

|                                                                                   |
|-----------------------------------------------------------------------------------|
| Access this article online                                                        |
| Quick Response Code:                                                              |
|  |
| Website:<br><a href="http://www.jehp.net">www.jehp.net</a>                        |
| DOI:<br>10.4103/jehp.jehp_98_17                                                   |

# Breastfeeding awareness and perception among antenatal mothers: A cross-sectional study in urban slum population of Bhubaneswar, Odisha

Ipsa Mohapatra, Adrija Roy

## Abstract:

**INTRODUCTION:** Breast milk provides nutritional, immunological, behavioral, and economic benefits and helps to build mother-infant bonding. Antenatal mothers need to be sufficiently aware about the benefits of breastfeeding.

**OBJECTIVES:** The aim of this study is to assess the awareness and perception of breastfeeding among antenatal mothers and to find out any association between sociodemographic factors and breastfeeding awareness.

**METHODOLOGY:** A cross-sectional study was conducted among 250 antenatal women residing in the urban slums of field-practice area of urban health and training center; using a predesigned, pretested, semi-structured interview schedule. Antenatal checkup followed by one to one counseling for the women regarding breastfeeding was provided. Data were represented by frequencies, proportions, and associations using Chi-square, and the  $P < 0.05$  was considered statistically significant.

**RESULTS:** Most (55.6%) of the women were in the age group of 18–24 years. The mean age at marriage was  $19.2 \pm 2.5$  years. 81.2% of them were Hindus, 13.2% had adequate, 49.6% had moderately adequate, whereas 37.2% women had inadequate awareness about breastfeeding. About 100% intended to breastfeed their children, but only 64% said that they intended to exclusively breastfeed. 66.4% knew about the importance of colostrum. Age-group, religion, literacy, occupation, type of family, gravida, and number of antenatal visits showed highly significant ( $P < 0.001$ ) association with awareness of breastfeeding.

**CONCLUSION:** Nearly one-third of the antenatal mothers lacked awareness on breastfeeding practices. Although all intended to breastfeed, still only 64% knew about exclusive breastfeeding. These gaps need to be addressed by awareness generation activities during antenatal counseling.

## Keywords:

Antenatal mothers, awareness, breastfeeding, exclusive breastfeeding, perception

Department of Community  
Medicine, Kalinga Institute  
of Medical Sciences,  
Bhubaneswar, Odisha,  
India

## Address for correspondence:

Dr. Ipsa Mohapatra,  
Department of Community  
Medicine, Kalinga  
Institute of Medical  
Sciences, KIIT University,  
Patia, Bhubaneswar,  
Odisha - 751 024, India.  
E-mail: [dr\\_ipsa@yahoo.co.in](mailto:dr_ipsa@yahoo.co.in)

Received: 28-07-2017

Accepted: 17-09-2017

## Introduction

Breast milk provides the main source of nourishment in the 1<sup>st</sup> year of life of a newborn. In some societies, lactation continues to make an important contribution to the child's nutrition for 18 months or longer. In the world's more affluent societies, breastfeeding appears to have become a

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: [reprints@medknow.com](mailto:reprints@medknow.com)

lost art, and the feeding bottle has usurped the breast.<sup>[1]</sup> Breast milk has nutritional, immunological, behavioral, and economic benefits and helps to build mother-infant bonding.<sup>[2]</sup> Breastfed children have lower rates of childhood cancers, infections, asthma, allergies, childhood diabetes, gastrointestinal illnesses and infections that can damage their hearing.<sup>[3]</sup> Breastfeeding benefits is not just restricted to child, it protects the mother who has breastfed from developing ovarian and

**How to cite this article:** Mohapatra I, Roy A. Breastfeeding awareness and perception among antenatal mothers: A cross-sectional study in urban slum population of Bhubaneswar, Odisha. *J Edu Health Promot* 2018;7:60.

premenopausal breast cancers, and it also reduces the risk of postpartum bleeding and osteoporosis.<sup>[4]</sup>

According to the National Family Health survey-4, the infant mortality rate (IMR) and the under-five mortality rate (U5MR) of India are 41 and 50/1000 live births, respectively.<sup>[5]</sup> The IMR and U5MR of Odisha are 40 and 49/1000 live births, respectively;<sup>[6]</sup> this is a little less than the national average. Even though the IMR and U5MR have considerably reduced from the NFHS 3 survey, where IMR was as high as 65 and U5MR was a massive 91/1000 live births<sup>[5]</sup> there is still a long way to go to achieve the desired quality of infant and child health.

The major causes of death among under-five children in India are neonatal sepsis, diarrhea, and pneumonia, and breast milk is protective against all the three diseases.<sup>[3]</sup> A great asset in India is that an average Indian mother, although poor in nutritional status, has a remarkable ability to breastfeed her infant for prolonged periods, sometimes extending to nearly 2 years and beyond. Longitudinal and cross-sectional studies indicate that poor Indian women secrete as much as 400–600 ml of milk per day during the 1<sup>st</sup> year.<sup>[1]</sup>

To meet the optimum health needs of the newborns and children in our country, the mothers need to be sufficiently aware about the benefits of breastfeeding. The key to successful breastfeeding is Information, Education, and Communication (IEC) strategies aimed at behavioral change. In India, breastfeeding is universal with almost all babies being breastfed. However, the practice is not so for exclusive breastfeeding (EBF).<sup>[7]</sup> The Federal Ministry of Health and Social Services in conjunction with the UNICEF and WHO launched the Baby-Friendly Hospital Initiative to protect, promote, and support breastfeeding.<sup>[7]</sup> This study was undertaken among the antenatal mothers to assess their awareness and perception about breastfeeding. Antenatal women, who are soon to be mothers, are the population of women who were at most in need of its assessment and awareness. Thus, keeping this need in mind, the study was planned with the following objectives:

- To assess the awareness and perception of breastfeeding among antenatal mothers
- To find out any association between sociodemographic factors and breastfeeding awareness.

## Methodology

### Study type

This was a community-based, cross-sectional study.

Field of study: Urban field-practice area of a medical college and teaching hospital, catering to a slum population of around 12,500.

### Study population

Antenatal mothers residing in the urban field practice area.

### Sample size and sampling technique

The population of the field-practice area of UHTC is 12,500 approximately. According to Sample Registration system-2015 data, the crude birth rate of Odisha is 19.2/1000 population.<sup>[8]</sup> Taking the CBR as 19.2, the sample size was calculated to be 240 with a confidence interval of 95%. Approximating the value, a total of 250 antenatal women were decided to be included in the study.

Simple random sampling was done from the list of antenatal women registered in the antenatal register at the UHTC till the appropriate sample size of 250 was reached.

### Inclusion criteria

- Antenatal women who were registered in the Urban Health and Training center
- Residing in the area since a minimum of 1 year.

### Exclusion criteria

- Mentally unstable women
- Not giving consent.

### Study period

This study was conducted from August 2016 to February 2017.

### Study tool and data collection

A predesigned, pretested, semi-structured interview schedule was used to collect data on sociodemographic variables, present obstetric history, and awareness on breastfeeding practices. After thorough literature search,<sup>[3,4,7]</sup> a set of 15 questions were framed which were about breastfeeding awareness and its perceptions. Each correct response was awarded 1 mark, and incorrect responses did not receive any marks. After calculation, those who scored from 11 to 15 were said to have adequate awareness about breastfeeding, those receiving scores 6–10 were classified as having moderate awareness, the women who had scored below 6 points were said to be inadequately aware. Height, weight, and other necessary anthropometric measurements were noted. A general examination was done. Pulse and blood pressure were also noted. The women were checked for the presence of edema and pallor. Previous USG and blood reports if any were also checked. Antenatal checkup was provided for all the study participants. This was followed by one-to-one counseling for the women regarding breastfeeding. The advantages of EBF were explained, they were advised for regular antenatal checkups, and they were told to visit the UHTC in case of any emergency or even minor queries.

Ethical Permission to conduct the study was obtained from the Institutional Ethics Committee, of the parent institute.

Data were entered in Microsoft Excel Spreadsheet and analyzed using Epi Info 7 software (version 7.1.5.2).

### Statistical test

Data were analyzed using mean, standard deviation, proportion, and frequency as suitable. To test for association Chi-square test was applied and a  $P < 0.05$  was considered as significant.

## Results

A total of 250 antenatal women were included in the study. The mean age of the study population was  $23.75 \pm 3.62$  years. Most (55.6%) of the women were in the age group of 18-24 years. The mean age at marriage was found to be  $19.2 \pm 2.5$  years. Most (81.2%) of the study participants were Hindus, 12% were Muslims, and 6.8% were Christians. Most (70.8%) of the study participants were from nuclear families. Among the study participants, maximum 140 (56%) were multigravida. The mean gestational age of the antenatal women were  $32.67 \pm 4.1$  weeks. A good number of women, 126 (50.4%) completed four or more antenatal visits that were required. As high as 24% women were illiterate and 94.4% were homemakers. 61.6% women took iron and folic acid supplementation, and 86.8% had completed two doses of tetanus toxoid injection.

Table 1 shows the association of sociodemographic variables and breastfeeding awareness of the study participants. Age group, religion, literacy, occupation, type of family, gravida, and number of antenatal visits showed highly significant ( $P < 0.001$ ) association with awareness of breastfeeding. Age at marriage showed significant association ( $P < 0.05$ ) as well.

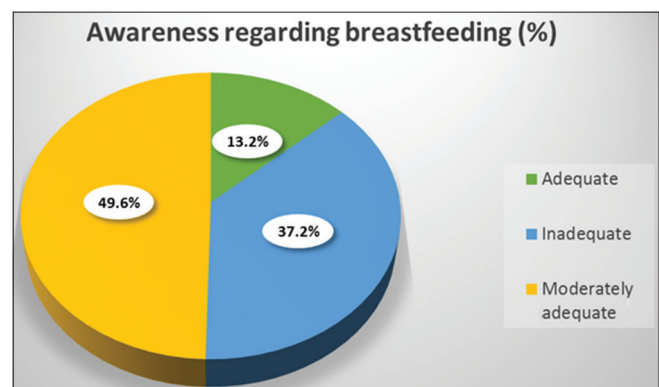
Awareness was assessed among the study participants, and it was found that only 33 (13.2%) had adequate awareness about breastfeeding. A total of 124 (49.6%) women had moderately adequate awareness and 93 (37.2%) women had inadequate awareness about breastfeeding. This has been depicted in Figure 1.

Figure 2 depicts the sources from where the study participants reported to have received information about breastfeeding. Only 31.2% women said that they received breastfeeding counseling during their antenatal visits. Maximum (36.4%) antenatal women claimed that their source of information about breastfeeding was from their mothers. About 32.4% and 18.4% women attributed their source of information to be their doctors and health-care workers respectively.

**Table 1: Sociodemographic variables and breastfeeding awareness of antenatal women**

| Sociodemographic characteristics | Breastfeeding awareness |                             |                   | P       |
|----------------------------------|-------------------------|-----------------------------|-------------------|---------|
|                                  | Adequate (n=33)         | Moderately adequate (n=124) | Inadequate (n=93) |         |
| Age group (years)                |                         |                             |                   |         |
| 18-24 (n=139)                    | 16                      | 63                          | 60                | <0.0001 |
| 25-29 (n=80)                     | 17                      | 47                          | 16                |         |
| ≥30 (n=31)                       | 0                       | 14                          | 17                |         |
| Religion                         |                         |                             |                   |         |
| Hindu (n=203)                    | 33                      | 110                         | 60                | <0.0001 |
| Muslim (n=30)                    | 0                       | 14                          | 16                |         |
| Christian (n=17)                 | 0                       | 0                           | 17                |         |
| Literacy                         |                         |                             |                   |         |
| Illiterate (n=60)                | 0                       | 17                          | 43                | <0.0001 |
| Literate (n=190)                 | 33                      | 107                         | 50                |         |
| Occupation                       |                         |                             |                   |         |
| Homemakers (n=236)               | 33                      | 110                         | 93                | <0.0001 |
| Working (n=14)                   | 0                       | 14                          | 0                 |         |
| Type of family                   |                         |                             |                   |         |
| Joint (n=73)                     | 0                       | 31                          | 42                | <0.0001 |
| Nuclear (n=177)                  | 33                      | 93                          | 51                |         |
| Gravida                          |                         |                             |                   |         |
| Primigravida (n=110)             | 0w                      | 77                          | 33                | <0.0001 |
| Multigravida (n=140)             | 33                      | 47                          | 60                |         |
| Number of ANC visits             |                         |                             |                   |         |
| ≤2                               | 16                      | 48                          | 26                | <0.0001 |
| 3                                | 17                      | 0                           | 17                |         |
| ≥4                               | 0                       | 76                          | 50                |         |
| Age at marriage                  |                         |                             |                   |         |
| ≤20 years (n=73)                 | 16                      | 31                          | 26                | 0.029   |
| >20 years (n=177)                | 17                      | 93                          | 67                |         |

ANC=Antenatal clinic



**Figure 1: Breastfeeding awareness among antenatal mothers**

Among the 250 study participants, all (100%) intended to breastfeed their children, but only 64% said that they intended to EBF their children. About 66.4% knew about the importance of colostrum. 56.8% women correctly answered about the duration of EBF. Although 76% knew that the colostrum should be the first feed of the

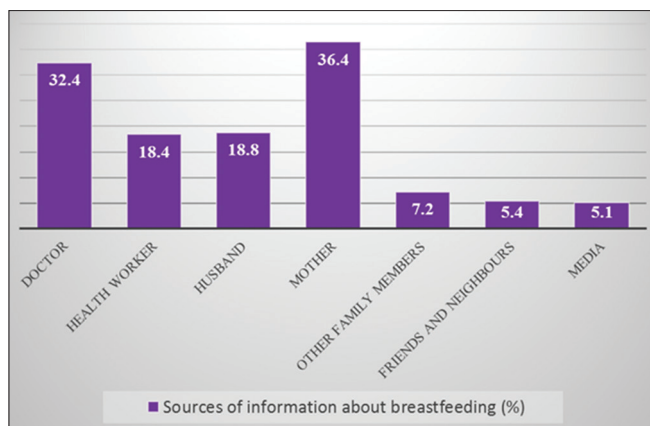


Figure 2: Sources of information about breastfeeding (Multiple responses)

baby immediately after delivery, 10.4% and 6.8% women still believed in giving honey and water, respectively, as their prelacteal feed. Although 54% knew about breastfeeding on demand or frequency of breastfeeding, none knew that frequency of passage of urine determined the adequacy of breastfeeding. Table 2 shows a list of some of the responses of the study participants regarding breastfeeding and its practices.

### Discussion

The promotion and support of breastfeeding is a worldwide priority and an important intervention in terms of appropriate neonatal and child care. The challenges of breastfeeding can be addressed if the woman is informed and educated during their antenatal period about the benefits of breastfeeding and are in turn prepared mentally for EBF. In this study, done among 250 antenatal women registered in the field-practice area of UHTC, it was seen that maximum (55.6%) women were in the age group of 18–24 years. The mean age was found to be  $23.75 \pm 3.62$  years. A study done by Girish HO *et al.*<sup>[9]</sup> in Kerala among antenatal women also showed similar results, with 69.4% of participants belonging to the 18–25 years age group, but the mean age in their study was 27.3 years. It was found that most (81.2%) of the women in this study belonged to Hindu religion. Similar results were found by De *et al.*<sup>[3]</sup> where 89.9% of antenatal women were Hindus, which was maximum. In our study, the percentage of women belonging to nuclear families was more, 70.8%. This result differed from Behera and Pillai<sup>[10]</sup> and De *et al.*<sup>[3]</sup> who reported maximum participants coming from joint families (78.9% and 71.9%, respectively). This finding could be explained as our study participants were slum dwellers who had migrated from other places in search of employment opportunities, and hence, belong to nuclear families.

In our study, 24% of women were illiterate and 94.4% were homemakers. De *et al.*<sup>[3]</sup> reported a much better

Table 2: Responses of the study participants regarding breastfeeding awareness and perceptions (n=250)

| Questions                                                                                                      | Correct response Frequency (%) |
|----------------------------------------------------------------------------------------------------------------|--------------------------------|
| 1. Breast milk should be given to the baby immediately after delivery/ as early as possible                    | 190 (76.0)                     |
| 2. Importance of colostrum                                                                                     | 166 (66.4)                     |
| 3. Soon after delivery should the baby be put on breast if the delivery is normal and baby and mother are fine | 157 (62.8)                     |
| 4. Baby should be breastfed on demand                                                                          | 135 (54.0)                     |
| 5. A baby should be exclusively breastfed for 6 months                                                         | 142 (56.8)                     |
| 6. It is necessary to introduce supplementary food after 6months                                               | 168 (67.2)                     |
| 7. Breastfeeding is better than formula milk or baby food                                                      | 128 (51.2)                     |
| 8. Babies who received breast milk are less prone to get diarrhea                                              | 154 (61.6)                     |
| 9. Breastfeeding is beneficial to the mother                                                                   | 46 (18.4)                      |
| 10. EBF is beneficial in birth spacing                                                                         | 67 (26.8)                      |
| 11. Breastfeeding should be continued during                                                                   |                                |
| Child illness                                                                                                  | 144 (57.6)                     |
| Mother's menstruation                                                                                          | 144 (57.6)                     |
| HIV infection                                                                                                  | 98 (39.2)                      |

EBF=Exclusive breastfeeding, HIV=Human immunodeficiency virus

literacy status with only 6.3% of illiterate women in a study done in the Antenatal clinic of a Medical college in Kolkata. According to NFHS-4,<sup>[5,6]</sup> the percentage of literate women in urban India is 81.4%, Odisha reports a percentage of 80.7%. This result is almost similar to our study. The difference in the result of De *et al.*<sup>[3]</sup> can be attributed to the difference in the study setting. The number of homemakers though were similar as reported by them.

In our study, maximum (56%) women were multigravida; similar results were also depicted by other studies.<sup>[9,10]</sup> The study by De *et al.*<sup>[3]</sup> reported slightly different results where 43.6% women were primigravida. The mean gestational age of the antenatal women were  $32.67 \pm 4.1$  weeks in this study. Behera and Pillai<sup>[10]</sup> also reported that most of the study participants were in their second or third trimesters.

In our study, only 31.2% women said that they received breastfeeding counseling during their antenatal visits. Another study in Puducherry<sup>[11]</sup> reported that an even lesser percentage 21% women received information regarding breastfeeding in their antenatal visits to the clinics. Awareness about breastfeeding results also showed higher percentage in those who had less number of ANC checkups. This hints on the missed opportunity and gaps in program implementation at the health-care facility level. A lady during her ANC



checkups should get counseling on breastfeeding practices.

Maximum (36.4%) women in our study said that they got information about breastfeeding from their mothers. 32.4% reported to have received information from their doctors. Another study<sup>[9]</sup> reported similar results, where mothers and mother-in-law's were reported by the maximum (50%) women as their information source.

When asked questions, to assess the awareness of the study participants about breastfeeding, 76% of antenatal women knew that colostrum should be given immediately or as soon as possible after birth. In another study,<sup>[9]</sup> a lower percentage (45.1%) of women responded correctly about the initiation of breastfeeding. In the study done by De *et al.*<sup>[3]</sup> among pregnant mothers attending the antenatal OPD 20.8% women correctly answered about the initiation of breastfeeding in case of cesarean section deliveries, and 35.4%, in case of normal deliveries. In our study, 66.4% of women knew about the importance of colostrum. Another study<sup>[7]</sup> reported, 40% of women said that breast milk should be the first feed of the baby and 75.8% knew about the goodness of colostrum. A much higher percentage (93.5%), was reported Girish HO *et al.*<sup>[9]</sup> 54% antenatal women in our study knew about demand feeding. Almost most similar results were shown by other studies.<sup>[7,9]</sup> De *et al.*<sup>[3]</sup> reported a higher percentage of women (73.5%), knowing about demand feeding.

In our study, 56.8% of respondents correctly answered about the duration of breastfeeding. De *et al.*<sup>[3]</sup> and Behera and Pillai<sup>[10]</sup> reported 69.1% and 67% women giving correct answers, respectively, in their studies. Another study<sup>[7]</sup> reported a much lower percentage of only 33.9% correct respondents.

In our study, it was found that only 33 (13.2%) had adequate awareness about breastfeeding. One hundred and twenty-four (49.6%) women had moderately adequate awareness and 93 (37.2%) women had inadequate awareness about breastfeeding. In a study done among antenatal mothers in West Bengal, De *et al.*<sup>[3]</sup> found only 32.3% having satisfactory awareness about breastfeeding.

In our study, age group, religion, literacy, occupation, type of family, gravida, and number of antenatal visits showed highly significant ( $P < 0.001$ ) association with awareness of breastfeeding. Age at marriage also showed significant association ( $P < 0.05$ ). A study done in Southern India, among primigravida women by Kumar *et al.*,<sup>[4]</sup> no such significant associations were found. This difference in results could be attributed to different study setting and inclusion criteria.

## Limitations

It was not possible to establish causal relationship between the sociodemographic factors studied and awareness of breastfeeding as it was a cross-sectional study assessing only the awareness of the study participants.

## Conclusion

Adequate nutrition during infancy and early childhood are essential to ensure proper growth and development of a child. Breastfeeding has both short-term and long-term benefits on both child and mother. It helps in the protection of children against a variety of acute and chronic disorders by strengthening the immune system. This study shows the study population lacks adequate awareness on breastfeeding and its benefits. There is a need of giving proper information and counseling regarding breastfeeding during antenatal visits to inform the mothers regarding proven facts of advantages of EBF. Even though a good number of women attended their antenatal visits, but hardly few had received any counseling services or advice about breastfeeding and its practices. Promotive strategies should be developed, and health education should be provided about importance and need for breastfeeding. Antenatal women are the future mothers, who need to be targeted to bring about a positive change in the awareness of breastfeeding.

## Acknowledgment

We express our gratitude to the staff and health-workers of Urban Health and Training Centre, Kalinga Institute of Medical Sciences, Bhubaneswar; for their help in data collection, interview, and counseling of the study participants; to the interns who assisted during the data collection, and finally, the study participants.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

## References

1. Park K, Everett J. Park's Textbook of Preventive and Social Medicine. 23<sup>rd</sup> ed. Bhanot; 2015;530
2. Shaili V, Parul S, Kandpal SD, Jayanti S, Anurag S, Vipul N. A community based study on breastfeeding practices in a rural area of Uttarakhand. Natl J Community Med 2012;3:283-7. Available from: [http://www.njcmindia.org/uploads/3-2\\_283-287.pdf](http://www.njcmindia.org/uploads/3-2_283-287.pdf). [Last accessed on 2017 Jun 03].
3. De M, Taraphdar P, Paul S. Awareness of breast feeding among mothers attending antenatal OPD of NRS medical college. IOSR J of Dent and Med Sci 2016;15:3-8. [Doi: 10.9790/0853-152120308].
4. Kumar A, Unnikrishnan B, Rekha T, Mithra P, Kumar N, Kulkarni V, *et al.* Awareness and attitude regarding breastfeeding and immunization practices among primigravida attending

Mohapatra and Roy: Breastfeeding awareness and perception among antenatal mothers

- a tertiary care hospital in Southern India. *J Clin Diagn Res* 2015;9:LC01-5.
5. International Institute for Population Sciences. National Family Health Survey-4 India Factsheet 2015-2016; 2016.
  6. Indian Institute for Population Sciences. National Family Health Survey 4: State Fact Sheet, Odisha; 2015. p. 1-6.
  7. Premlata M, Nupur H, Aditi B, Anuradha S, Priyanka M. Knowledge, attitude and practice of breast feeding at a tertiary care centre in Rajasthan. *Scholars Academic Jour of Biosci* 2014;2:714-8.
  8. Sample Registration System (SRS BULLETIN). Vol. 50. 2016.
  9. Girish HO, Acharya A, Kumar A, Venugopalan PP, Sarada Prabhakaran RK. Knowledge and practices of breastfeeding among ante-natal mothers at a teaching hospital at Kannur, Kerala: A cross-sectional study. *Jour of Evolution of Med and Dent Sci* 2013;2:8996-9001.
  10. Behera D, Pillai AK. Intention toward optimal breastfeeding among expecting mothers in angul district of Odisha, India. *Indian J Public Health* 2016;60:81-5.
  11. Dhandapany G, Bethou A, Arunagirinathan A, Ananthakrishnan S. Antenatal counseling on breastfeeding – Is it adequate? A descriptive study from Pondicherry, India. *Int Breastfeed J* 2008;3:5.