

Impact of Lactational Training and Nipple Evaluation During Pregnancy in Reducing Lactational Mastitis and Breast Abscess

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Abstract

Background: The incidence of lactational mastitis ranges between 2 to 33% with an average incidence of 10%. It is highest in first few weeks and decreases gradually. Breast abscess occurs in 3-11% of cases of mastitis. The cause can be mainly attributed to maternal factors (nipple abnormalities, faulty feeding technique). Aims Evaluation of nipple abnormality and counselling of pregnant women during pregnancy is likely to increase establishment of breastfeeding rate and reduction of lactational mastitis and abscess. **Subjects and Methods:** Methodology Intervention arm (group A, n=100): The pregnant ladies were counselled about correct technique of lactation. The nipple was examined to check if it can cause any hindrance to breastfeeding (Inverted, Flat, Very large, Very small). Control Arm (group B, n=92): The pregnant ladies (equally matched) with group A were included. The result was analyzed using chi square test using SPSS software version 24. **Results:** In Gr A 90 out of 100 mothers could establish breast feeding. Out of 10, 2 developed mastitis. In Gr B 60 out of 92 established breast feeding. Of the 32 remaining mothers, 18 developed mastitis. There was significant improvement in establishment of breast feeding amongst mothers who were counselled/examined during pregnancy (The chi-square statistic is 17.2204. The p-value is .000033). The incidence of lactational mastitis was significantly lower in GrA (The chi-square statistic is 4.0139. The p-value is .045128). **Conclusion:** Predelivery counselling and evaluation of nipple abnormalities (and appropriate measures) improves establishment of lactation and reduction of lactational mastitis/ breast abscess.

Keywords: lactation training during pregnancy, improved lactation, reduction of lactational mastitis and abscess

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Received: 19 April 2023

Revised: 10 June 2023

Accepted: 25 June 2023

Published: 12 August 2023

Introduction

The standard of care for lactation has been set by the WHO as “exclusive breast feeding upto the age of 6 months”. However, a large number of mothers are unable to breast feed their child. The causes are faulty feeding techniques, anatomical abnormalities of nipple and orofacial anomalies of the child. The incidence of exclusive lactation achievement is only 44%.^[1] If optimal breastfeeding can be continued till 0-23 months of age of the baby, then it is estimated that 820,000 under 5 deaths can be prevented. Breast feeding is associated with higher level of IQ, school attendance, higher studies, and higher income in adult life.^[2] Lactation failure leads to milk congestion in the breast leading to lactational mastitis and breast abscess. Of the causes of lactation failure, faulty technique of feeding and nipple abnormalities are modifiable factors.^[3] Evaluation of nipple of the mother and training of lactation of the mothers during the final trimester of the pregnancy is likely to reduce the incidence of lactation failure which in turn is likely to reduce lactational mastitis.

Aims

Evaluation of nipple abnormality and counselling of pregnant women during pregnancy is likely to increase establishment of breastfeeding rate and reduction of lactational mastitis and abscess.

Subjects and Methods

A study was conducted at the lactation Clinic of the Institute of Child Health, Kolkata between 2018 and 2019.

The study design: prospective observational study

Sample size :192

Inclusion Criteria

Group A (intervention arm) comprises of mothers in whom the nipple-areola complex were checked by paediatrician/lactation experts during final trimester of pregnancy. The nipple was examined to check if it can cause any hindrance to breastfeeding (Inverted, Flat, Very large, Very small). In this sub-group the mothers were explained the proper technique of “latching” and lactation.

Group B (control arm) comprises of mothers in whom no intervention was provided. The mothers in this group included were equally matched compared to Gr A in terms of age and parity.

Exclusion Criteria

1. Mothers with sick neonates
2. Mothers in whom the child had major orofacial congenital anomalies.
3. Mothers in whom there was non-initiation of lactation.

Outcome

The incidence of lactation failure in first 6 moths (period of exclusive breast feeding) was noted in both groups.

The incidence of lactation mastitis and breast abscess in both groups

Statistical Analysis

The result was analysed using chi square test using SPSS software version24.

Results

The number of patients included in Group A and Group B were 100 and 92 respectively. The age group ranged between 22 to 31 years. All mothers were primigravida . In Gr A, 90 out of 100 mothers could establish breast feeding. Out of 10, 2 developed mastitis. In Gr B 60 out of 92 established breast feeding. Of the 32 remaining mothers,18 developed mastitis. There was significant improvement in establishment of breast feeding amongst mothers who were counselled/examined during pregnancy (The chi-square statistic is 17.2204. The p-value is .000033)(Table 1). The incidence of lactational mastitis was significantly lower in GrA (The chi-square statistic is 4.0139. The p-value is .045128)(table 2).

Table 1: Association between Lactation vs. Group

	GROUP		
	GROUP A	GROUP B	TOTAL
Lactation Established	90	60	150
Lactation not Established	10	32	42
TOTAL	100	92	192

The chi-square statistic is 17.2204. The p-value is .000033. Statistically significant. We found that Lactation was significantly associated with group-A compared to group-B

Table 2: Association between Mastitis vs. Group

	GROUP		
	GROUP A	GROUP B	TOTAL
Mastitis	2	18	20
No Mastitis	8	14	22
TOTAL	10	32	42

The chi-square statistic is 4.0139. The p-value is .045128. Statistically significant. We found that mastitis was more in group-B compared to group-A which was statistically significant.

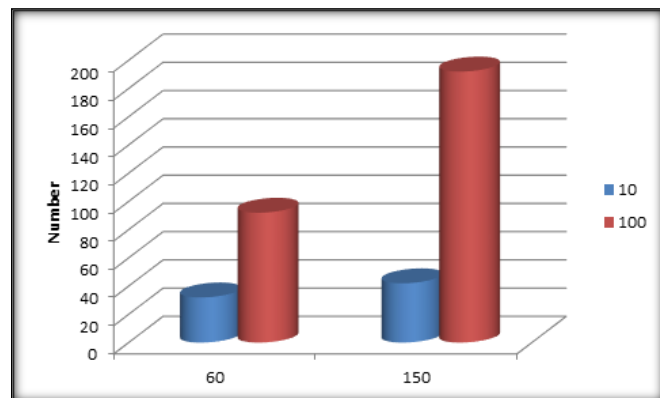


Figure 1: Association between Lactation vs. Groups

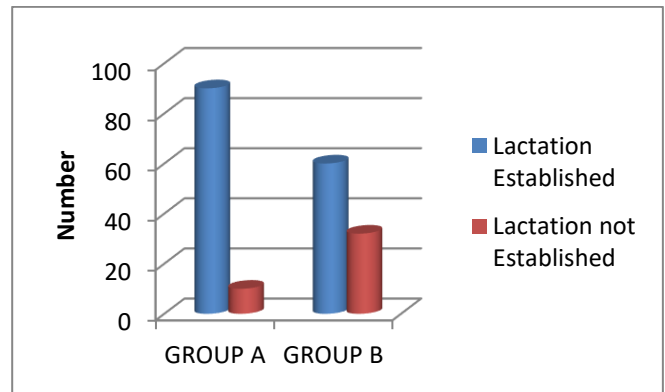


Figure 2: Association between Mastitis vs. Group

Discussion

Studies from the USA shows prevalence of disrupted lactation at 12 per 1000 births despite the mother showing best intentions of lactation during pregnancy.^[4] The estimated incidence of lactation mastitis is highly variable (5) ranges between 2 to 33% with an average incidence of 10%. It is highest in first few weeks and decreases gradually.^[6] Breast abscess occurs in 0.4-11% of all the lactating mothers.^[7] Development of mastitis leads to severe pain and often leads to stoppage of breast feeding by mother. It leads to further milk congestion and initiates a vicious cycle which finally culminates into breast abscess. Most breast abscess needs either radiological or surgical intervention. Many mothers end up in premature cessation of lactation.^[4] and in few there is development of lactation duct fistula.^[8] While this has a major short term physical imbalance on the mother.^[9] the long term health hazards of neonates with failed lactation is quite high.^[2]

It was noted that 53% of the mothers had little idea about perfect technique of lactation. Counselling the mothers about technique of lactation was found effective in implementing exclusive breast feeding in a previous study.^[10] In 22% of the mothers there was nipple abnormalities which would be an hindrance to breast feeding (very large nipple, inverted nipple, flat nipple). The mothers were taught different techniques.^[11] of nipple and areola maneuvering before child birth. Prior sensitization, counselling and training could effectively establish breast feeding in this group.

The most crucial period of establishing lactation is the first 72 hours . Failure to initiate lactation in this period often leads to early introduction of artificial feeds. Adaptation of the neonate to bottle feeding results in non-initiation of latching and finally leads to failure. In many cases it leads to nutrition failure of the neonate.^[12] Thus the study suggests the significance of pre-delivery visits to paediatric / Lactation clinic so that “exclusive breast feeding” could be established. This in turn reduces lactational mastitis and breast abscess.

Conclusion

The study concludes with the following recommendations

- Recommendation 1: All pregnant ladies must visit lactational clinics for nipple evaluation and appropriate lactation planning depending on nipple character.
- Recommendation 2: All pregnant mothers must be demonstrated /trained about proper latching.

Inclusion of these visits in antenatal care clinic is likely to have major public health impact.

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How to cite this article: Giri A, Basu S, Ghosh A. Impact of Lactational training and nipple evaluation during pregnancy in reducing lactational mastitis and breast abscess. Asian J. Clin. Pediatr. Neonatol.2023;11(2):1-3.

DOI: [dx.doi.org/10.47009/ajcnp.2023.11.2.1](https://doi.org/10.47009/ajcnp.2023.11.2.1)

Source of Support: Nil, **Conflict of Interest:** None declared.