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“A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG THE POSTNATAL MOTHERS AT SELECTED RURAL AREAS.”

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ABSTRACT

INTRODUCTION

Breast milk is the perfect food for human infants. It is markedly different from, and uniquely superior to, artificial baby milk. Superiority of human milk is due to its superior nutritive and protective value. It provides total nutrient requirement for the first six months of life. It also prevents malnutrition and allows the child to develop fully. But when there is not enough mother's milk available due to some reasons like mother has insufficient milk glands, has had past breast surgery or is taking medication (eg: chemotherapy for cancer) and has an infection that could spread to her baby through breast feeding. For these babies an alternative must be sought. Breast milk is the main source of food for the baby, which is necessary for its growth and development. every mother looks forwards for a healthy baby. Breastfeeding also allows mother and baby to bond emotionally. WHO Recommended exclusive breastfeeding for first 6 months and continue till two years of age along with weaning.

Background of the study: - Breast milk that has been expressed, pasteurized and stored in sterilized conditions is safe and healthy for babies. The milk in the human milk bank is collected from donor mothers on the third day after giving birth, if they fulfil certain safety criteria that have been set by the hospital. The milk bank has one refrigerator, one sterilizer and two pasteurizers. The steel containers are washed and sterilized in the sterilizer. The containers are then sent for collection of milk. The technician washes her hands, and labels the containers. The milk is pasteurized in the pasteurizer for half an hour at the prescribed temperature. A sample is taken and sent to microbiology department for testing for infections. After the report comes the milk is stored in the freezer at -20 degrees C. Milk thus collected can be stored for 3 to 6 months in prescribed conditions.

Objectives of the study: - To assess the pretest knowledge regarding Human milk Banking among the postnatal mothers at selected rural area. To assess the effectiveness of information booklet on

knowledge regarding human milk banking among the postnatal mothers at selected rural area. To determine the association between post-test knowledge scores & demographic variables among the postnatal mothers at selected rural area.

Methodology: - A study was conducted on 60 among postnatal mothers a Quasi- experimental, one-group-pretest-post-test research design at selected area rural areas and the samples for the study were selected by using convenient sampling method. A tool was prepared to assess the effectiveness of informational booklet on knowledge regarding human milk banking among postnatal mothers which was divided into two parts i.e., Part 1 of demographic data and part 2 of structured questionnaire regarding knowledge on human milk bank. The content validity was done by various experts and the reliability of the tool was obtained by using Parallel Form method of reliability. A pilot study was conducted on 06 samples to check the feasibility of the study, and it was found to be feasible to conduct main study. The final data for main study was collected over 60 samples.

Result: - in this study, At the time of pre-test, 35% of the postnatal mothers had poor knowledge, 61.67% of the mothers had average knowledge and 3.33% of them had good knowledge regarding human milk banking. Then post-test, no one of the postnatal mothers had poor knowledge, 28.33% of the mothers had average knowledge and 71.67% of them had good knowledge regarding human milk banking. Which, signifies the positive difference between the pretest and post-test.

Conclusion: - This Study concludes that informational booklet is helpful to improve knowledge regarding human milk banking among postnatal mothers in selected rural areas.

INTRODUCTION

Health is wealth for the good health we need good nutrition. Nutrition for babies get from mother's milk. Breast milk is the perfect food for human infants. It is markedly different from, and uniquely superior to, artificial baby milk.

Superiority of human milk is due to its superior nutritive and protective value. It provides total nutrient requirement for the first six months of life. It also prevents malnutrition and allows the child to develop fully. But when there is not enough mother's milk available due to some reasons like mother has insufficient milk glands, has had past breast surgery or is taking medication (eg: chemotherapy for cancer) and has an infection that could spread to her baby through breast feeding. For these babies an alternative must be sought.

Breast milk is the main source of food for the baby, which is necessary for its growth and development. every mother looks forwards for a healthy baby. Breastfeeding also allows mother and baby to bond emotionally. WHO Recommended exclusive breastfeeding for first 6 months and continue till two years of age along with weaning.

Breastfeeding is the best method of infant feeding because human milk continues to be the only milk which is tailor-made and uniquely suited to the human infant. All mothers should be encouraged to breast-feed their infants. When a mother, for some reason, is unable to feed her infant directly, her breastmilk should be expressed and fed to the infant. If mother's own milk is unavailable or insufficient, the next best option is to use pasteurized donor human milk (PDHM). India faces its own unique challenges, having the highest number of low-birth-weight babies, and significant mortality and morbidity in very low birth weight (VLBW) population. In our country, the burden of low-birth-weight babies in various hospitals is about 20% with significant mortality and morbidities. Feeding these babies with breastmilk can significantly reduce the risk of infections. Hence the Government, health experts and the civil society must join hands to propagate the concept of human milk banking for the sake of thousands of low birth weight and preterm babies.

Need for the study: - The World Health Organization (WHO) and UNICEF recommend exclusive breastfeeding for the first six months of life and recognize donor human milk as the preferred alternative when a mother's own milk is unavailable. Increasing mothers' knowledge about human milk banking can promote positive attitudes toward milk donation and improve acceptance of donor human milk, ultimately reducing neonatal morbidity and mortality. Educational interventions, such as information booklets, are simple, cost-effective, and easily accessible methods for improving knowledge among postnatal mothers. An information booklet provides standardized, evidence-based information that mothers can read and refer to at their convenience. Assessing its effectiveness will help determine whether this educational strategy significantly enhances mothers' understanding of human milk banking. Rural mothers often have limited access to health education and specialized maternal and child health services. Therefore, there is a need to educate them about the concept, benefits, procedures, and safety aspects of human milk banking. Improved knowledge may encourage milk donation, increase acceptance of donor human milk, and contribute to better neonatal nutrition and survival. Hence, the investigator felt the need to conduct a quasi-experimental study to assess the effectiveness of an information booklet on knowledge regarding human milk banking among postnatal mothers in selected rural areas. The findings of the study may help nurses, midwives, and healthcare professionals develop effective educational programs to promote awareness and utilization of human milk banking services, thereby improving maternal and neonatal health outcomes.

PROBLEM STATEMENT

“A quasi-experimental study to assess the effectiveness of information booklet on knowledge regarding human milk banking among the postnatal mothers at selected rural areas.”

OBJECTIVES OF THE STUDY

1. To assess the pretest knowledge regarding Human milk Banking among the postnatal mothers at selected rural area.
2. To assess the effectiveness of information booklet on knowledge regarding human milk banking among the postnatal mothers at selected rural area.
3. To determine the association between pretest knowledge scores & demographic variables among the postnatal mothers at selected rural area.

HYPOTHESIS

H1 – There will be significant difference between pretest and post-test knowledge score regarding human milk banking among postnatal mothers.

H2 – There will be significant association between the pretest knowledge score of postnatal mothers with their selected demographic variables.

RESEARCH METHODOLOGY:

RESEARCH APPROACH:

A quantitative evaluative research approach was used for this present study.

RESEARCH DESIGN:

In present study the quasi-experimental one group pre-test post-test.

STUDY SETTING:

Selected rural areas.

TARGET POPULATION:

Postnatal mothers

ACCESSIBLE POPULATION:

Postnatal mothers

SAMPLING TECHNIQUE:

Convenient sampling technique

SAMPLE SIZE:

60 samples

TOOL:

Informational booklet

ETHICAL CONSIDERATIONS:

Ethical permission was obtained from the concerned rural authorities. Informed consent was taken from all participants prior to data collection. Confidentiality and anonymity of the participants were maintained throughout the study.

PLAN FOR DATA ANALYSIS:

In this study data will be entered into excel sheet and master chart will be prepared. The obtained data will be analyzed by using statistical techniques that is evaluative. Statistics and frequency distribution to compare and find impact of this study inferential statistics will be used to achieve. Chi square technique and pair t test will be used to find out association between post test score of knowledge with their selected demographic variable.

RESULTS OF THE STUDY

In this study, At the time of pre-test, 35% of the postnatal mothers had poor knowledge, 61.67% of the mothers had average knowledge and 3.33% of them had good knowledge regarding human milk banking. Then post-test, no one of the postnatal mothers had poor knowledge, 28.33% of the mothers had average knowledge and 71.67% of them had good knowledge regarding human milk banking. Which, signifies the positive difference between the pretest and post-test. Hence, effectiveness of informational booklet on knowledge regarding human milk banking among postnatal mothers in selected rural areas.

SECTION I

This section deals with percentage wise distribution of postnatal mothers with regards to their demographic characteristics. A convenient sample of 60 subjects was drawn from the study population, who were from selected hospitals of the city. The data obtained to describe the sample characteristics including age, gender, type of caregivers, education, occupation, habits, residence, source of source of co-morbidity respectively.

**TABLE NO :1 PERCENTAGE WISE DISTRIBUTION OF CAREGIVERS
ACCORDING TO THEIR DEMOGRAPHIC CHARACTERISTICS.**

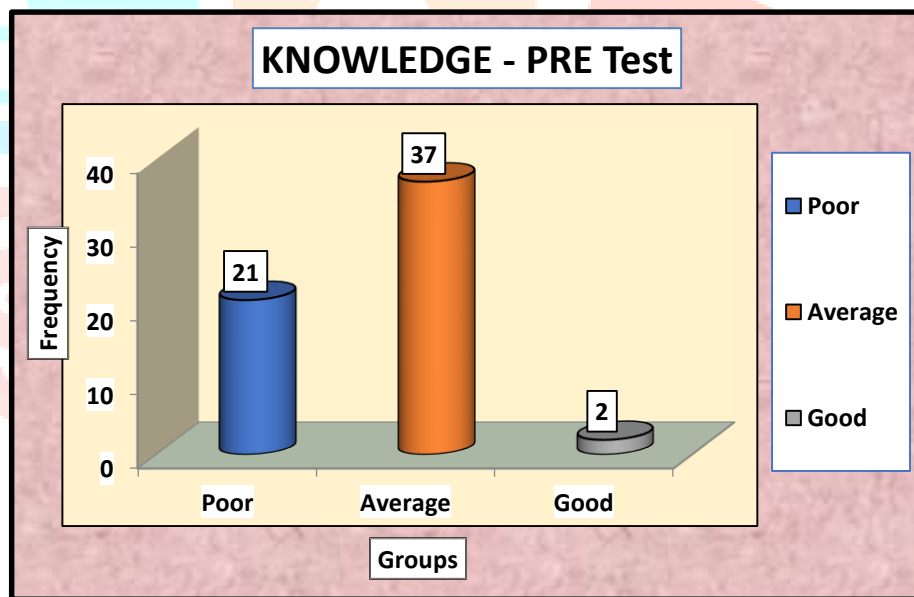
Sr. No.	Variable	Groups	Frequency	Percentage
1	Age (in years)	18-25	10	16.67
		26-35	34	56.67
		36-45	16	26.67
2	Education	Primary	6	10.00
		Secondary	20	33.33
		Higher Secondary	13	21.67
		Graduate & Postgraduate	21	35.00
3	Occupation	Working	21	35.00
		Housewife	35	58.33
		Business women	0	0.00
		Self employed	4	6.67
4	Type of family	Nuclear	38	63.33
		Joint	20	33.33
		Extended	2	3.33
		Single Parent	0	0.00
5	Family Income (in Rs)	Below 15000	17	28.33
		15001 to 25000	20	33.33
		25001 to 35000	23	38.33
		above 35000	0	0.00
6	Previous Information	No	46	76.67
		Yes	14	23.33
7	Source of information	Friends / Relatives	3	21.43
		Doctors, Nurses, ASHA workers	4	28.57
		What's app, Facebook, YouTube	7	50.00
8	Number of Pregnancy	1st pregnancy	7	11.67
		2nd pregnancy	35	58.33
		3rd pregnancy	18	30.00
9	Number of Children alive	a child	48	80.00
		Two children	12	20.00
		Three children	0	0.00

SECTION-II

**TABLE NO :2 GENERAL ASSESSMENT OF LEVEL OF KNOWLEDGE
REGARDING
HUMAN MILK BANKING AMONG THE POSTNATAL MOTHERS - PRE-TEST**

	Groups	Score	Frequency	Percentage
Knowledge - PRE	Poor	0-7	21	35.00
	Average	8-14.	37	61.67
	Good	15-20	2	3.33
Knowledge	Minimum		6	
	Maximum		18	
	Average (SD)		8.36 (2.01)	

At the time of pretest, 35% of the postnatal mothers had poor knowledge, 61.67% of the mothers had average knowledge and 3.33% of them had good knowledge regarding human milk banking. Average knowledge regarding human milk banking at pretest was 8.36 with standard deviation of 2.01. The minimum score of was 6 with maximum score of 18.



**TABLE: 031 GENERAL ASSESSMENT OF LEVEL OF KNOWLEDGE REGARDING
HUMAN MILK BANKING AMONG THE POSTNATAL MOTHERS - POST TEST**

	Groups	Score	Frequency	Percentage
Knowledge - POST	Poor	0-7	0	0.00
	Average	8-14.	17	28.33
	Good	15-20	43	71.67
Knowledge	Minimum		13	
	Maximum		18	
	Average (SD)		16.03 (1.61)	

At the time of post-test, no one of the postnatal mothers had poor knowledge, 28.33% of the mothers had average knowledge and 71.67% of them had good knowledge regarding human milk banking. Average knowledge regarding human milk banking among the postnatal mothers at post-test was 16.03 with standard deviation of 1.61. The minimum score of knowledge was 13 with maximum score of 18.

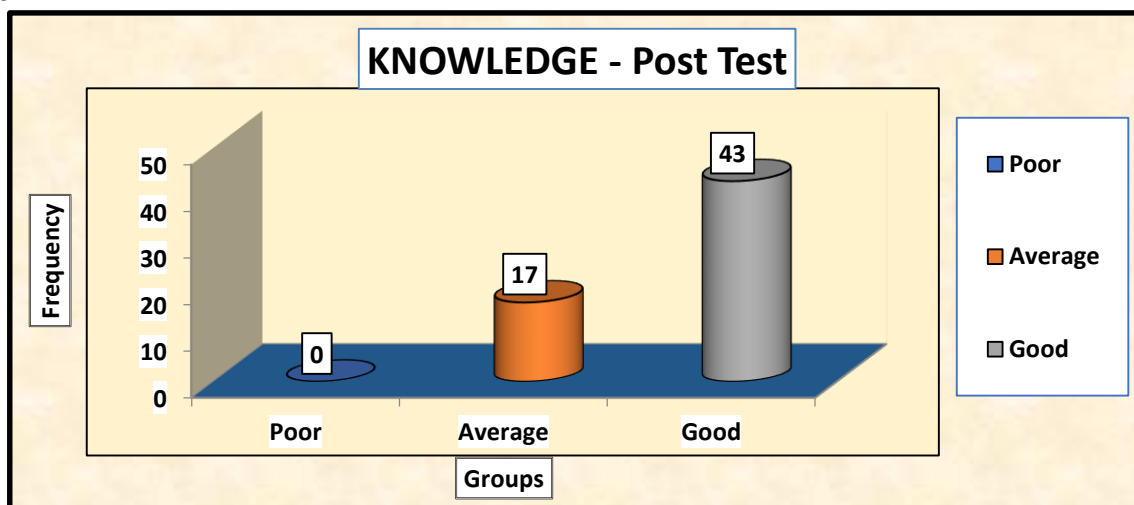


TABLE NO.: 04 GENERAL ASSESSMENT OF LEVEL OF KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG THE POSTNATAL MOTHERS - PRE VS POST TEST

	Groups	Score	Pre-Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
Knowledge - Pre vs POST	Poor	0-7	21	35.00	0	0.00
	Average	8-14.	37	61.67	17	28.33
	Good	15-20	2	3.33	43	71.67
Knowledge	Minimum		6		13	
	Maximum		18		18	
	Average (SD)		8.36 (2.01)		16.03 (1.61)	

For the assessment purpose total score of level of knowledge regarding human milk banking among the postnatal mothers was divided in to three groups like poor knowledge (score 0-7), average knowledge (score 8-14) and good knowledge (15-20 score).

Pre-Test: At the time of pretest, 35% of the postnatal mothers had poor knowledge, 61.67% of the mothers had average knowledge and 3.33% of them had good knowledge regarding human milk banking. Average knowledge regarding human milk banking among the postnatal mothers at pretest was 8.36 with standard deviation of 2.01. The minimum score of knowledge was 6 with maximum score of 18.

Post Test: At the time of post-test, no one of the postnatal mothers had poor knowledge, 28.33% of the mothers had average knowledge and 71.67% of them had good knowledge regarding human milk banking. Average knowledge regarding human milk banking among the postnatal mothers at post-test was 16.03 with standard deviation of 1.61. The minimum score of knowledge was 13 with maximum score of 18.

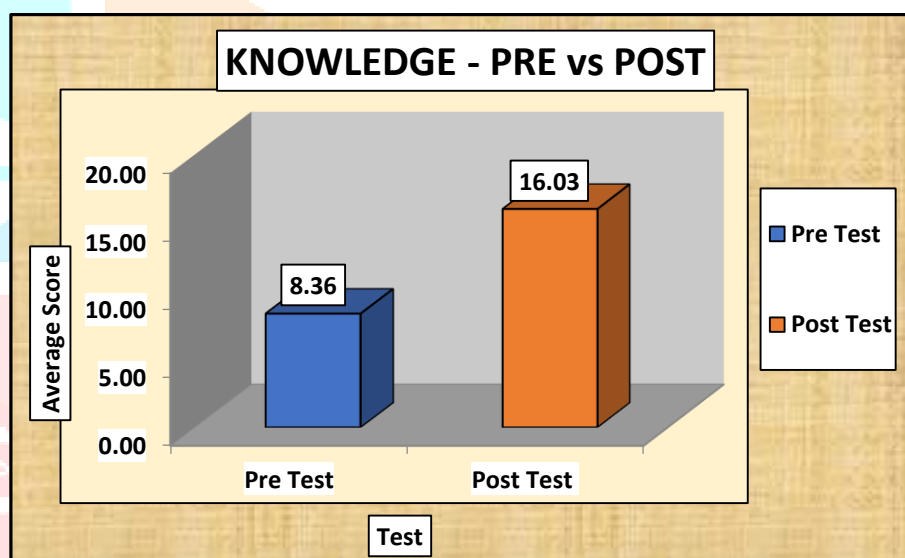
SECTION-III

TABLE NO: 05 EFFECTIVENESS OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG THE POSTNATAL MOTHERS

Test	N	Mean	S.D.	t value	P value
Pre-Test	60	8.36	2.01	30.94	0.000
Post Test	60	16.03	1.61		

The comparison of pretest and post-test means of knowledge regarding human milk banking among the postnatal mothers at selected rural areas were done by paired t test.

The pretest average knowledge score was 8.36 with standard deviation of 2.01. The post-test average score was 16.03 with standard deviation of 1.61. The test statistics value of the paired t test was 30.94 with p value 0.00. The p value less than 0.05, hence reject null hypothesis and accept alternative hypothesis.

COMPARISON OF THE PRE AND POST-TEST KNOWLEDGE

SECTION IV

**ASSOCIATION OF PRE-TEST KNOWLEDGE REGARDING HUMAN MILK
BANKING AMONG POSTNATAL MOTHERS WITH SELECTED DEMOGRAPHIC
VARIABLES**

Variable	Groups	Knowledge		Chi-Square	d.f.	p value	Significance
		below Md	above Md				
Age (in years)	18-25	7	3	0.56	2	0.75	Not Significant
	26-35	22	12				
	36-45	9	7				
Education	Primary	4	2	10.02	3	0.018	Significant
	Secondary	17	3				
	Higher Secondary	9	4				
	Graduate & Postgraduate	8	13				
Occupation	Working	11	10	10.68	2	0.004	Significant
	Housewife	27	8				
	Business women	0	0				
	Self employed	0	4				
Type of family	Nuclear	25	13	3.57	2	0.17	Not Significant
	Joint	13	7				
	Extended	0	2				
	Single Parent	0	0				
Family Income (in Rs)	Below 15000	10	7	0.21	2	0.90	Not Significant
	15001 to 25000	13	7				
	25001 to 35000	15	8				
	above 35000	0	0				
Previous Information	No	29	17	0.01	1	0.93	Not Significant
	Yes	9	5				

Variable	Groups	Knowledge		Chi-Square	d.f.	p value	Significance
		below Md	above Md				
Source of information	Friends / Relatives	2	1	0.52	2	0.77	Not Significant
	Doctors, Nurses, ASHA workers	2	2				
	WhatsApp, Facebook, YouTube	5	2				
Number of Pregnancy	1st pregnancy	4	3	0.24	2	0.89	Not Significant
	2nd pregnancy	23	12				
	3rd pregnancy	11	7				
Number of Children alive	a child	34	14	5.81	1	0.016	Significant
	Two children	4	8				
	Three children	0	0				

NURSING IMPLCATION

Nursing service- Adequate knowledge regarding human milk banking to enhance the knowledge among postnatal mothers.

Nursing Education- The nursing teachers can use the result of study as an informative illustration for the students.

Nursing administration- Nurse Administrator can utilize this type of tool to enhance the knowledge of students.

Nursing Research- The research design findings and the tool can be used as a venue for future research.

CONCLUSION

Women must know about human breast milk banking. It was concluded that women of selected rural area had average knowledge. It is clear that artificial formula will never provide the broad range of benefits of human milk. Given the high rate of preterm births in the country and level of malnutrition that ensues in the postnatal growth in such babies after birth, there is an urgent need to establish milk banks across the country, especially in the large neonatal units of all hospitals.

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