

A Cross-Sectional Study on Breastfeeding Challenges in Immediate Postpartum Period at one of the Tertiary Care Hospitals, Ahmedabad, India

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ABSTRACT

Background: Early detection and timely management of issues pertaining to breastfeeding in the immediate postpartum period are of utmost importance since these challenges are the important risk factors for lactation problems. To assess breastfeeding difficulties in the immediate postpartum period, breastfeeding practice among participants as per IMNCI (Integrated Management of Neonatal and Childhood Illness) Guidelines, and various determinants of breastfeeding difficulties.

Methods: This hospital-based cross-sectional study assessed recently delivered mothers in the postnatal ward during the first 48 hours postpartum conducted at Ahmedabad, India. The inclusion criteria entailed being admitted to the postpartum/postnatal ward, normal/cesarean delivery, and provision of written consent. After applying the exclusion criteria, 343 participants were included in final analysis. Observations were made regarding signs of good position and attachments as per IMNCI guidelines.

Results: More than half of the participants (56.9%) were aged 21-25 years, and 53.6% of them had primary/secondary school education. Breast pain was the most common difficulty reported (47.52%), followed by less secretion of milk (25.07%). Other difficulties reported were sore nipples, breast heaviness, inverted nipples, backache, giddiness, as well as headache and perineal pain at the site of stitches. "Good attachment" and "good positioning" were found in 62.16% and 60.96% of participants, respectively. The majority of participants (52.08%) had the perception that their newborn was not sucking effectively.

Conclusion: Mothers' age, numbers of live births, and mixed feeding were statistically significantly associated with good attachment. Good positioning was statistically significantly correlated with less secretion of milk. Duration of starting breastfeeding after birth and breast pain were significantly associated with both.

Keywords: Attachment, Breastfeeding, Difficulties, Position, Post-partum

Introduction

The lifecycle approach is of utmost importance in the context of health, diseases, and nutrition. The overall health status of adults is rooted in one's health during childhood which is obviously reliant on nutritional status in the first five years of age. The babies with healthier birth weight are less likely to fall sick and also recover swiftly from diseases if any. Breastfeeding plays a pivotal role in the future health of the child and in long-vision during adulthood.

Breastfeeding is a basic requirement vital to

infantile and maternal health. Breast milk is the natural first food for neonates, providing all the energy and nutrients neonates need in the first few months of life. It continues to provide up to half or more of a child's nutritional needs during the second half of the first year and up to one-third during the second year of life. Breast milk is the ideal, safe, and clean food for infants, containing antibodies that help protect against many common childhood illnesses (1).

Breast milk promotes sensory and cognitive

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development, protecting the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality due to common childhood illnesses, such as diarrhea or pneumonia, and helps boost recovery from illness. Breastfeeding contributes to the health and well-being of mothers; it helps to space children, reduces the risk of ovarian cancer and breast cancer, and increases family and national resources. An extensive body of research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate breastfeeding practices (2).

A wide array of complications related to breastfeeding have been reported during the postpartum period. Common breastfeeding-related problems, including breast engorgement, painful nipple, nipple infection, mastitis, breast abscess, poor milk production and incorrect techniques, infrequent feeding, breastfeeding on scheduled times and extra food from outside, are important risk factors that can predispose mothers to lactation problems (3). Breast engorgement is one of the most common complications during the postnatal period. The most common manifestations include considerable pain and feeling of tenderness in the breast, generalized malaise, rise in temperature, and painful breastfeeding. The incidence rate of breast engorgement all over the world is 1:8000, and in India, it is 1:6500 (4).

Early detection and timely management of issues pertaining to breastfeeding in the immediate postpartum period is of paramount importance since, if it is not sought, it may lead to non-exclusive breastfeeding, which will result in detrimental health conditions for mothers and babies. With this background in mind, the present study aimed to assess the difficulties faced by mothers during breastfeeding in the immediate postpartum period (i.e., up to 48 hours after parturition), the breastfeeding practice among postpartum mothers as per IMNCI (Integrated Management of Neonatal and Childhood Illness) Guidelines, and various determinants for breastfeeding difficulties, such as the sociodemographic and obstetric profile of postpartum mothers, gender of newborn, and mode of delivery.

Methods

This hospital-based cross-sectional study assessed the recently delivered mothers in the postnatal ward during the first 48 hours postpartum. It was conducted at one of the tertiary

care hospitals of Ahmedabad, India, from January to April 2019 after necessary approval from the institutional ethical committee. The following inclusion criteria were considered: being admitted to the postpartum/postnatal ward, having either vaginal/cesarean delivery in the last 48 hours, and willingness to participate in the study. All postnatal mothers whose newborns had very low birth weight (i.e., less than 1500 grams), congenital malformation, or any other medical/surgical complications which hampered breastfeeding during the immediate postpartum period, and the mothers who did not give consent to participate were excluded from the study.

After applying inclusion and exclusion criteria to available patients admitted at the study site and following data cleaning, a total of 343 participants were included in the final analysis. A pre-structured pre-validated questionnaire containing information on the sociodemographic profile, obstetric history, and feeding practices was used for data collection. Observations were made in the postnatal ward regarding signs of proper position and good attachments as per IMNCI guidelines (5) while participants were breastfeeding. The correct breastfeeding techniques were explained to immediate postpartum mothers later via video demonstration as per IMNCI guidelines. The data were analyzed in SPSS software (version 17), using Chi-square and Fisher Exact tests.

Results

Out of 343 participants, more than half (56.9%) were aged 21-25 years, and 1.5% were within the age range of 35-40 years. More than half of the subjects (53.6%) had primary and/or secondary school, while 23.3% held academic education. In terms of occupation, 60.1% of cases were housewives, and about half of them (49.9%) belonged to class III according to the modified B G Prasad socio-economic classification (Table 1).

The assessment of the difficulties faced by mothers during the immediate postpartum period revealed that pain in the breast (unilateral/bilateral) was the common difficulty reported problem (163, 47.52%), followed by less secretion of the milk (82, 23.91%) as perceived by mothers. The less common difficulties reported were sore nipples, heaviness in breast/s, inverted nipples, and no secretion of milk. The others which were not directly related to breastfeeding difficulties reported were backache (144, 41.98%), giddiness (147, 42.86%), as well as headache and pain at the perineum/ at the site of the stitch of episiotomy/cesarean section (both 21.28%)

Table 1. Sociodemographic profile of study participants (n=343)

Variable	Frequency	Percentage
Age-group (in completed years)		
≤ 20	19	5.5
21-25	195	56.9
26-30	116	33.8
31-35	8	2.3
35-40	5	1.5
Level of Education		
Illiterate/ Just Literate	17	5.0
Primary	90	26.2
Secondary	94	27.4
Higher Secondary	62	18.1
Graduate and above	80	23.3
Occupation		
Home-maker	206	60.1
Self-employed	67	19.5
Service	70	20.4
S.E Class*		
Class 1	7	2
Class 2	144	42
Class 3	171	49.9
Class 4	20	5.8
Class 5	1	0.3

*According to Modified Prasad Classification, CPI as per August 2019 (6) (7)

(Figure 1). Considering study participants with difficulties, such as inverted nipples (n=6) and no secretion of milk (n=4), 10 participants were not assessed further for good positioning and attachment during breastfeeding. Finally, 333 patients were analyzed for the selected variables.

The examination of "attachment" and

"position" during breastfeeding as per IMNCI guidelines indicated that good attachment was present (all four components present) in 207 (62.16%), and good positioning was found (all four components present) in 203 (60.96%) participants. Out of a total of four components included in the "Good Attachment" criteria, the most commonly absent component was "Mouth is wide open" (among 26.43%), and in "Good Positioning", the most commonly absent component was "Whole body is supported" criterion which was not observed in almost half of the participants (50.15%) (Table 2).

Table 2. Findings of assessment of "Attachment" and "Position" during Breastfeeding as per IMNCI (n=333)*

Variable	Observations	
	Present (%)	Absent (%)
Components of ideal attachment during breastfeeding		
Chin is touching the breast		
Mouth is wide open	248 (74.47)	85 (25.30)
Lower lip is turned outward	245 (73.57)	88 (26.43)
More areola is visible above than below the mouth	249 (74.77)	84 (25.23)
	287 (86.19)	46 (13.81)
Components of ideal positioning during breastfeeding		
Neck is straight or bent slightly back		141 (42.34)
Body is turned toward the mother	318 (95.50)	15 (4.50)
Body is close to the mother	280 (84.08)	53 (15.92)
Whole body is supported	166 (49.85)	167 (50.15)

*(Present = all four signs present, absent = any one or more than signs are absent)

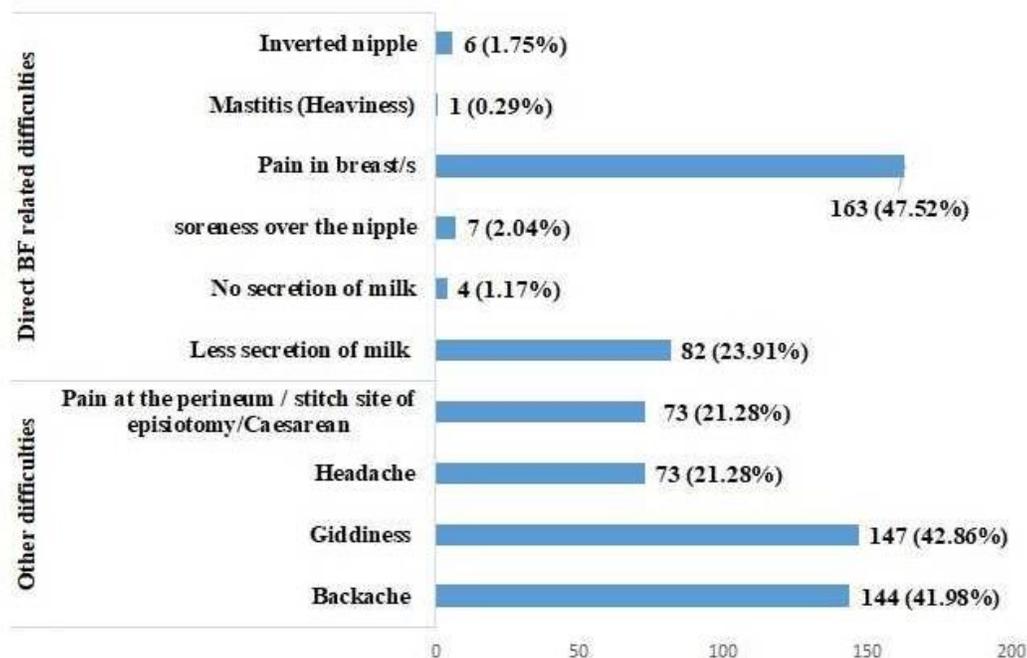


Figure 1. Difficulties faced by mothers in breastfeeding during immediate postpartum period (n=343, multiple responses allowed)

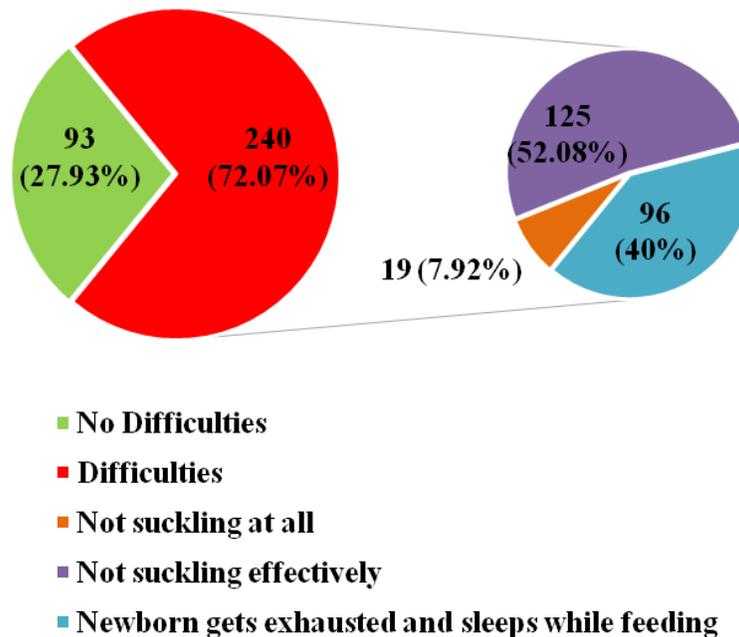


Figure 2. Difficulties faced by newborns during breastfeeding as per mothers' perspective (n=333)

Concerning mothers' perceptions during the immediate postpartum period, 240 (72.07%) cases had perceived that their newborns had some difficulties while breastfeeding. Of these, the majority (152, 52.08%) had the perception that the newborn was not sucking effectively, while 96 (40%) and 19 (7.92%) cases believed that the newborn was getting exhausted and not sucking at all, respectively (Figure 2). The assessment of various determinants of difficulties in "good

attachment and positioning" during breastfeeding revealed that age of mothers, numbers of live births prior to delivery at the time of the study, duration of starting breast-feeding after birth, and the presence of mixed feeding were statistically significantly associated with good attachment (P<0.05). In the case of good positioning, duration of starting breastfeeding after birth was the only factor found to be statistically significantly associated (P= 0.004) (Table 3).

Table 3. Determinants of difficulties in "good attachment and positioning" during breast-feeding (n=333)

Variables	Good Attachment		Chi-square Statistic (p-value)	Good positioning		Chi-square Statistic (p-value)
	Present	Absent		Present	Absent	
Age (in completed years)						
≤20	7	11		12	6	
21-25	97	93		108	82	
26-30	94	19	38.468	78	35	7.777
31-35	4	3	(<0.0001)	2	5	(0.1)
36-40	5	0		3	2	
Residence						
Urban	206	126	0.611	202	130	0.640
Rural	1	0	1*	1	0	1*
Level of Education						
Illiterate/ Just Literate	11	6		11	6	
Primary	51	35		53	33	
Secondary	55	37	1.210	60	32	1.632
Higher Secondary	40	20	(0.876)	34	26	(0.803)
Graduate and above	50	28		45	33	
Socio-economic Class						
I	4	3		4	3	
II	93	47		81	59	
III	96	69		103	62	
IV	13	7	2.947	14	6	2.085
V	1	0	(0.567)	1	0	(0.720)

Table 3. Continued

Number of live-births						
1	110	111		135	86	
2	85	13	42.973	57	41	2.356
3	11	2	(<0.0001)	10	3	(0.502)
4	1	0		1	0	
Gender of baby delivered at present						
Male	113	77	1.360	115	75	0.035
Female	94	49	(0.244)	88	55	(0.851)
Mode of present delivery						
Normal	122	63		122	63	
CS	84	63	3.309	80	67	5.213
instrumental	1	0	(0.191)	1	0	(0.074)
Advice about BF given during Antenatal visits? Yes/No						
Yes	206	124	1.070	202	128	0.971
No	1	2	(0.56*)	1	2	(0.563*)
Weight of the baby						
<2.5 Kg	41	26		44	23	
2.5-3 Kg	115	71	0.125	109	77	2.449
3-3.5Kg	39	22	(0.989)	36	25	(0.485)
>3.5Kg	12	7		14	5	
Duration for starting BF after birth						
<1/2 Hr	15	27	14.868	20	22	
½-1 Hr	129	62	(0.001)	131	60	11.182
>1 Hr	63	37		52	48	(0.004)
Mixed feed given						
Yes	12	25	15.64	18	19	2.651
No	195	101	(<0.0001)	185	111	(0.075)

*Fisher Exact test applied

The examination of the role of difficulties faced by mothers in breastfeeding during the immediate postpartum period as the determinant of good positioning and attachment revealed that less secretion of breast milk and pain in breast/s were statistically significantly associated with good positioning while breastfeeding.

In a similar vein, pain in the breast/s was found to be a statistically significant determinant of good attachment. No other direct difficulties related to breastfeeding and none of the indirect/other difficulties were found to be significantly correlated with good position or attachment while breastfeeding (Table 4).

Table 4. Role of Difficulties faced by mothers in breastfeeding during the immediate postpartum period (n=333) as the determinant of good positioning and attachment

Variables of Difficulties	Frequency (%)	Good positioning		Chi-Square statistic (p-value)	Good Attachment		Chi-Square statistic (p-value)
		Yes	No		Yes	No	
Direct breastfeeding-related							
Less secretion of milk	82(23.91)	27	55	5.663 (0.017)	30	52	3.439 (0.064)
soreness over the nipple	7(2.04)	2	5	0.718 (0.470)*	2	5	0.824 (0.462)*
Pain in breast/s	163(47.52)	57	106	10.991 (0.001)	63	100	5.846 (0.016)
Mastitis (Heaviness)	1(0.3)	0	1	0.789 (1)*	0	1	0.837 (1)*
Other difficulties							
Backache	144 (41.98)	59	85	1.124 (0.289)	59	85	2.035 (0.154)
Giddiness	147 (42.86)	66	81	0.035 (0.851)	69	78	0.220 (0.639)
Headache	73 (21.28)	33	40	0.030 (0.863)	30	43	0.719 (0.396)
Pain at the perineum/stitch site of episiotomy/Caesarian	73 (21.28)	30	43	0.398 (0.533)	31	42	0.340 (0.560)

*Fisher Exact test applied.

Discussion

The present study assessed the difficulties faced during the immediate postpartum period in breastfeeding. The results revealed that pain in the breast was the most common problem reported (47.52%; n=163), followed by less secretion of the milk (25.07%, n=86). The less common difficulties reported were soreness over

nipples, heaviness in breast/s, inverted nipples, and no secretion of milk. The others, not directly related to breastfeeding difficulties reported, were backache (144, 41.98%), giddiness (147, 42.86%), as well as headache and pain at the perineum/ at the site of the stitch of episiotomy/cesarean section (both 21.28%). In the same context, Yogendra et al. (8) reported that most mothers believed they had

inadequate milk (13.1%). Other problems included refusal of suckling (8.7%), breast engorgement (6%), flat nipple (4.6%), nipple size problems (2.02%), inverted nipple (1.8%), and nipple soreness (1.4%). The findings are somehow in line with those obtained in the present study.

Caroline et al. (9), in their descriptive research, also found that painful nipples/breasts, low milk supply, and latching difficulties were the three most frequent major breastfeeding problems identified by women. Degefa et al. (10) in southern Ethiopia reported a poorer positioning among primipara mothers (47.1%) than multipara mothers (28.7%), as well as a poorer attachment among primipara mothers (31.1%) than in multipara mothers (27.1%). Goyal et al (11) in Libya found that there was poorer positioning among primipara (24.0%) than multipara (8.9%-12.5%) mothers. A poorer attachment was also more evident among primipara (30.0%) compared to multipara (20.9%) mothers. Parity was significantly associated with the poor position ($P=0.028$) and attachment ($P=0.002$). The poor attachment was related to cracked nipples and mastitis. In the current study, the numbers of live birth were also found to have a statistically significant effect on "Good Attachment"; nonetheless, the same was not statistically significant in the context of "Good Position."

Goyal et al. (11) also reported that poor suckling was more (42.8%) in the early neonatal period, while the present research also reported that 52.08% of mothers perceived that their neonates were not sucking effectively in the immediate postpartum period (i.e., early neonatal period). In their research in north India, Kishore et al. (12) reported that there was 'good attachment' in 42% of mother-infant pairs, and infants were held in 'correct position' by 60% of mothers. Nancy et al. (13) in their study at Puducherry, South India, revealed that about 28.3% and 27.3% of mothers demonstrated improper positioning and poor attachment, respectively. Young mothers, housewives, <10 day-old neonates, and failure to receive breastfeeding counseling were associated with poor breastfeeding techniques. In agreement with the stated research, the results of the current study also suggested that poor attachment and improper positioning were present in 37.84% and 39.04% of participants, respectively. The age of mothers was also found to be statistically significant in determining good attachment. Sithara et al. (14), in their study, also reported that a major concern was difficulty in positioning and attaching the infant to the breast (88.5%), followed by breast and nipple problems (30.3%).

Despite the great efforts of the government, UNICEF, and other regional health agencies via the implementation of numerous health programs involving antenatal and postnatal mothers as beneficiaries, breastfeeding-related difficulties have not markedly decreased. Earnest involvement of grass-root level workers is grimed due to their involvement in multiple tasks. The overlooked issues during breastfeeding are rooted in the high prevalence of future malnutrition among the under-five population in India, hindering their thriving in various dimensions of health.

Conclusion

Pain in the breast (unilateral/bilateral) followed by less secretion of the milk were commonly reported difficulties faced by mothers during the immediate postpartum period. The less common difficulties reported were soreness over nipples, heaviness in breast/s, inverted nipples, and no secretion of milk. The others, not directly related to breastfeeding difficulties, were backache, giddiness, as well as headache and pain at the perineum/at the site of the stitch of episiotomy/cesarean section. Good attachment and good positioning were present (all four components as per IMNCI guidelines for both) in 62.16% and 60.96% of study participants, respectively. More than half (52.08%) of mothers had the perception that their newborn was not sucking effectively, while 40% of them believed that the newborn was getting exhausted while sucking. Age of mothers, numbers of live births prior to delivery at the time of research, duration of starting breastfeeding after birth, and the presence of mixed feeding were statistically significantly associated with good attachment ($P<0.05$). In the case of good positioning, the duration of starting breastfeeding after birth was the only factor found to be statistically significantly associated ($P=0.004$). Less secretion of breast milk and pain in breast/s were statistically significantly associated with good positioning while breastfeeding. In a similar vein, pain in the breast/s was found to be a statistically significant determinant of good attachment.

Recommendation

Proper antenatal and postnatal counseling can modify negative maternal perceptions, such as less secretion of breast milk and less effective sucking, which can induce stress in immediate postparturient and affect breastfeeding practice. Modifiable determinants, such as the duration of starting breastfeeding after delivery and mixed-feeding practice, which have a significant impact on good position and attachment, can be taken care of

by medical and para-medical staff available in the labor room and postnatal ward, respectively.

Limitations of study

It was a hospital-based cross-sectional study that pinpointed the difficulties presented to new mothers only during the immediate postpartum period. Another limitation was the failure to follow up with the participants who used mixed feeding practices due to limited resources, while it could add imperative information on worsening or improving the exclusive breastfeeding practice in the long run.

Acknowledgments

None.

Conflicts of interest

The authors declare that they have no conflict of interest.

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