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A Study on The Prevalence and Patterns of Breast Complications Among Primiparous Mothers

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ABSTRACT

Breast complications are common among mothers during the postpartum period and can make breastfeeding a painful and challenging experience. Primiparous mothers, who experience motherhood for the first time, may face greater difficulties due to limited knowledge and experience of breastfeeding and breast care. The present study aimed to assess the prevalence and patterns of breast complications among primiparous mothers attending selected Maternity and Child Health (MCH) Centres in Sangareddy, Telangana. A quantitative research approach was adopted, and data were collected from 185 primiparous mothers using a non-probability convenience sampling technique. A structured interview method was used to gather information regarding breast complications and selected demographic characteristics. The collected data were analysed using frequency, percentage and Chi-square tests. The findings revealed that 110 (59.5%) mothers experienced breast complications, while 75 (40.5%) mothers did not report any complications. Breast engorgement was the most common problem, affecting 40.9% of mothers, followed by cracked or sore nipples (34.5%), perceived insufficient milk supply (27.3%), blocked milk ducts (22.7%) and mastitis (10.9%). The study also found no statistically significant association between the occurrence of breast complications and maternal age and mode of delivery.

Keywords: *Primiparous Mothers, Breast, Complications, Engorgement, Cracked Nipples.*

I. INTRODUCTION

Breastfeeding is one of the most important natural processes that contributes to the healthy growth, development and survival of infants. It provides essential nutrients, antibodies and protective factors that support the development of the infant's immune system and protect against various infections and illnesses. Breastfeeding also offers several health benefits to mothers, including improved postpartum recovery, uterine contraction and reduced risk of certain long-term health conditions. The

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World Health Organization recommends early initiation of breastfeeding within the first hour of birth, exclusive breastfeeding during the first six months of life and continued breastfeeding along with appropriate complementary feeding up to two years or beyond. However, successful breastfeeding depends on several factors, including maternal health, breast conditions, proper positioning, correct attachment and adequate knowledge of breastfeeding practices.

Primiparous mothers are women who have given birth for the first time. They may experience several physical and emotional challenges during the postnatal period because of their limited previous experience with pregnancy, childbirth and breastfeeding. The initiation of breastfeeding can sometimes be difficult for first-time mothers due to inadequate knowledge, anxiety, improper breastfeeding techniques and insufficient professional guidance. These challenges may increase their vulnerability to various breast complications, particularly during the first few weeks after delivery. Such complications can cause physical discomfort, interfere with effective milk removal and negatively affect the continuation of exclusive breastfeeding.

Breast complications are common health concerns experienced by lactating mothers during the postpartum period. Some of the frequently occurring complications include breast engorgement, cracked or sore nipples, blocked milk ducts, mastitis, nipple inversion and perceived insufficient breast milk supply. Breast engorgement generally occurs when the breasts become excessively full due to the accumulation of milk and increased blood and tissue fluid, resulting in swelling, tenderness and pain. Cracked or sore nipples may develop due to improper positioning and attachment of the infant during breastfeeding. Blocked milk ducts occur when milk is not adequately removed from certain areas of the breast, causing localized pain and swelling. Mastitis is an inflammatory condition of breast tissue that may be associated with infection and can produce breast tenderness, redness, swelling and fever. These complications may occur individually or simultaneously, creating difficulties for mothers during the breastfeeding period.

Several maternal, obstetric and breastfeeding-related factors may contribute to the development of breast complications. These include maternal age, mode of delivery, delayed initiation of breastfeeding, incorrect positioning, poor attachment of the infant, irregular feeding practices, inadequate breast emptying and lack of breastfeeding education. Psychological factors such as fear, anxiety, stress and lack of family support may also influence breastfeeding experiences. Mothers who do not receive appropriate guidance regarding breastfeeding techniques and breast care may face greater difficulties in identifying early symptoms and managing complications effectively. Therefore, proper assessment, timely intervention and continuous support from healthcare professionals are essential for promoting successful breastfeeding.

Breast complications can have significant consequences for both mothers and infants. Pain, swelling and nipple injuries may make breastfeeding uncomfortable and discourage mothers from feeding their babies regularly. Inadequate milk removal may further aggravate breast engorgement and increase the possibility of inflammatory conditions. Some mothers may develop a perception of insufficient milk supply, which can reduce their confidence and lead to unnecessary supplementation or early discontinuation of breastfeeding. These difficulties may affect infant nutrition, maternal

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satisfaction and the overall breastfeeding experience. Early identification and appropriate management of breast complications are therefore important components of quality postnatal nursing care.

The role of nurses and healthcare professionals is particularly important in preventing and managing breast complications among primiparous mothers. Antenatal and postnatal counselling can improve maternal awareness regarding the importance of breastfeeding, correct positioning, proper attachment, frequent feeding and breast hygiene. Demonstrations of appropriate breastfeeding techniques, regular breast assessment and guidance regarding the management of common complications can help mothers develop confidence and overcome breastfeeding difficulties. Family involvement and emotional support can also encourage mothers to continue breastfeeding and seek timely medical assistance whenever required.

II. REVIEW OF LITERATURE

Ali, Asmaa et al., (2024). Among the many breastfeeding complications, cracked nipples has the most impact on whether or not a mother chooses to nurse her child, particularly in the first thirty days after giving birth.The purpose of this research was to identify postpartum cracked nipple rates and risk variables. The research strategy used was a descriptive cross-sectional study. The research was place at the Nabaroh Health Care Center and Nabaroh Central Hospital in Nabaroh, Egypt. This study made use of a practical sample size of 817 women who had just given birth. Instruments: Cracked Nipples-Associated Factors Questionnaire, Nipple Soreness Rating Scale, and Structured Interview Questionnaire. The majority of nursing mothers used ineffective approaches, cracked nipples were present in almost three quarters of postnatal women, cracked nipples in two or more degrees affected over a third of women, and nearly two-thirds of those mothers had the wrong nipple attachment. Among the postpartum women who were studied, cracked nipples were most common in the following groups: women in their twenties and thirties, those without jobs, those who had caesarean sections, those who did not receive breastfeeding instructions in the first week after giving birth, those who fed their babies on demand, those who used pacifiers, those who misused their latch-on technique, those who positioned themselves incorrectly while breastfeeding, and those who did not follow proper breastfeeding protocols. Creating nursing recommendations to help expectant and new mothers avoid cracked nipples and learn how to nurse effectively.

Dasarapu, Indrani. (2019). In the first few days and even weeks of nursing, many women experienced the discomfort of breast engorgement. This common issue may affect both mothers who breastfeed and those who do not. Untreated engorgement may produce painful blebs, clogged milk ducts, or mastitis; it is often caused by an imbalance between milk supply and baby demand. The purpose of the research was to determine how often breastfeeding moms who had a vaginal birth or a lower segmental caesarean section experience breast engorgement.

Dutta, Ruma & Gowder, Ravikanth. (2018). To study the prevalence, evaluate the predisposing factors and know the etiological factors associated with mastitis in lactating mothers during puerperium. A prospective study was performed from January 1st, 2014 to December 31st, 2015. Data were collected from patients admitted in the postnatal ward with benign breast problems by

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preformatted questionnaires. Breast milk cultures were done to evaluate the etiological factors. Data were analyzed by using descriptive statistics. The overall prevalence of puerperal mastitis among lactating mothers was 5.1%, high among caesarean section patients (5.8%) compared to vaginally delivered patients (4.8%). The predisposing factors include primipara (57%), unbooked cases (57%), low socioeconomic status (49%), anemic patients (45%), breast engorgement (75%), cracked nipple (44%), retracted/flat/inverted nipple (13%), poor attachment of baby to breast (32%), infrequent removal of milk (7%), oversupply of breast milk (37.5%) and lower supply of breast milk(12.5%). Breast milk culture reports yielded growth of Staphylococcus aureus (75%) and MRSA (25%). Seven patients developed breast abscess (4.4%). It is recommended to educate the mothers and the family on the exclusive breast feeding practice and its benefits, demand feeding, optimal positioning and attachment of the baby, to provide adequate emotional support and access to skilled help in the early postpartum period.

Akter, Sharmin et al., (2016) Babies' healthy growth and development depend on their mothers' ability to breastfeed them exclusively. One potential roadblock to effective breastfeeding after giving birth is postpartum breast problems. Therefore, the purpose of this research was to identify typical issues with the breasts after childbirth at ICMH, Matuail. The research included all postpartum moms who presented to LMC with complaints related to their breasts. There were 114 samples collected in all. Mothers who agreed to participate in the research but later expressed their disinterest were not included. Based on the data we collected, the age distribution of moms was as follows: 35.96% were under the age of 20, 58.77% were in the 20-30 age bracket, and 5.26% were 35 and over. Out of the 114 mothers surveyed, 91.22 percent were stay-at-home moms and 8.77 percent were working mothers. When asked when they started breastfeeding, 12.28% said within the first hour, 78.28 percent said between one and twelve hours, and 4.38% said between twelve and twenty-four hours. Of the babies who were breastfed exclusively, 63.15 percent were given their first pre-lacteal feed, and 71.42 percent were given their first supplemental feed. Insufficient milk production was experienced by 46.49% of mothers, poor attachment by 20.17%, breast engorgement by 17.54%, cracked nipples by 7.89%, inverted nipples by 2.63%, flat nipples by 1.75%, nipple infections and abscesses by 0.877%.

III. RESEARCH METHODOLOGY

Research Approach

A quantitative research approach was adopted.

Sources of Data Collection

They drew on a variety of primary and secondary resources for their data. Primary data were gathered from 185 first-time moms using questionnaires and structured interviews. Breast health and maternal complications-related secondary data came from a variety of sources, including medical records, textbooks, research papers, journals, and published literature.

Target Population

The target population consisted of primiparous mothers attending the selected MCH centres in Sanga Reddy, Telangana.

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Sampling Technique

A non-probability convenience sampling technique was adopted.

Sample Size

A total of 185 primiparous mothers were selected for the study.

Data Collection Procedure

Sangareddy, Telangana's designated Maternity and Child Health Centers' relevant authorities gave their prior approval. Before data collection began, participants gave their informed permission. Structured interviews and pertinent maternal records were used to gather information on breast problems and demographic factors, where available. All measures were taken to ensure the participants' privacy and confidentiality throughout the research.

Statistical Analysis

After data collection was complete, it was coded, tabulated, and evaluated statistically. The demographic features, incidence, and kinds of breast problems among first-time moms were analyzed using descriptive statistics, such as percentages and frequencies. To determine if there was a correlation between certain demographic variables and the incidence of breast problems, we used the Chi-square test. These variables included maternal age and delivery method. Statistical significance was defined as a p-value below 0.05.

IV. DATA ANALYSIS AND INTERPRETATION

Table 1. Distribution of Primiparous Mothers According to Age

Age	Frequency	Percentage
Below 20 years	45	24.3
20–25 years	100	54.1
Above 25 years	40	21.6
Total	**185**	**100.0**

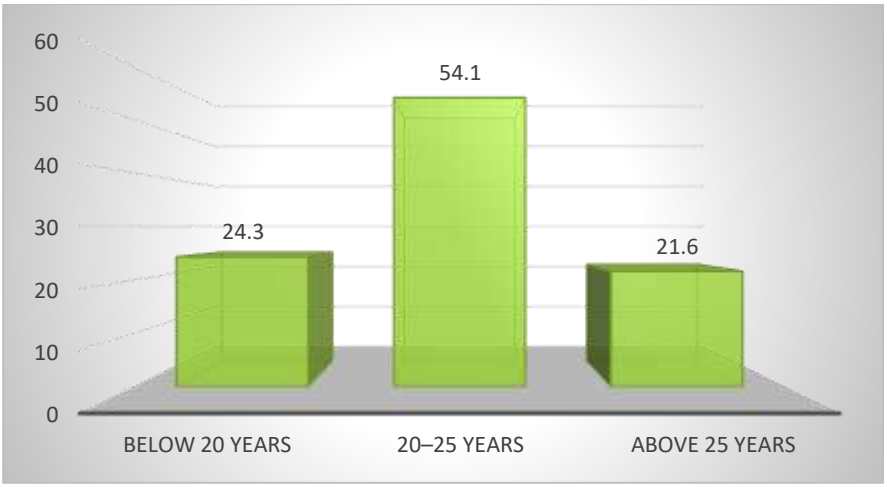


Figure 1. Distribution of Primiparous Mothers According to Age

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The majority of mothers, 100 (54.1%), belonged to the 20–25 years age group, followed by 45 (24.3%) mothers below 20 years and 40 (21.6%) mothers above 25 years. This indicates that most primiparous mothers were in the 20–25 years age group.

Table 2. Distribution of Primiparous Mothers According to Mode of Delivery

Mode of Delivery	Frequency	Percentage
Normal vaginal delivery	108	58.4
Caesarean section	77	41.6
Total	185	100.0

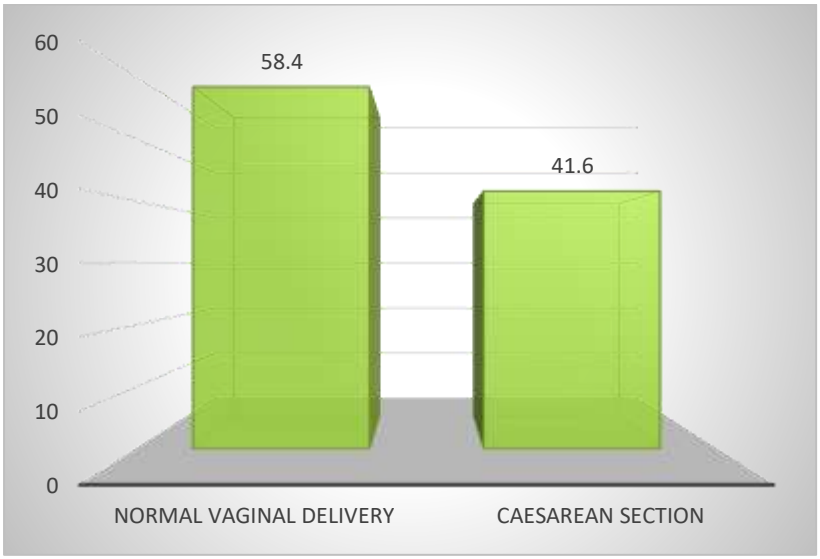


Figure 2: Distribution of Primiparous Mothers According to Mode of Delivery

The majority of mothers, 108 (58.4%), had undergone normal vaginal delivery, whereas 77 (41.6%) mothers had undergone caesarean section.

Table 3. Distribution of Primiparous Mothers According to the Occurrence of Breast Complications

Occurrence of Complications	Frequency	Percentage
Mothers with breast complications	110	59.5
Mothers without breast complications	75	40.5
Total	**185**	**100.0**

Table 3 presents the occurrence of breast complications among 185 primiparous mothers. The findings reveal that 110 (59.5%) mothers experienced breast complications, whereas 75 (40.5%) mothers did not report any breast complications.

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Table 4. Distribution According to the Types of Breast Complications Among Affected Mothers (Multiple Responses Allowed)

Types of Breast Complications	Frequency	Percentage
Breast engorgement	45	40.9
Cracked or sore nipples	38	34.5
Blocked milk ducts	25	22.7
Mastitis	12	10.9
Perceived insufficient milk supply	30	27.3

Table 4 illustrates the different types of breast complications experienced by affected primiparous mothers. The findings reveal that breast engorgement was the most commonly reported complication, accounting for 45 (40.9%) responses, followed by cracked or sore nipples, reported by 38 (34.5%) mothers. Perceived insufficient milk supply was reported by 30 (27.3%) mothers, while 25 (22.7%) mothers experienced blocked milk ducts. Mastitis was the least frequently reported complication, accounting for 12 (10.9%) responses. Since multiple responses were allowed, the percentages do not add up to 100%.

Table 5. Chi-Square Test Showing the Association between Demographic Characteristics and the Occurrence of Breast Complications among Primiparous Mothers

Demographic Variables	With Complications (n = 110)	Without Complications (n = 75)	χ^2 Value	p-Value
Age				
Below 20 years	30	15	2.07	0.355
20–25 years	58	42		
Above 25 years	22	18		
Mode of Delivery				
Normal vaginal delivery	68	40	2.04	0.153
Caesarean section	42	35		

Table 5 depicts the association between selected demographic characteristics and the occurrence of breast complications among primiparous mothers. Regarding age, the chi-square value was 2.07 with a p-value of 0.355, indicating that there was no statistically significant association between the age of mothers and the occurrence of breast complications at the 0.05 level of significance. Similarly, the mode of delivery showed a chi-square value of 2.04 with a p-value of 0.153, which was also statistically not significant. Therefore, the findings indicate that neither age nor mode of delivery had a statistically significant association with the occurrence of breast complications among primiparous mothers.

V. CONCLUSION

Breastfeeding is an important part of maternal and child health, but the postpartum period can be challenging, particularly for mothers experiencing motherhood for the first time. Breast complications are among the common difficulties that may affect a mother's comfort, confidence and

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breastfeeding experience. Proper breastfeeding practices, adequate knowledge, personal care and timely healthcare support play an important role in preventing and managing these problems. Awareness about correct breastfeeding techniques, proper positioning and attachment, regular feeding and early recognition of breast-related discomfort can help mothers overcome many breastfeeding difficulties. Nurses and healthcare professionals have an important responsibility to provide continuous guidance, practical demonstrations and emotional support during the postnatal period. Family involvement and a supportive healthcare environment can further encourage mothers to continue breastfeeding without unnecessary fear or discomfort. Therefore, greater attention should be given to breastfeeding education and postnatal breast care to promote a positive breastfeeding experience and improve the overall well-being of mothers and infants.

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