

Effectiveness of Hospital Based Teaching Programme on Knowledge Regarding Home Management for Breast Engorgement among Postnatal Mothers

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ABSTRACT

Background: Severe breast engorgement can cause considerable discomfort for mothers and interfere with an infant's ability to feed at the breast lead to early breastfeeding cessation, and is associated with more serious illness, including breast infection.

Aim: This study aimed to assess the effectiveness of hospital based teaching programme on enhancing the knowledge regarding home management for breast engorgement among postnatal mothers in selected hospitals from Uttar Pradesh and to find out various factors associated with it.

Materials & methods: A quantitative research approach with Pre-experimental one group pretest and posttest design and Non-probability purposive sampling technique was used to select 60 postnatal mothers in selected hospitals from Uttar Pradesh. A Self-structured knowledge questionnaire was used for assessing the knowledge among the subjects. SPSS version 25 was used for data analysis.

Results: The knowledge mean score in pre-test 8.2 ± 1.7 was lesser than the post-test mean score 17.7 ± 5.6 , the obtained t- value 15.3, $p = 0.001$. There was an association between postnatal mother's levels of knowledge regarding home management for breast engorgement with their educational status ($\chi^2 = 10.5$, $p=0.02$) and type of hospital visit ($\chi^2 = 9.1$, $p=0.02$).

Conclusion: Hospital based teaching programme was effective to enhance the knowledge regarding home management for breast engorgement among postnatal mothers.

Keywords: - Knowledge, Home management, Breast engorgement, Postnatal mothers, Hospital based teaching programme

INTRODUCTION

Breastfeeding is essential for the physical and mental health of the child as well as the mother. [1] But in some situations, women experience troubles with breastfeeding at the start of lactation, with one of those being breast engorgement. The engorgement process is triggered by intensified lactogenesis causing from a reduced blood level of steroid hormones in postpartum women and with increased prolactin concentrations. [2] Breast engorgement is a physiological state that is characterized by painful swelling of the breasts as a result of a sudden increase in milk volume, vascular and lymphatic congestion, and interstitial edema during the first 14 days after childbirth, this condition is caused by insufficient breastfeeding and/or obstruction in milk ducts. Breast pain during breastfeeding is a common problem that interferes with successful breastfeeding leading to exclusive giving up of breastfeeding. [3]

Global rate of exclusive breastfeeding according to WHO (2013) is 37%. Indian statistics suggest 96% of the children are breastfed, of that only 21% of the rural population and 29% of the urban population are breastfed within an hour

instantly after birth. Breastfeeding problems such as breast engorgement, flat or inverted nipple or mastitis were identified in 4.9% of the women in India. [4] The incidence rate of breast engorgement throughout the world is 1:8000, and in India, it is 1:6500. Signs and symptoms occur most usually between 3-5 days, with more than two thirds of women with tenderness on day five but some as late as days 9-10. More time spent in breast feeding during 48 hours after birth correlates with less engorgement. The 20% post-natal mothers, especially primigravida mothers are affected with breast engorgement from 0-4 days of postnatal period. [5]

Indrani D et al (2019) study found that the prevalence of breast engorgement among lactating mothers was 65%-75%. Breast engorgement is a main issue in the lactating mothers can leads to many problems like blocked milk ducts, infection, inflammation of the breast and sore/cracked nipples, feeding difficulties, a depressed milk ejection reflex. [6] Failure to prevent or resolve milk stasis resulting from infrequent or inadequate drainage of the breasts are the reasons which may place a mother at a higher risk of engorgement. [7,8]

The Baby Friendly Hospital Initiative, a global programme of the WHO/UNICEF, requires that mothers be helped to learn the skill of hand expression before discharge from maternity services. [9] Learning this skill enables women to gain familiarity with functioning of their breasts and to see that they have milk thus building confidence, and empowers mothers with the skill to initiate milk production and to remove milk if their baby is not sucking without needing to purchase equipment. There is limited research on the best method of helping learning how to express milk, the most appropriate situation or the competence of the person to assist this learning. [10,11] Many studies revealed that educating and counseling the mothers were effective in decreasing the breast engorgement and improving the newborn

feeding behaviour among postnatal mothers. [12]

Providing appropriate interventional programmes about breast engorgement and its home management has been a need of the day. Over the years, plentiful strategies for the management of this problem have been hired such as hot and cold compresses, application of cabbage leaves, fluid limitation, kangaroo care and binding the breasts or wearing a tight brassiere. Very few researches have been conducted to determine the effectiveness of hospital based teaching programme on improving the knowledge of postnatal mothers regarding home management for breast engorgement. This is the main reason to conduct the current study. The objectives of this study were to determine the effectiveness of hospital based teaching programme on improving the knowledge of postnatal mothers regarding home management for breast engorgement in selected hospitals from Uttar Pradesh and to find out numerous factors associated with it.

MATERIAL AND METHOD

Research approach & design: - Quantitative approach with Pre experimental one group pretest posttest design

Setting of the study: - The study was conducted in women's district hospital, Barabanki (Uttar Pradesh, India)

Study Population: - Postnatal mothers

Sample size: - 60

Sampling technique: - Non-probability purposive sampling technique

Inclusion Criteria

- Postnatal mothers who are planned to stay at least 10days
- Postnatal mothers who are willing to participate in the study.
- Postnatal mothers who are able to understand Hindi or English language
- Postnatal mothers who are in the age group of 20-40 years

Exclusion Criteria

- Postnatal mothers who have complications or seriously ill.
- Postnatal mothers who are discharged within a short time.
- Postpartum blues and postpartum depression

Tool:

The research tool for data collection consists of two sections:

Section 1:- Demographic tool

It consists of Age, Religion, Education, Occupation, Family income, Type of family, Parity, Types of hospital visit, Mode of delivery, and Source of previous information

Section 2:- Self-structured knowledge questionnaire

It consists of 30 items for assessing knowledge among postnatal mothers regarding home management for breast engorgement. Every item was of multiple choice types with one correct answer carrying 1 mark remaining options 0 marks. The minimum score 0 and maximum score was 30. The scores were categorized as 0-10 inadequate knowledge, 11-20 moderate knowledge and 21-30 adequate knowledge. Content validity of the tool was determined by experts in the field of Obstetrics and Gynecological nursing. The reliability of the knowledge questionnaires was tested by

using spearman brown split half method and score was found to be $r = 0.78$. The tool was prepared in Hindi to facilitate better comprehension. Interventional module hospital based teaching programme was prepared based on the review of literature which consists of areas such as introduction, causes, clinical presentation, prevention, home management and complications of breast engorgement and also exclusive breast feeding with breast feeding positioning (Table-1). The study was approved by the Institutional Ethical Committee. Informed consent was obtained and the confidentiality and anonymity of the participants were maintained.

Data collection procedure

Pre-test was followed by the administration of a hospital based teaching programme (1 hour per day) for the next 5 consecutive days. After 3days of intervention, a post-test was conducted by using the same questionnaire; data collected was tabulated and analyzed with the help of descriptive and inferential statistics.

Statistical analysis

SPSS 25 (Statistical Package for the Social Sciences, India) was used for Statistical analysis and $P = 0.05$ was considered as the level of significance.

Session	Topic discussed	Approach/ Model	Duration
Day 1	Pre-test Introduction to breast engorgement	Discussion Video Power point	45 minutes 1 hour
Day 2	Causes and clinical presentation of breast engorgement	Video Power point	1 hour
Day 3	Prevention of breast engorgement	Video Power point	1 hour
Day 4	Home Management for breast engorgement	Problem solving Video Simulation	1 hour
Day 5	Exclusive breast feeding with breastfeeding positioning	Video Simulation	1 hour
Day 6	Complications of breast engorgement	Discussion Video Power point	1 hour
Day 9	Post-test	-	45 minutes

RESULTS

The major findings of the study were as follows:

Demographic data	Frequency (F)	Percentage (%)
1. Age		
20-23 years	9	15.0
24-27 years	8	13.3
28-30 years	25	41.7
> 30 years	18	30.0
2. Religion		
Hindus	35	58.3
Muslims	16	26.7
Christians	6	10.0
Others	3	5.0
3. Education		
Illiterate	9	15.0
Primary education	36	60.0
Higher education	11	18.3
Graduation & above	4	6.7
4. Occupation		
Private sector	6	10.0
Government sector	2	3.3
Self employed	9	15.0
Homemaker	43	71.7
5. Family income		
<10000 INR	45	75.0
10000-20000 INR	4	6.7
20001- 30000 INR	9	15.0
>30000 INR	2	3.3
6. Types of family		
Nuclear family	17	28.3
Joint family	35	58.3
Extended family	6	10.0
Blended family	2	3.3
Others		
7. Parity		
0	11	18.3
1	19	31
2	17	28
>2	13	21.7
8. Types of hospital for visit		
Government	32	53.3
Private	14	23.3
Semi- government	12	20.0
Non-government	2	3.3
9. Mode of delivery		
Normal labor without induction	44	73.3
Normal labor with induction	0	0
Painless labor by anaesthesia	0	0
Lower segment cesarean section	16	26.7
10. Source of previous information		
No information	16	26.7
Family and friends	35	58.3
Health care providers	9	15.0
Website and mass media	0	0

Table 2 shows that frequency and percentage distribution of demographic variables, the majority of the postnatal mothers 41.7% were in the age group of 28- 30 years, 58.3% were Hindus, 60% had primary education, 71.7% were homemakers, 75% had less than 10000INR monthly family income, 58.3% belonged to joint family, 31% mothers had one child (parity), 53.3% subjects were going government hospital for visit, 73.3% subjects undergone normal labor without induction and 58.3% had previous source of information from their family and friends.

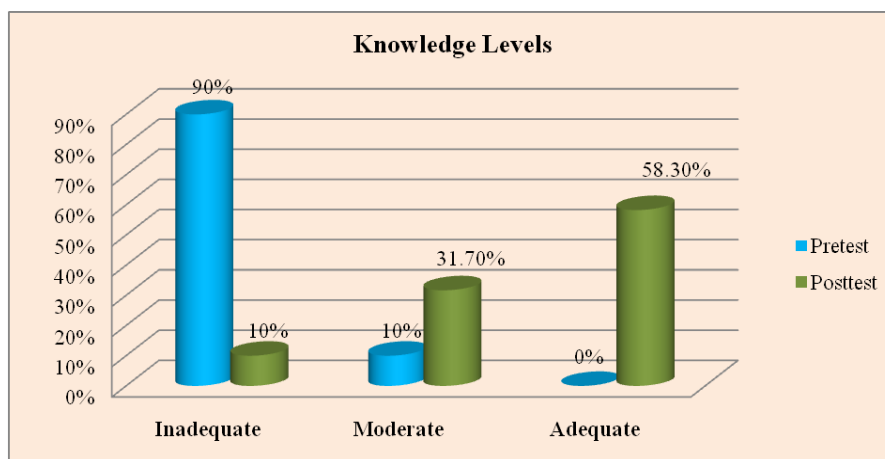


Figure-1: Percentage distribution of overall gradation of pretest and posttest knowledge level

Graph 1 depicts that percentage distribution of knowledge level regarding home management for breast engorgement among postnatal mothers, in the pretest majority 90% had inadequate knowledge, remaining 10% moderate knowledge and none of them had adequate knowledge but in the post-test, the majority 58.3% had adequate knowledge followed by 31.7% moderate knowledge and 10% had inadequate knowledge regarding home management for breast engorgement.

Table 3: Comparison of Knowledge score regarding home management for breast engorgement among postnatal mothers between Pretest and Posttest

Test	N	Mean	SD	t- value	df	p
Pretest	60	8.2	1.7	15.3	59	0.001**
posttest	60	17.9	5.6			

**Significant (p<0.01)

The table 3 illustrates that comparison of pre-test and post-test knowledge score regarding home management for breast engorgement among postnatal mothers by using paired t-test, the mean score in posttest 17.7 ± 5.6 was greater than the pretest mean score 8.2 ± 1.7 , the obtained t- value 15.3, $p = 0.001$. It is inferred that there is a significant difference in pretest and posttest knowledge score regarding home management for breast engorgement among postnatal mothers. So a hospital based teaching programme was effective to improve the level of knowledge regarding home management for breast engorgement among postnatal mothers.

Table 4: Association between pretest knowledge level with their demographic variables

Demographic Profile	Knowledge score		χ^2	df	p
	≤ Median	> Median			
1. Age			1.4	3	0.70
20-23 years	6	3			
24-27 years	4	4			
28-30 years	15	10			
> 30 years	13	5			
2 Religion			3.2	3	0.36
Hindus	22	13			
Muslim	10	6			
Christian	3	3			
Others	3	0			
3. Education			10.5	3	0.02*
Illiterate	7	2			
Primary education	26	10			
Higher education	5	6			
Graduation & above	0	4			
4. Occupation			4.2	3	0.25
Private sector	4	2			
Government	0	2			
Self employed	6	3			
Homemaker	28	15			

5. Monthly income			4.7	3	0.19
<10000 INR	30	15			
10000-20000 INR	3	1			
20001- 30000 INR	5	4			
>30000 INR	0	2			
6. Type of family			0.20	3	0.98
Nuclear family	11	6			
Joint family	22	13			
Extended family	1	1			
Blended family	4	2			
7. Parity			0.69	3	0.88
0	8	3			
1	11	8			
2	11	6			
>2	8	5			
8. Types of hospital visit			9.1	3	0.02*
Government	25	7			
Private	8	6			
Semi government	5	7			
Non - government	0	2			
9. Mode of delivery			2.1	1	0.15
Normal labor without induction	25	19			
Normal labor with induction	0	0			
Painless labor by anesthesia	0	0			
Lower segment cesarean section	13	3			
10. Source of previous information			1.6	2	0.45
No information	11	5			
Family and Friends	20	15			
Health care providers	7	2			
Website and mass media	0	0			

*Significant (p<0.05)

Table 4 indicates that Chi-square value in pretest knowledge score with the selected demographic variable like education ($\chi^2 = 10.5$, $p=0.02$) and type of hospital visit ($\chi^2 = 9.1$, $p=0.02$) was significant and other variables age (1.4), religion (3.2), occupation (4.2), family income (4.7), type of family (0.20), parity (0.69), mode of delivery (2.1), and source of previous information (1.6) were not significant ($p>0.05$). Thus it can be concluded that there is an association between postnatal mothers' levels of knowledge regarding home management for breast engorgement with their educational status and type of hospital visit.

DISCUSSION

The present study found that the hospital based teaching programme module was highly effective in improving knowledge regarding home management for breast engorgement among postnatal mothers ($t=15.3$, $p=0.001$). These results were supported by Sherin [13] et al (2013) which displays that the international modules like information booklet was

greatly effective in enhancing the knowledge of the postnatal mothers ($t=14.8$, $p<0.05$).

Present study, education and type of hospital visit variables found to be associated with knowledge of postnatal mothers regarding home management for breast engorgement and others variables were not significantly related with the knowledge of postnatal mothers. This results partially supported by Sharma P [14] (2013) which concludes that there was an association between postnatal mother's levels of knowledge with their educational status and rest of the other variables were not significant with it. In contrast, Aneesha VB [15] et al (2019) study found that there was no association between the knowledge levels of postnatal mothers with their selected demographic variables.

Implication and Recommendations

Nurse educators could use these teaching modules to enrich the knowledge of antenatal and postnatal mothers regarding home management for breast engorgement. This study benefits governmental and

nongovernmental organizations to conduct awareness programs, seminars, workshops etc. for preparing staff nurses, ASHA workers, anganwadi teachers and significant others in order to contribute to the sound health of antenatal and lactating mothers. A similar study can be replicated on a large scale for more reliability and effectiveness. Attitude and practice of postnatal mothers regarding home management for engorgement also can be assessed in future studies.

CONCLUSION

Interventional module hospital based teaching programme was effective to enhance the knowledge regarding home management for breast engorgement among postnatal mothers. This study also noticed that there is an association between postnatal mother's levels of knowledge regarding home management for breast engorgement with their education and type of hospital visit. The study is limited to postnatal mothers who are admitted in selected hospitals in Barabanki, Uttar Pradesh, India. There is a solid need to implement any kind of educational and teaching programs to reduce the problems associated with breast engorgement.

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Conflicts of interest

There are no conflicts of interest

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