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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED INFORMATION MODULE ON KNOWLEDGE AND PRACTICES REGARDING INFECTION CONTROL AMONG MOTHERS OF CHILDREN UNDER ONE YEAR OF AGE IN SELECTED COMMUNITY AREA AT MYSORE.

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ABSTRACT

Background

Mother is the highest level of worker, not in terms of training or qualification, but in experience, love and special knowledge of her own children. She provides the permanent presence and also brings her child life. Mother is the most influential person in a child's life. She fosters the child's physical, intellectual, emotional, and spiritual development. Mother's play a key role in the home-based management of a child with any disease. Hence to fulfill her role she needs a proper awareness about the health matters which is an essential component to facilitate optimum health this study was conducted to assess the effectiveness of structured information module on knowledge and practices regarding infection control among mothers of children under one year of age in selected community area at Mysore.

Methods: Pre experimental one group pre test - post test design was used to assess the effectiveness of structured information module on knowledge and practice regarding infection control among mothers of children under one Year of age in selected community area at Mysore. In view of the nature of the problem and to accomplish the objectives of the study, a structured questionnaire to assess the knowledge and checklist to assess the practice regarding the Infection control among mothers of children under one year of age was prepared and used. Reliability (0.84 for knowledge and 0.92 for practice) of the tool was tested and validity was ensured in consultation with guides and experts in the field of statistics, pediatrician and

nursing. The study was carried out in varuna community area at, Mysore, through Non probability convenience sampling technique, 60 mothers of children under one year of age were selected. Structured knowledge Questionnaire and checklist was administered to collect the needed data. Data was analyzed by using descriptive and inferential statistics. **Result:** With regard to the assessment, the mean pretest score for knowledge was 7.76with the SD of 3.55 and for practice the score was 4.33 with the SD of 1.113. The correlation between knowledge and practice scores was 0.53 and 't' for correlation was 4.99 ($p<0.05$). This indicated that there was a positive correlation between knowledge and practice it was found to be statistically significant at 5% level. There was no association between pre test knowledge and practice score with selected demographic variables of mothers of children under one year of age. **Interpretation & conclusion:** The knowledge and practice regarding infection control were analyzed through Karl Pearson's correlation coefficient. The correlation of the mother's knowledge and practice with regard to infection control was found out as correlated ($r = 0.53$) and 't' for correlation was 4.99 ($p<0.05$). Hence there was positive correlation between knowledge and practice and it was found to be statistically significant at 5% level. Hence research hypothesis H1, H2 and H3 was accepted.

Key words: Knowledge; Practice; Infection control; Structured Information Module.

I. INTRODUCTION:

Infection Control is a multi-disciplinary responsibility. Each employee plays a part by breaking the chain of infection by the prevention, monitoring, assessment and treatment of diseases and infections. This is achieved by an active Infection Control Education Programme, regular surveillance, evaluation of departmental techniques, policies and protocols - with regular revision to ensure up to date techniques and practice1.Infection control practices in home care has been challenging since guidelines, standards and most references have been developed for the acute care setting, Such practices include hand washing, home infusion therapy, respiratory care, wound care, urinary tract care, and isolation precautions. Assessment of the home care environment, cleaning and reprocessing of equipment, surveillance, implications for occupational health, and program design are also needed.1

STATEMENT OF THE PROBLEM

"A Study To Assess The Effectiveness Of Structured Information Module On Knowledge And Practices Regarding Infection Control Among Mothers Of Children Under One Year Of Age In Selected Community Area At Mysore."

II.OBJECTIVE AND NEED FOR STUDY:

Objectives

1. To assess the pre test level of knowledge regarding infection control among mothers of children under one year of age.
2. To assess the pre test level of practice regarding infection control among mothers of children under one year of age.

3. To evaluate the effectiveness of structured information module on infection control in term of post test score.
4. To find out the correlation between the knowledge and practices pertaining to infection control among mothers of children under one year of age.
5. To find association between selected demographic variables of mothers of children under one year of age with knowledge on control of infection.
6. To find association between selected demographic variables of mothers of children under one year of age with practices on control of infection.

The need for the study arises from the critical situation due to constant changes in our lifestyles and environments, new diseases are constantly appearing that people are susceptible to, making protection from the threat of infectious disease urgent. Infections are the leading cause of morbidity and mortality in house, responsible for nearly 400,000 deaths per year. Although this has been the focus of mainstream media attention, very little empirical research has been conducted on the subjects4.Worldwide, RV has been estimated to account for almost 40% of all cases of sever infant diarrhea, which translates into 527,000 deaths each year [475 000 - 580000], mostly in children under age 2 Mortality still is the greatest in south and south - eastern Asia and sub Saharan Africa, with almost 100,000 deaths each year in India alone and more than 200 000 in African countries2.

HYPOTHESES

- H1: There will be a significant relationship between pre and post test score on the knowledge regarding infection control among mothers of children under one year of age.
- H2: There will be a significant relationship between pre and post test score on the practice regarding infection control among mothers of children under one year of age
- H3: There will be a significant correlation between the knowledge and practices among mothers of children under one year of age.
- H4: There will be a significant association between knowledge on infection control with their demographic variables of mothers of children under one year of age.
- H5: There will be a significant association between the practices pertaining to infection control with the demographic variables of mothers of children under one year of age.

III. METHODOLOGY

Research approach: An quantitative approach purpose was used for this study.

Research design: The research design used in this study was pre experimental one group pre test and post test design.

Setting of the study: Study was conducted in Varuna village, at Mysore. Researcher selected community area for research study. The setting was chosen on the basis of feasibility in terms of availability of the subjects who were willing to participate in the study.

Population: In this study the population comprised of mothers of children under one year of age.

Sampling Technique: In this study the non probability convenient sampling technique was used to select samples.

Sample Size: In this study the sample size was 60 mothers of children under one year of age in selected Varuna village in Mysore.

The tool consisted of three sections

Section – A

It comprised of 7 items seeking information on demographic data such as age of the mother in years, religion, educational status ,occupation, income of the family / per month (in rupees) , type of family , source of information are the demographic variables.

Section – B Structured knowledge questionnaire

Structured knowledge questionnaire for assessment of knowledge of mothers of children under one year of age regarding infection control . It consisted of 30 items, having objective type multiple choice questions that helped in assessing their knowledge.

Section –C Checklist

Checklist for assessment of practice of mothers of children under one year of age regarding infection control . It consisted of 10 items, and each item would be rated on observing the mothers of children under one year of age practice by using 2 parameters namely, yes or no.

RESULTS

The data themselves do not provide us with answer to our research questions. In order to meaningfully answer the research questions, the data must be presented and analyzed in systematic order, so that relationship can be described. Statistical analysis is a method of rendering quantitative information and elicits meaningful and intelligible form of research data. Analysis is the process of organizing and synthesizing data so as to answer the research questions and test hypotheses.

This section presents the analysis and interpretation of data collected from 60 mothers of children under one year of age Varuna at Mysore, to assess the effectiveness of structured information module on knowledge and practice regarding infection control.

A Pre experimental one group pretest – post test design with evaluative approach was used in the present study. The data collection was based on the objectives of the study and organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics and described with help of tables and graphs.

The data presented under the following sections

The analysis of the data are organized and presented under the following headings. **Section- A:** Frequency and percentage distribution of samples based on demographic variables regarding infection control among mothers of children under one year of age **Section- B:** Frequency and percentage distribution of pre and post test score of participants based on knowledge regarding infection control among mothers of children under one year of age.

Section- C: Frequency and percentage distribution of pre and post test score of participants based on practice regarding infection control among mothers of children under one year of age.

Section-D: Effectiveness of structured information module regarding infection control

Section- E: Correlation between the knowledge score and practice score.

Section- F:

i. Association between pre test knowledge score and selected demographic variables.

ii. Association between pre t est practice score and selected demographic variables.

Section- A: Frequency and percentage distribution of samples based on demographic variables regarding infection control among mothers of children under one year of age

N=60

SL No	Demographic variables	Variables	No of subjects	Percentage
1	Age in years	18-21 years	22	37%
		22-25years	23	38%
		26 and above	15	25%
2	Religion	Hindu	36	60%
		Muslim	20	33%
		Christian	04	07%
3	Education	Primary	22	36%
		High school	19	32%
		Graduate	19	32%
4	Occupation	Private employee	18	30%
		Laborer	23	38%
		Housewife	19	32%
5	Income of the family / Per month (in rupees)	Rs. 6001-10000	20	33%
		Rs. 10001-15000	22	37%
		More than Rs. 15000	18	30%
6	Type of family	Nuclear	44	73%
		Joint	16	27%
7	Source of information	Yes	22	37%
		No	38	63%

Table – 2. Revealed that 22 (37%) participants were in the age group of 18-21 years, 23 (38%) participants were in the age group of 22-25 years, and 15 (25%) participants were in the age group of 26 and above years.

Distributions of samples based on religion showed that 36 (60%) participants were Hindu, 20 (34%) participants were Muslim, 4 (7%) participants were Christian.

Distribution of samples based on education showed that 22 (36%) participants had primary, 19 (32%) participants had high school and 19 (32%) participants had graduate level education.

Distribution of samples based on occupation shows that 18 (30%) participants were private, 23 (38%) participants were laborer and 19 (32%) participants were housewife.

Distribution of samples based on family income showed that 20 (33%) participants had Rs 6001 – 10000, 22 (37%) participants had Rs 10001 – 15000, 18 (30%) participants had more than 15000 family income.

Distribution of samples based on type of family showed that 44 (73%) participants belongs to nuclear family, and 16 (27%) participants were belongs to joint family.

Distribution of samples based on source of information showed that 22 (37%) participants were having previous knowledge and 38 (63%) participants were not having previous knowledge regarding infection control.

Fig:3. Frequency distribution of age of mothers of children under one year of age

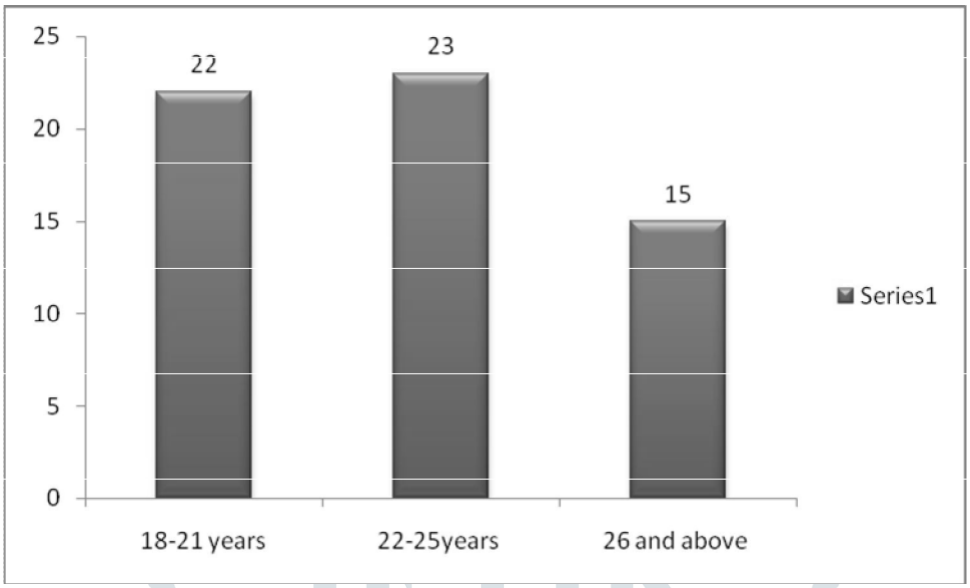


Fig:4. Frequency distribution of religion of mothers of children under one year of age

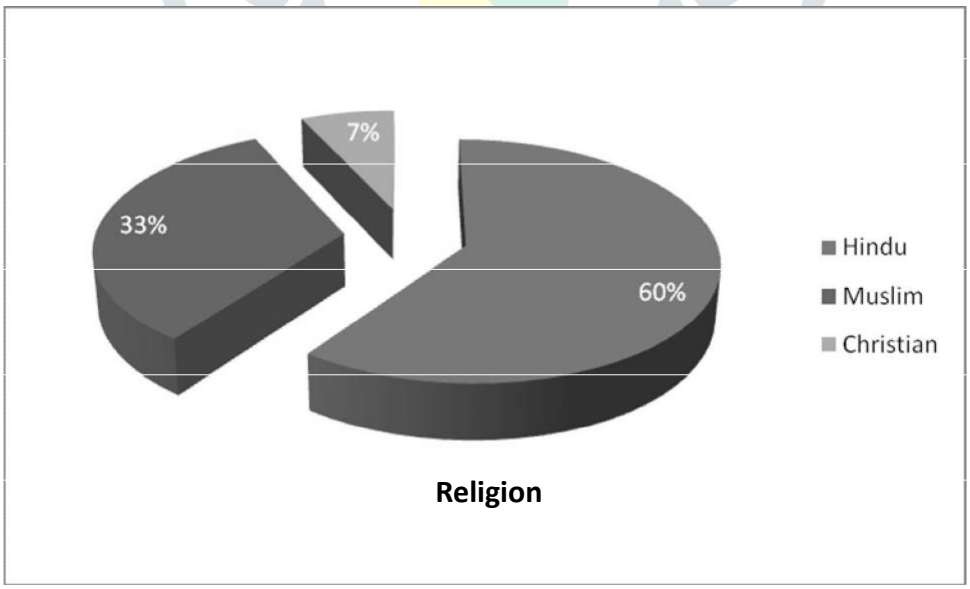


Fig:5. Frequency distribution of education of mothers of children under one year of age

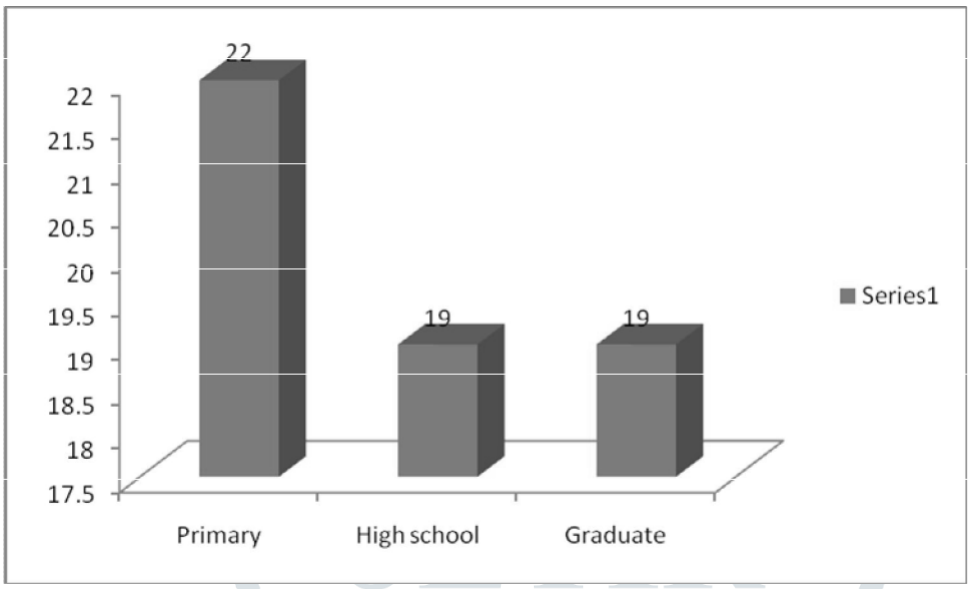


Fig: 6 .Frequency distribution of occupation of mothers of children under one year of age

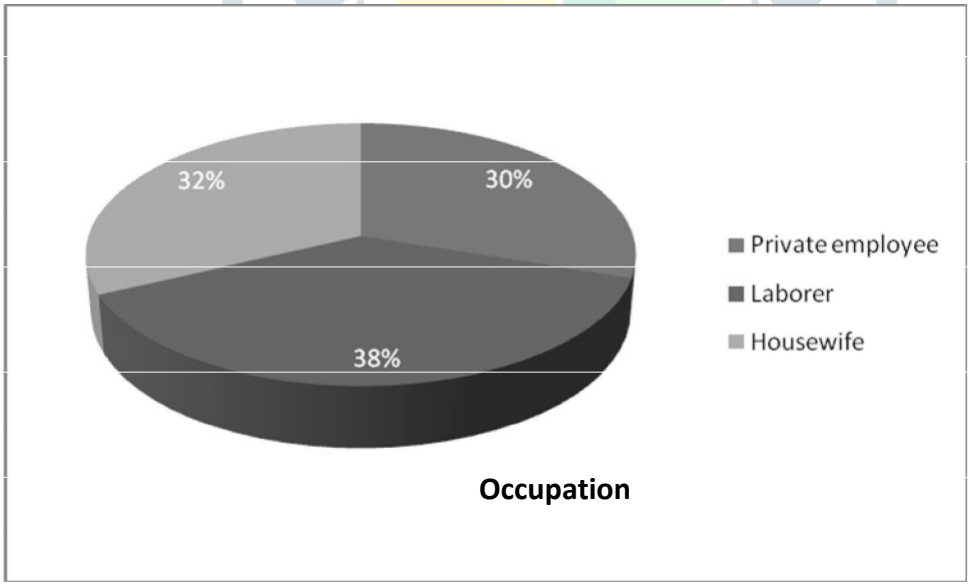


Fig: 7. Frequency distribution of income of family of mothers of children under one year of age

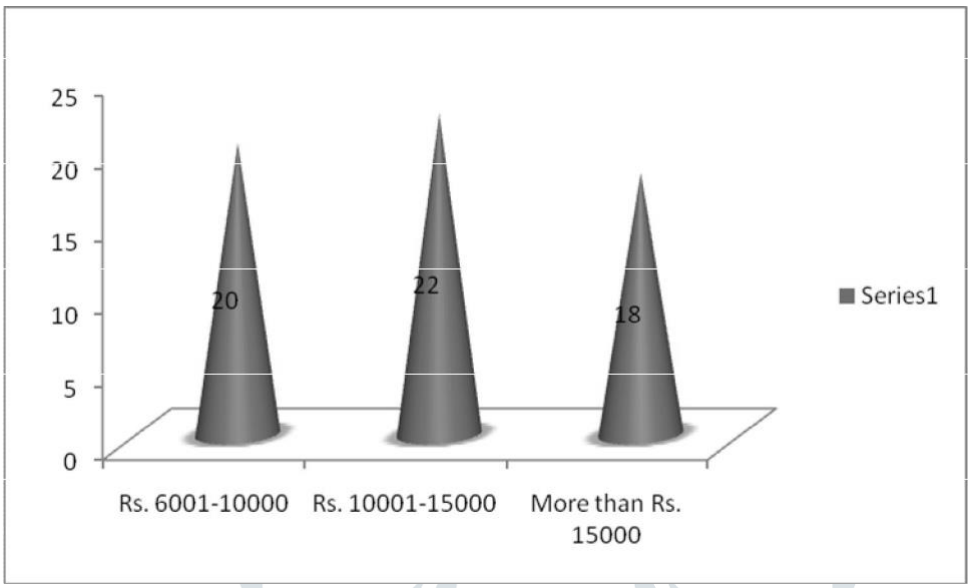


Fig: 8. Frequency distribution of type of family of mothers of children under one year of age

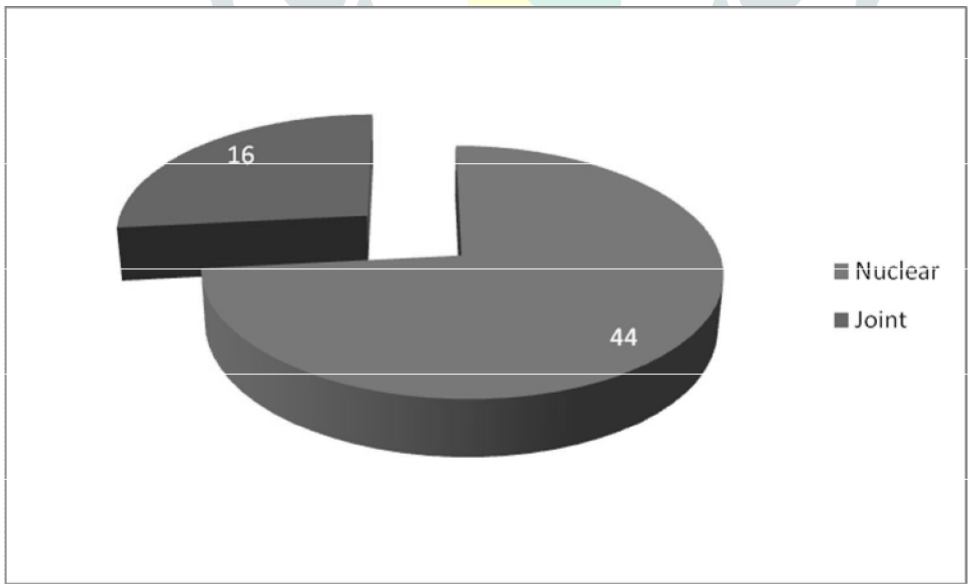
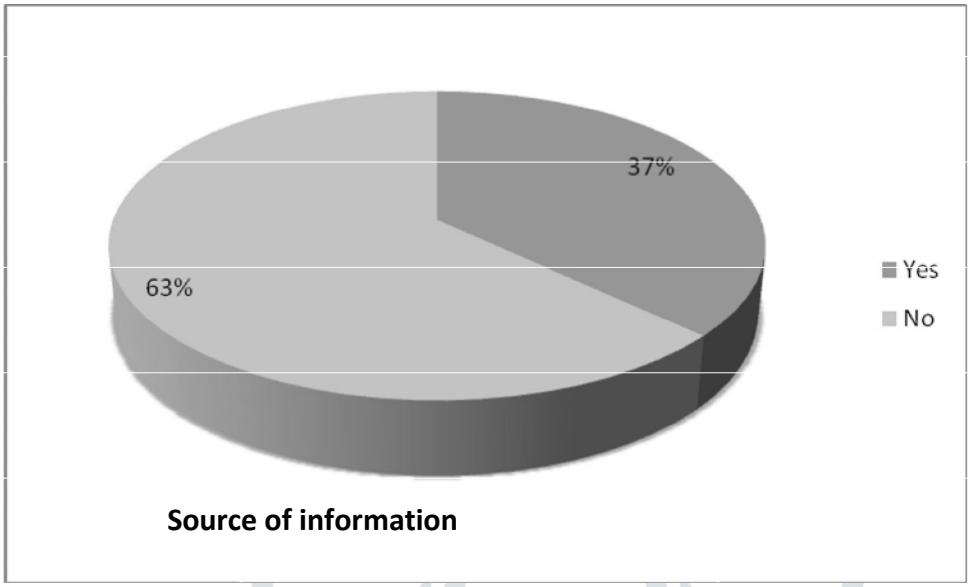
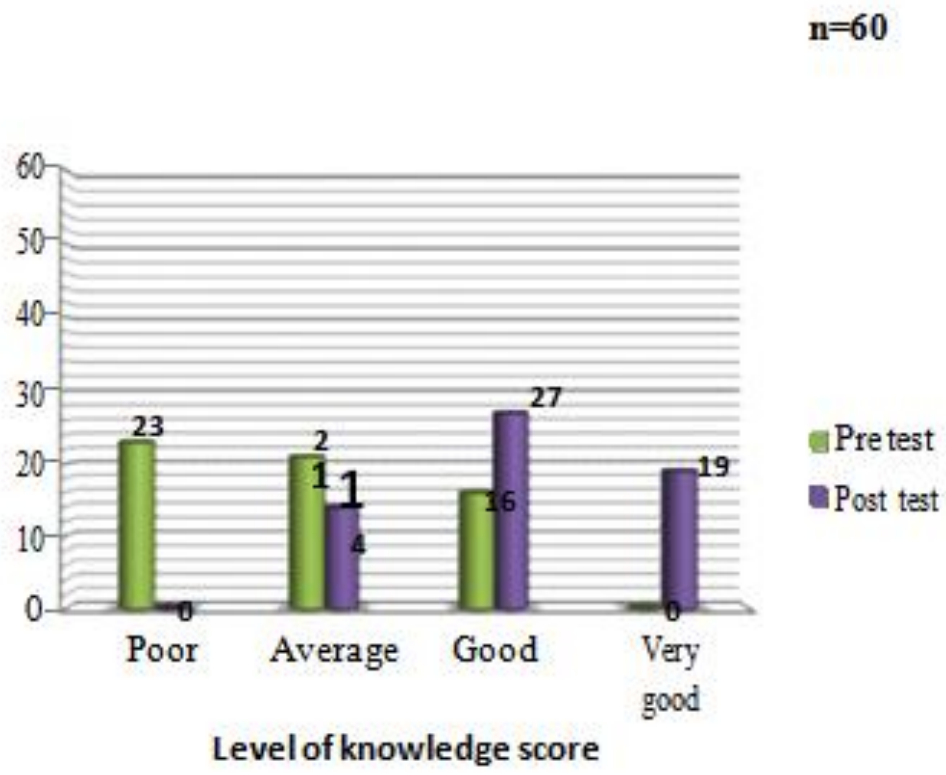


Fig: 9. Frequency distribution of source of information of mothers of child under one year of age



Section- B: Knowledge level of participants on Infection control Knowledge Score



good

Fig: 10 Frequency distribution of samples according to pretest and post test level knowledge score regarding infection control among mothers of children under one year of age

Data from the above figure depicts that in pretest 23 (38 %) subjects had poor knowledge, 21(35%) subjects had average 16(27%) subjects had good knowledge and no one had very good knowledge regarding infection control. In post test 14(23%) subjects had average knowledge, 27(45%) subjects had good knowledge and 19(32%) subjects had very good knowledge regarding infection control.

Table 3: Frequency distribution of samples according to pretest and post test level knowledge score regarding infection control among mothers of children under one year of age

	Pre test		Post test	
Level of knowledge	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Poor	**23**	**38%**	**0**	**0%**
Average	**21**	**35%**	**14**	**23%**
Good	**16**	**27%**	**27**	**45%**
Very Good	**0**	**0%**	**19**	**32%**

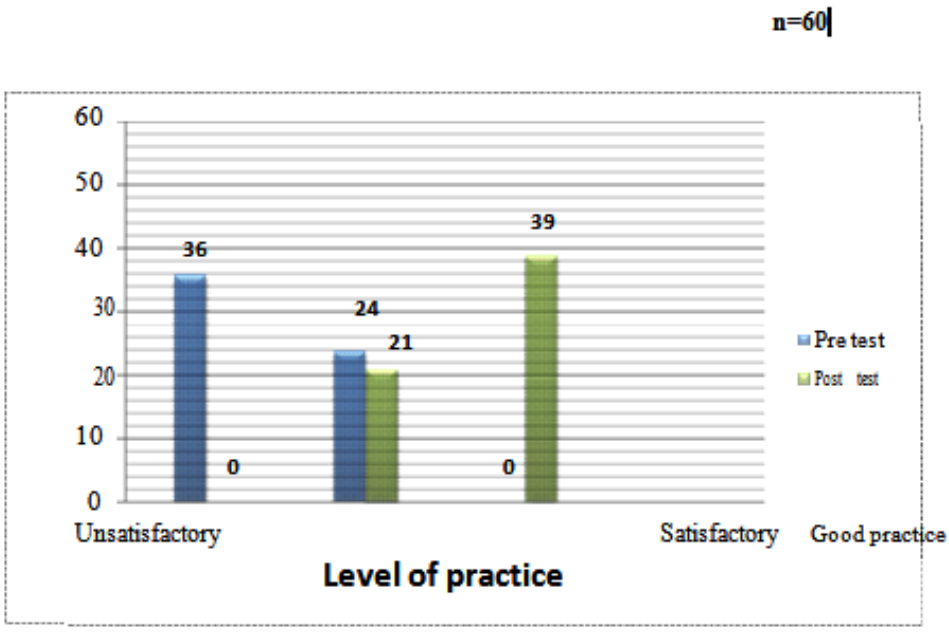


Fig: 11 Frequency distribution of samples according to pretest and post test level practice score regarding infection control among mothers of children under one year of age

Data from the above figure depicts that in pretest that 36 (60%) participants exhibited unsatisfactory practice, 24 (40%) participants exhibited satisfactory practice and no one exhibited good practice. In post test 21 (35%) participants exhibited satisfactory practice and 39 (65%) participants exhibited good practice

Table 4: Frequency distribution of samples according to pretest and post test level practice score regarding infection control among mothers of children under one year of age

	Pre test		Post test	
Level of practice	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Unsatisfactory	**36**	**60%**	**0**	**0%**
Satisfactory	**24**	**40%**	**21**	**35%**
Good practice	**0**	**0%**	**39**	**65%**

Section – D:

Effectiveness of structured information module regarding

infection control among mothers of children under one year of age.

Table 5: Effectiveness of structured information module regarding infection control among mothers of children under one year of age

		Mean	Mean difference	SD	df	Paired 't' value	Table value
Knowledge	Pre test	11.75	7.76	5.59	59	16.95	1.96
	Post test	19.51		4.72			
Practice	Pre test	3.23	4.33	0.95	59	30.11	1.96
	Post test	7.56		1.41			

Significance at 5% level

The paired't' value was computed to determine the effectiveness of structured instruction module among mothers of children under one year of age regarding infection control**.** The following research hypothesis was stated.

H_1: There will be a significant relationship between pre and post test score on the knowledge regarding infection control among mothers of children under one year of age.

H_2: There will be a significant relationship between pre and post test score on the practice regarding infection control among mothers of children under one year of age

Table 5 illustrated that the mean post-test knowledge score (19.51) was greater than the mean pre-test score (11.75). The mean difference between pre-test and past test score was (7.76).Paired t test knowledge score is 16.95 *p<0.05 is significant at 0.05 level.

The mean post-test practice score (7.56) was greater than the mean pre-test score (3.23). The mean difference between pre-test and past test score was (4.33). Paired t test knowledge score is 30.11 *p<0.05 is significant at 0.05 level. Hence research hypothesis H_1 and H_2 was accepted. This indicates that the SIM was effective in increasing the knowledge and practice of mothers of children under one year of age regarding infection control.

Section E:

Correlation between knowledge score and practice score regarding infection control among mothers of children under one year of age

This section deals with the analysis and interpretation of the data of the knowledge and practice assessment of the mothers of children under one year of age. The knowledge and practice scores were tested for correlation. The knowledge and practice scores were tabulated in master sheet. The data were presented in tables and diagrams.

H_3: There will be a significant correlation between the knowledge and practices among mothers of children under one year of age.

Table 6: Correlation between knowledge score and practice score regarding infection control among mothers of children under one year of age

Assessment	Mean	SD	Correlation	"t" for correlation
Knowledge	7.76	3.55	0.53	4.99 *
Practice	4.33	1.113		

Table 6 reveals that the correlation between knowledge and practice regarding infection control among the mothers of children under one year of age was 0.53 and "t" value was 4.99* ($p<0.05$). It indicated that the knowledge and practice scores were positively correlated and it was found to be statistically significant at 5% level. Hence the research hypothesis **H_3 was accepted**

Section F (i)

Table-7: Association between pretest knowledge score and selected demographic variables regarding infection control among mothers of children under one year of age

SL No	Demographic variables	Variables	< Median	> Median	Df	Table value	χ^2
1	Age in years	18-21 years	10	12	2	5.99	0.574 N S
		22-25years	13	10			
		26 and above	8	7			
2	Religion	Hindu	19	17	1	3.84	0.040 N S
		Muslim	10	10			
3	Education	Primary	12	10	2	5.99	0.708 N S
		High school	10	9			
		Graduate	8	11			
4	Occupation	Private employee	11	7	2	5.99	0.389 N S
		Laborer	12	11			
		Housewife	10	9			
5	Income of the family / Per month (in rupees)	Rs. 6001-10000	11	9	2	5.99	0.538 N S
		Rs. 10001-15000	12	10			
		More than Rs. 15000	8	10			
6	Type of family	Nuclear	24	20	1	3.84	0.548 N S
		Joint	7	9			
7	Source of information	Yes	13	9	1	3.84	0.767 N S
		No	18	20			

NS: Not significant *: Significant

Table-7 findings revealed that the chi-square value was not significant at 5% level of significance. Hence the research hypothesis H_4 was rejected. It indicated that there was no association between pretest knowledge score and selected demographic variables of mothers of children under one year of age.

Section F (ii)

Table-8: Association between Practice score and selected demographic variables regarding infection control among mothers of children under one year of age

SL No	Demographic variables	Variables	< Median	> Median	Df	Table value	χ^2
1	Age in years	18-21 years	13	9	2	5.99	0.015 N S
		22-25years	14	9			
		26 and above	9	6			
2	Religion	Hindu	20	16	1	3.84	1.125 N S
		Muslim	14	6			
3	Education	Primary	14	8	2	5.99	0.630 N S
		High school	10	9			
		Graduate	12	7			
4	Occupation	Private employee	11	7	2	5.99	0.204 N S
		Laborer	13	10			
		Housewife	12	7			
5	Income of the family / Per month (in rupees)	Rs. 6001-10000	13	7	2	5.99	0.490 N S
		Rs. 10001-15000	12	10			
		More than Rs. 15000	11	7			
6	Type of family	Nuclear	27	17	1	3.84	0.128 N S
		Joint	9	7			
7	Source of information	Yes	14	8	1	3.84	0.191 N S
		No	22	16			

NS: Not significant *: Significant

Table-8 findings reveal that the chi-square value was not significant at 5% level of significance. Hence the research hypothesis H_5 was rejected. It indicated that there was no association between pretest practice score and selected demographic variables of mothers of children under one year of age

7. CONCLUSION

The present study was conducted to assess the effectiveness of structured information module on knowledge and practice regarding infection control among mothers of children under one year of age. The following conclusions were made on the basis of the findings of the study. It also brought out the limitations of the study in picture.

The knowledge and practice mothers of children under one year of age regarding infection control was inadequate when assessed in pre test, whereas the knowledge and practice level showed a significant increase during post test.

Structured information module regarding infection control was effective. The analysis of mean and SD of the knowledge scores in pre test and post test revealed that the mean pre test knowledge score was 11.75 whereas post test knowledge score was 19.51. The analysis of mean and SD of the practice score in pre test and post test revealed that the mean pre test practice score was 3.23 whereas post test practice score was 7.56. The paired ‘ t’ value indicated that the knowledge & practice showed a significant increase during post test which indicated that SIM was effective.

This study showed the knowledge and practice scores were positively correlated and it was found to be statistically significant at 5% level

This study showed that there was no significant association between the selected demographic variables like age, religion, education, occupation, income of family type of family and source of information with knowledge & practice on infection control.

Therefore the knowledge & practice of the mothers could be further improved by providing on-going educational programmes.

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