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Knowledge and practice of breastfeeding among lactating mothers in AIIMS, Bhubaneswar – A hospital-based cross-sectional study

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Abstract:

BACKGROUND: 44% of infants under 6 months of age worldwide are only adequately breastfed. It is also found that only 41.6% of women breastfeed their child within one hour of birth and less than 50% of women continue breastfeeding up to 2 years. This study was conducted to assess the prevalence of early initiation of breastfeeding practice, to explore the knowledge and practices about breastfeeding among lactating mothers, and to find the effect of breastfeeding on the nutritional status of the child.

MATERIALS AND METHODS: A hospital-based study was conducted among 160 lactating mothers of infants below six months of age presenting to the immunization clinic at AIIMS Bhubaneswar. A semi-structured questionnaire based on the CDC breastfeeding questionnaire was administered to assess the knowledge and practice. The nutritional status of the infant was assessed by plotting the weight for age and length for age of the infant in the WHO growth charts.

RESULTS: 102 (75%) of mothers had initiated breastfeeding within the first hour of delivery. Adequate knowledge and practice of breastfeeding was present only in 4 (2.5%) and 3 (1.9%), respectively. It was found that 13.75% of women were using formula feed. The prevalence of underweight and less than normal length was 40% ($n = 64$) and 34.37% ($n = 55$) among infants, respectively.

CONCLUSION: This study emphasizes the importance of awareness among lactating mothers about the hindmilk, appropriate practice, and to find its effect on the nourishment of the children.

Keywords:

Breastfeeding, health education, knowledge, mothers, practice, tertiary

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Introduction

A child's development including 90% of brain development is believed to occur during the initial 2 years of life.^[1,2] The death of nearly 8,20,000 children's lives can be prevented every year if adequately breastfed during this period.^[3,4]

World Health Organization found that only 44% of infants under 6 months of age are adequately breastfed and set a target to

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increase exclusive breastfeeding (EBF) rate to 50% by the Year 2025.^[3,5] In India, EBF among infants under 6 months of age is 64% in 2021.^[6] It is also found that only 41.6% of women breastfed their child within one hour of birth and less than 50% of women continue breastfeeding up to 2 years.^[4,6]

The present study attempted to assess the knowledge and practice about breastfeeding practices among lactating mothers of infants and also assess the effect of breastfeeding on nutritional status of the infant.

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Materials and Methods

Study design and setting

The present study is a hospital-based study conducted between February 2022 and April 2022 during the third wave of COVID-19 pandemic. The study was conducted among lactating mothers of infants below six months of age presenting to the immunization clinic of AIIMS Bhubaneswar for routine immunization of their children. AIIMS Bhubaneswar immunization clinic has been functional since 2017 serving around 50 beneficiaries per day comprising a mixed group of beneficiaries for routine immunization, yellow fever vaccination, anti-rabies vaccination, antenatal vaccination, etc., It was the only clinic open during the COVID-19 lockdown where MCH services were provided.

Study participants and sampling

Eligible lactating mothers who provided written informed consent were enrolled in our study using the consecutive sampling method. The sample size for the planned study was calculated using the formula $Z^2 \cdot (1-\alpha/2) \times (PQ/d^2)$ considering $Z^2 \cdot (1-\alpha/2)$ to be 1.96, the reported prevalence of exclusive breastfeeding to be 64%,^[6] 5% confidence level, power 80%, relative error of 11%, and a non-response rate of 10%, and the sample size was found to be 160, and hence, 160 participants were recruited in our study.

Data collection tool and technique

Data were collected using a pre-tested, semi-structured questionnaire that was adapted from the Centre for Disease Control and Prevention (CDC) breastfeeding questionnaire.^[11] Using this questionnaire, sociodemographic information and awareness of the mothers on the four aspects of breastfeeding practice: (i) early initiation of breastfeeding, (ii) need for exclusive breastfeeding, (iii) to breastfeed on single breast, and (iv) the adequate duration of breastfeeding, and information on the use of pre lacteal feed were assessed. The mothers who had answered correctly all the questions about the four aspects of breastfeeding were considered to have adequate knowledge, and the mothers practicing the above factors in their daily life were considered to have good breastfeeding practice. The length and weight of the infants of the enrolled lactating mothers were measured using electronic baby weighing scale and infantometer with trained staff and plotted on World Health Organization (WHO) growth charts. The effect of exclusive breastfeeding on the nutritional status (normal weight, underweight, normal length, and less than normal length) of the infant was assessed. Infants ≤ 2 SD of the WHO child growth standards median were considered to be underweight and less than normal length for their age.

Ethical consideration

Ethical approval was obtained from the Institutional Ethics Committee, AIIMS Bhubaneswar (IEC No: T/IM NF/CM and FM/21/147).

Statistical analysis

Data were collected through Epicollect 5.0. Statistical analysis was done using SPSS version 22.0. Categorical variables were presented by proportion or percentages, and the continuous variables were presented by mean and standard deviation for parametric variables and median with interquartile range for non-parametric variables. Test of significance was applied using the Chi-square test. A *P* value of less than 0.05 was considered significant.

Results

A total of 160 lactating mothers were enrolled in our study. The mean age of the mothers was 27.3 years. In our study, 76 (47.5%) of the participants were graduates and above, and only 12 (7.6%) had educational attainment of primary school level and below. Majority of the respondents 130 (81.8%) of lactating mothers belonged to urban areas. The mean birthweight of the infants was 2.7 kilograms.

Although a majority of women had adequate knowledge about early initiation of breastfeeding 147 (91.9%) and exclusive breastfeeding 160 (100.0%), only 101 (63.1%) and 132 (82.5%) were found to be adequately practicing it, respectively. The factors hindering exclusive breastfeeding are shown in Figure 1. Among those exclusively breastfed, the knowledge about breastfeeding to be given on a single breast at a time and the need for breastfeeding for 10-19 minutes per feeding session were found to be inadequate, i.e. 4 (3.0%) and 5 (3.8%), respectively. The adequate knowledge and good practice about breastfeeding were present in only 4 (2.5%) and 3 (1.9%) of the total study participants [Table 1].

It was found that 142 (82.5%) reported to practice exclusive breastfeeding, while 18 (17.5%) of caretakers

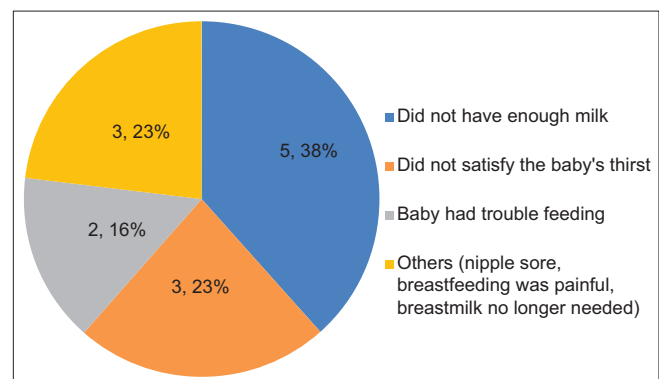


Figure 1: Factors hindering exclusive breastfeeding as per study participants

had provided artificial feeds. There is evidence of pre-lacteal food intake among 22 (13.8%) lactating mothers. The factors hindering exclusive breastfeeding are shown in Figure 1. Among the children who were given artificial feeds, it was found that 13 (71.4%) of babies were given powder from cans and the remaining were given milk powder from single-serving packs or ready-to-feed. It was found that 80% of the mothers did not receive adequate help from any healthcare provider on breastfeeding practices mainly due to their brief stay and irregular antenatal visits during the COVID pandemic.

The effect of exclusive breastfeeding on the nutritional status of the infants is described in Table 2. The study revealed that among infants, 36.4% and 57.1% were underweight for age among exclusively breastfed and nonexclusively breastfed groups, respectively. A difference of 21% reduction in underweight was present among exclusively breastfed infants when compared to those who were not exclusively breastfed. The association was found to be significant ($P = 0.041$). Length was assessed and it was seen that 31.1% and 50.0% were having less length in EBF and non EBF groups, respectively [Table 2].

Discussion

This hospital-based study revealed that exclusive breastfeeding was present in 82.5% of lactating women, and adequate knowledge on breastfeeding and good practice of practice was present in less than 3% of lactating women.

Breastfeeding was initiated in the initial 1 hour in 63.1% and pre-lacteal feeds mostly in the form of milk powder from cans were given in 13.7% of infants. This is in comparison with the Indian study conducted at an urban settlement of Vellore, southern India where the breastfeeding initiated within the first hour of birth was 148 (59%) infants and 32 (12.7%) infants received pre-lacteal feeds.^[7] Also, a study conducted at a tertiary center in Garhwal found that 64.81% of mothers had initiated breastfeeding within the initial 1 hr of birth and 16.35% of the mothers had given pre-lacteal feeds, with formula milk being the most commonly used pre-lacteal feed similar to our study.^[8]

The appropriate knowledge, attitude, and practice about breastfeeding were present in only three among 160 lactating mothers. A Ghana-based study showed that breastfeeding was initiated by only 34.5% although 80% knew that breastfeeding should be started within an hour.^[9] Health programs that show the effect on knowledge are not enough, as there is a lack in the practice of exclusive breastfeeding in spite of adequate knowledge among the lactating women.^[10] Also, a study conducted by Karnawat *et al.*, found that only about 50% of women had accurate knowledge about the appropriate time to initiate breastfeeding after delivery and of exclusive breastfeeding for 6 months after delivery.^[11] It was found in a study conducted by Kumar *et al.* that 58.9% of mothers stopped breastfeeding before completion of six months after birth.^[8] Human milk offers a neonate a balanced diet for healthy growth and development, in addition to its myriad of benefits like preventing stunting, protecting against infectious and

Table 1: Knowledge and practice on breastfeeding among lactating mothers

| Variable | Knowledge | | Practice | |
|--|------------|------|------------|------|
| | Proportion | % | Proportion | % |
| Breastfeeding initiated within 1 hour of birth of child (n=160) | 147 | 91.9 | 101 | 63.1 |
| Exclusive breastfeeding (for 6 months/date of interview) (n=160) | 160 | 100 | 132 | 82.5 |
| Breastfeeding for 10-19 minutes in every feed (n=132) | 5 | 3.8 | 47 | 35.6 |
| Breastfeeding is given on a single breast at a time and to be shifted only after emptying a breast (n=132) | 4 | 3.0 | 13 | 9.8 |
| Adequate knowledge and practice of breastfeeding (n=160) | 4 | 2.5 | 3 | 1.9 |

Table 2: The effect of exclusive breastfeeding on the weight and length of the infant

| Category | Weight | | | | P |
|----------------------------------|---------------|------|-------------------------|------|--------|
| | Normal weight | | Underweight | | |
| | Proportion | % | Proportion | % | |
| Exclusively breastfed (n=132) | 84 | 63.6 | 48 | 36.4 | 0.041* |
| Not exclusively breastfed (n=28) | 12 | 42.8 | 16 | 57.1 | |
| Category | Length | | | | P |
| | Normal weight | | Less than normal length | | |
| | Proportion | % | Proportion | % | |
| Exclusively breastfed (n=132) | 91 | 68.9 | 41 | 31.1 | 0.06 |
| Not exclusively breastfed (n=28) | 14 | 50.0 | 14 | 50.0 | |

*P (<0.05) - significant

chronic diseases, and decreasing infant mortality.^[12] In a study conducted by Rajan *et al.*, 19.6% of mothers had inadequate knowledge about breastfeeding. It was more common among women who were unemployed and belonging to the lower socioeconomic status.^[13] However, in our study, we found inadequate knowledge about breastfeeding even among graduates and postgraduates. All the pregnant women should be educated regarding breastfeeding during the antenatal period, so that the challenges of breastfeeding can be addressed. The awareness about the various difficulties that may arise during breastfeeding and their solutions should be provided by the healthcare workers to women during their antenatal, natal, and postnatal visits. It is important that the healthcare worker should discuss all issues about breastfeeding with the lactating mothers as it was found that in countries where the health workers in hospitals and community clinics have been trained, the percentage of exclusive breastfeeding at six months is more than 60%.^[14]

There is a major need to promote education and awareness on adequate breastfeeding practice among women of reproductive age group. In the current scenario, the use of artificial feeds among infants has also increased due to its accessibility and availability. In our study, 17.5% of the mothers had used artificial feeds. Studies from various countries across the world had found that mothers belonging to wealthy households were more prone to enhanced usage of various breast milk substitutes due to their financial stability to purchase it.^[15,16] However, this practice of artificial feeds has percolated among women of all strata including lower socioeconomic status.

The proportion of underweight and less than normal length infants among breastfeeding population in our study was 36% and 31%, respectively, and among those who were provided artificial feeds was 57% and 50%, respectively. Also, not following properly breastfeeding practices was found to have a negative effect on different measures of malnutrition and this effect had significantly raised across different quantiles of stunting, wasting, and underweight.^[17] Awareness about the breastfeeding practice in the early stages of a woman's life forms the most cost-effective intervention for creating an economically productive yet healthy country.

There are various studies that have proven the effect of health education and promotion activities among lactating mothers and its influence on promoting exclusive breastfeeding practices.^[18]

Limitations and recommendations

The present study is the first study to be conducted in Odisha on breastfeeding during COVID-19 pandemic.

This study was a hospital-based study conducted at a tertiary care setup where around half of the study population were graduates or postgraduates. However, the study was conducted at a much smaller sample size due to the COVID pandemic and the fear in accessing healthcare services from hospitals. This emphasizes the need for further studies to be conducted at a larger scale.

Conclusions

Very few lactating mothers had appropriate knowledge and practice about breastfeeding. Awareness about appropriate method and duration of breastfeeding has to be focused among women during their antenatal and postnatal visits. Furthermore, emphasis on exclusive breastfeeding and avoidance of artificial feeds must be advocated through mass media and through campaigns involving various government and non-governmental organizations. Baby-Friendly Hospital Initiative for breastfeeding should encourage health facilities worldwide for better support and active community participation.

The COVID pandemic had created immense suffering and reduction in the healthcare-seeking behavior among the people. There is a need for various telemedicine services among healthcare systems at all levels in case of any pandemic that might arise anytime. All hospitals need to be equipped with breastfeeding corner and Information Education Communication (IEC) materials on appropriate breastfeeding techniques. It is high time we come together to create a healthy and safe environment for both the children and the mothers.

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Ethical considerations with code of ethics

Informed written consent was obtained from the study participants before entering into the study. Maintenance of confidentiality of the data collected and freedom of the individual to participate and to withdraw from the study at any time without penalty or loss of benefits were also explained.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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