

Research Article

A Study to Assess the Effectiveness of Self- Instructional Module on Knowledge Regarding Expression and Storage of Breast Milk Among Mothers of Preterm Babies in Sri Sai Hospital Dharmapuri

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Abstract

A Study to assess the Effectiveness of Self-Instructional Module on Knowledge Regarding Expression and Storage of Breast milk among Mothers of preterm Babies in Sri Sai Hospital, Dharmapuri. Evaluative research design was adopted for this study. The sample size was 30 mothers of preterm selected in Sri Sai Hospital, Dharmapuri district, and purposive sampling technique was used to collect the data to select study sample. the data was collected with the help of knowledge questionnaire on Expression and Storage of Breast milk, Pre-test was conducted followed by the self-instructional module was given regarding Expression and Storage of Breast milk was administered to the group's samples consist of 4-5 mothers of preterm for the period of 25 to 30 minutes includes feedback, doubts clarification. Evaluation of teaching was done by conducting post-test. Post-test assessment was done for the same mothers during the next visit on seventh day of intervention by using the same tool of Scale. The data collected, analyzed and interpreted on the basis of objectives by using descriptive and inferential statistics.

Introduction

The well-being of the society is directly linked to health and survival of mothers and children. Children are foundation of our nation and parents shape their destiny by nurturing them with love, concern, attention, education and optimal nutrition. Lactation is the characteristic in almost all the mammals and it is essential to stimulate the production and flow of milk.

Nutrition is one of the basic needs of living organisms, be they are born or even while they are in their mother's womb. By nature, the fetus gets its nutritional requirements from his/her mother from her womb and after birth from mother's breast milk. Breast milk contains an ideal balance of nutrients for the complete growth of body and brain; more than a food it is a multipurpose medicine, rich in anti-infective factors which protect the baby.

Breast milk is a dream product to feed and immunize every human born on earth. No manufactured food can match with the content of breast milk and there is no such entity as breast milk substitute. Thus, it is a best gift a mother can give her baby. Breast milk is perfect food for neonate. Only breast milk offers complete nutrition, early protection against illness and safe healthy food at once.

Statement of the problem

A Study to assess the Effectiveness of Self-Instructional Module on Knowledge Regarding Expression and Storage of Breast milk among Mothers of preterm Babies in Sri Sai Hospital, Dharmapuri.

Objectives of the study

1. To assess the level of knowledge regarding Expression and Storage of Breast milk among Mothers of preterm Babies.
2. To evaluate the effectiveness on Knowledge Regarding Expression and Storage of Breast milk among Mothers of preterm Babies.
3. To find out the association between Knowledge on Expression and Storage of Breast milk and selected demographic variables of Mothers of preterm Babies.

Operational definition

Effectiveness

Effectiveness means result, outcome or change produced by an action. In this study, it refers to the outcome of Self-Instructional Module by creating awareness on knowledge regarding Expression and Storage of Breast milk among Mothers of preterm Babies.

Self-Instructional Module

It refers to a systematically organized study material in Tamil and English Language by the researcher to provide information regarding expression and storage of breast milk which includes purposes, types and methods, storage time, sterilizations methods related of breast milk expression & its storage.

Knowledge

It refers to the correct responses of Mothers of preterm Babies on a structured interview schedule regarding Expression and storage of breast milk as evidenced from knowledge scores.

Expression and storage of breast milk

It refers to the expression of the breast milk by means of manual massage or breast pump and storage of breast milk at room temperature.

Mother of preterm Babies

It refers to the woman who experiences the birth of her baby before 37 weeks of pregnancy.

- **H1:** There will be a significant difference between level of knowledge regarding Self Instructional Module.
- **H2:** There will be a significant association between knowledge regarding Expression and Storage of Breast milk among Mothers of preterm Babies with their selected demographic variables among Mothers of pre-term babies.

Methodology

Methodology of research refers to investigation to obtain, organize and analyze data. Methodological studies address the development, validation and evaluation of research tool (or) methods.

This Article deals with the description of methodology and different steps, which were adopted for gathering and organizing data for the investigation, achievement of the aims and objectives of the present study.

Methodology for the present study deals with research approach, Research design, Variables under the study, Study setting, population, Sample and Sampling technique, Sample size, Selection and Development of the tool, Development of information educational technology, Validity of the tool, Reliability of the tool, Pilot study, Data collection procedure and Plan for data analysis.

Research approach

The research approach used for this study was quantitative evaluative approach.

Research design

It states that research design is the overall plan for collecting and analyzing data, including specifications for enhancing the internal and external validity of the study. The Research design adopted for this study is Pre-experimental one group Pre-test Post- test design, to measure the effectiveness of Self-Instructional Module On Knowledge Regarding Expressed And Storage Of Breast milk Among Mothers of preterm Babies.

Variables under study

The present study was aimed at unraveling and understanding the effectiveness of intervention or treatment.

Independent variables

- Independent variable is a stimulus or activity that is
- Manipulated or varied by the researcher to create an effect on dependent variable.
- The independent variable is also called a treatment or experimental variable.

- In the present study the independent variable was Self Instructional Module on Knowledge Regarding Expressed and Storage of Breast milk.

Dependent variables

- Dependent variable is the outcome or response due to the effect of the independent variable, which researcher wants to predict or explain.
- In the present study the dependent variable was Knowledge Regarding Expressed and Storage of Breast milk.

Study setting

- Study setting is the physical location and condition in which data collection takes place in the study.
- Selection of the area for the study is one of the essential steps in the research process. The selection of settings for the present study was on the basis of availability of the subjects, feasibility of conducting the study, economy of time and energy. The study was conducted in, Sri Sai Hospital, Dharmapuri district, Tamil Nadu. This area is situated approximately 02 kms away from the college, and has adequate inpatient with Pre-Term Babies census. The majority of the population is Hindu.
- Study setting is the physical location and condition in which data collection takes place in the study.

Population

- A population is a group whose members possess specific attributes that a researcher is interested to study.
- The population for the present study was Mothers of preterm Babies.

Target population

- Target population is the entire population in which the researcher is interested and would like to generalize the results of the study.
- The target population for the study comprised of Mothers of preterm Babies admitted in Sri Sai Hospital, Dharmapuri.

Accessible population

- The aggregate of cases that conform to designated inclusion or exclusion criteria and that are accessible as subjects of the study
- The accessible population of the study was comprised of Mothers of preterm Babies admitted in Sri Sai Hospital, Dharmapuri and who were present at the time of data collection.

Sample

- A sample is a portion of the population that has been selected to represent the population of interest. Thus, it is a subset of the population elements.
- Sample of the studies was Mothers of preterm Babies admitted in Sri Sai Hospital, Dharmapuri.

Sample size

- The number of sampling units is included in the sample
- The sample for the present study comprised of 30 Mothers of preterm Babies admitted in Sri Sai Hospital, Dharmapuri District.

Sample techniques

- Sampling technique refers to the process of selecting a portion of population to represent the entire population.
- Simple Random sampling technique was used for the present study.

Criteria for selection of samples

Inclusion criteria: Mothers of preterm Babies

- Belong to the age group between 22 to 30 years
- Who have baby with late preterm, Moderately preterm, Very preterm?
- Who were able to understand Tamil?
- Don't have breast complications.
- Not having any serious illness.
- Mentally stable.

Exclusion criteria: Mothers of preterm Babies

- Are not present at the time of data collection.
- Who are not willing to participate in the study?
- Who undergoes the teaching before?

Polit study

According to Polit and Hungler, (2018) “A pilot study is small scale version done in preparation for a main study.”

After obtaining permission from the concerned authority the pilot study was conducted in the month of July on 28.07.2025 to 29.07.2025 at Sri Sai Hospital, Dharmapuri district. A total of 10 mothers of preterm were selected for the study by using simple random sampling technique and pre-test was conducted by using structured knowledge questionnaire, immediately after the pre-test self-instructional module was distributed to the 10 mothers of preterm who were included for the study. Post-test was conducted after seven days of the administration of the educational activities. The post-test mean knowledge score were higher than the pre-test means knowledge scores. The results of the data revealed that the tool was feasible to conduct the study. The Pilot study sample was excluded for the main study.

Period of data collection

The data was collected from 30 mothers of preterm in Sri Sai Hospital, Dharmapuri district from 05/08/2025 to 30/08/2025.

Pre-intervention stage: Pre-test

The investigator surveyed the mothers of preterm in the selected hospital and found the mothers between the age group of 22-30 years. After surveyed, the investigator used simple random sampling technique to select study sample of 30 mothers of preterm from selected Hospital, Researcher visited the Hospital and selected the co-operative mothers, introduced herself to the mothers and explained the purpose and method of study to all selected people and informed consent will be obtained from them.

Post Intervention stage: Post-test

Evaluation of self-instructional module was done by conducting post-test, Post-test assessment was done for the same mothers of preterm during the next visit on seventh day of intervention by using the same tool of self-administered multiple-choice questions. The study participants were very cooperative.

Plan for data analysis

The data analysis was done by using descriptive and inferential statistics. The plan for data analysis was as follow:

Percentage distribution of knowledge scores of Mothers of Preterm before and after the intervention.

S.NO	DATA ANALYSIS	STATISTICAL TEST	OBJECTIVES
1.	Descriptive statistics	Frequency / percentage, mean, standard deviation	Frequency and percentage distribution of socio demographic variables, level of knowledge regarding expressed and storage of breast milk among study group.
2	Inferential statistics	Paired “t” test	Comparison of pre and post-test knowledge, regarding expressed and storage of breast milk among Mothers of preterm
		Chi-square test	Association of selected socio demographic variables with post test level of knowledge regarding expressed and storage of breast milk among Mothers of preterm

Frequency and percentage distribution of pre-test and post-test level of knowledge on Expression and Storage of Breast Milk among Mothers of preterm

Level of Knowledge	Pre test		Post test	
	Frequency	%	Frequency	%
Adequate knowledge	5	8	48	80
Moderate knowledge	10	17	7	12
Inadequate knowledge	45	75	5	8

Comparison of mean score between pre-test and post-test knowledge score before and after the Intervention

Components	Pretest Mean	Post Test Mean	Mean Difference	Standard Deviation	Paired "t" test
Knowledge	5.11	16.1	10.99	12.13	4.83

Significant at $p < 0.05$

Association between the selected demographic variables and the post-test Knowledge scores on Expression and Storage of Breast milk among Mothers of preterm Babies N=30

S.No	Demographic Variables	Levels of Knowledge-Rural			X2 value	Results
		Inadequate 5	Moderate 7	Adequate 48		
1	Age in years:				4.232	df: 6 t.value: 11.39 NS
	Between 22 to 24 years	2	2	22		
	Between 24 to 26 years	1	1	18		
	Between 26 to 28 years	1	2	7		
	Between 28 to 30 years	1	2	1		
2	Religion:				13.45	df: 4 Table value: 8.59 S**
	Hindu	3	4	26		
	Muslim	1	1	15		
	Christian	1	2	7		
3	Family Type				1.48	df: 4 Table value: 9.49 NS
	Nuclear	2	4	22		
	Joint	2	2	17		
	Extended	1	1	9		
4	Educational status of the Mother				14.40	df:6 tvalue: 12.59 S**
	No formal Education	1	1	6		
	Primary Education	1	1	8		
	Secondary Education	1	1	18		
	High School	1	2	15		
	Graduate	1	2	1		
5	Mothers Occupation				16.32	df:8 t value: 12.59 S**
	Self Employed	2	2	6		
	Labourer	1	2	15		
	Office Work	1	1	10		
	Private Job	1	1	9		
	Government Employees	0	1	8		

6	Family Monthly Income				9.28	df=6
	< Rs.8000	1	2	1		Table
	Rs.8001-10000	1	2	5		value:
	Rs.10001-15000	1	2	15		11.22
	> Rs.15001	2	1	27	NS	
7	Residence Of the Mother				2.14	df= 6
	Rural	1	2	14		table Value
	Suburban	1	2	15		=9.488
	Urban	2	1	18		NS
	Slum	1	2	1		
8	Category of Preterm				4.32	df= 4
	Late preterm	2	2	41		t Value
	Moderately preterm	2	2	6		=8.11 NS
	Very preterm	1	3	1		
9	Weight of preterm baby at birth				4.32	df= 4
	VLBW (1000-1499 gm)	2	2	7		t Value
	LBW (1500-2499 gm)	2	2	1		=8.11, NS
	Normal (2500-3900 gm)	1	3	40		
10	Get support from family when express milk				5.34	df= 2
	Yes	3	4	37		t Value
	No	2	3	11		=6.91, S**
11	Experience with Expression and Storage of Breast Milk				5.34	df= 2
	No	2	3	51		table Value
	Yes	3	4	0		=6.91, S**
12	Source of information on Expression and Storage of Breast Milk				9.13	df= 6
	Family Members	1	2	10		table Value
	Friends	1	2	8		=5.12
	Social Media	1	2	16		S**
	Health Personnel	2	1	14		

Significant at P<0.05

(continued)

Summary

This Article dealt with the discussion of the study with reference to the other studies all the objectives and hypotheses were retained in this study.

Recommendation

- On the basis of the findings of the study, the following recommendations have been made:
- A similar study can be replicated on a large sample to generalize the findings.
- A study can be conducted by including additional demographic variables.
- Manuals, information booklets and self-instructional module may be developed in areas of expressed breast milk feeding practices.
- A study can be carried out to evaluate the efficiency of various teaching strategies like self-instructional module, pamphlets, leaflets, and computer assisted instruction on expression and storage of breast milk.
- Based on the study finding, intervention can be given to the community v through mass media, role play, and class room teaching etc to enhance the knowledge.

Article Information

Disclaimer (Artificial Intelligence): The author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.), and text-to-image generators have been used during writing or editing of manuscripts.

Competing Interests: Authors have declared that no competing interests exist.

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