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A STUDY TO ASSESS THE EFFECTIVENESS OF AN INFORMATION BOOKLET ON KNOWLEDGE REGARDING THE EXPRESSION AND STORAGE OF BREAST MILK AMONG ANTENATAL MOTHERS, ATTENDING ANTENATAL CLINIC AT SELECTED HOSPITAL.

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Abstract

Introduction:

This study assessed the effectiveness of an information booklet on knowledge regarding the expression and storage of breast milk among antenatal mothers. The first step in encouraging the practice of expressed breast milk, which in turn encourages exclusive breastfeeding, is having an appropriate understanding of how to express and store breast milk. So, all antenatal mothers should be motivated to learn different techniques of expressing and storing breast milk.

Objectives:

1. To assess the level of knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic in a selected setting
2. To determine the effectiveness of the information booklet on knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic in selected settings.
3. To find out the association between knowledge on the expression and storage of breast milk with selected demographic variables.

Methods:

A one-group pre-test post-test quasi-experimental design was used to attain the objectives of the study. The sample consisted of 60 antenatal mothers attending the antenatal clinic. Samples were selected by a convenient sampling technique. The study was conducted at Gajanan Hospital, Katraj, Pune. The data was collected before and after the administration of an informational booklet on knowledge regarding the expression and storage of breast milk. A structured knowledge questionnaire was used to collect data.

Result:

The findings of the study revealed that antenatal mothers had an inadequate level of knowledge regarding the expression and storage of breast milk. The booklet on knowledge regarding the expression and storage of breast milk was effective in improving the knowledge of the antenatal mothers

Conclusion:

The study concluded that the information booklet regarding the expression and storage of breast milk was highly effective in improving the knowledge of antenatal mothers.

INTRODUCTION

Breastfeeding is a basic human activity, vital to infant and maternal health and of immense economic value to households and societies. Defining breastfeeding is complex. The term is used to describe any breast milk intake directly at the breast or indirectly, regardless of the mode of its delivery. Breast milk has all the nutrients babies need to stay healthy and grow. It protects them from diarrhea and acute respiratory infections – two leading causes of infant death. It stimulates their immune systems and response to vaccinations. Studies performed in developing countries have shown that the mortality risk among infants who have not consumed breast milk, is 6 to 10 times higher than those who have consumed breast milk. According to the breastfeeding promotion network of India (BPNI), infants under five months old who are not breastfed have fivefold and sevenfold increased risk of higher risk of dying from diarrhoea in comparison to with newborns who are breastfed only. [1]

To lower the rate of infant death and enhance the infant's development and state of health, it is crucial to breastfeed young children. UNICEF and the World Health Organisation state that all babies should begin nursing from birth. Right after birth. Most babies should be exclusively breastfed for the first six months of life. The most current studies concerning clinical aspects the benefits of breastfeeding for a child's growth provided a fresh boost to the practice. There is ample evidence in the literature to support the claim that breastfeeding exclusively is linked to a number of variables. According to evidence-based research articles, the most common reasons for stopping early breastfeeding were: a lack of paid leave for mothers; maternal beliefs; and perceptions about things like painful breastfeeding related to improper infant positioning and latching; and inadequate breast milk. The beginning and maintenance of exclusive breastfeeding have been linked to maternal traits as age, income, education, knowledge, and ethnicity Sufficient nourishment for these infants has been shown to produce both immediate and long-term advantages, including better neurodevelopmental results. [2]

Despite the well-established advantages, a lot of moms choose to partially or stop nursing because they don't have enough time, have to go back to work too soon, or don't know how to express and store their breast milk. The World Health Organisation carried out a study on "breast feeding" in nine countries in the 1980s since the benefits of breastfeeding had become so generally acknowledged. Every year, august 1st–7th is observed as "breast feeding week." launched on august 1, 1992, the baby friendly hospital initiative (BFHI) served as the topic for the inaugural "world breastfeeding week." the goal of BFHI is to promote maternity services and the ten steps to successful breastfeeding in all organizations and hospitals. It was who and UNICEF who proposed this joint declaration. Approximately 75% of women in the globe today work in metropolitan areas, with 58% of them being mothers. In India, maternity leave is paid for six months in government settings; however, in private services, the mother must return to work after forty-five to ninety days. The world health organization (who) states that exclusive breastfeeding should be provided for a maximum of six months. Since the baby is not being fed properly when the mother returns to work, she is able to express and preserve the breast milk. However, it frequently spoils and the infant becomes sick, therefore it's critical to know how to store expressed breast milk at the right temperature.

If a mother finds herself having to nurse her child on the spur of the moment during the

separation, she has to acquire the skill of expressing and storing breast milk. She can do this by expressing her milk and storing it in a refrigerator or other cool spot so that her child can be fed while she is away. Breast milk that has been expressed can be gathered and kept in sterile containers. It can be kept in a freezer at -180 degrees Celsius or below for up to six months. It has been demonstrated that expressing breast milk helps to establish breastfeeding. Nursing moms can extend the length of their nursing sessions by overcoming several breastfeeding-related challenges using manual or pump-assisted breast milk expression.[3]

The experience of expressing and feeding breast milk differs significantly from breastfeeding straight from the mother's breast. Some of the benefits of the milk's nutritional components are diminished when expressed milk is fed to babies, even when it comes in a bottle. Human milk feeding is preferable for babies than baby formula. Breast feeding is rewarding experience for both mother and baby. Breastfeeding is natural but it is not naturally known to many mothers. Breast feeding is a learned skill that both mother and baby need to practice many times before both fully know and understand the process. The key for successful exclusive breastfeeding is support from health care professionals. They play important role in encouraging the exclusive breast-feeding practices. Research indicates many women's lacks in knowledge of breast feeding. Thus, an art of exclusively breast feeding is getting lost from our society due to the changing scenario, as both men and women both are walking shoulder to shoulder. Both the parent is working thus baby is looked after by the maid or grandparents and mother don't get maternity leave for six months they have to return back to work after two or three months in private settings thus baby don't get proper feed and bottle feeds are started. Breast feeding is the fundamental right of the child. Feeding practices vary from place to place and person to person. Human milk is superior to all substitutes and that expressed breast milk may be suitable feeding alternative for infants whose mother are unable to breast feed her baby.[4]

2. Methods:

Objectives

1. To assess the level of knowledge regarding expression and storage of breast milk among the antenatal mothers attending antenatal clinic in selected setting
2. To determine the effectiveness of information booklet on knowledge regarding expression and storage of breast milk among the antenatal mothers attending antenatal clinic in selected setting
3. To find out association between knowledge on expression and storage of breast milk with selected demographic variables.

Hypothesis

H_0: there will be no significant difference in pretest knowledge regarding expressed and storage of breast milk after providing the information booklet.

H_1: there will be a significant difference in posttest knowledge regarding expressed and storage of breast milk after providing the information booklet

Reliability:

Reliability was assessed using the test-retest method. Pearson's correlation coefficient was found to be 0.99.

Methods of Data Collection:

The study was explained to the participants. Written informed consent for participation was obtained from the participants. Confidentiality of the collected data was maintained. The

knowledge assessment questionnaire was administered to assess the effectiveness of the information booklet regarding the expression & storage of breast milk. The researcher conducted a pretest then provided an information booklet to mothers and explained it to them. After one week, post post-test was conducted.

Description of tool:

Section A: demographic variables

This section consists of 6 questions which seek information regarding demographic data such as age, family type, family income, and education.

Section B: structured knowledge questionnaire

This section consists of 20 questions related to the knowledge of the expression and storage of breast milk.

3. Results:

Section I

Table 1: Description of samples (antenatal mothers attending antenatal clinic) based on their personal characteristics in terms of frequency and percentage

N=60

Demographic Variable	Freq	%
Age		
20-29 years	37	61.7%
30-39 years	23	38.3%
Above 40 years	0	0%
Family type		
Nuclear	35	58.3%
Joint	24	40.0%
Extended	1	1.7%
Monthly family income		
Less than rs 15,000	9	15.0%
Rs 15,001-30,000	20	33.3%
Rs 30,001-50,000	31	51.7%

Occupation		
Housewife	41	68.3%
Job	19	31.7%
Education of mother		
Non formal education	6	10.0%
Primary	13	21.7%
Secondary	23	38.3%
Higher education	10	16.7%
Graduation	7	11.7%
Post graduation	1	1.7%
Month of gestation		
9th	60	100.0%

Table 1 shows that, 61.7% of the antenatal mothers attending antenatal clinic had age 20-29 years and 38.3% of them had age 30-39 years. 58.3% of them had nuclear family, 40% of them had joint family and 1.7% of them had extended family. 15% of them had family income below Rs.15000, 33.3% of them had family income Rs.150001-30000 and 51.7% of them had family income Rs. 30001-50000. 68.3% of them were housewives and 31.7% of them had job. 10% of them did not have formal education, 21.7% of them had primary education, 38.3% of them had secondary education, 16.7% of them had higher secondary education, 11.7% of them had graduation and 1.7% of them had post-graduation. All of them had 9th month of gestation.

Section II

Fig 2: Analysis of data related to knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic

N=60

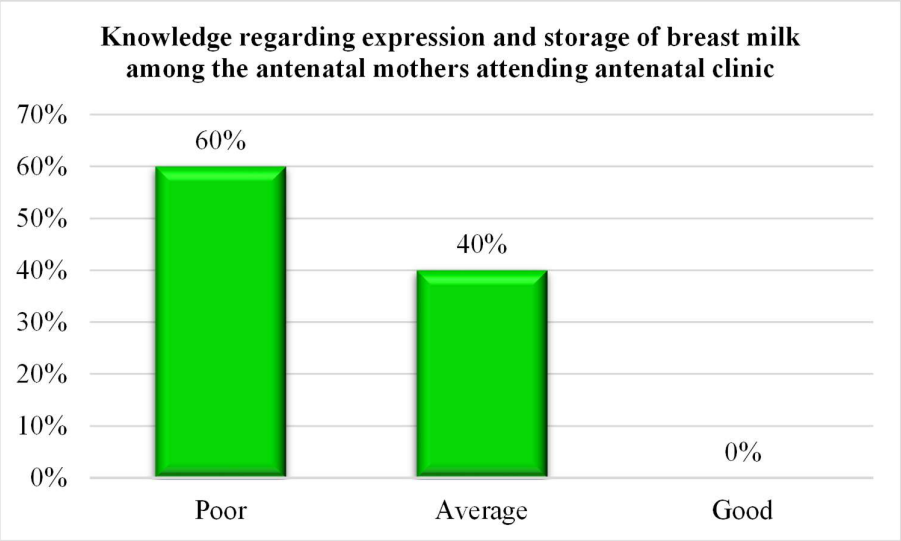


Fig 2 indicates that, 60% of the antenatal mothers attending antenatal clinic had poor knowledge (Score 0-6) and 40% of them had average knowledge (score 7-13) regarding the expression and storage of breast milk among the antenatal mothers.

Section III

Table 2: Analysis of data related to the effectiveness of the informational booklet on knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic

N=60

Knowledge	Pretest		Post test	
	Freq	%	Freq	%
Poor	36	60.0%	0	0.0%
Average	24	40.0%	8	13.3%
Good	0	0.0%	53	88.3%

Table 2, shows that, in pretest, 60% of the antenatal mothers attending antenatal clinic had poor knowledge (Score 0-6) and 40% of them had average knowledge (score 7-13) regarding expression and storage of breast milk among the antenatal mothers. In posttest, 13.3% of the antenatal mothers attending antenatal clinic had average knowledge (Score 7-13) and 88.3% of them had good knowledge (score 14-20) regarding expression and storage of breast milk among the antenatal mothers. This indicates that there is remarkable improvement in the knowledge regarding expression and storage of breast milk among the antenatal mothers attending antenatal clinic.

Table 3: Paired t-test for the effectiveness of the informational booklet on knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic

N=60

	Mean	SD	T	df	p-value
Pretest	6.3	2.0	24.7	59	0.000
Posttest	16.2	2.2			

Table 3 shows that, paired t-test was used to find out the effectiveness of the informational booklet on knowledge regarding the expression and storage of breast milk among the antenatal mothers attending the antenatal clinic. The average knowledge score in the pretest was 6.3, which increased to 16.2 in the posttest. T-value for this test was 24.7 with 59 degrees of freedom. The corresponding p-value was small (less than 0.05), and the null hypothesis was rejected. The average knowledge score in the posttest was significantly higher than that in the pretest. The knowledge among antenatal mothers regarding the expression and storage of breast milk improved significantly after the use of the information booklet. The information booklet is significantly effective in improving the knowledge among antenatal mothers regarding the expression and storage of breast milk.

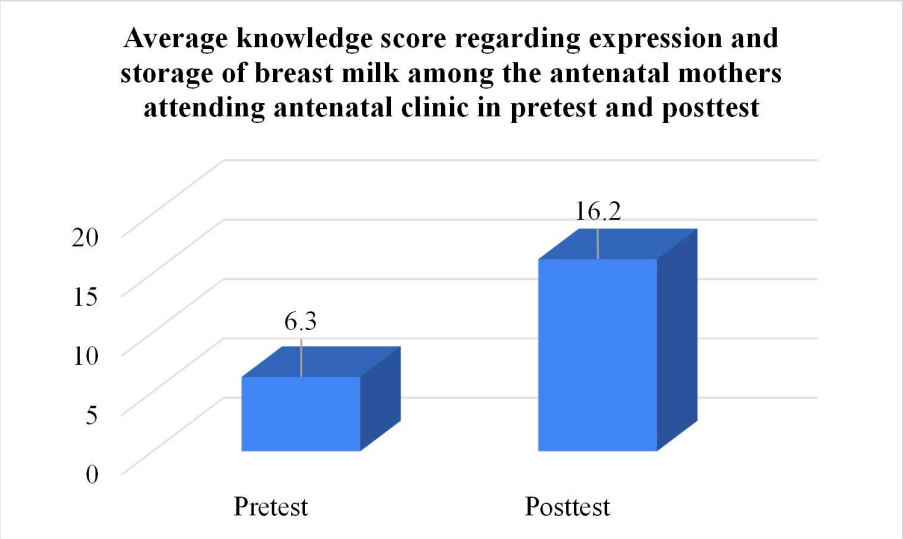


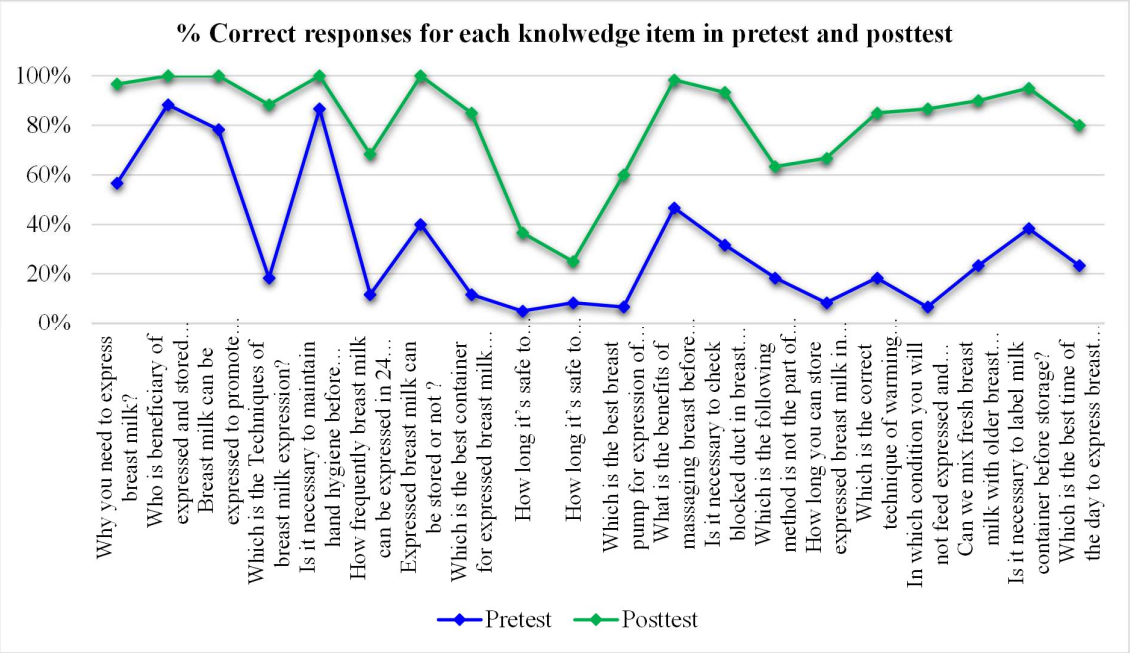
Table 4: Knowledge item analysis
N=60

Knowledge item	Pretest		Posttest	
	Freq	%	Freq	%
Why you need to express breast milk?	34	56.7%	58	96.7%
Who is beneficiary of expressed and stored breast milk?	53	88.3%	60	100.0%
Breast milk can be expressed to promote uninterrupted breast feeding?	47	78.3%	60	100.0%
Which is the Techniques of breast milk expression?	11	18.3%	53	88.3%
Is it necessary to maintain hand hygiene before expression and storage of breast milk?	52	86.7%	60	100.0%
How frequently breast milk can be expressed in 24 hours?	7	11.7%	41	68.3%
Expressed breast milk can be stored or not?	24	40.0%	60	100.0%
Which is the best container for expressed breast milk storage?	7	11.7%	51	85.0%
How long it's safe to store expressed breast milk in single door refrigerator?	3	5.0%	22	36.7%
How long it's safe to store expressed breast milk in double door refrigerator?	5	8.3%	15	25.0%
Which is the best breast pump for expression of breast milk?	4	6.7%	36	60.0%
What are the benefits of massaging breast before expression of breast milk?	28	46.7%	59	98.3%
Is it necessary to check blocked duct in breast before expression of breast milk?	19	31.7%	56	93.3%
Which is the following method is not the part of cleaning equipment used in expression and storage of breast?	11	18.3%	38	63.3%
How long you can store expressed breast milk in room temperature?	5	8.3%	40	66.7%

Which is the correct technique of warming cold/ frizzed expressed breast milk?	11	18.3%	51	85.0%
In which condition you will not feed expressed and stored milk to the baby?	4	6.7%	52	86.7%
Can we mix fresh breast milk with older breast milk?	14	23.3%	54	90.0%
Is it necessary to label milk container before storage?	23	38.3%	57	95.0%
Which is the best time of the day to express breast milk?	14	23.3%	48	80.0%

Table 4 shows that, during pretest 56.7% and in posttest 96.7% of the antenatal mothers knew why it is needed to express breast milk. In pretest, 88.3% and all of them in posttest knew who is beneficiary of expressed and stored breast milk. In pretest, 78.3% of them and in posttest all of them knew breast milk can be expressed to promote uninterrupted breast feeding. In pretest, 18.3% of them and 88.3% of them in posttest knew the Techniques of breast milk expression. In pretest, 86.7% of and all of them in posttest knew that it is necessary to maintain hand hygiene before expression and storage of breast milk. In pretest 11.7% of them and in posttest 68.3% of them knew the frequency breast milk can be expressed in 24 hours. In pretest, 40.0% and in posttest all of them knew if Expressed breast milk can be stored or not. In pretest, 11.7% of them and 85% of them in posttest knew the best container for expressed breast milk storage. In pretest, 5% of them and 36.7% of them in posttest knew how long it's safe to store expressed breast milk in single door refrigerator. In pretest, 8.3% of them and 25% of them in posttest knew how long it's safe to store expressed breast milk in double door refrigerator. In pretest, 6.7% of them and 60% of them in posttest knew the best breast pump for expression of breast milk. In pretest, 46.7% of them and 98.3% of them in posttest knew the benefits of massaging breast before expression of breast milk. In pretest, 31.7% of them and 93.3% of them in posttest knew that it is necessary to check blocked duct in breast before expression of breast milk. In pretest, 18.3% of them and 63.3% of them in posttest knew the method which is the part of cleaning equipment used in expression and storage of breast. In pretest, 8.3% of them and 66.7% of them in posttest knew how long expressed breast milk can be stored in room temperature.

In pretest, 18.3% of them and 85% of them in posttest knew the correct technique of warming cold/ frizzed expressed breast milk. In pretest, 6.7% of them and 86.7% of them in posttest knew condition in which not to feed expressed and stored milk to the baby. In pretest, 23.3% of them and 90% of them in posttest knew if fresh breast milk can be mixed with older breast milk. In pretest, 38.3% of them and 95% of them in posttest knew if it is necessary to label milk container before storage. In pretest, 23.3% of them and 80% of them in posttest knew the best time of the day to express breast milk.



Section IV

Table 5: Fisher's exact test for the association between knowledge on expression and storage of breast milk with selected demographic variables

N=60

Demographic variable		Knowledge		p-value
		Poor	Average	
Age	20-29 years	23	14	0.788
	30-39 years	13	10	
Family type	Nuclear	23	12	0.278
	Joint	13	11	
	Extended	0	1	
Monthly family income	Less than Rs 15,000	5	4	0.877
	Rs 15,001-30,000	13	7	
	Rs 30,001-50,000	18	13	
Occupation	Housewife	31	10	0.001
	Job	5	14	
Education of mother	Non formal education	5	1	0.009
	Primary	10	3	
	Secondary	14	9	
	Higher education	6	4	
	Graduation	0	7	
	Post graduation	1	0	

Table 5 shows that, p-values corresponding to occupation and education of mother were small (less than 0.05), the demographic variables occupation and education of mother were found to

have significant association with the knowledge among antenatal mothers regarding expression and storage of breast milk.

5. Discussion:

A recently developed solution to the global issue of breastfeeding interruption is to express breast milk, store it appropriately, and feed the infant while the mother is away at work. The study's objectives were to evaluate working mothers' knowledge and practices regarding the expression and storage of breast milk at B.P. Koirala Institute of Health Sciences, as well as the relationship between knowledge and practice and demographic characteristics. Method: Using the purposive sample technique, 106 working breastfeeding moms who visited different paediatrics units at BPKIHS, Dharan, participated in a descriptive cross-sectional study. Through the use of interviews and a semi-structured questionnaire, data were gathered. In Microsoft Excel 2010 with SPSS 11.5 Version, they were analyzed using descriptive and inferential statistics at a significance level of 0.05. Results: With a mean age of 27.55 and a standard deviation of 4.30, the majority of respondents (72.6%) were between the ages of 20 and 29. With a mean score of 6.76 and a standard deviation of 3.08, 46.2% of respondents were deemed to have appropriate knowledge regarding the expression and storage of breast milk. 39.6% of them had a mean score of 6.04 and a standard deviation of 4.540, indicating that practice was deemed adequate. It was shown that there was a positively statistically significant association between knowledge and practice. with r=0.469 and a P value of 0.01. According to the study's findings, the majority of respondents lacked sufficient knowledge and engaged in improper behaviour regarding the expression and storage of breast milk. It was shown that there was a positively statistically significant association between knowledge and practice.

The results of the study showed that the majority of respondents lacked suitable knowledge and practices regarding the expression and preservation of breast milk. The knowledge and practice were shown to be substantially correlated with demographic factors such as family income, educational attainment, and kind of workplace. Knowledge and practice regarding the expression and storage of breast milk were found to be positively connected and statistically significantly correlated. It may be inferred that while the majority of respondents adhered to the practice of expressing breast milk, the genuine intention behind the expression and its appropriate preservation were absent.[5]

Similarly, the purpose of this study was to evaluate the knowledge of antenatal mothers about how to express and store breast milk. The sample selected for the study were antenatal mothers (third trimester of pregnancy) attending antenatal clinic. Content validity was done by 7 experts in different fields. A pilot study was conducted on 20 samples. The reliability was done by using Test- Retest method. A convenient sampling technique was used for selecting 60 samples. The actual data was collected from 20/11/2024 to 04/12/2024. Data analysis was done using Descriptive and Inferential statistics.

Based on the knowledge regarding expression and storage of breast milk among antenatal mothers. In pre-test the score was very poor of mothers and in post study score was significantly higher. It is evident that the knowledge regarding expression and storage of breast milk is significantly effective in antenatal mothers

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