Original Research Article

A cross sectional study to assess factors related to exclusive breast feeding practice among mothers of infants aged six months or less admitted in pediatric wards at tertiary care hospital

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ABSTRACT

Background: Infant feeding practices have a major role in determining the nutritional status of a child. Despite several benefits of exclusive breastfeeding, the practice is not common in many developing nations, including India. So there is a need to assess factors associated with exclusive breast feeding by mothers.

Methods: A cross sectional study using the quantitative method by the means of a well prepared questionnaire, carried out in the pediatric ward of a tertiary care hospital in Mumbai. Data was collected by face to face interview and filed in a pretested, semi-structured questionnaire. Data entry was done in excel sheet and analysed with the help of epi-info and statistical package for the social sciences (SPSS) software and was presented in tabular and graphical form.

Results: A total of 112 mothers with infants <6 months of age participated in the study with a response rate of 98%.

Conclusions: Majority of mothers’ perception about exclusive breastfeeding was that they considered it insufficient for their infant’s health and nutrition, and hence also relied on other feeds.

Keywords: Mother, Infant, Breastfeeding

INTRODUCTION

Infant and young child nutrition has been engaging the attention of scientists and physicians since long for the very simple reasons that the growth rate in the life of human beings is maximum during the first year of life and this age is vulnerable to infections too.¹ Therefore infant feeding practices have a major role in determining the nutritional status of a child and survival. World Health Organization (WHO) recommends timely initiation of breastfeeding after birth and only feeding breast milk to infants during the first 6 months of life.² ³ It was estimated that exclusive breastfeeding can reduce infant deaths by 13%.⁴ ⁷ Despite its several benefits, the practice of exclusive breastfeeding is not common in many developing nations, including India. According to National Family Health Survey 2015-16 (NFHS-4), only 55% of infants are exclusively breastfed for six months, which is a rise of nine percent from 2005-06, a rise not enough to combat the omnipresent issue of child survival, infection and malnutrition in infants in India.⁵ ⁶

Justification

Several strong efforts to promote exclusive breastfeeding have yielded results that are less than desirable. This may be related to the challenges that mothers encounter while breastfeeding. Recognition of these challenges, and proposing solutions for them during counselling of post natal mothers is required. Thus there is a need to assess factors associated with exclusive breast feeding by mothers. Since no such study has been conducted in our area, the current study is undertaken with aim to provide a perspective about factors related to exclusive breast
feeding among nursing mothers having infant aged six months or less admitted in paediatric ward in tertiary care hospital.

**Aim**

Aim of the study was to assess factors related to exclusive breast feeding practice among mothers of infants aged six months or less admitted in paediatric ward.

**Objectives**

Objectives of the study were to find the socio-demographic profile of study subjects, to determine the proportion of subjects unable to provide exclusive breast feeding, and to assess the maternal and child characteristics in relation to exclusive breast feeding.

**METHODS**

**Place of study**

The study was conducted at the paediatric ward of a tertiary care hospital.

**Study subject**

Mothers having infant aged 6 month old or less admitted in paediatrics ward were a part of the study.

**Study design**

The design of the study was descriptive and cross sectional.

**Study period**

The duration of the study was from September 2018 to September 2019.

**Sampling method**

The sampling method used was convenient sampling.

**Sampling size**

The sampling size was 112 mother infant pairs (all consenting eligible mother infant pairs in the ward, during the study period).

**Study tools**

A pre-designed, semi structured and validated questionnaire was used as a study tool.

**Inclusion and exclusion criteria**

All consenting mothers of infants aged 6 months or less admitted in pediatric ward were included and mothers of seriously ill infant and/or had difficulty in communicating were excluded from the study.

**Method**

The following methodology was followed: mothers of infant aged six months or less admitted 6 months attending paediatric outpatient department (OPD) using selected convenient sampling; purpose of the study, patient information sheet and content of the questionnaire were explained to subjects in local language; subjects were enrolled; informed consent taken; data was collected by face to face interview and filed in a pretested, semi-structured, questionnaire; data entry was done in excel sheet and analysed with the help of epi-info and statistical package for the social sciences (SPSS) software; and data were presented in tabular and graphical form.

**Operational definitions**

Early initiation of breastfeeding is when the new born is breastfed within 1 hour of birth.

Exclusive breastfeeding include feeding directly from the breast or expressed, with no additive liquids, solids, or water (with the exception of drops or syrups containing vitamins, minerals, or supplements of medicine) for the first six months

Pre-lacteal feeds include any food, liquid, or herbs given before initiation of breastfeeding.

Bottle feeding include feeding of any liquid/semisolid including breast milk from a bottle with a teat.

**Ethical considerations**

The study was conducted after an approval from the institutional ethics committee after briefly explaining them about the aim and purpose of the study, the method that will be used, and after assuring them the confidentiality about the participants and its voluntary nature. A patient information sheet was explained and an informed consent was taken in a language that subject understand, for their participation. They were also explained their right to not answer any question.

**RESULTS**

**Sociodemographic characteristics**

A total of 112 mothers with infants <6 months of age participated in the study with a response rate of 98%. The age range of mothers included in the study was 18–40 years. Of the total participants, 99 were young mothers aged 18–34 years and 13 were aged 35 and above.

Age ranges of the children considered in this study were 0–6 months (optimal age range for exclusive breastfeeding). The distribution of children in age group
was: 34 (29.8%) for <2 months; 22(19.7) ≥2 up to <3 months; 21 (18.9%) ≥3 months up to <4 months and; and 35 (31.6%) ≥4 up to 6 months respectively. 58 (51.7%) children were male from the total study participants.

Of the total respondent mothers, 53 had not attended formal education, 61 (54.46%) of respondents were housewives, 51 (45.54%) were working (Table 1).

### Table 1: Socio-demographic characteristics of subjects.

| Variables                          | Frequency (N) | Percent (%) |
|------------------------------------|---------------|-------------|
| **Age of mothers in years**        |               |             |
| <25                                | 33            | 29.8        |
| 26-35                              | 71            | 63.1        |
| >35                                | 8             | 7.1         |
| **Total**                          | 112           |             |
| **Age of children in months**      |               |             |
| <2                                 | 34            | 29.8        |
| ≥2 to <3                           | 22            | 19.7        |
| ≥3 to <4                           | 21            | 18.9        |
| ≥4 to <6                           | 35            | 31.6        |
| **Total**                          | 112           |             |
| **Mother attended formal education**|               |             |
| Formal education                   | 59            | 53          |
| No formal education                | 53            | 47          |
| **Total**                          | 112           |             |
| **Husbands attended formal education**|             |             |
| Formal education                   | 79            | 71.9        |
| No formal education                | 33            | 28.1        |
| **Total**                          | 112           |             |
| **Per capita income of the family**|               |             |
| Upper class                        | 0             | 0           |
| Upper middle class                 | 8             | 7.14        |
| Middle class                       | 28            | 25          |
| Lower middle class                 | 52            | 46.42       |
| Lower class                        | 24            | 21.42       |
| **Total**                          | 112           |             |
| **Numbers of family members**      |               |             |
| 1-3                                | 23            | 20.53       |
| 4-5                                | 42            | 37.50       |
| >5                                 | 47            | 41.96       |
| **Total**                          | 112           |             |
| **Type of family**                 |               |             |
| Unitary                            | 29            | 25.89       |
| Joint                              | 57            | 50.89       |
| Three generation                   | 21            | 18.75       |
| Others                             | 5             | 4.46        |
| **Total**                          | 112           |             |
| **Mothers working status**         |               |             |
| Housewife                          | 61            | 54.46       |
| Working                            | 51            | 45.54       |
| **Total**                          | 112           |             |

### Health service and breastfeeding related characteristics

The present study indicates 75 and 62 mothers had followed antenatal and postnatal care respectively. 90 (80.36%) mothers gave birth to the index children in health facilities, the rest, 22 (19.64) delivered at home (Table 2).

### Table 2: Distribution of characteristics related to breastfeeding in mothers.

| Variables                          | Frequency (n) | Percent (%) |
|------------------------------------|---------------|-------------|
| **Place of delivery**              |               |             |
| Home                               | 22            | 19.64       |
| Health Institution                 | 90            | 80.36       |
| **Preceding birth interval**       |               |             |
| First child                        | 22            | 19.6        |
| <2 years                           | 61            | 54.46       |
| ≥2 years                           | 29            | 25.89       |
| **Total**                          | 112           |             |
| **Birth order of child**           |               |             |
| First                              | 22            | 19.64       |
| 2nd, 3rd                           | 85            | 75.89       |
| ≥4th                               | 5             | 4.46        |
| **Main reason for not EBF (n=25)**|               |             |
| Breast milk alone was insufficient | 56            | 64.4        |
| Mother left home                   | 10            | 11.5        |
| Age of weaning                     | 6             | 6.9         |
| Necessary for health               | 5             | 5.3         |
| **Bottle feeding practice**        |               |             |
| Yes                                | 7             | 93.25       |
| No                                 | 105           | 73.75       |
| **Exclusive breastfeeding**        |               |             |
| Yes                                | 47            | 41.96       |
| No                                 | 65            | 58.03       |
| **Frequency of breastfeeding (times per day)** | | |
| ≥8                                 | 69            | 61.60       |
| <8                                 | 43            | 38.39       |

Among those who ever breastfed, more than half 79 out of 112 initiated breastfeeding within the first hour of delivery and 88 out of 112 gave colostrum to their infants, and of mothers provided clean water, gave rue (tena-adam) to
infants with the perception of protecting children against illness. About 69 (61.60%) mothers’ breastfed their infants \(\geq 8\) times per day while, 43 (38.39%) of the mothers breastfed their children <8 times a day. Moreover, 96 mothers have knowledge about exclusive breastfeeding practices (Table 2).

Table 3: Multivariate analysis of variables predicting exclusive breastfeeding practice.

| Sr. no. | Variables                      | Practiced EBF | AOR (95% CI) | P value |
|---------|--------------------------------|---------------|--------------|---------|
| 1       | Age of the mother              |               |              |         |
|         | 15–24                          | 26            | 6            | 0.65 (0.21, 1.99) | 0.45 |
|         | 25–34                          | 52            | 15           | 0.63 (0.23, 1.74) | 0.37 |
|         | \(\geq 34\)                    | 9             | 4            | 1       |         |
| 2       | Mothers read and write         |               |              |         |
|         | Yes                            | 63            | 8            | 4.0 (2.20, 7.25) | 0.001** |
|         | No                             | 29            | 12           | 1       |         |
| 3       | Husband education              |               |              |         |
|         | Yes                            | 72            | 18           | 0.90 (0.48, 1.89) | 0.90 |
|         | No                             | 14            | 8            | 1       |         |
| 4       | ANC attendance (ANC)           |               |              |         |
|         | Yes                            | 63            | 12           | 0.88 (0.45, 1.69) | 0.69 |
|         | No                             | 13            | 24           | 1       |         |
| 5       | Postnatal care (PNC)           |               |              |         |
|         | Yes                            | 53            | 9            | 0.81 (0.42, 1.53) | 0.53 |
|         | No                             | 34            | 16           | 1       |         |
| 6       | Initiation of breastfeeding    |               |              |         |
|         | Within 1 hour                  | 67            | 12           | 2.2 (1.14, 4.27) | 0.001** |
|         | After 1 hour                   | 21            | 12           | 1       |         |
| 7       | Colostrum fed                  |               |              |         |
|         | Yes                            | 73            | 15           | 2.1 (1.11, 4.28) | 0.023* |
|         | No                             | 15            | 9            | 1       |         |
| 8       | Awareness of EBF               |               |              |         |
|         | Yes                            | 82            | 14           | 6.0 (3.1, 11.7) | 0.001** |
|         | No                             | 6             | 10           | 1       |         |

P value <0.05 (significantly associated), **p value <0.001 (highly significant association)

DISCUSSION

The above study was a cross sectional study using by the quantitative method by the means of a well prepared questionnaire, carried out in the pediatric ward of a tertiary care hospital in Mumbai.6

It was found from the study, that a majority of mothers’ perception about exclusive breast feeding was that they considered it insufficient for their infant’s health and nutrition, and hence also relied on other feeds, like bottle...
feeding, solid feeds, giving water (under the pretense that the infant must be hungry) and other liquids like honey (cultural beliefs) for building of the immunity of the infant.

A major portion of mothers also stated that they had a lack of privacy and time, since they were working, and hence resorted to other feeds.

There are other reasons stated in other studies too for not preferring exclusive breast feeding.8,9

Hence, during counseling, it must be taken care that these factors are mentioned to the young mothers and are proposed suitable solutions for it that best suits their needs.

**Limitations**

Due to a small sample size, the response received from the participants reflects a view of the current cross sectional view of the society only to a certain degree.

Results of this study are purely based on the responses received by the participants and are subjective.

The exclusive breast feeding practices of the participants could be determined in a better way if a longer period of follow up of at least a year was done. Due to time restraints, this was not possible.

**CONCLUSION**

Majority of mothers’ perception about exclusive breastfeeding was that they considered it insufficient for their infant’s health and nutrition, and hence also relied on other feeds.

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**Ethical approval:** The study was approved by the Institutional Ethics Committee

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