

Enhancing Postnatal Mothers Knowledge on Breast Complication Prevention and Management: The Impact of Educational Intervention

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Abstract: *This article presents a study conducted to address the pressing issue of breast complications among postnatal mothers during the early post - partum period. These complications often result in painful experiences and may lead to more serious conditions, such as cracked nipples, mastitis, and breast abscess, ultimately influencing premature weaning. The study employed a quasi - experimental design involving educational intervention to empower postnatal mothers in preventing and managing these complications. Sixty participants were selected from a tertiary care hospital in Bhubaneswar. Pre - test and post - test assessments were conducted, with educational intervention in between. The results revealed a significant increase in post - test knowledge scores compared to pre - test scores, suggesting a positive impact of the intervention. This study sheds light on the effectiveness of educational interventions in elevating awareness and knowledge about preventing and managing breast complications among postnatal mothers.*

Keywords: Effectiveness, educational intervention program, knowledge, prevention, breast complication, postnatal mother

1. Introduction

The word postnatal comes from the Latin word 'post' which means 'after' and 'natis' means 'of birth'. It is the period beginning immediately after the birth of a child and extending for about 6 weeks. The majority of postpartum care is ensuring that the mother is healthy capable of taking care of her newborn. Equipped with all the information she needs about breastfeeding, reproductive health, contraception, the immediate life adjustment [1]. Breastfeeding is the best way to nourish newborns and infants. Furthermore, the duration is critical for the child's development and health. The World Health Organization (WHO) recommends that newborns be nursed exclusively for the first six months of life, and then continue to be breastfed until they are two years old or older [2]. "Exclusive breastfeeding" refers to feeding the baby only breast milk, with no other food or drink, including water [3]. Breastfeeding provides numerous benefits for both mothers and newborns. Several factors related to the mother and the baby, such as breastfeeding technique, particularly mother - infant positioning, latch, and infant suckling, have been shown to be important for the effective transfer of milk from the breast to the child as well as preventing nipple damage [4, 5]. Breast milk contains nutrients in precise proportions to the infant's needs for growth and development [6]. The significance of optimal baby nutrition and nursing in child survival, growth, and development cannot be overstated [7, 8]. The World Health Organization (WHO) recommends two years of breastfeeding; six months of exclusive breastfeeding; and more than eight times breastfeeding per day.

In 2021, approximately 76% of children in India were exclusively breastfed for less than 6 months as per NFHS - 5 while in Odisha, 48% mothers initiated breastfeeding within half an hour of birth, 75% fed colostrum to their newborns, 61% were practicing exclusive breastfeeding for first 6

months [9, 10]. Breastfeeding method, particularly mother - baby positioning and attachment or suckling by the infant, has been found to be critical for successful milk transfer from the breast to the kid as well as reducing nipple damage. Zioli - Guest et al. [11] studied mother - infant couples in a maternity unit and discovered that only 2% of pairings achieved optimal latch performance and 0.2% obtained optimal mother - infant posture.

Breastfeeding is a crucial aspect of postnatal care, and breast complications can hinder the initiation and maintenance of breastfeeding. Several studies have reported that breast complications are common among postnatal mothers, and lack of awareness and knowledge about prevention and management of these complications is a significant concern. A study reported that 96% of postnatal mothers experienced at least one breastfeeding problem, and 64% of them experienced nipple pain [12]. A mixed method study conducted on mother's experience on early breastfeeding problem revealed that up to 40% of the mothers had experienced early breastfeeding problems. The problems were associated with the mother, the infant and to lack of support from health care professionals. Most prominent problems were infant's inability to latch on (40%) and mothers having sore, wounded and cracked nipples (38%) [13]. Another study reported that 70% of postnatal mothers experienced at least one breastfeeding problem, and 30% of them experienced breast engorgement [14]. Breast complications pose significant challenges for postnatal mothers during the early postpartum period, often leading to discomfort, pain, and even premature weaning. These complications, including cracked nipples, mastitis, and breast abscesses, can negatively impact the breastfeeding experience, maternal well - being, and infant health. [15, 16, 17]

Several interventions have been proposed to prevent and manage breast complications among postnatal mothers. A study reported that a breastfeeding education program was

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effective in reducing the incidence of breast engorgement among postnatal mothers. [14] Another study reported that nursing intervention was more effective and contributed rapid recovery from mastitis [20] while breastfeeding support program was reported as an effective intervention in reducing the incidence of nipple pain among postnatal mothers. However, these interventions were not specific to the prevention and management of breast complications. [21]

While breastfeeding is widely acknowledged as a cornerstone of maternal and infant health, there is a noticeable research gap regarding the specific area of preventing and managing breast complications. Existing literature often focuses on broader aspects of maternal health, infant care, and breastfeeding practices, with limited attention given to targeted interventions addressing breast complication prevention and management. This gap underscores the need for evidence - based educational programs that can empower postnatal mothers with the necessary knowledge and skills to navigate breastfeeding challenges effectively. The current study aims to bridge this research gap by evaluating the impact of an educational intervention on postnatal mothers' knowledge, attitudes, and practices related to the prevention and management of breast complications. By focusing on this specific aspect of maternal care, the study contributes valuable insights to healthcare strategies, policies, and interventions aimed at enhancing the breastfeeding experience, improving maternal well - being, and ultimately benefiting infant health outcomes.

2. Methodology

Objectives of the Study:

- 1) To assess the level knowledge of post - natal mother regarding prevention of breast complication.
- 2) To find out the effectiveness of educational intervention programme on knowledge of postnatal mother regarding prevention of breast complication.
- 3) To associate posttest knowledge scores of the postnatal mother regarding prevention of breast complication with their selected demographical variable.

Hypotheses:

H01: There will be no significant difference between the pre and post – test knowledge of post - natal mother regarding prevention of breast complication

H02: There will be no significant association between post - test knowledge scores of post - natal mother regarding prevention of breast complication with their selected demographic variables.

Operational Definitions

Effectiveness: In this study effectiveness refers to the extent to which the educational intervention programme has achieved the desired effect in improving the knowledge of post - natal mother regarding prevention of breast complication as evidenced by gain in mean post - test knowledge score.

Educational intervention programme: In this study educational intervention programme refers to the systematically developed education plan formulated by the investigator to provide the information to post - natal mother regarding prevention of breast complication with the help of AV aids. It includes definition, causes, sign and symptoms, medical management, prevention of breast complication.

Knowledge: In this study knowledge refers to the correct response obtained from post - natal mother regarding prevention of breast complication as measured by structured knowledge questionnaire.

Breast complication: A breast complication is defined as any medically identified condition or issue that arises in the breast area, which may include but is not limited to pain, swelling, infection, changes in skin structure, discharge, or abnormal growths.

Post - natal mother: A woman who has given birth within past six weeks.

Research design: The research approach adapted for the study was quantitative approach. The research design used in the present study is quasi experimental onegroup pre - test post - test design.

Variables

Dependent variables: Knowledge levels of post - natal mother regarding prevention of breast complication.

Independent variables: Educational intervention programme on prevention of breast complication. Sampling selection criteria

Inclusion criteria: 60 post - natal mother who were admitted in the Obstetrics and Gynecology department of PBMH, KIMS Hospital, Bhubaneswar.

Exclusion criteria: Post - natal mother were not available at the time of data collection.

Sampling technique: In this study a convenience non - probability sampling technique was used to select 60 samples.

Description of tool

Section A: This section included items seeking information on demographic profile of sample such as age, religion, age at marriage, number of children, type of family, educational status, occupational status of women, dietary habits, place of residence.

Section B: A structured questionnaire was prepared consisting consisted of 22 items covering the knowledge regarding prevention of breast complications among postnatal mothers. Each item had four or three options or responses in the form of answers and among these responses one correct answer has to be selected. Each right answer carried 1 mark and each wrong answer carried 0 or no mark.

Score on each item refers to poor knowledge (0 - 6), average knowledge (7 - 16), and good knowledge (17 - 22).

Data Collection Procedure

Prior to data collection, permission was granted by the concerned authority (Principal of KINS, MS of KIMS, NS of KIMS, HOD of Obstetrics and Gynaecology department KIMS). The participants were informed about the purpose of the study and consent was taken from the participants. The study was carried out in PBMH hospital, Bhubaneswar during the period of 03.08.2021 from 14.08.2021 (Excluding Sundays). A sample of 60 was selected by using convenience non - probability sampling technique. A structured knowledge questionnaire was administered to assess the pre - test knowledge level and the educational intervention was administered on the same day. Post - test was conducted on the 7th day with the same structured knowledge questionnaire.

Statistical Analysis

Data collected, analyzed and tabulated by using descriptive and inferential statistics. Organizing the data on a master sheet. Paired t - test was used to evaluate the effectiveness of educational intervention programme. Chi - square test was done to associated post - test knowledge score with their selected socio demographic variables. **RESULT:**

Characteristics of Study Participants

A total 60 data were collected from the selected inpatient ward of Obstetrics & Gynecology department. Those post natal mother were attending the gynecology OPD we are not select in this study. Findings revealed that the highest percentage of postnatal mothers was in the age group of **18 - 25 years (58.3%)** and majority (**75%**) of them were Hindu. Maximum **26 (43.3%)** of them were getting married at the age of 21 - 26 years. Majority **33 (55%)** of them were having one child and maximum **36 (60%)** were having higher secondary education. Majority **38 (63.3%)** of them were home maker and maximum **42 (70%)** were belongs to nuclear family. Most **48 (80%)** of them were taking non - veg and maximum **52 (86.6%)** were belongs to urban area. (Table – 1)

Knowledge level regarding prevention of breast complication was assessed using a structured knowledge questionnaire and data regarding pre - test and post - test knowledge score was analyzed by using descriptive statistics, which was represented in Fig - 1 shows that 60% of postnatal mothers were scored poor in pre - test knowledge level which is the highest frequency (36) but after giving education it reduced to 1.6% whereas 38.4% of postnatal mothers having average score in pre - test

knowledge level with frequency (23) but after educating the mothers it increased to 78.4% (47) and 1.6% of postnatal mothers having good score in pre - test knowledge level but after educating them it increased to 20% (12). In order to find out the significance of difference between the pre - test and post – test knowledge score regarding prevention breast complication paired ‘t’ test was used and the data is presented in Table 4 reveals that the mean post – test knowledge score (13.42 ± 3.48) was higher than the mean pre - test knowledge score (5.83 ± 3.411). The computed ‘t’ value ($t = -28.850$ at $df = 59$; $P < 0.001$) showed a significant difference suggesting that the educational intervention program was effective in increasing the knowledge of the postnatal mother regarding prevention breast complication (Table - 2). Hence the null hypothesis H_01 was rejected and the research hypothesis was accepted. In Table - 3 Chi - square was calculated to find out the association between the pre - test knowledge score of the post natal mother with their demographic variables regarding breast complication reveals that no significant association was found between pre - test knowledge score when compared to age, religion, number of children, type of family, educational status, occupational status, dietary habits, residence except age at marriage which shows significant association with “ $p < 0.001$ ”. Hence it can be interpreted that the difference in mean score related to their demographic variables were not true difference and only by chance. So the null hypothesis was accepted.

Table 1: Frequency and Percentage Distribution in terms of Socio - demographic Characteristics, N=60

Socio - demographics Characteristics	Frequency	Percentage (%)
Age (in years) -		
18 - 25	35	58.3
26 - 33	22	36.6
Above 34	3	5
Religion -		
Hindu	45	75
Muslims	10	16.6
Christian	0	0
Others	5	8.3
Number of Children -		
1	33	55
2	24	40
3	3	5
>4	0	0
Occupational Status of Women -		
Private	16	26.6
Government	6	10
Self business	0	0
Home maker	38	63.3
Dietary Habits -		
Vegetarian	12	20
Non - vegetarian	48	80
Eggetarian	0	0

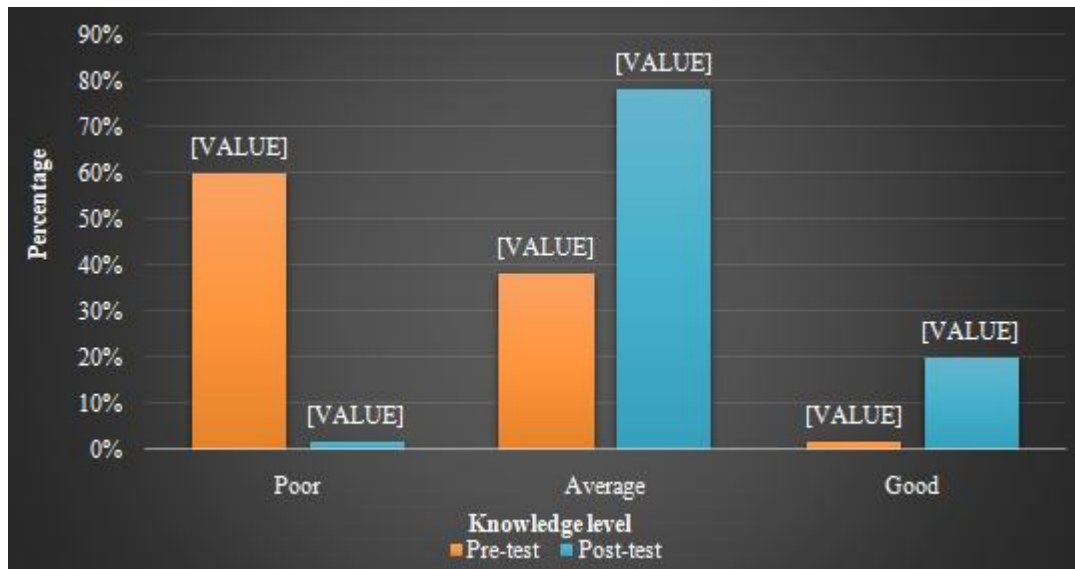


Figure 1: Bar Graph showing comparison of pre and post - test knowledge score of postnatal mother

Table 2: Comparison of pre - test and post - test knowledge of postnatal mothers regarding breast complications (paired t - test), N= 60

Mean ± SD				
Pre - test knowledge	Post - test knowledge	T - test Value	df	p - value
5.83 ± 3.411	13.42 ± 3.480	- 28.850	59	0.001*

Table 3: Association of pre - test Score with selected demographic variables (Chi - square test)

Socio - demographic variables	Chi square value (x ²)	p - value (p≤0.05)
Age	35.677	0.151
Religion	28.926	0.416
Age at marriage	89.237	0.001*
Number of children	38.234	0.094
Type of family	13.069	0.521
Educational status	23.537	0.706
Occupational status	30.173	0.355
Dietary habits	11.528	0.644
Residence	9.471	0.800

*Statistically Significant 'p - value' (0.05)

3. Discussion

The present study goal to measure the effectiveness of planned teaching programme on breast complication among post natal mother. Breast complications may be noncancerous (benign) or cancerous (malignant). Most are non - cancerous and not like threatening. Often they do not require treatment. In contrast, breast cancer can mean loss of breast or of life. Thus for many women breast cancer is feared. However, potential problem can be detected early when women regularly do breast self - examination and are examined by doctor through mammograms. Early detection of breast cancer like complication can we essential successful treatment. Participants in the current study were generally the aged between 15 - 65year. The literature of the study reflects due to the contribution those, who diagnosed with cervical cancer and possibility to compare with the result of the study from the different settings.

Observational study designed with Quantitative approaches was undertaken on 60 postnatal mothers were taken by convenient sampling technique of Pradyumna Bal Memorial Hospital, Bhubaneswar, Odisha to assess the knowledge, effectiveness of teaching programme and association of the pre - test knowledge with the socio demographic variables of postnatal mothers regarding breast complications. Data collection tool included socio demographic variables and self - structured knowledge questionnaire. Data was analysed by descriptive and inferential statistics.

Findings revealed that the highest percentage of postnatal mothers were in the age group of 18 - 25 years (58.3%) and majority (75%) of them were Hindu. Maximum 26 (43.3%) of them were getting married at the age of 21 - 26 years. Majority 33 (55%) of them were having one child and maximum 36 (60%) were having higher secondary education. Majority 38 (63.3%) of them were home maker and maximum 42 (70%) were belongs to nuclear family. Most 48 (80%) of them were taking non - veg and maximum 52 (86.6%) were belongs to urban area.

The results of major findings indicated that the postnatal mothers had inadequate knowledge in prevention and management of postnatal breast complication. The result showed that the mean score of pre - test knowledge is less than the post - test knowledge with the t value was - 28.850 at df= 59 and p value 0.000, which was extremely statistically significant.

The association between pre - test knowledge with the demographic variables were found that (p=0.000) statistically significant with the age at marriage of postnatal mothers, except the other demographic variables were not statistically significant. The finding of the study revealed that the planned teaching programme had improved the knowledge of postnatal mothers regarding prevention and management of breast complications.

4. Conclusion

In the society where all over the populations were relatively young and the prevalence of breast complication is spreading rapidly, awareness is the key to increasing the knowledge of the public including health professional about breast complication, knowledge towards promotion of health status of the patients. Existing knowledge of the postnatal mother was found moderate adequate, so with the administrations of an effective government programme to reduce the prevalence rate and increase the knowledge and practice of the community peoples on regarding breast complication. Furthermore, if the ASHA/AWW who has directly contact with the patients they must have update skill and knowledge on prevention of breast complication and they will stimulate them to change the behaviour towards the problems, raise the awareness among all community and provide opportunities to them for discussion regarding their health.

Implication

The findings of the study under discussion have pointed out certain facts that have far reaching implications for family member and community in relation to field of nursing practice, nursing education, research and administration.

5. Recommendations

On the basis of findings of this study, it is recommended that

- A similar study can be repeated by taking large sample to generalize the findings
- A comparative study may be conducted in rural and urban areas
- A similar study can be undertaken by utilizing other domain like prevalence of breast complications, recovery rate of breast complications.

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Conflicts of interest

None

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