: Distribution of Socio-demographic characteristics among people N=60

Demographic Variables	Category	Number of Subjects	Percentage
Age	15 to 30 Years	24	40
	31 to 45 Years	14	23
	46 Yrs and Above	22	37
Gender	Male	36	60
	Female	24	40
Domicile	Rural	42	70
	Urban	18	30
Educational Status	Non Formal Education	8	13
	Primary Education	16	27
	Secondary Education	8	13
	Higher Secondary Education	22	37
	Degree	6	10
Income of Family per Month	Less than Rs.6000/-	16	27
	Rs.6001 To Rs.10000/-	14	23
	Rs.10000 To Rs.15000/-	12	20
	Above Rs.15000/-	18	30
Type of Family	Nuclear	6	10
	Joint	14	23
	Extended	40	67
Occupation	Professional	38	63
	Govt Employee	16	27
	Skilled Worker	4	7
	Unskilled Worker	2	3
Previous Source of Knowledge on Hand Hygiene	Health Person	4	7
	Friend/Relative	20	33
	Mass Media	14	23
	No Information	22	37

Table 2 depicts socio demographic variables of the parents of middle school children's with respect to age 24 (40%) were of age group of 15 to 30 years, 14 (23%) were of age 31 to 45 years and 22(37%) were of age group 45 years and above, 36 (60%) were male and 24 (40%) were females, with respect to domicile 42 (70%) were from rural, 8 (13%) were from urban area, 18 (30%) educational status was non-formal education, 16 (27%) had primary education, 8 (13%) had secondary education, 22 (37%) had higher secondary education 6 (10%) had degree education, with respect to income of family 16 (27%) had income less than Rs.6000/-, 14 (23%) had income Rs. 6001 to Rs.10000/-, 12 (20%) had income Rs. 10000 to Rs.15000/- 18 (30%) had income above Rs. 15000/-,With respect to type of family 6(10%) were from nuclear, 14(23%) were from joint family, 40 (67%) were from extended family, with respect to Occupation 38 (63%) were professional, 16 (27%) were

government employee, 4 (7%) were skilled worker and 2 (3%) were unskilled workers, regarding source of information about Hand Hygiene 4 (7%) were from health personnel, 20 (33%) were from friend or relative, 14 (23%) were from mass media and 22 (37%) had no information.

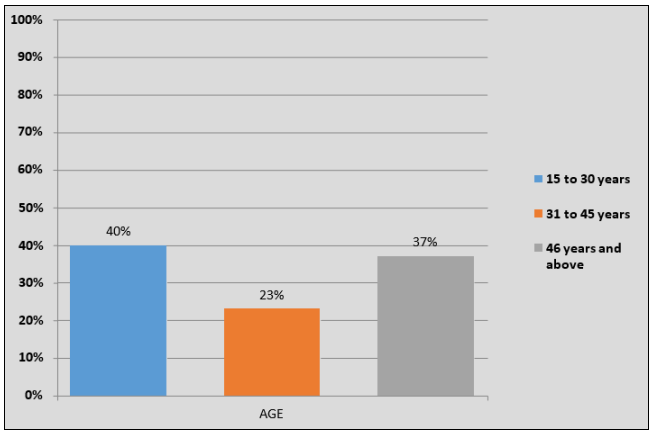

Fig 3: Distribution of People According Age

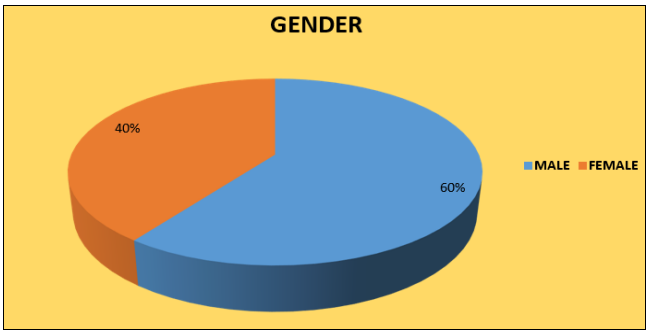

Fig 4: Distribution of People According to Gender

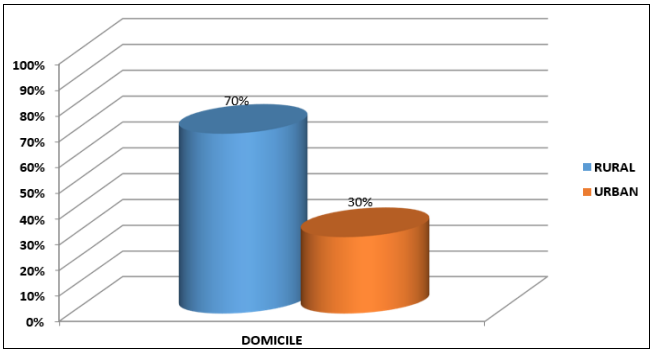

Fig 5: Distribution of People According to Domicile

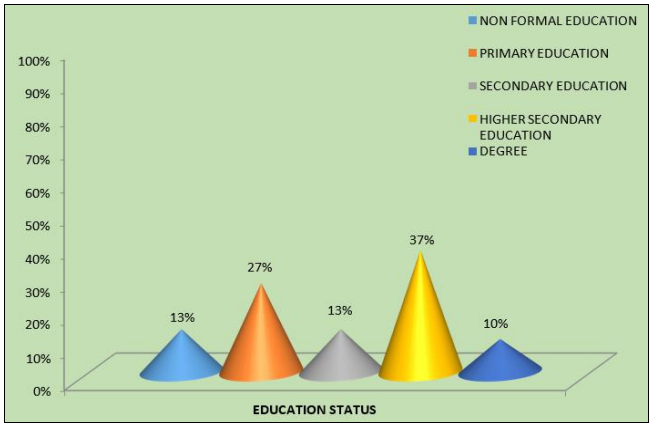

Fig 6: Distribution of People According to Educational Status

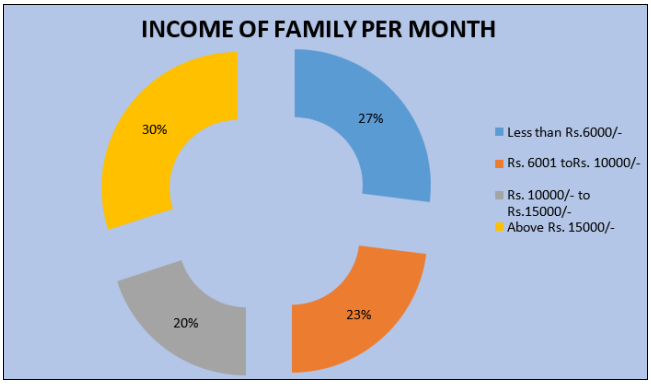

Fig 7: Distribution of People According to Income of Family Per Month

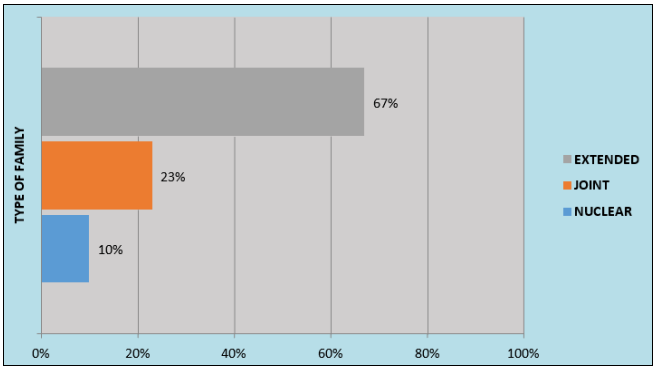

Fig 8: Distribution of People According to Type of Family

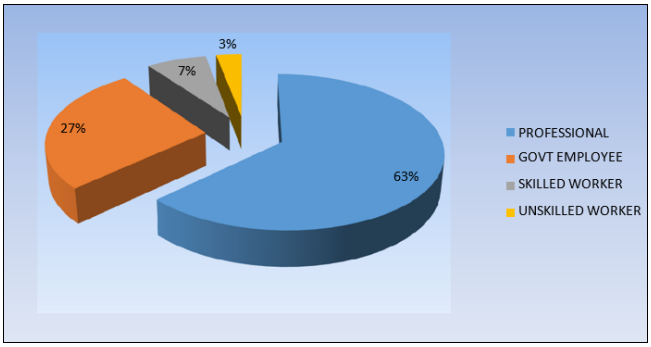

Fig 9: Distribution of People According to Occupation

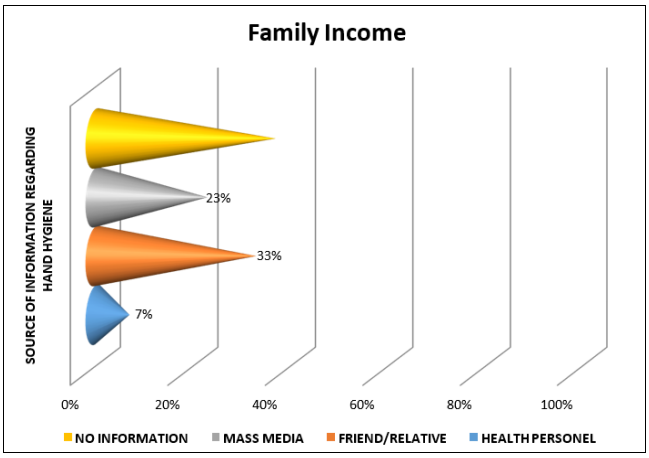

Fig 10: Distribution of Parents According to Previous Source of Information Regarding Hand Hygiene

Section B: To Assess Pre-Test Knowledge Score Regarding Hand Hygiene During COVID-19 Pandemic among People.

Table 3: Pre-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People N=60

Level of Knowledge	Pretest	
	Frequency	Percentage
Poor	38	63
Average	12	20
Good	10	17

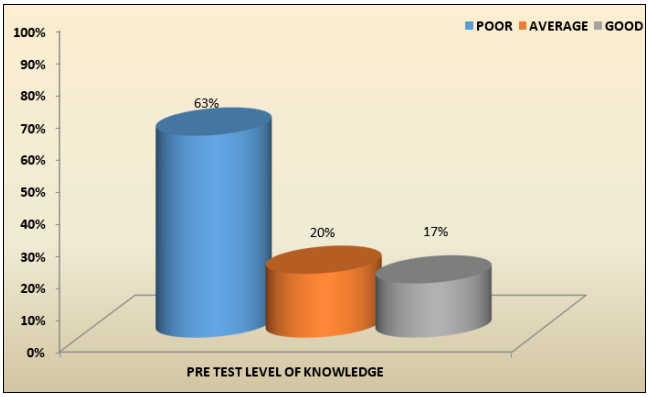

Fig 11: Pre-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People

Section C: To Assess Post-Test Knowledge Score Regarding Hand Hygiene During Covid -19 Pandemic among People

Table 4: Post-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People N=60

Level of Knowledge	Pretest	
	Frequency	Percentage
Poor	2	3
Average	12	20
Good	46	77

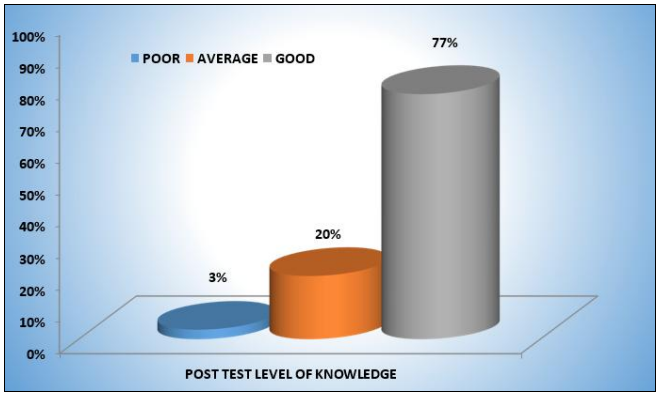

Fig 12: Post-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People

Table 5: Comparison between Pre Test and Post-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People N=60

Level of Knowledge	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
Poor	38	63	2	3
Average	12	20	12	20
Good	10	17	46	77

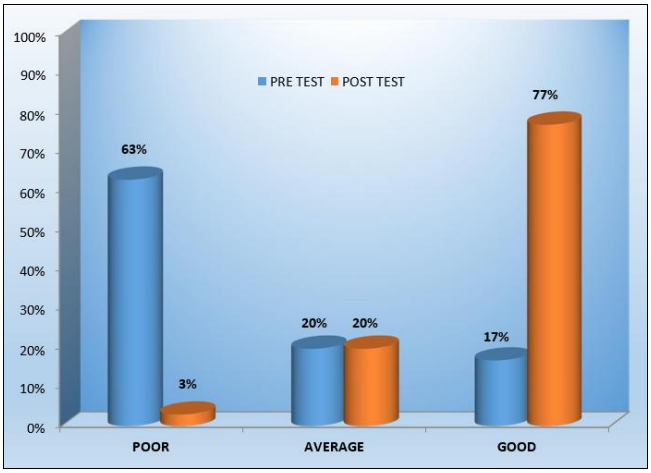

Fig 13: Comparison between Pre Test and Post-Test Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People

Section D: To Find the Effectiveness of Self-Instructional Module on Knowledge Regarding Hand Hygiene During COVID-19 Pandemic among People

Table 6: Comparison between Pre Test and Post-Test Mean Score value of Knowledge Regarding Hand Hygiene During Covid -19 Pandemic Among People N=60

Level of Knowledge	Pre Test			Post Test		
	Mean	SD	Mean%	Mean	SD	Mean%
Regarding Hand Hygiene	10	3.68	6.66%	19.92	3.77	39.84%

Section E: To Find Out the Association between the Pre-Test Knowledge Score with their Selected Demographic Variables

Table 7: Association Between The Pre-Test Knowledge Scores and Selected Demographic Variables N=60

Demographic Variables	Category	df	Chi Square	Level of Significance
Age	15 to 30 Years	2	0.59	NS
	31 to 45 Years			
	46 Years and Above			
Gender	Male	1	0.23	NS
	Female			
Domicile	Rural	1	0.59	NS
	Urban			
Educational Status	Non Formal Education	4	2.19	NS
	Primary Education			
	Secondary Education			
	Higher Secondary Education			
	Degree			
Income of Family Per month	Less than Rs.6000/-	3	1.92	NS
	Rs.6001 To Rs.10000/-			
	Rs.10000 To Rs.15000/-			
	Above Rs.15000/-			
Type of Family	Joint	2	0.59	NS
	Nuclear			
	Extended			
Occupation	Professional	3	0.62	NS
	Govt Employee			
	Skilled Worker			
	Unskilled Worker			
Previous Source of	Health Person	3	1.152	NS
	Friend/Relative			

Information about Hand Hygiene	Mass Media			
	No Information			

S- Significant at level of 0.05
NS: Not significant

It is evident from the Table 7 that with the pre-test level of knowledge is not significantly associating, which indicates that there is no association between the pre- test knowledge score and the demographic variables **Hence H2 Was Rejected**.

Findings, Discussion, Conclusion, Implications and Recommendations

Introduction

The present study was conducted to assess effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city. In order to achieve the objectives of the study, one group pre-test and post-test design with evaluative approach was adopted. Simple random sampling technique was used to select the sample. The data was collected from 60 samples by using knowledge questionnaire before and after the administration of the SIM. The findings of the study had been discussed with reference to the objectives and hypothesis.

Major Findings of the Study

Distribution of frequency and percentage of demographic variables

Socio demographic variables of the parents of middle school children's with respect to age 24 (40%) were of age group of 15 to 30 years, 14 (23%) were of age 31 to 45 years and 22(37%) were of age group 45 years and above, 36 (60%) were male and 24 (40%) were females, with respect to domicile 42 (70%) were from rural, 8 (13%) were from urban area, 18 (30%) educational status was non- formal education, 16 (27%) had primary education, 8 (13%) had secondary education, 22 (37%) had higher secondary education 6 (10%) had degree education, with respect to income of family 16 (27%) had income less than Rs.6000/-, 14 (23%) had income Rs. 6001 to Rs.10000/-, 12 (20%) had income Rs. 10000 to Rs.15000/- 18 (30%) had income above Rs. 15000/-, With respect to type of family 6(10%) were from nuclear, 14(23%) were from joint family, 40 (67%) were from extended family, with respect to Occupation 38 (63%) were professional, 16 (27%) were government employee, 4 (7%) were skilled worker and 2 (3%) were unskilled workers, regarding source of information about Hand Hygiene 4 (7%) were from health personnel, 20 (33%) were from friend or relative, 14 (23%) were from mass media and 22 (37%) had no information.

First objective was to assess the pre-test knowledge score regarding hand hygiene during COVID -19 pandemic among people residing in selected area of selected city.

Table 3 shows that pre-test knowledge scores in which 38 (63%) poor knowledge, 12 (20%) have average knowledge and 10 (17%) had good knowledge.

Second objective was to assess the post-test knowledge score regarding hand hygiene during COVID - 19 pandemic among people residing in selected area of selected city.

Table 4 shows that post-test knowledge scores in which 2 (3%) poor knowledge, 12 (20%) have average knowledge and 46 (77%) had good knowledge.

Third objective was to find the effectiveness of self-instructional module on knowledge regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city.

Hypothesis: H1- There is a significant difference between the pre-test and post-test knowledge score regarding hand hygiene during COVID-19 pandemic among people residing in selected area of selected city

Table 6 shows comparison between pre-test and post-test mean score value of knowledge regarding Hand Hygiene in which mean value in pre-test was 10, standard deviation was 3.68 and mean percentage was 6.66%, mean value in post-test was 19.92, standard deviation was 3.77 and mean percentage was 39.84 %.**. Therefore H1 is accepted.**

One of the study supporting the above finding is given below.

Robert hunge (2016), Conducted a quantitative cross sectional study to assess knowledge and practice of hand washing among school children and to provide a teaching session and demonstration on effective hand washing technique at primary school from Canakkale The 180 children studying in grade IV, V and VI were selected by using a random sampling technique. A self - administered questionnaire and checklist was used to collect data. The results shows that mean knowledge score of hand washing was 53.86 which increased to 77.54 after structured teaching programme, which was statistically significant at paired 't' 5.17, df six. The mean practice score of hand washing was 41.43 which increased to 60.87 after demonstration intervention. The increase in correct practice was statistically significant at paired 't' 7.52, df eight.

Third objective was to determine the association between the knowledge pre-test scores with selected socio-demographic variables

H2- There is a significant association between the pretest knowledge score with their selected demographic variables

With the post test level of knowledge is not significantly associating, which indicates that there is no association between the post test knowledge score and the demographic variables. **Therefore H2 is rejected**. From this inference it was noticed that this study need further investigations.

Nursing Implications

The findings of the study have implications in the field of Nursing Practices, Nursing Education, Nursing Administration and Nursing Research.

Nursing Education

The following implication for nursing education had drawn by the investigator. Nursing educator can encourage the student's nurses to organize hand washing programme. The faculty members in nursing education can motivate the people to arrange health programs for community regarding the hand washing techniques in attractive way, to make them to practice it. Nursing curriculum should prepare

nurses to motivate the teachers to improve the student's knowledge and practice regarding hand washing.

Nursing Administration

Nurse administrators should motivate the subordinates to participate in various programs and improve their knowledge and skills, with regard to hand washing practices. Nurse administrators can organize seminars on prevention of infection and importance of hand washing among people in community. Nurse administrators can motivate the nurses to organize health camps and quiz program to the motivate hand washing practices. Nurse administrators can create awareness among community people regarding the consequences of poor hand washing. Nurse administrators can encourage the nurses to conduct the health awareness programs and regular health visits to the community to insist on hand washing practice and its advantages.

Nursing Research

Extensive research can be conducted to find out the health problems that occurs due to poor hand washing and can be incorporated in the nursing education and practice. The impact of hand washing on cross infection should be subjected to research and findings can be communicated and utilized in the practice. The impact of hand washing practice mainly COVID-19 and other respiratory infection can also be studied to improve the quality of life among Community people.

Nursing Practice

The Community health nurses should take an initiate and imparting knowledge and practice community periodical health education program community settings. The community health nurses have major role in creating awareness of healthy hand washing practice to reduce the mortality and morbidity among people.

Recommendation

Based on the research findings the recommendations are as follows: A similar study can be conducted to assess the knowledge and regarding hand washing practice. A study can be conducted among different age group. A comparative study can be conducted among the rural and urban area.

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