

To Evaluate the Effectiveness of Lactational Counseling on Prevention of Breast Engorgement among Postnatal Mothers

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ABSTRACT

BACKGROUND

Breast engorgement is swollen, painful breasts with overfilling of breast milk. It is normally due to an imbalance between supplying & sucking of milk from the breast. In lactating mothers, this condition is common during the puerperal period. If breast engorgement is not cured, it will cause mastitis. The incidence rate of mastitis in India is 2 - 5 % in lactating & 1 % in non-lactating women. Signs of breast engorgement are the inflamed and oedematous mammary gland & the shiny & diffusely red skin of breast. The female may have pyrexia & that usually reduces over a period of 24 hours. The nipples could stretch, be tight & flat which makes it difficult for the baby to suck milk from the breast.

METHODS

Research approach was interventional evaluatory approach. Research design was pre-experimental post-test design. The study was conducted in AVBR hospital Sawangi Meghe, Wardha district. Sample consisted of post-natal mothers. Sampling technique was a non-probability purposive sampling technique. Sample size was of 40. Tool used was a structured questionnaire including socio-demographic & breast engorgement assessment scale.

RESULTS

All postnatal mothers had normal breast engorgement score at day 1, at day 2; 92.5 % of the postnatal mothers had normal and 7.5 % had mild engorgement at day 3; 77.5 % of postnatal mothers had normal, 15 % had mild and 7.5 % had moderate engorgement; and at day 4, 7.5 % had mild and 7.5 % had moderate engorgement. By using the chi-square test statistically, no significant difference was found in breast engorgement score at day 1 and at day 2 ($\chi^2 = 3.11$, $p = 0.07$), and a significant difference was found between day 1 and day 3 (χ^2 -value = 10.14, $p = 0.006$) and between day 1 and day 4 (χ^2 -value = 11.43, $p = 0.003$).

CONCLUSIONS

This study reveals that there was no significant difference on the first and second day but on the 3rd and 4th day, significant difference was there. After lactational counseling, breast engorgement score was reduced. Lactational counseling is important for the prevention of breast engorgement.

KEY WORDS

Evaluate, Effectiveness, Breast Engorgement, Lactational Counselling, Postnatal Mother

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DOI: 10.14260/jemds/2021/143

How to Cite This Article:

Gavhale PR, Moon SH. To evaluate the effectiveness of lactational counseling on prevention of breast engorgement among postnatal mothers. *J Evolution Med Dent Sci* 2021;10(10):663-666, DOI: 10.14260/jemds/2021/143

Submission 24-10-2020,
Peer Review 14-01-2021,
Acceptance 20-01-2021,
Published 08-03-2021.

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BACKGROUND

Breast engorgement is a condition in which the mother's breast becomes swollen and painful because of the overfilling of breast milk.¹ This typically develops because of the overproduction of milk.² The mother's breast may become hard and swollen, which may make it difficult for the baby to breastfeed.³

Breast engorgement may be severe. It typically happens when the baby doesn't take it well, so the milk builds up. Breast engorgement can also occur at any time patients are breastfeeding, especially when the baby's feeding pattern changes and they feed less.⁴

Breast engorgement developed due to overfilling & overproduction of milk in the mammary gland. Engorgement affects the appearance (size & shape) and curvature of the nipple and breast by making the breast rigid, flexible, hard, and swollen. The nipples of the engorged breast are either flat or inverted.⁵

The nipples may be tight and flat, making it difficult for the baby to extract milk. Milk will not be flowing properly.⁶ Fever can occur in 15 % but is usually less than 39 degrees C and lasts for less than one day.⁷

Breast engorgement is the most common problem among postnatal mothers. Lactational counselling helps to initiate breastfeeding after childbirth and because of that, it helps in preventing breast engorgement.⁸ Many women face this problem within the first few days after giving birth, although it can happen later.⁹ It is more likely when breastfeeding is limited or when the baby has trouble sucking, or when the mother is separated from her new-born. Breast engorgement can make breastfeeding difficult for women. Lactational counseling is important for the prevention of breast engorgement. If it is not treated it will cause mastitis.¹⁰

METHODS

The objectives of the study are to assess the effectiveness of lactational counseling on the prevention of breast engorgement among postnatal mothers and to find out the association between lactational counseling on breast engorgement with selected demographic variables. The study was started after obtaining permission (Ref.no. DMIMS (DU) / IEC / Dec - 2019 / 8639) from the institutional ethics committee Datta Meghe Institute of Medical Sciences (DU), Sawangi Meghe Wardha. Before the data collection, consent was taken from the patient. In this study, a pre-experimental post-test design and an interventional evaluatory approach were used. The study was conducted in AVBR hospital in the postnatal care (PNC) ward. 40 postnatal mothers were selected as a study sample according to the prevalence calculated from the formula and the non-probability purposive sampling technique was used. A structured questionnaire on demographic variables and from breast engorgement assessment scale was a tool and this tool was given to 6 experts who included from the field of obstetrical and gynaecological nursing. The tool was modified according to the suggestion and recommendation of experts. Before data collection, permission was obtained from the concerned authorities of the selected hospital. Individual consent was taken from the

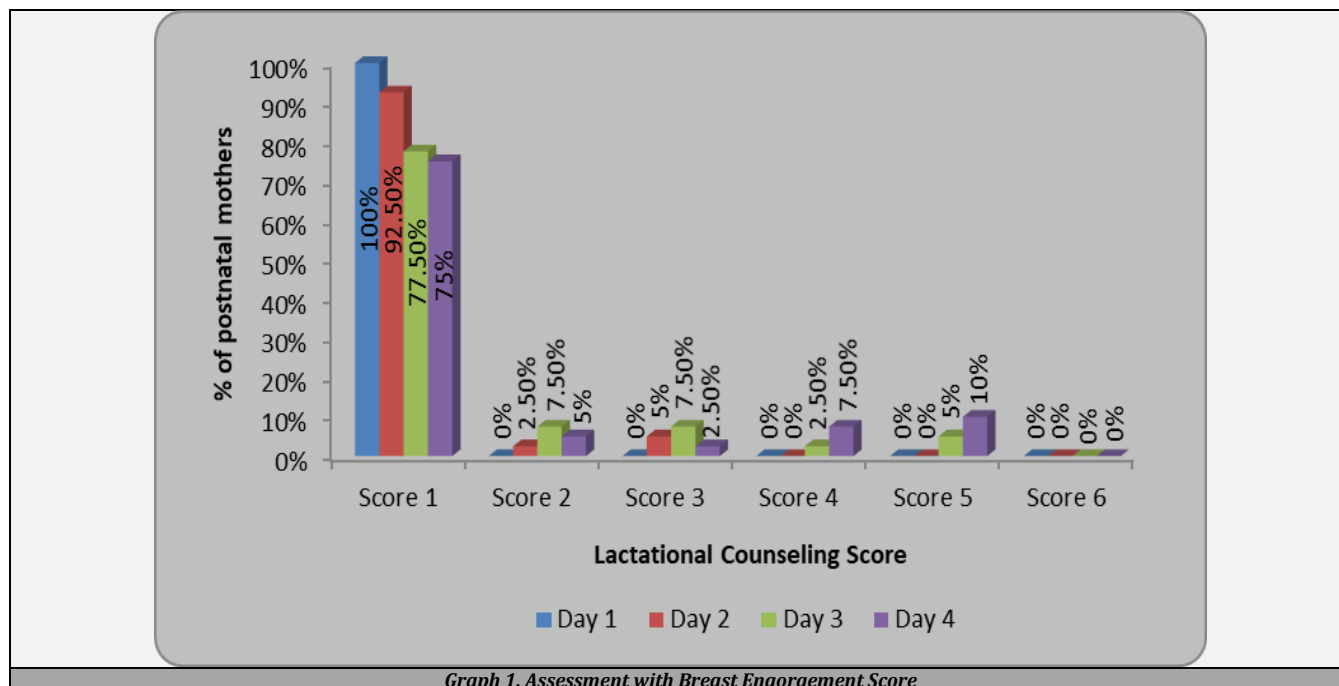
postnatal mother. Lactational counseling was given by the researcher to postnatal mothers after delivery. The researcher provided lactational counseling regarding the importance of breastfeeding, how breastfeeding works, breastfeeding technique, and clinical practice. After providing lactational counseling, assessment of the breast engorgement according to the breast engorgement assessment scale¹¹ after delivery for 4 days was done. In this study, the research variable is age (years) of mother, education of mother, occupation of mother, monthly income, type of family and area of residence. Inclusion criteria are postnatal mothers in the selected area who are willing to participate in the study, postnatal mothers who are available at the time of data collection, and postnatal mothers who can understand and write English and Marathi. Exclusion criteria are postnatal mothers with high-risk pregnancy and delivery, mothers with a high-risk baby admitted in the neonatal intensive care unit and postnatal mothers who have already attended a similar type of study, postnatal mothers who are suffering from breast engorgement and received the treatment of breast engorgement. A pilot study was conducted in 10 samples in a selected postnatal ward from AVBR Hospital Sawangi Meghe, Wardha.

RESULTS

	Demographic Variables	No. of Postnatal Mothers	Percentage (%)
Age (yrs.) of Mother	18 - 22 yrs.	4	10.0
	23 - 27 yrs.	14	35.0
	28 - 32 yrs.	14	35.0
	33 - 37 yrs.	8	20.0
Education of Mother	Primary School	3	7.5
	High School	6	15.0
	Higher Secondary	18	45.0
	Graduate	13	32.5
	PG and mote	0	0
Occupation of Mother	Housewife	28	70.0
	Govt Sector	2	5.0
	Private Sector	10	25.0
	Business	0	0
Monthly Family Income (Rs)	1000 - 5000 Rs	0	0
	5001 - 10000 Rs	19	47.5
	10001 - 15000 Rs	21	52.5
	> 15000 Rs	0	0
Type of Family	Nuclear	30	75.0
	Joint	10	25.0
Parity	Primipara	17	42.5
	Multipara	22	55.0
	Grand Para	1	2.5
Area of Residence	Urban	21	52.5
	Rural	19	47.5

Table 1. Percentage-Wise Distribution of Postnatal Mothers According to Their Demographic Characteristics

10 % of postnatal mothers were in the age group of 18 - 22 years, 35 % were in the age group of 23 - 27 years, 35 % were in the age group of 28 - 32 years and 20 % of the postnatal mothers were in the age group of 33 - 37 years. 7.50 % of the postnatal mothers were educated up to primary school, 15 % of them were educated up to high school, 45 % of them were up to higher secondary, 32.50 % of them were graduates and none of them were post graduates (PG) or more. 70 % of the postnatal mothers were housewife, 5 % of them were government servants and 25 % of them were doing service in the private sector.



Graph 1. Assessment with Breast Engorgement Score

Score Interpretation	Day (1)	Day (2)	Day (3)	Day (4)
Score 1: Soft	40 (100 %)	37 (92.5 %)	31 (77.5 %)	30 (75 %)
Score 2: Slight changes in breast	0 (0 %)	1 (2.5 %)	3 (7.5 %)	2 (5 %)
Score 3: Firm, non-tender breast	0 (0 %)	2 (5 %)	3 (7.5 %)	1 (2.5 %)
Score 4: Firm, beginning tenderness in breast	0 (0 %)	0 (0 %)	1 (2.5 %)	3 (7.5 %)
Score 5: Firm, tender	0 (0 %)	0 (0 %)	2 (5 %)	4 (10 %)
Score 6: Very firm, very tender Highest	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)
χ^2 -value	-	3.11	10.14	11.43
p-value	-	0.21,NS	0.038,S	0.022,S
Df	-	2	3	4
χ^2 -tabulated value	-	5.99	7.82	9.49

Table 2. Assessment with Breast Engorgement Score

47.50 % of the postnatal mothers had a monthly family income of 5001-10000 Rs and 52.50 % of them had a monthly family income of 10001 - 15000 Rs. 25 % of the postnatal mothers were from a joint family and 75 % of them were from nuclear families. 42.50 % of the postnatal mothers were primipara, 55 % of them were multipara and 2.50 % of them were grand multipara. 52.50 % of the postnatal mothers were from an urban area and 47.50 % were from a rural area.

The above table shows that all (100 %) of the postnatal mothers had soft breast engorgement score at day 1, at day 2, 92.5 % of the postnatal mothers had soft, 2.5 % had slight changes in the breast and 5 % had firm and non-tender breast, at day 3, 77.5 % of postnatal mothers had soft, each 7.5 % had slight changes in breast, firm and non-tender breast, and 5 % had firm and tender and at day 4, 75 % of postnatal mothers had soft breast, 5 % had slight changes in the breast, 2.5 % had firm and non-tender breast, 7.5 % had firm, beginning and tenderness in breast and 10 % of the postnatal mothers had a firm and tender level of breast engorgement score. By using the chi-square test statistically, no significant difference was found in breast engorgement score at day 1 and at day 2 ($\chi^2 = 3.11, p = 0.21$), and a significant difference was found between day 1 and day 3 (χ^2 -value = 10.14, $p = 0.038$) and between day 1 and day 4 (χ^2 -value = 11.43, $p = 0.022$).

Association between lactational counseling on breast engorgement with demographic variables. All (100 %) of the postnatal mothers had normal breast engorgement score at day 1, at day 2, 92.5 % of the postnatal mothers had normal

and 7.5 % had mild engorgement, at day 3, 77.5 % of postnatal mothers had normal, 15 % had mild and 7.5 % had moderate engorgement and at day 4, 75 % of postnatal mothers had mild, 7.5 % had mild and 7.5 % had moderate engorgement. By using the chi-square test statistically, no significant difference was found in breast engorgement score at day 1 and at day 2 ($\chi^2 = 3.11, p = 0.07$), and a significant difference was found between day 1 and day 3 (χ^2 -value = 10.14, $p = 0.006$) and between day 1 and day 4 (χ^2 -value = 11.43, $p = 0.003$).

Educational Level	No. of Postnatal Mothers	Mean Lactational Counseling Score	F-Value	p-Value
Primary School	3	4 ± 0	0.42	0.73 NS, $p > 0.05$
High School	6	5 ± 2.44		
Higher Secondary	18	5.88 ± 3.28		
Graduate	13	5.23 ± 3.08		
PG and mote	0	0 ± 0		

Table 3. Association of Level of Lactational Counseling of Breast Engorgement Relation with Educational Level

In this table association of lactational counseling scores with the educational level of postnatal mothers is tabulated. The tabulated 'F' value was 2.84 (df = 3.36), which becomes significantly more than the measured 'F' value, i.e. 0.42 at a 5 percent significance level. Also, the measured 'p' = 0.73 was far greater than the appropriate level of significance, i.e. 'p' = 0.05. It is also considered that the level of education of postnatal

mothers is significantly not related to their lactation counselling score.

DISCUSSION

In the present research, there is an association found in breast engorgement scores with selected demographic variables like age of mother, education of mother, and occupation of mother, monthly family income, and type of family, parity and area of residence. The acceptable level of significance i.e. 'p' = 0.05. Hence it is interpreted that area of residence of postnatal mothers is statistically associated with their breast engorgement score.

By using the chi-square test statistically, no significant difference was found in breast engorgement score at day 1 and day 2 ($\chi^2 = 3.11$, $p = 0.21$), and a significant difference was found between day 1 and day 3 (χ^2 -value = 10.14, $p = 0.038$) and between day 1 and day 4 (χ^2 -value = 11.43, $p = 0.022$).

The present study was conducted supported by a study at Sri Ramachandra University, Porur, and Chennai in 2012 - 13. The research aimed to determine the efficacy of breast engorgement & infant lactation therapy behaviour among . A non-equivalent quasi-experimental post-test control group design was included in this research. In this current study primigravidae who were admitted for safe confinement were selected. There were two-groups, one was a study group and the second was a control group. The research group (study group) has earned lactation counseling, whereas the control group received regular treatment from health practitioners. Breast swelling and baby feeding activity were measured within 3 days of postpartum period by using the breast engorgement evaluation tool as well as the infant feeding activity assessment tool, and data were analyzed using a standardized technique. The finding of the research was there is a substantial difference between primigravidae with breast engorgement with baby feeding behavior.¹¹

The present study was supported by a study conducted in Kochi, Kerala. In this study sample size was 60. Data was collected using a non-probability convenience sampling technique. The research revealed prenatal teaching given to reduce the incidence of breast engorgement for the experimental group after pre-test in the antenatal period than prenatal teaching was given and the post-test was done in the 3 days of the postnatal period. In the control group pre-test in the antenatal period then no intervention and post-test were done in the 3 days of the postnatal period. The pre-test means a score of experimental groups was 10.20 with the SD of 3.14 and the post-test mean score was 20.76 with the SD of 2.69. The pre-test means a score of the control group was 9.83 with an SD of 3.10 and the post-test mean score was 10.03 with an SD of 3.232. This research has shown that educating mothers is effective in decreasing the occurrence of breast engorgement.¹²

CONCLUSIONS

No significant difference was found in the breast engorgement score on day 1 and at day 2 ($\chi^2 = 3.11$, $p = 0.21$). Significant

difference was found between day 1 and day 3 (χ^2 -value = 10.14, $p = 0.038$) and between day 1 and day 4 (χ^2 -value = 11.43, $p = 0.022$). The area of residence of postnatal mothers is statistically associated with their lactational counseling score. Age in years, education of mother, occupation of mother, monthly family income, type of family, parity of postnatal mothers is statistically not associated with their lactational counseling score.

Data sharing statement provided by the authors is available with the full text of this article at jemds.com.

Financial or other competing interests: None.

Disclosure forms provided by the authors are available with the full text of this article at jemds.com.

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