

Too little and too late. Initiation of breast feeding in Odisha, India: An observational study

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ABSTRACT

Objectives: To assess of the time of breastfeeding initiation, identify reasons for delay, if any and to assess if any prelacteal feeds were offered. **Methods:** An observational study was conducted among the inpatients of a tertiary care centre in Bhubaneswar, India. A total of 385 mothers, without contraindications to breastfeeding were interviewed at the earliest after childbirth. **Results:** Only 36.4% mothers initiated breastfeeding “timely.” Those who had undergone vaginal delivery scored better than cesarean sections with 41.3% (CI 95%; $P = 0.016$). Rooming in helped at 37.6% (CI 95%; $P = 0.006$). Multiparous homemakers from nuclear families and those who had previously breast fed initiated earlier than their counterparts. Less than 5% (CI 95%; $P = 0.056$) offered prelacteal feeds, mostly water. **Conclusions:** Our study reveals an alarming decline in the timely initiation of breastfeeding in Odisha, India from 68.5% to 41.6%.

Keywords: Colostrum, feeding, milk, human, neonate, rooming-in care

Introduction

Breastfeeding is known to have innumerable benefits for both the child as well as the mother. Other than helping in obvious physical and mental development of the child, there is less vomiting and diarrhoea, reduced risk of upper respiratory tract and ear infections,^[1,2] and lowered risk of obesity in later life.^[3] For the mother, there is faster uterine involution, reduced risk of cancers—breast, uterine, and ovarian, reduced risk of osteoporosis and improved emotional health.^[3,4]

Breastfeeding ideally should be initiated within 1 h of childbirth.^[5] There is a 2.4-fold increase in the risk of mortality with delayed initiation.^[6] However, as reported by the World Health Organization (WHO), on 31st July, 2018, around 78 million babies, that is, 58% were not breastfed in the 1st h of life.^[7] This

number stood at 55.4% for India as of 2014.^[8] A study published in 2016, conducted in the Motta town, Ethiopia, indicated that the main reasons for delayed initiation of breastfeeding were delayed milk secretion (35.3%), cesarean section (32.9%), sick mother (17.6%), and sick baby (14.1%).^[9]

This study had the primary objective to find out the average time of breastfeeding initiation and secondary objectives of correlating this time of initiation to the sociodemographic factors affecting the same and in assessing whether prelacteal feeds were offered or not.

Methods

Our observational study was conducted between 1st May 2019 and 30th September 2019 at a tertiary care centre in Bhubaneswar, Odisha. The number of participants required for the study calculated using 95% confidence interval, 5% significance, and 5% precision, was 375. A total of 400 mothers were approached, of whom 10 refused to participate. 5 candidates needed to be excluded on the basis of the criteria mentioned below:

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Received: 22-08-2020

Revised: 27-10-2020

Accepted: 01-12-2020

Published: 29-04-2021

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_1714_20

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How to cite this article: Kuchi S, Sahu S, John J. Too little and too late. Initiation of breast feeding in Odisha, India: An observational study. J Family Med Prim Care 2021;10:1592-5.

- Breast abscess,
- Who received radioactive isotopes,
- Open untreated tuberculosis,
- HIV positive,
- Varicella in the mother 5 days before and 2 days after delivery,
- Active herpes simplex lesions on the breast,
- Receiving cancer chemotherapy,
- Addiction to drugs, especially cocaine/alcohol, postpartum psychosis, or infants diagnosed with galactosemia.

The remaining 385 participants [Table 1], once consented for, were administered a structured questionnaire-based interview by a single trained interviewer. To negate recall bias, the interview was conducted at the earliest feasible after birth but not beyond the first 72 h of birth.

The questionnaire covered various sociodemographic factors like the mother's age, education and economic status, religion, family size and place of residence; obstetric details including parity, gestational age and weight of the child at delivery, type of delivery, health status of the mother, a previous history of breastfeeding, and rooming in of the child. In addition, data was collected regarding antenatal counselling, colostrum feeding, and prelacteal feeds given to the child. Institutional ethics committee approval was taken prior to the start of this study vide letter no. IEC/AIIMS BBSR/STS_UG/2018-19/05 dated April 19th 2019. The data collected was double checked for completeness, coded, and analyzed using appropriate statistical methods using SPSS software version 25.

Results

Only 36.4% mothers had initiated breastfeeding in a timely manner, that is, within an hour of childbirth. Mothers who had undergone vaginal delivery scored better than cesarean with 41.3% initiating timely. Rooming in helped with 37.6% of neonates being timely breastfed, while all those who were not roomed in were initiated late. 39.3% of those who gave colostrum initiated timely breastfeeding while almost all (96.8%) of the mothers who discarded colostrum initiated late. Mothers who had previously breastfed fared better with 45.9% of them initiating timely as compared to 30.5% among those who had not. Only 13.6% of the children who fell sick immediately after delivery could be initiated timely breastfeeding. Less than 5% of the babies were given prelacteal feeds and mostly it was water [Table 2].

Discussion

Our study showed a poor timely breastfeeding initiation in the city of Bhubaneswar, Odisha, at 36.4% compared to the national average of 41.6% obtained from NFHS 4 data.^[10] Though this is much better compared to the meagre 15% in the Sarasvati district of Uttar Pradesh, it is far behind the best figures of 94.6% from Thiruvananthapuram, Kerala.^[11] These low rates may be attributed to the lower literacy rates, poorer access to healthcare facilities, poor antenatal counselling and some tribal practices in the state of Odisha.

Women delivering vaginally were more likely to initiate breastfeeding timely as compared to those who had undergone a cesarean section. This may be because anesthesia given during the surgery delays the onset of lactation by inhibiting the maternal oxytocin release.^[12] 44.6% of our deliveries were through cesarean section compared to the Odisha state average of 19.1%, obtained in 2015–2016 for urban areas.^[10]

Rooming-in of the neonate played a significant role in timely breastfeeding initiation as obtained from our study. While 37.6% of roomed-in children were initiated timely breastfeeding, all

Table 1: Demographic details of the participants

Demographic Parameter	No. of participants (%)	
Age of the mother (Mean age: 25.14)	<20 years	43 (11.2)
	21-25 years	177 (46.0)
	26-30 years	138 (35.8)
	31-35 years	20 (5.2)
	>35 years	7 (1.8)
Education of mother	<10 th	129 (33.5)
	10 th or more	256 (66.5)
If the mother is working	Homemaker	361 (93.8)
	Working	24 (6.2)
Religion	Hindu	343 (89.1)
	Muslim	42 (10.9)
Socio-economic status (Kuppuswamy Scale)	Lower class	75 (19.5)
	Upper Lower Class	52 (13.5)
	Lower Middle Class	87 (22.6)
	Upper Middle Class	171 (44.4)
Family size	Nuclear	78 (20.3)
	Extended	307 (79.7)

Table 2: Time of initiation of breastfeeding with respect to different variables

Time of initiation (from birth)	<1 h (%)	>1 h (%)	Total	P	
Sex of the baby	Male	58 (31.4)	127 (68.6)	185	0.049
	Female	82 (41)	118 (59)	200	
Birthweight	<2500 g	13 (21.3)	48 (78.7)	61	0.008
	>2500 g	127 (39.2)	197 (60.8)	324	
Type of delivery	Vaginal	93 (41.3)	132 (58.7)	225	0.016
	Cesarean	47 (29.4)	113 (70.6)	160	
Parity of mother	Primiparous	68 (35.1)	126 (64.9)	194	0.590
	Multiparous	72 (37.7)	119 (62.3)	191	
Child sick after delivery	No	134 (39.3)	207 (60.7)	341	0.001
	Yes	6 (13.6)	38 (86.4)	44	
If mother is on chronic medication	No	127 (37.6)	211 (62.4)	338	0.186
	Yes	13 (27.2)	34 (72.3)	47	
Antenatal counselling	None	64 (37.9)	105 (62.1)	169	0.587
	Given	76 (35.2)	140 (64.8)	216	
Colostrum given	No	1 (3.2)	30 (96.8)	31	0.000
	Yes	139 (39.3)	215 (60.7)	354	
Prelacteal feeds	None	137 (37.4)	229 (62.6)	366	0.056
	Given	3 (15.8)	16 (8.42)	19	
Previous history of breastfeeding	No	73 (30.5)	166 (69.5)	239	0.002
	Yes	67 (45.9)	79 (54.1)	146	
Roomed in	No	0 (0)	13 (100)	13	0.006
	Yes	140 (37.6)	232 (62.4)	37	

the children not roomed-in had delayed initiation. Rooming-in allows for increased time of interaction between the mother and child and promotes lactation. Our results were comparable to a community hospital-based study in Puerto Rico which showed that 30% of the roomed in babies were initiated breastfeeding within 6 h of birth while none of the babies not roomed-in were.^[13]

Women who discarded colostrum had delayed initiation of breastfeeding, attributable to the fact that they took time to discard colostrum and synthesis of breastmilk after this takes further time. In our study, only 8% mothers had discarded colostrum, this value is comparable to the 12% obtained from a 2018 study in South Sudan^[14] but much lower than the 43% seen in Karachi, Pakistan^[15] or the 27% in R S Pura block of Jammu and Kashmir.^[16]

Breastfeeding of a previous child was found to be a promotive factor for timely breastfeeding initiation with 46% mothers, with a history of breastfeeding initiating early compared to only 30.5% of those without a history. A woman who had previously lactated has an earlier start of milk synthesis and secretion as compared to a newly lactating mother. Also, she is likely to have already had first-hand knowledge of breastfeeding practices from the previous child. A study in Areka Town, Southern Ethiopia, published in April 2019, showed that 47% of primiparous mothers had incorrect positioning of the baby during breastfeeding as compared to 29% among the multiparous women,^[17] which could lead to problems in either initiation or continuing of breastfeeding.

Low birth weight babies were initiated breastfeeding late and so were the babies who fell sick immediately after delivery. This can be attributed to most of these children being admitted to the NICU.

Our study did not show a significant difference in timely initiation of breastfeeding based on antenatal counselling. This may have been because of ineffective counselling in the antenatal period, the high baby–nurse ratio, lack of properly trained counsellors, and inadequate support to the newly delivered mother. In a study by Archana Patel *et al.* in 2018, where in weekly phone calls were made and text messages sent to women both antenatally and postnatally it was seen that, this group achieved better results in timely initiation of breastfeeding at 37% as compared to 23.5% in the control group.^[18]

Only 5% of the babies were given prelacteal feeds. This is a satisfactory number when we compare these figures with that of our neighboring country, Pakistan, where 45% babies in Sindh were started on prelacteal feeds^[19] or that within our own country, where a rate of 26% has been reported from Bihar.^[20] The study limitations included the fact that this is a two centre experience which are referral institutions causing a large number deliveries by cesarean section, thus probably accounting for

an inordinate delay in breastfeeding initiation. Inclusion of a larger number of institutions may help in generalizability of the results.

Key Messages

- An alarming decline in the timely breastfeeding initiation rates to 36.4% was noted.
- Provision of a lactational counsellor/identified breastfeeding supervisory nurse would help increase this rate especially in low to medium income countries.

Acknowledgements

Dr. Arvind Kumar Singh, Assistant Professor, Department of Community Medicine and Family Medicine, for help with the statistics.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

ICMR Short Term Studentship Grant Reference ID: 2019-01274.

Conflicts of interest

There are no conflicts of interest.

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