



EFFECTIVENESS OF IEC PACKAGE ON KNOWLEDGE OF BREASTFEEDING AMONG PRIMIGRAVIDA MOTHERS

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Abstract: Breastfeeding is the best and most natural way to feed infants because it provides complete nutrition and protection against infections. However, many primigravida mothers (first-time pregnant mothers) do not have enough knowledge about proper breastfeeding practices. The present study was conducted to assess the effectiveness of an Information, Education and Communication (IEC) package on knowledge regarding breastfeeding among primigravida mothers.

A pre-experimental one-group pre-test and post-test design was used for the study. The study was conducted among 30 primigravida mothers attending antenatal clinics at Muzaffarnagar Medical College and Hospital. A structured questionnaire was used to assess their knowledge regarding breast milk, breastfeeding, breastfeeding techniques, and diet during breastfeeding. After the pre-test, an IEC package was given through lecture and discussion using posters, charts, handouts, and videos. The post-test was conducted after 15 days.

The study findings showed that before the IEC package, most mothers had inadequate or moderately adequate knowledge regarding breastfeeding. After the IEC package, the knowledge level improved significantly, and most mothers had adequate knowledge. The mean knowledge score increased from 54.11 in the pre-test to 88.89 in the post-test. No significant association was found between knowledge and demographic variables.

The study concluded that the IEC package was effective in improving knowledge regarding breastfeeding among primigravida mothers. Health education programs during pregnancy can help mothers practice proper breastfeeding and improve infant health outcomes.

Keywords:

Breastfeeding, Primigravida Mothers, IEC Package, Knowledge, Exclusive Breastfeeding

Introduction

The Chinese proverb says, —Tell me and I will forget, show me and I might remember, involve me and I will understand. This proverb summarizes the importance of IEC package for behavior change.

Breastfeeding has justifiably been called the “gold standard” for the infant.

- WABA / WHO / UNICEF.

Breast milk is the ideal and natural source of nutrition for infants, providing all essential nutrients needed for growth and development in early life.⁸ It contains a balanced combination of proteins, fats, carbohydrates, vitamins, and minerals that are easily digested. In addition to nutrition, breast milk is rich in immunological components such as immunoglobulins, lactoferrin, and leukocytes that protect infants against infections, especially diarrhoeal and respiratory diseases.^{8,9} Colostrum, the first milk produced after birth, is particularly high in antibodies and offers vital passive immunity to the newborn.⁸

Breastfeeding is widely recognized as the optimal method of infant feeding, providing complete nutrition, immunological protection, and health benefits that are unmatched by any artificial substitute. Exclusive breastfeeding for the first six months of life reduces risks of diarrhoea, acute respiratory infections, and neonatal mortality while supporting growth and cognitive development.^{2,3} Despite global recommendations by the World Health Organization (WHO) and United Nations Children’s Fund (UNICEF) to initiate breastfeeding within the first hour of birth and continue exclusive breastfeeding for six months, suboptimal practices persist

in many regions.^{2,3} In India, national data highlight that a significant proportion of infants are not exclusively breastfed for the recommended duration, indicating gaps in maternal knowledge and support systems.⁴

Primigravida mothers — women experiencing their first pregnancy — are particularly vulnerable to inadequate breastfeeding practices due to lack of prior personal experience, limited confidence, and insufficient information during antenatal care.^{1,5} Studies conducted across different settings have reported varying levels of breastfeeding knowledge and attitudes among first-time mothers. For instance, Mohite et al. found that a substantial proportion of primigravida mothers had only fair quality knowledge about breastfeeding, with significant associations between socio-demographic factors and breastfeeding knowledge levels.¹ Similarly, research in eastern India indicated that although many primigravida women initiated exclusive breastfeeding, the sustainability of exclusive breastfeeding declined with increasing infant age, underscoring challenges in maintaining recommended feeding practices.²

Interventional studies further emphasize the importance of education and support. Tiwari et al. demonstrated that enhanced antenatal counselling significantly improved primigravida mothers' understanding and uptake of exclusive breastfeeding, while promotion programs have been shown to strengthen breastfeeding self-efficacy among first-time mothers.^{5,6} Knowledge gaps and breastfeeding-related difficulties, such as improper latch or perceived insufficient milk supply, have also been documented at the time of hospital discharge, suggesting the need for reinforced postnatal support.⁷

Given the critical impacts of optimal breastfeeding on infant health outcomes and the unique challenges encountered by primigravida mothers, a deeper understanding of their breastfeeding knowledge, attitudes, and practices is essential. Such insights can guide targeted interventions to improve breastfeeding behaviours, enhance maternal confidence, and ultimately contribute to better child health outcomes. Therefore, the present study aims to assess breastfeeding practices and associated factors among primigravida mothers in a selected population.

Aim Of The Study

1. To assess and compare the pre-test and post-test knowledge of primigravida mothers on breastfeeding before and after the IEC package.
2. To evaluate the effectiveness of the IEC package
3. To find out the association between knowledge of primigravida mothers on breastfeeding with selected demographic variables.

Delimitations

The study was delimited to

- 1) The mothers who are pregnant for the first time.
- 2) The mothers whose gestational weeks are above 32 weeks.
- 3) The mothers who are not having any complications.
- 4) The mothers who are not attended previous teaching programmes related to breastfeeding.
- 5) The mothers who are coming regularly for the antenatal visit.
- 6) The sample size was 30 samples only.

Research Methodology

Research Approach

The research approach used for this study was the evaluative research Approach. It is to evaluate the effectiveness of Information education and communication packages among primigravida mothers on breast feeding.

Research Design

The research design used for this study is pre-experimental, one-group pre-test – post-test design.

O1 χ O2

Key:

O1 → Pre test

χ → Treatment (Information education and communication package)

O2 → Post test

Variables

Independent Variables

Information education and communication package on breastfeeding is the independent variable for this study.

Dependent Variables

In this study knowledge of primi gravida mothers on breast feeding is a dependent variable.

Site

The study site was MUZAFFARNAGAR MEDICAL COLLEGE

Research Setting

The study was conducted in the outpatient Department of MUZAFFARNAGAR MEDICAL COLLEGE AND HOSPITAL. On average 30-40 primigravida mothers were coming for regular antenatal checks on ante natal day.

Population

The population of this study was primigravida mothers.

Sample

This study sample consisted of primigravida mothers who were coming for a regular antenatal visit to Muzaffarnagar hospital

Sample Size

The sample size was 30 primi gravida mothers, who were coming for regular antenatal visit

Sampling Technique

Sampling technique used for this study was Non probability purposive sampling

Criteria for Sample Selection

Inclusion Criteria

- * The mothers who are pregnant for the first time and between the age group of 18 – 30years.
- * Primi gravida mothers are willing to participate.
- * Primi gravida mothers who knows HINDI

Exclusion Criteria

- * Primi gravida mothers who are sick.
- * Primi gravida mothers who are not residing in MUZAFFARNAGAR
- * Primi gravida mothers who are gestational age less than 32 weeks.

Research Technique

In this research study, the technique used was structured interview questionnaire on knowledge of breastfeeding.

Data Collection Tools

1) Description of The Tool

Section I:

It consists of demographic characteristics of primi gravida mothers.

Section II:

It consists of questionnaire to assess the knowledge related to basic facts about breast feeding. The knowledge questionnaire consists of 30 questions.

Sub section: 1

It consists of 5 questions on breast milk.

Sub section: 2

It consists of 7 questions on breast feeding.

Sub section: 3

It consists of 11 questions on breast feeding technique.

Sub section: 4

It consists of 7 questions on diet during breast feeding.

Scoring Procedure

The possible vital scores for multiple choice questions on knowledge related to breast feeding was the score of 30. A score of one mark was given for every correct answer and zero was given for wrong answer.

The score was ranged as follows;

- | | |
|-----------------------------------|--------------------------|
| i) Adequate knowledge | : a score from 76 – 100% |
| ii) Moderately adequate knowledge | : a score from 51 – 75% |
| iii) Inadequate knowledge | : a score less than 50% |

2) Information Education And Communication Package

It was given to the study subjects. It consists of information on breastfeeding. This includes content about basic facts of breast feeding, such as breast milk, breastfeeding, breast feeding techniques, benefits of breastfeeding for mother and infant, exclusive breastfeeding, benefits of exclusive breast feeding, early initiation of breastfeeding, demands on breast feeding, and diet during breastfeeding. Lecture cum discussion method was used. The visual aids used for the lecture were posters, flip charts, handouts, and video display. The Information education and communication package was given to each study subject for 30 minutes. After the teaching, the primi gravida mothers were given time to ask doubts.

Data Collection Process

Prior to the data collection permission was obtained from the concerned authorities. The researcher initially established rapport with the study subjects. Oral consent was obtained from each participant of the study before starting data collection. The purpose was explained to each study Subject and a knowledge questionnaire was administered to each sample separately. The data collection lasted for 20 minutes for each sample. Information education and communication package was conducted for each subject by lecture cum discussion method, after each pre-test. After 15 days of pre-test, post-test was conducted using the same interview schedule to evaluate effectiveness of IEC package.

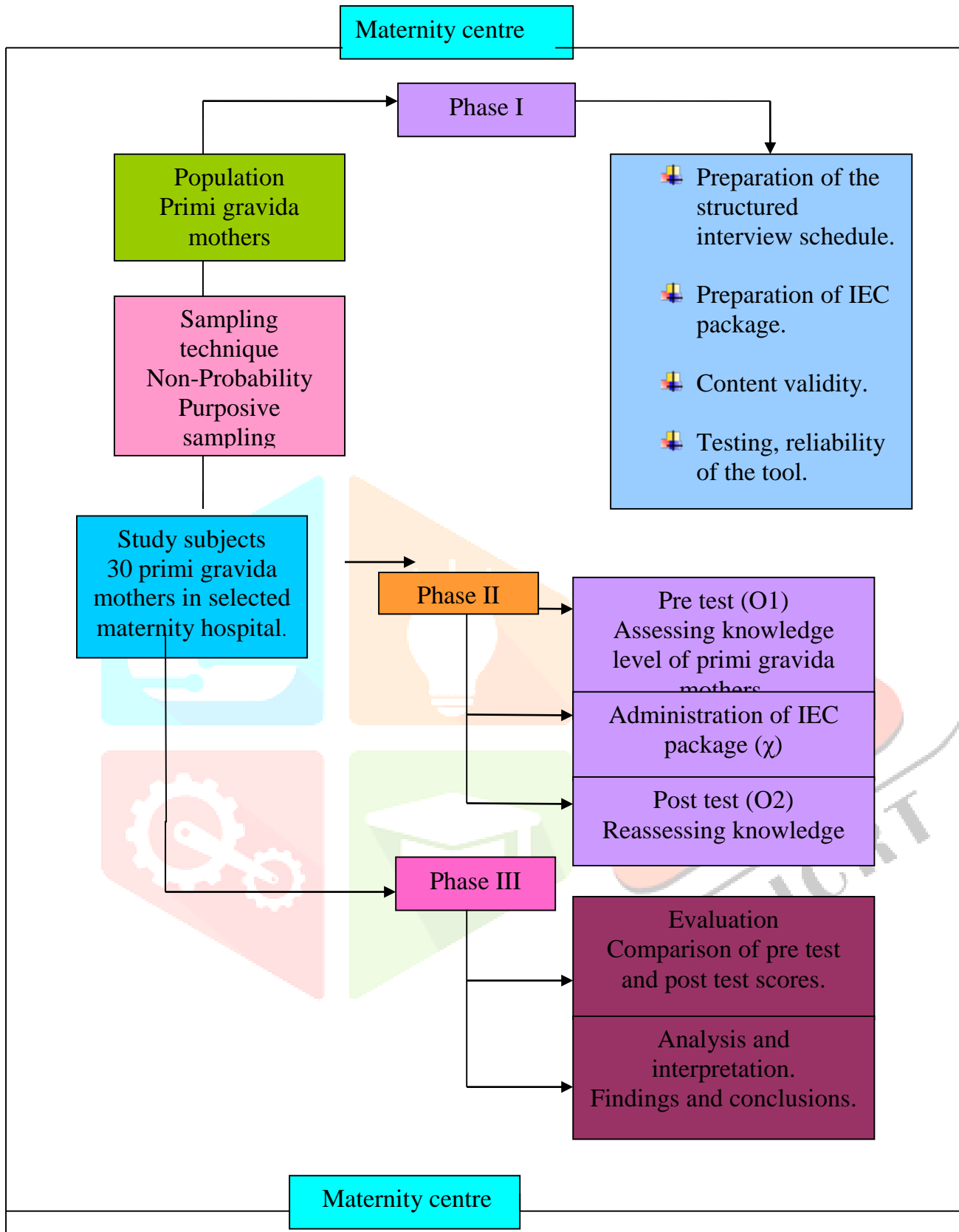


Table – 1

Frequency And Percentage Distribution Of Primigravida Mothers According To Demographic Variables

S. No	Demographic variables	Frequency (N)	Percentage (%)
1.	Age of the mothers		
	18 – 24 years	21	70.0%
	25 – 30 years	09	30.0%
2.	Educational status		
	Illiterate	02	6.7%
	School	24	80%
	College	04	13.3%
3.	Family income		
	Rs 1000 – 2000/month	05	16.7%
	Rs 2001 – 4000/month	12	40.0%
	Rs 4001 – 6000/month	13	43.3%
4.	Area of living		
	Urban	14	46.7%
	Rural	16	53.3%
5.	Type of family		
	Nuclear	13	43.3%
	Joint	17	56.7%
6.	Occupation		
	Working women	01	3.3%
	House wife	29	96.7%

Section – II

Table: 2A

Knowledge scores of primi gravida mothers regarding breast feeding before and after IEC. (Sub Section Wise)

Level of Knowledge	Study group n = 30			
	Pre test		Post test	
	n	%	n	%
Breast Milk				
i) Inadequate	5	16.7%	0	0.0%
ii) Moderately adequate	7	23.3%	0	0.0%
iii) Adequate	18	60.0%	30	100.0%
Breast Feeding				
i) Inadequate	9	30.0%	0	0.0%
ii) Moderately adequate	11	36.7%	2	6.7%
iii) Adequate	10	33.3%	28	93.3%
Breast Feeding Technique				
i) Inadequate	13	43.3%	0	0.0%
ii) Moderately adequate	16	53.3%	5	16.7%
iii) Adequate	1	3.3%	25	83.3%
Diet				
i) Inadequate	17	56.7%	0	0.0%
ii) Moderately adequate	11	36.7%	5	16.7%
iii) Adequate	2	6.7%	25	83.3%

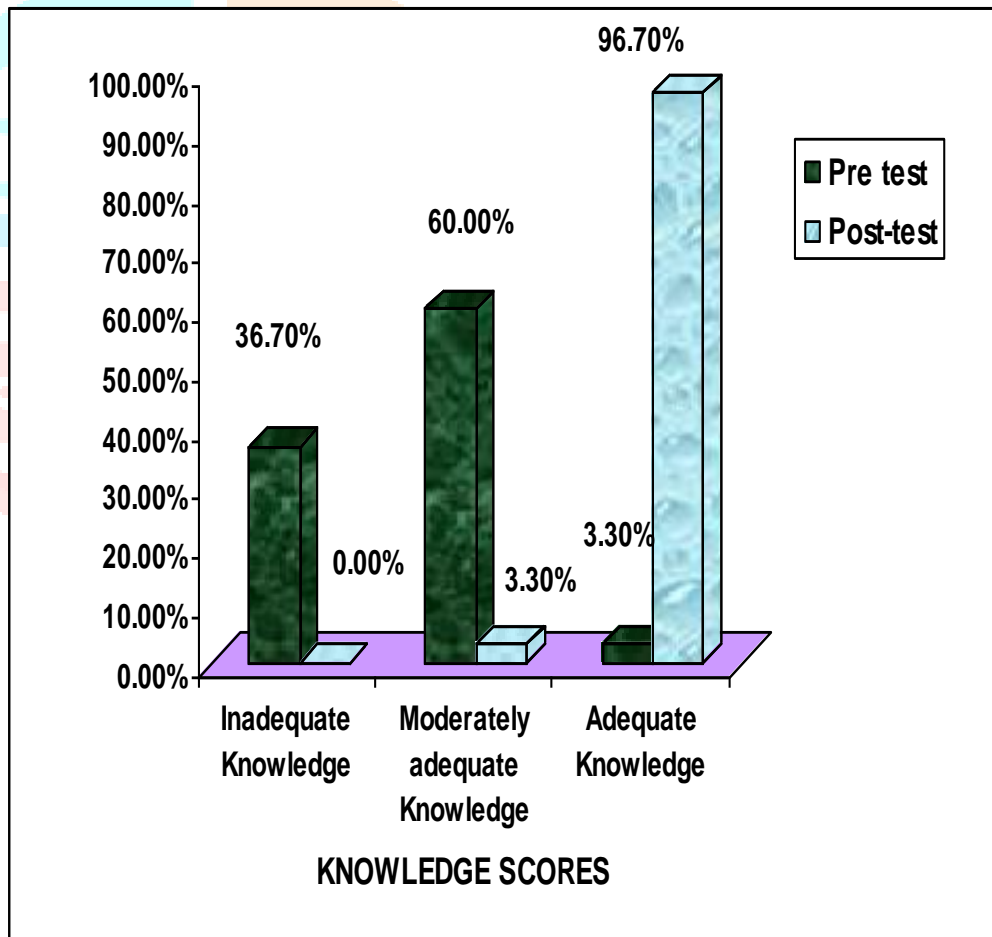
Table: 2B

Knowledge scores of primi gravida mothers regarding breast feeding before and after IEC. (Total)

Level of Knowledge	Study group n = 30			
	Pre test		Post-test	
	n	%	n	%
i) Inadequate [Less than 50%]	01	3.3%	29	96.7%
ii) Moderately adequate [50 – 75%]	18	60.0%	1	3.3%
iii) Adequate [76 – 100%]	11	36.7%	0	0.0%

In pre-test knowledge on breast feeding out of 30 Primigravida mothers 11 (36.7%) of them had inadequate knowledge, 18 (60.0%) of them had moderately adequate knowledge and 01 (3.3%) Primigravida mothers had adequate knowledge. In post test knowledge on breast feeding out of 30 Primigravida mothers 29 (96.7%) of them had adequate knowledge and 1 (3.3%) of them had moderately adequate knowledge.

It shows that IEC package programme was very effective to improve the knowledge level of the Primigravida mothers.



Section III

Table 3A:

Comparison of mean scores between pretest and post test on knowledge of primi gravida mothers regarding breast feeding. (Sub section wise)

Item	Mean		Standard deviation	Paired “t” - test
	Pretest	Post test		
Breast milk	69.33	88.67	24.904	4.252
Breast Feeding	62.38	90.95	20.548	7.616
Breast feeding technique	48.18	87.58	17.759	12.150
Diet during breast feeding	44.29	89.05	25.371	9.664

The breast milk pre-test mean score was 69.33 and post test mean score was 88.67,standard deviation was 24.904,t=4.252.The breast feeding pre-test mean score was 62.38and post test mean score was 90.95,standard deviation was 20.548,t=7.616. The breast feeding technique pre-test mean score was 48.18 and post test mean score was 87.58,standard deviation was 17.759,t=12.150. The diet during breast feeding pre-test mean score was 44.29 and post test mean score was 89.05,standard deviation was 25.371,t=9.664.

Table 3B:

Comparison of mean scores between pretest and post test on knowledge of primi gravida mothers regarding breast feeding. (Total)

Item	mean		Standard deviation	Paired “t” - test
	Pretest	Post test		
Knowledge Score Total	54.11	88.89	16.275	11.704 *

* Significant at 0.05 level

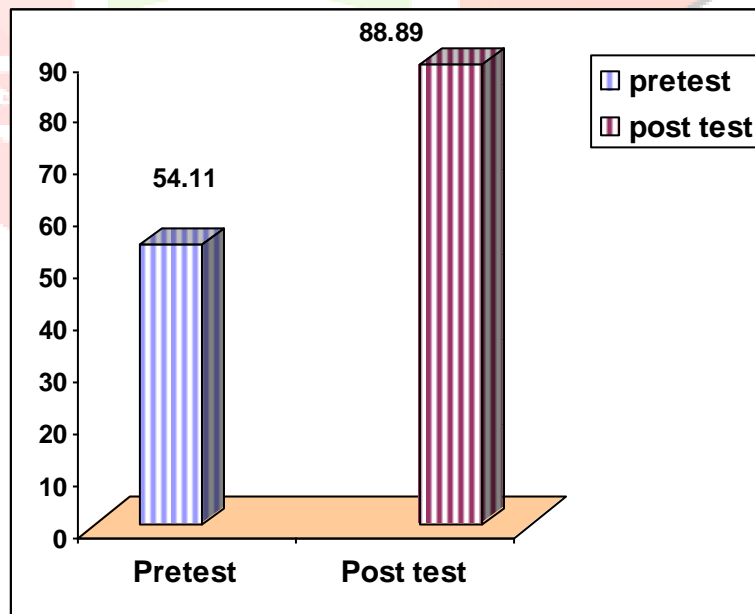


Figure 5

There is a significant increase in knowledge regarding breast feeding after IEC package than before.

Section – IV

Table: 4

Association between knowledge and the selected demographic variables of primigravida mothers regarding breast feeding.

Sl. No	Demographic variable	Knowledge level			Chi square –
		Inadequate	Moderately adequate	Adequate	
01.	Age of the mother				0.443 #
	a) 18 - 24 years	0	1	20	
	b) 25 – 30 years	0	0	9	
02.	Educational status				0.517 #
	a) Illiteracy	0	0	2	
	b) School	0	1	23	
	c) College	0	0	4	
03.	Family income				1.353 #
	a) Rs. 1000 – 2000/ month	0	0	5	
	b) Rs. 2001 – 4000/month	0	0	12	
	c) Rs. 4001 – 6000/month	0	1	12	
04.	Area of living				0.905 #
	a) Urban	0	0	14	
	b) Rural	0	1	15	
05.	Type of family				1.353 #
	a) Nuclear	0	1	12	
	b) Joint	0	0	17	
06	Occupation				0.036 #
	a) working women	0	0	1	
	b) House wife	0	1	28	

Not Significant at 0.05 levels

There is no significant association between the knowledge and demographic variables of Primigravida mothers.

The major study findings were as follows:

- ✚ The maximum numbers of primigravida Mothers 70.0% were in the age group of 18-24 years.
- ✚ The proportion of 30 primigravida Mothers 80% were in school education
- ✚ The proportion of 30 primigravida Mothers family 43.30% were earning Rs 4001 – 6000 per month
- ✚ The majority of primigravida mothers 53.30% were living in rural area.
- ✚ Out of 30 primigravida Mothers 71.67% belongs to nuclear family.
- ✚ The majority of primigravida Mothers 96.7% were house wives.
- ✚ The level of knowledge was inadequate among 36.7%, moderately adequate among 60.0% and it was adequate only in 3.3% before IEC package.
- ✚ The level of knowledge was adequate among 96.7% and it was moderately adequate in 3.3% after IEC package.

- ✦ The mean percentage of knowledge regarding breast feeding in the pre test was 54.1% and in the post test was 88.89% respectively.
- ✦ It revealed IEC package was found to be effective in improving in knowledge regarding breast feeding among primi gravida mothers. There was a significant difference in the mean scores between pre test and post test in relation to knowledge of primigravida mother, regarding breast feeding.
- ✦ No association was found between knowledge with selected demographic variables such as age, education, income, type of family, area of living and occupation.

Conclusion:

The IEC package was effective in increasing the knowledge regarding breastfeeding among primi gravida mothers. As per the study findings, the level of knowledge was adequate only in 3.3% in the pre-test, whereas during post-test; the level of knowledge of study subjects was adequate among 96.7% and 0% inadequate level of knowledge. Knowledge of subjects was not influenced by certain demographic variables.

Implications For Nursing Practice

The result of the study will help the nurses to enlighten their knowledge on the importance of health education. As the primary care provider, the nurse can assist in promoting confidence and competence through assessment, intervention and referral. By assessing the knowledge level, the nurse can identify the areas where they have to enhance the teachings.

- ✦ Nursing personnel must educate.
- ✦ Health education is the essential part of nursing service. So health education regarding breast feeding enhances the knowledge of breast feeding and will help in adopting positive attitude towards healthy practices.
- ✦ The use of visual aids (flash cards, video assisted teaching, chart) and materials to read at home or in the hospital setting are important tools to facilitate learner retention of information.
- ✦ Nurses in hospitals, private practice, the community and beyond must work together to enhance the knowledge on breast feeding.

However, many registered nurses and physicians have little or no formal education in breastfeeding initiation (Labarere, Castell, Fourny, Durand, & Pons, 2003). The unfortunate result of this lack of education is that many patients receive conflicting advice and insufficient instruction in breastfeeding techniques from their healthcare professionals, stating that this is a primary reason for discontinuing breastfeeding (DiGirolamo, et al., 2001).

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