

Not enough breast milk? Why?

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ABSTRACT

Background: The World Health Organization (WHO) recommends exclusive breastfeeding (EBF) up to the age of 6 months for its well-known beneficial effects. **Objectives:** The objectives of the study were to know the profile of cases wherein the complaint of not enough breast milk exists, to find out the causes of such problem, and to find out the areas to be addressed in breastfeeding education programs. **Materials and Methods:** Data were collected from infants up to 180 days of age, not exclusively breastfed, attending a private clinic from April 2015 to March 2020. Very low birth weight babies and those with anatomical problems interfering with breastfeeding were excluded. Mothers were interviewed, infants examined, and breastfeeding observed for some time to find out the problems. **Results:** Out of total 940 infants, 63.51% had excessive cry only, 3.19% had only unsatisfactory fullness of abdomen following a feed, and 1.38% a combination of these leading to presumed insufficient breast milk. Another 12.13% of infants had difficulty suckling, mostly because of improper attachment to breast (43.86%) and lack of mother's patience and motivation (40.35%). A good number (9.47%) of infants did not have any breastfeeding problem at all. **Conclusion:** Excessively crying infant is usually not because of inadequate breast milk. Refusal to suck is due to improper attachment, lack of motivation, or improper mother-baby bonding. These issues including the WHO recommended idea of EBF need to be addressed in different health education and breastfeeding education programs.

Key words: Crying infant, Exclusive breastfeeding, Not enough breast milk


Breastfeeding does not merely confer protection from common infective conditions of childhood such as diarrhea and pneumonia; it also prevents allergic conditions such as asthma and subsequent development of obesity later in life [1]. It is well known that exclusive breastfeeding (EBF) up to 6 months of age and continuation of breastfeeding long afterward is crucial for proper growth, development, and even survival [2]. EBF is defined as no other food or drink, not even water, except breast milk (including milk expressed from a wet nurse) for 6 months of life, but allows the infant to receive oral rehydration salts, drops, and syrups (vitamins, minerals, and medicines) [3]. The World Health Organization (WHO) recommends EBF up to the age of 6 months [4]. Despite the beneficial effects, only 38% of infants are exclusively breastfed across the globe and the currently existing target of the WHO is to enhance the same to at least 50% by the year 2025 [5].

In India, however, the rate of EBF is 55% [6] which is much better than the global average. The common deterrents to EBF globally as identified by the WHO are caregiver and social beliefs favoring mixed feeding, faulty health-care

practices and policies not supportive of breastfeeding, lack of adequate skilled support, aggressive promotion of infant milk substitutes, inadequate maternity and paternity legislation and other unfavourable workplace policies and lack of knowledge on the dangers of not EBF, and of proper breastfeeding techniques among women, their partners, families, health-care providers and policy-makers [5]. Amidst the dearth of publications on this subject, mother's presumption of not enough breast milk supply accounted for 82.8% of the cases of failure of EBF in a certain study [7]. The present study was conducted to know the profile of cases wherein the complaint of not enough breast milk exists, to find out the causes of such problem, and to find out the areas to be addressed in breastfeeding education programs.

MATERIALS AND METHODS

It was an observational study. Data were collected from the mothers presenting with infants up to 180 days of age, who were not exclusively breastfed, attending a private clinic for any kind of health-related issue, related or unrelated to breastfeeding during a 5-year period from April 2015 to March 2020. Very low

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birth weight babies, weighing <1500 g at birth and the infants with anatomical problems (like cleft palate) interfering with breastfeeding, were excluded from the study. Infants whose mothers suffered from serious illness requiring hospitalization and thereby hindering breastfeeding during this time span were also excluded from the study. A written informed consent was taken from the mothers. The study was approved by the Institutional Ethical Committee.

Data were recorded in a preformed pro forma, wherein age and sex of the babies, birth weight, weight at the time of presentation, time of initiation of supplemental feeding, and specific kind of supplemental feed including the feeding method (whether fed with a feeding bottle or with cup and spoon) were recorded. Mothers' particulars such as age of the mother, educational qualification, order of birth, and mode of delivery (whether vaginal or cesarean), whether the earlier babies (for higher birth orders) were breastfed and whether the mother consumes hormonal contraceptives or any other drug known to interfere with lactation were also recorded. Then, the mothers were subjected to a few simple questionnaires relating to the problems experienced for successful EBF (details in the Annexure), namely, time of initiation of first breastfeeding, the feeling of not having adequate breast milk, how long she is having this problem, and whether she has drip breast milk. The average numbers of times the infants passed urine in a 24 h period before initiation of supplementary feeds were also noted. Besides a careful thorough clinical examination, the babies were specially examined for the presence of oral thrush. Mothers' breasts were examined for crack/sore nipple and flat/retracted nipple. Breastfeeding was observed for quite some time to check for proper attachment to breast and also for presence drip breast milk during feeds.

RESULTS

Out of total 3083 infants aged up to 180 days visiting the clinic, 940 (male: 578, female: 362) met the inclusion criteria. The most commonly encountered complaint leading to the presumption of inadequate breast milk is the infant crying excessively, especially at night (63.51%) (Table 1). In only one case, the presumption was due to infrequent urination of the infant and in two other cases, the complaints were infrequent urination of the infant along with unsatisfactory weight gain/weight loss. The infant with infrequent urination had the problem only for a few days during summer. The other two infants, having infrequent urination associated with unsatisfactory weight gain/weight loss had, however, history of hospitalization at that time.

In 245 (26.06%) cases, supplements were initiated within the 1st week of birth. Only 74 (7.87%) infants had their supplementary feeds initiated later in the newborn period (8–28 days). The number of infants initiated supplementary feeds in the 2nd, 3rd, 4th, 5th, and 6th months was 254 (27.02%), 101 (10.74%), 172 (18.30%), 90 (9.57%), and 4 (0.43%), respectively.

The supplementary feeds were given mostly with spoon (540) and feeding bottle (372) or a combination of these (21). However,

Table 1: Distribution of complaints relating to problems exclusive breastfeeding

Complaints	Number (%)
Excessive cry	597 (63.51)
Unsatisfactory fullness of abdomen after feeds	30 (3.19)
Excessive cry and unsatisfactory fullness of abdomen after feeds	13 (1.38)
Refusal to suck	114 (12.13)
Improper attachment to breast	50 (43.86%)
Lack of patience/motivation	46 (40.35%)
Change of soap/perfume used by mother	15 (13.16)
Sucks well when put to other lactating mother's breast	3 (2.63%)
Excessive cry and refusal to suck	5 (0.53)
Not enough milk seen visibly	19 (2.02)
Frequent urine and/or stool, hence presumed empty stomach	14 (1.49)
Working mother, difficult exclusive breastfeeding	10 (1.06)
Miscellaneous complaints	49 (5.21)
Small size breast	6
Continues to suck	5
Less weight gain/weight loss	2
Presumed less urination	6
Real less urination	1
Inadequate weight gain	2
Decreased drip milk than earlier	4
Difficulty suckling due to nose block	8
Takes supplements when offered	5
Elder sibling sucks off	6
Baby separated from mother for a few days after birth	4
No complaint	89 (9.47)
Self-initiated supplements	50 (56.18%)
Suggested by charlatans	18 (20.22%)
Suggested by peers	5 (5.62%)
Suggested by other family members	16 (17.98%)
Total	940 (100)

seven babies were fed directly from a tumbler and sometimes with a spoon too. A total of 11 infants had oral thrush at the time of presentation, all those infants were bottle-fed.

Only one mother had crack nipple at the time of presentation. She had improper attachment to breast, started supplementation with formula with a feeding bottle since 21 days after birth, and continued to breastfeed even afterward. Flat nipple was found in 10 mothers and they all abandoned breastfeeding altogether within the 1st week of delivery. Only one of them had an earlier childbirth, and she did not breastfeed the first baby also. Among the mothers under study, 739 (78.62%) had drip breast milk even at the time of initiation of supplements. Only 50 mothers under the study had improper attachment to breast.

Out of total 940 babies, 612 were delivered by cesarean section and 328 delivered vaginally. Among the babies born by cesarean

section, 166 (27.12%) were given supplements within the 1st week of delivery, while 79 (24.09%) of the babies born vaginally were given supplements during the corresponding period.

Elderly mothers, aged 30 years or more, were 135 (21 were between 35 and 39; 4 were aged 40 years or more). Out of these 135 mothers, 56 were primipara, 55 were having their second babies, and 24 were with third babies. Among the 55 mothers with the second babies, 46 had earlier breastfed their babies, albeit not exclusively; only one of the 24 mothers with third babies did not have earlier breastfeeding experience at all (Table 2). A total of 22 mothers were illiterates, 146 were university graduates, and 111 more with a postgraduate degree (Table 3).

DISCUSSION

We encountered 940 cases out of total 3083 infants <180 days old attending our clinic in a 5 years period, wherein EBF was not continued up to the recommended age. The most commonly observed reason for discontinuation of the idea of EBF was the infant crying excessively. However, in all those cases, the infants fulfilled all the criteria laid down regarding adequacy of breastfeeding [8,9]; the decision regarding supplementation/substitution was taken arbitrarily, forgetting other possible causes of crying infant [10]. Prevalent custom of prelacteal feed identified as an important cause of failure of EBF in a study [11] done in Bihar was not observed in the present study.

Refusal to suck in most of the cases (43.86%) was because of improper attachment to breast or lack of patience and motivation of the mother (40.35%) highlighting the necessity to address these issues. A good number (13.16%) of mothers complaining of the infant not suckling satisfactorily reported a temporal relationship

with recent change of soap/perfume used by the mother. This suggests interference with habitual smell sensation of the infant to recognize the nursing mother in their early infancy [12,13].

The well-known “nipple confusion” [14,15] was not observed in our study because our questionnaires were aimed at first introduction of feeds other than breastfeeding, thereby obviating the possibility of nipple confusion. In only three cases, it was observed that the baby refused to suck, but sucked well when put to another lactating mother’s breast. However, all those three mothers were under treatment with antidepressant and antipsychotic medications, which indicate a role of psychological status of the mother and also the effects of those drugs interfering with nursing.

Unsatisfactory fullness of the infant’s abdomen even after breastfeeding is a unique complaint observed (3.19%) in the present study. The presumption that the mother is not having adequate breast milk to meet the baby’s need based on this observation of the mother or other family members is not reported anywhere in the literature. The little amount of breast milk consumed by a young infant is of course not always expected to cause visually apparent inflation of the abdomen.

“Not enough breast milk on attempted manual expression” is influenced by numerous factors. Sound knowledge in anatomy of breast and physiology of lactation and milk ejection is crucial for successful manual expression of breast milk. Even then, it should be emphasized that the yield is much less than the amount the infant gets on suckling. Therefore, this is not a reliable indicator of inadequacy of breast milk.

In only one case, the mother complained of infrequent urination only for a few days during summer. The infant, however, continued to gain weight satisfactorily all along. This may be explained by a transient episode of dehydration only [16].

Table 2: Mother’s age and not enough breast milk

Mother’s age →	<30 years (805)	30–34 years (110)	35–39 years (21)	40 years and more (4)
Order of childbirth ↓				
First baby (574)	518	43	11	2
Second baby (317)				
Earlier breastfed (272)	226	42	4	0
Earlier not breastfed (45)	36	6	2	1
Third baby (49)				
Earlier breastfed (46)	23	18	4	1
Earlier not breastfed (3)	2	1	0	0

Table 3: Mother’s educational status and not enough breast milk

Mother’s educational status →	Illiterate (22)	Up to school education (503)	10+2 (158)	University graduates (146)	Postgraduates (111)
Order of childbirth ↓					
First baby (574)	11	214	122	122	105
Second baby (317)					
Earlier breastfed (272)	9	208	28	21	6
Earlier not breastfed (45)	1	36	6	2	0
Third baby (49)					
Earlier breastfed (46)	1	43	1	1	0
Earlier not breastfed (3)	0	2	1	0	0

In only two infants under study (0.21%), complaints (infrequent urination and also inadequate weight gain/weight loss) were genuine, raising suspicion of real inadequacy of breast milk. However, both those infants were hospitalized and treated with intravenous medications (papers were not available) around the time of initiation of supplementary feeds, raising doubt regarding inadequacy of breast milk being the cause.

In 6 (0.64%) cases, it was observed that elder sibling sucked off the mother's breast, which highlights the importance of proper spacing between pregnancies. A good number of mothers (1.49%) reported presumed empty stomach of the infant because of frequent urination and defecation of the infant. This is because of obvious misconception among the people. It needs to be emphasized in various health education programs that frequent urine of the infant indicates adequacy rather than inadequacy of breast milk [8,9]. Similarly, frequent stool in an exclusively breastfed infant is a normal phenomenon [17] unless associated with other warning signs.

In 89 (9.47%) cases, there was no complaint regarding inadequacy of breast milk; supplementation given as a choice, suggesting lack of knowledge regarding the importance of EBF and unfavorable attitude, which was revealed earlier as well [18]. Although in most of those cases (79.78%), supplementation was decided by the mother herself, other family members or friends, in 20.22% supplementation was suggested by local charlatans, indicating the influence of the widely prevalent promotion of infant milk substitutes despite the enactment of the "Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992 (41 of 1992)" [19]. The need for involvement of the entire family in making the decision of EBF successful was emphasized earlier [20].

Small size breast not being able to yield adequate amount of milk is an age-old misconception [21], as observed in the present study as well.

It is observed that discontinuation of the idea of EBF is only 26.06% in the 1st week after birth. This finding correlates with the observation [22] of more or less satisfactory initiation of breastfeeding within a few hours after birth. The observation of failure to exclusively breastfeed within the 1st week after birth being a little more in the mothers having cesarean section than those delivering vaginally (27.12% vs. 24.09%) conforms to the earlier observations [23].

Despite the well-known ill effects of bottle feeding [24,25], 41.81% of the infants were fed with feeding bottles. This is also an important area to be emphasized in various health education programs. In the present study, elderly mother's parity is also more. This observation is, however, favorable to success of breastfeeding, considering the earlier observation [26] of the elderly primiparity being strongly associated with not being able to breastfeed exclusively.

It is observed that 252 (26.81%) mothers had an educational standard of graduation from a varsity or more (besides the doctors and nurses). While long unemployment because of childbirth and consequent lagging behind in career, consideration of

health-seeking behavior and household income [26] might have a psychological influence on breastfeeding in this group, these highly educated mothers are amenable to proper health education and motivation also. The rate of successful breastfeeding is reported to be higher among educated mothers in different studies [27-29].

The study had a few limitations. Since the data were collected from the infants attending a private clinic, the demographic profile of the study population does not represent the community as a whole. Moreover, only the infants not exclusively breastfed were selected as cases. Therefore, the present study does not give any idea about the rate of EBF.

CONCLUSION

Mothers should be explained regarding how to check adequacy of breastfeeding. It needs to be emphasized in this context that manual expression of breast milk entails sound knowledge of anatomy of breast and physiology of lactation and milk ejection as well as practice for quite a few days. A good number of infants are given supplementary feeds before the age of 6 months as a choice, indicating the necessity to reinforce the idea of EBF in different breastfeeding education programs.

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ANNEXURE

Proforma

Not enough breast milk? Why

Date of case taking:

Name of the infant:

Maturity:

Birth weight:

Present weight:

Anatomical problems like cleft palate (if any): Yes/No

Oral thrush: Yes/No

Medical illness of the infant (if any):

Urination of the baby (how many times a day): Now:

Prior to giving supplements:

Name of the mother:

Age:

Order of birth:

Whether the earlier babies (for higher order births) were breastfed:

Yes/No/Not applicable

Educational status of the mother:

Mother's medical problem (if any):

Maternal drug intake (anything significant):

Maternal dietary history (anything significant):

Age of the infant (in hours) at the time of first breastfeeding:

Specific complaints, why presumed not enough breast milk:

When (at what age of the infant) presumed inadequacy of breast milk started:

Breast examination: Flat/retracted nipple: Yes/No

sore/Crack nipple: Yes/No

Attachment to breast: Proper/Improper Whether drip breast milk present: Yes/No

Who suggested supplementary feeding:

What supplementation given:

How long supplementation given:

Method of supplementary feeding: Cup and spoon/Feeding bottle/Others: