



(RESEARCH ARTICLE)



## Breastfeeding knowledge and practice among women in western Maharashtra: A cross sectional study

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### Abstract

**Introduction:** The best and most natural way to nourish newborn babies is through breastfeeding. In a developing nation like India, undernutrition affects people of all ages and is a serious health concern. The advantages of breastfeeding are not well understood, and breastfeeding is also not very common, due to the fact that the majority of people living in poor and rural regions lack access to information and education.

**Method:** The present descriptive cross-sectional study was conducted on rural breastfeeding mothers, to assess exclusive breastfeeding knowledge, attitudes and practices. These mother used to visit study site for vaccinate their infants. A total of 156 mothers willing to participate in the study were included according to the predefined criteria. Selection of the participants was done using simple random method. Data was collected through face to face interview using pilot tested, pre structured questionnaire.

**Result:** Out of total 156 mothers, 43 (27.56%) were in the age group of 26 to 30 years, 110 (70.51%) mothers had accurate knowledge exclusively breastfeeding, while 7 (4.48%) mothers had adequate knowledge about the benefits of breastfeeding. Moreover, 85 (54.48%) mothers were exclusive breastfeeding and 88 (56.41%) mothers were breastfeeding their infants less than 8 times a day.

**Conclusion:** Mothers in general are still not well informed about breastfeeding. Most mothers knew the benefits of breast milk for babies; however, knowledge of the benefits of breastfeeding for a mother herself, as well as the practice of exclusive breastfeeding, is still low and strongly related to socio-demographic factors such as maternal age, religion and place of residence.

**Keywords:** Breastfeeding; Knowledge; Practice; Rural

### 1. Introduction

One of the best strategies to ensure a child's health and survival is to breastfeed them. For new born, breast milk is the best nourishment. It is risk-free, hygienic, and rich in antibodies that help shield kids from many common infections. It also offers all the nutrition and energy a new born baby needs throughout the first few months of life<sup>1</sup>. Children who have been exclusively breastfed beat other children on IQ tests, are less likely to become overweight or obese as adults, and are less likely to get diabetes. Breast and ovarian cancer risk is lower in breastfeeding women. In

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accordance with WHO and UNICEF recommendations, infants should begin nursing within an hour of delivery and receive only breast milk for the first six months of life<sup>2</sup>.

According to the research, breastfeeding might reduce under-5 mortality by 15.6%<sup>3</sup>. The "Convention on the Rights of the Child" states that every new born and child has the right to a healthy diet. Lack of nourishment is a factor in 45% of child fatalities. 40% of babies between 0 to 6 months are exclusively breastfed<sup>4</sup>. Early breastfeeding can prevent 250,000 fatalities in India alone by lowering infant mortality from lower respiratory tract infections and diarrheal diseases<sup>5</sup>. The Ministry of Health and Family Welfare of the Government of India's Integrated Management of Neonatal and Childhood Illnesses (IMNCI) strategy under the National Rural Health Mission (NRHM) recommended a systematic assessment of breastfeeding and placed an emphasis on educating the mother about how to position and attach the baby to the breast.<sup>6,7</sup> With this background present study was undertaken to assess knowledge, attitude and practices of exclusive breast feeding among rural and semi urban women of western Maharashtra.

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## 2. Material and methods

The present descriptive cross-sectional study was conducted to study the knowledge, attitudes and practices of exclusive breast feeding among rural women of western Maharashtra. The study was carried out for a period of 06 months i.e. from December 2022 to May 2023. The study was done in accordance with the ethical standards framed out in the Helsinki Declaration and informed consent was obtain from the before recruiting the participants in the study. Study was carried out at Saidham Hospital affiliated to Dr. Mane Medical Foundation and Research Centre (DMMFARC). Intending breast feeding mother were selected in a randomized manner, employing the simple random sampling technique, solely from the pool of individuals meeting the predefined inclusion criteria. These mother used to visit study site for vaccinate their infants.

The sample size for this study was calculated using the statistical formula. Considering 73.20% correct knowledge about exclusive breast feeding with reference to pervious study<sup>01</sup> using following formula sample size was calculated.

$$n = z^2 p (1-p) / d^2 \text{ Where,}$$

n = Estimate of minimum sample size

z = Value of  $\alpha$  at 95% confidence level which is 1.96

p = 73.20% correct knowledge about exclusive breast feeding

d = Absolute precision set 7%

Using these values, the minimum sample size worked out to be 154.

A pilot study was done for validation, practicality and applicability of questionnaire. It was carried out using predesigned questionnaire. According to answers obtained and difficulties faced during pilot study, rectification was done and questionnaire modified accordingly. Predesigned and pretested questionnaire was used for data collection. Study questionnaire consists of three parts Part 1: Includes socio-demographic variables Part 2: Obstetrics and Gynecology History Part 3 Knowledge, Attitude & Practice Questions. Data tools were checked for their completeness and data entry and coding was done in Microsoft Excel. The raw data was compiled, classified and presented in a tabulated and graphical manner to bring out important details. Data coding and entry was done in Microsoft Excel after checking the completeness of the collected questionnaires. Data analysed using SPSS Software 21. Descriptive and inferential analysis like proportion, mean, standard deviation, odd's ratio and Chi-square test, were used for the analysis. Value of P less than 0.05 was considered significant for statistic interpretation.

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## 3. Results

The study encompassed a cohort of 156 lactating mothers, with infants aged below 12 months, who were attending immunization clinics at study site. Table 1 shows socio demographic profile of lactating mothers, out of total 156 mothers 43(27.56%) were belongs to 26 to 30 years age group, with mean age 31.2 years. Predominantly were Hindu (60.25%) followed by Muslim (30.12%) and others (12.82%). Majority 94(60.25%) of mothers were from lower socioeconomic status and were BPL (below poverty line) card holders; 109 (69.87%) were working mothers, while 31 (19.87%) mothers had higher secondary education. furthermore 97 (62.17%) mothers were belonging from rural area. Regarding parity 98 (62.82%) mothers were multigravida and 83(53.20%) mothers had normal vaginal delivery.

**Table 1** Socio Demographic profile of lactating mothers (N – 156)

<b>Age (years)</b>	<b>Number of mothers</b>	<b>Percentages</b>
18 to 20	31	19.87
21 to 25	35	22.43
26 to 30	43	27.56
31 to 35	25	16.02
>35	22	14.10
Mean+/-SD	27.14±6.17	
<b>Religion</b>		
Hindu	89	57.05
Muslim	47	30.12
Others	20	12.82
<b>Socioeconomic status</b>		
BPL	94	60.25
APL	62	39.74
<b>Occupation</b>		
Working mother	109	69.87
House wife	47	30.12
<b>Level of education</b>		
Illiterate	12	7.69
Literate	18	11.53
Primary	24	15.38

BPL – below poverty line APL – above poverty line

**Table 2** Basic profile of infant (N – 156)

<b>Gestational age</b>	<b>Number of babies</b>	<b>Percentage</b>
Term	74	47.43
Post term	82	52.56
<b>Age (months)</b>		
< 6	86	55.12
>6	70	44.87
<b>Gender</b>		
Female	67	42.94
Male	89	57.05

Table 2 shows that the baseline profile of a total of 156 infants, 82 (52.56%) infants were post- term, while 74 (47.43%) infants were less than 6 months of age. Also 89 (57.05%) infants were male.

**Table 3** Evaluation of breastfeeding knowledge and practices (N -156)

<b>Assessment of knowledge</b>	<b>Number of mothers</b>	<b>Percentage</b>
Know what exclusive breastfeeding is	110	70.51
To know about the benefits of breastfeeding for babies	102	65.38
A mother knows the benefits of breastfeeding for herself.	7	4.48
Accurate Information Regarding Criteria and Techniques of Breastfeeding	55	35.25
Correct knowledge of breastfeeding contraindications	5	3.20
<b>Assessment of practice</b>		
Exclusive breast feeding	85	54.48
Not exclusive breast feeding	71	45.51
<b>The average number of breastfeeds per day</b>		
<8	88	56.41
>8	68	43.58
<b>The average number of breastfeeds per night</b>		
<3	42	26.92
>3	114	73.07

Table 3 shows breast-feeding knowledge and practises of a total of 156 lactating mothers. Hundred and ten (70.51%) mothers know exactly the meaning of exclusive breastfeeding while 65.38% and only 4.48% mothers know the benefits of breastfeeding for their babies and themselves. Thirty five percent (55) mothers had correct knowledge about the technique while only 3.20% mothers were aware of the contraindications of breastfeeding.

**Table 4** Evaluation of positioning & attachment as per IMNCI guideline

<b>Acceptable position</b>	<b>Number of mothers</b>	<b>Percentage</b>
Well-supported baby's body	105	67.30
The infant's body was facing the mother	113	72.43
In one line, the occiput, shoulder and buttocks	86	55.12
The baby's abdomen was in contact with the mother	71	45.51
<b>Acceptable attachment</b>		
Baby's mouth was open widely	143	91.66
Infant with whole areola in mouth	138	88.46
Everted baby's lower lip	101	64.74
Baby's chin resting on mother's breast	93	59.61

Table 4 shows the positioning and attachment of the infant during breast feeding as per IMNCI guidelines, out of a total of 156 lactating mothers, 105 (67.30%) supported the baby's body well. while 113 (72.43%) mothers had the infant's body facing the mother; furthermore, 86 (55.12%) mothers placed the infant in one line, the occiput, shoulder, and buttocks, and 71 (45.51%) mothers baby's abdomen was in contact with the mother. Out of a total of 156 lactating mothers, 143 (91.66%) had the baby's mouth open widely, while 138 (88.46%) mothers' infants had a whole areola in the mouth, 138 (88.66%) mothers' infants had an everted lower lip, and furthermore, 93 (59.61%) mothers' infants had chin resting on the mother's breast.

**Table 5** Comparison of demographic variables with breast feeding

Demographic variables	Exclusive breast-feeding N - 85	Not Exclusive breast-feeding N - 71	P value	Odd ratio 95%CI
<b>Age (years)</b>				
18 to 20	13	18	0.049	-
21 to 25	14	21		
26 to 30	26	17		
31 to 35	17	8		
>35	15	7		
<b>Religion</b>				
Hindu	49	40	0.045	-
Muslim	25	22		
Others	11	9		
<b>Socioeconomic status</b>				
BPL	46	48	0.086	Reference
APL	39	23		1.769 (0.9191,3.406)
<b>Occupation</b>				
Working mother	55	54	0.123	Reference
House wife	30	17		1.733(0.8574,3.501)
<b>Level of education</b>				
Illiterate	5	7	0.269	-
Literate	8	10		
Primary	11	13		
Secondary	9	12		
Higher secondary	18	13		
Graduate	16	6		
Post graduate	18	10		
<b>Area of residence</b>				
Rural area	47	50	0.040	Reference
Urban area	38	21		1.925(0.9898,3.744)
<b>Parity</b>				
Primi	29	29	0.386	Reference
Multi	56	42		1.333(0.6948,2.559)
<b>Type of delivery</b>				
Cesarean section	35	38	0.123	Reference
Vaginal	50	33		1.645(0.8712,3.106)
<b>Gestational age</b>				

Term	41	33	0.826	Reference
Post term	44	38		0.932(0.4957,1.752)
<b>Gender</b>				
Female child	34	33	0.415	Reference
Male child	51	38		1.303(0.6889,2.463)

The comparison of demographic characteristics and exclusive breastfeeding is shown in Table 5. Participants were split into two groups—exclusive and non-exclusive breastfeeding groups—and the variations among the variables that were calculated. Eighty five (54.48%) of the 156 mothers who participated in the survey exclusively breastfed their babies. The mother's age, religion, and place of residence were all significantly associated with her practice of exclusive breastfeeding ( $P < 0.05$ ). Mothers in rural areas were 1.92 times more likely to exclusively breastfeed their babies than mothers in urban areas

#### 4. Discussion

Exclusive breastfeeding is described as "an infant's consumption of human milk without any supplementation of any kind (no water, no juice, no nonhuman milk, and no foods) other than vitamins, minerals, and medications until six months."<sup>8</sup> Infants who are not breastfed are roughly six times more likely than breastfed infants to die from infectious infections during the first two months of life; between two and three months, the risk of death is four times higher for non-breastfed newborns than for breastfed infants<sup>9</sup>.

In our study out of total 156 mothers 43(27.56%) were belongs from 26 to 30 years age group, with mean age  $27.14 \pm 6.17$  years, while as per P Patel et al study majority mothers (n=61) who were above the age of 23 contributed 62.89% of the population<sup>1</sup>. According to the Davara K et al study, the majority (70.5%) of participants were between the ages of 21 and 29 years<sup>10</sup>. as per Bhatt S et al study majority of mothers were 95(54.3%) belonged from 21 to 25 years age group<sup>11</sup>.

In our study out of total 156 mothers Hindu lactating mothers were contributed 89(57.05%) of total participants, while as per P Patel et al study Muslim mothers were contributed 49(50.52%) of total population<sup>1</sup>. as per Bhatt S et al study Hindu mothers were contributed 134(81.5%) of total population<sup>11</sup>. As per Kumar et al study 208(83.2%) mothers were Hindu<sup>12</sup>.

In our study out of total 156 mother's majority 94(60.25%) of mothers were belongs from lower socioeconomic status they had BPL card holders, while as per P Patel et al study(12.37%) mothers had BPL card holder<sup>1</sup>.

In our study out of total 156 mothers 109 (69.87%) working mothers, as per Bhatt S et al study 117(66.9%) mothers were housewife<sup>11</sup>. As per Tadele, N et al study 97 (30.9%) mothers were housewife<sup>13</sup>. As per Kumar S et al study 245(98%) mothers were housewife<sup>12</sup>.

In our study out of total 156 mothers 31 (19.87%) mothers had higher secondary level of education. as per Bhatt S et al study 77(44%) mothers had only primary education up to 7th std <sup>11</sup>. As per Kumar S et al study 72(28.8%) mothers had only primary education<sup>12</sup>. As per P Patel et al study 40 (41.24%) mothers had only secondary level education<sup>1</sup>. As per Gadhavi R et al study 127 (63.5%) mothers had less than high school level education<sup>14</sup>.

In our study out of total 156 mothers 97 (62.17%) mothers were belonging from rural area. As per Gadhavi R et al<sup>14</sup> study 150(75%) mothers were belonging from rural area and 98(62.82%) mothers were multi gravida. As per P Patel et al study 51(52.58%) mothers were multi gravida<sup>1</sup>.

In our study out of total 156 mothers 83(53.20%) mothers had normal vaginal delivery. As per P Patel et al study 66(68.4%) mothers had normal vaginal delivery<sup>1</sup>. 82(55.12%) infants were post term, as per P Patel et al study 87(89.69%) infants were term and post term<sup>1</sup>.

In our study out of total 156 infants 86(55.12%) infants were less than 6 months old. As per Kumar et al study 171(68.4%) infants were more than 6 months old<sup>12</sup>. as per P Patel et al study 34(35.5%) infants were less than 1 month old<sup>1</sup>.

In our study out of total 156 infants 89(57.05%) infants were males. As per Kumar et al study 131(52.4%) infants were males<sup>12</sup>. As per Gadhavi R et al study 113(56.5%) infant were male<sup>14</sup>.

Breast-feeding knowledge and practises of a total of 156 lactating mothers, 110 (70.51%) mothers had accurate information about exclusively breastfeeding. As per Davara K et al study 157(74.8%) mothers had information about exclusively breastfeeding<sup>10</sup>. As per Tadele, N. et al study 294(93.6%) had heard about exclusively breastfeeding<sup>13</sup>. In Ambo, Ethiopia, a survey revealed that 90.8% of mothers knew about exclusive breast feeding. According to a survey conducted in Nigeria, the majority of participants (88.0%) had heard of exclusive

Breastfeeding. The study, conducted in Debre Birhan, Ethiopia, found that 83.4% of mothers knew the ideal time frame for exclusive breastfeeding. As per Gadhavi R et al study 30(15%) mothers had knowledge of breastfeeding<sup>14</sup>. As per P Patel et al study 71(73.2%) adequate knowledge and practices about exclusively breastfeeding<sup>1</sup>.

In our study found that 7 (4.48%) mothers had adequate understanding of the advantages of breastfeeding for mothers. According to research conducted in Bedele, Ethiopia, most women (91.8%) are aware of the benefits of exclusive breastfeeding<sup>15</sup>. As per Kumar et al study 30(12%) mothers were knowing the advantages of breastfeeding for mothers<sup>12</sup>. As per Gadhavi R et al study 60 (30%) mothers had knowledge about advantages of breast feeding for mothers<sup>14</sup>.

In our study out of 156 mothers 85 (54.48%) mother's infants were on exclusive breastfeeding. As per Davara K et al study 161 (76.7%) infants were on exclusive breastfeeding<sup>10</sup>. As per Kumar S et al study 224(89.6%) infants on exclusive breastfeeding<sup>12</sup>. As per P Patel et al study 51 (52.58%) infants were on exclusive breastfeeding<sup>1</sup>.

In our study out of total 156 mothers 88 (56.41%) mothers were breastfeeding their infants less than 8 times per day. According to the Davara K et al study 129(61.4%) mothers were breastfeeding their infants less than 8 times per day<sup>10</sup>. As per Kumar et al study 229(91.6%) mothers were breastfeeding their infants more than 3 to 10 times per day<sup>12</sup>. As per P Patel et al study 55(56.7%) mothers were breastfeeding their infants less than 8 times per day<sup>1</sup>.

In our study out of total 156 mothers 114 (73.07%) mothers gave breastfeeding to their infants more than three times per night. As per Davara K et al study 115(54.8%) mothers gave breastfeeding to their infants more than four times per night<sup>10</sup>. As per Kumar S et al study 146(58.4%) mothers gave breastfeeding to their infants more than 1 to 4 times per night<sup>12</sup>. As per P Patel et al study 67(69.07%) mothers gave breastfeeding to their infants more than three times per night<sup>1</sup>.

The evaluation of positioning and attachment of the infant during breast feeding as per IMNCI guidelines, out of a total of 156 lactating mothers, 105 (67.30%) supported the baby's body well. As per P Patel et al study 64(65.98%) mothers were supported the baby's body well<sup>1</sup>. Our study found that 113 (72.43%) mothers had the infant's body facing the mother, as per P Patel et al study 66(68.04%) mothers had the infant's body facing the mother<sup>1</sup>.

Our study found that 86 (55.12%) mothers placed the infant in one line, the occiput, shoulder, and buttocks, as per P Patel et al study 51 (52.58%) mothers placed the infant in one line, the occiput, shoulder, and buttocks<sup>1</sup>.

Our study found that 71 (45.51%) mothers baby's abdomen was in contact with the mother. As per P Patel et al study. As per P Patel et al study 48 (49.48%) mothers baby's abdomen was in contact with the mother<sup>1</sup>.

Our study revealed that 143 (91.66%) had the baby's mouth open widely. As per P Patel et al study 96 (98.97%) had the baby's mouth open widely<sup>1</sup>. Our study revealed that 138 (88.46%) mothers' infants had a whole areola in the mouth. As per P Patel et al study 93(95.88%) mothers' infants had a whole areola in the mouth<sup>1</sup>.

Our study found that 138 (88.66%) mothers' infants had an everted lower lip, as per P Patel et al study 64 (67.07%) mothers' infants had an everted lower lip. Our study found that 93 (59.61%) mothers' infants had chin resting on the mother's breast. As per P Patel et al study 62 (63.92%) mothers' infants had chin resting on the mother's breast<sup>1</sup>.

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## 5. Conclusion

Mothers in general are still not well informed about breastfeeding. Most mothers knew the benefits of breast milk for babies; however, knowledge of the benefits of breastfeeding for a mother herself, as well as the practice of exclusive

breastfeeding, is still low and strongly related to socio-demographic factors such as maternal age, religion and place of residence.

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### Compliance with ethical standards

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

#### *Statement of ethical approval*

Institutional Ethical Committee (IEC) Permission was obtained before commencing the study

#### *Statement of informed consent*

“The aim and objectives of the present study were explained to participants in vernacular language and Informed consent was obtained from all individual participants included in the study.”

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