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Original Research Article

Rate of early initiation of breast-feeding among mothers delivered in a tertiary care maternity centre: a descriptive cross-sectional study

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ABSTRACT

Background: Breastfeeding is the first step to the path of a healthy future for a child. The aim of the study was to estimate the rate of early initiation of breastfeeding in a tertiary care maternal and children's hospital.
Methods: This was a descriptive cross-sectional study conducted among 370 postnatal mothers delivered in a tertiary care maternity centre. Consecutively selected willing mothers having a live baby were included. Early initiation of breastfeeding, socio-demographic, clinical, neonatal and other variables were collected using a validated, structured questionnaire, checklist and record review.
Results: The rate of early initiation among the mothers were 80.8 (95%CI 76.4 to 84.6) and the delay was found among 71 participants. The main reasons for delay were baby shifted to ICU, maternal complications during intra-natal and immediate postnatal period ad baby not given to mother following delivery. Mean time of initiation of breastfeeding was 49 minutes (IQR 46.3 to 55 minutes).
Conclusions: The rate of early initiation of breastfeeding in the setting is very good, but it can still be improved. Nurses are the major group of health workers giving antenatal counselling, but the part of antenatal breast examination need to be improved. They can be empowered as trained lactation managers.

Keywords: Breastfeeding, Early initiation, Delay in initiation, Newborn

INTRODUCTION

"Breastfeeding gives babies the best possible start in life" Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (WHO).[1] The first step to the path of a healthy future for a child is breast-feeding.[2] Breast-feeding is the cornerstone of the healthy development of the child and it is the foundation for the development of the country.[3] WHO considers it as a high-impact, cost-effective interventions for improving newborn health.[4] Breast-milk is the only food with is ideal to meet the nutritional needs of infants, which is healthy, clean and safe and is easily accessible everywhere. Early initiation of breast-feeding is starting breast-feeding within the first hour of birth of the baby.

When it is delayed, it will have life-threatening consequences.[5] It is estimated that early initiation of breast feeding can prevent 20% of death among neonates. Considering its importance, breast-feeding is directly or indirectly related to 8 SDGs, viz. SDGs 1to 5, 8, 10 and 12.[2] Government of India considers improving breast feeding practices as an important intervention for quality survival of newborns. The rate of early initiation of breast-

feeding is only 44.6% in India though the institutional delivery rate is as high as 79%.[6] Usually, mother and baby will be ready for breast-feeding within one-hour of birth and should not be delayed longer than one hour. By this time the baby will be alert and indicates his readiness for breast-feeding by opening of mouth, turning of head as if in search of nipple or sucking on fingers or hands. The first milk, colostrum acts as the first immunisation and prevents several illnesses. It is a rich source of vitamin which improves the health of eyes. It also acts a purgative, removes meconium and prevents neonatal jaundice.

Early breast-feeding is advantageous to the mother also. Early sucking helps to produce more milk, encourages flow of breast-milk, keeps the baby warm and promotes mother infant bonding. It helps to expel placenta, reduces post-partum bleeding, prevents breast engorgement and makes mother more comfortable.[7] The present study aimed to estimate the rate of early initiation of breastfeeding in a tertiary care maternal and children's hospital.

METHODS

Study design

The study design was descriptive cross-sectional design.

Setting

The study had been conducted in Sree Avittom Thirunal Hospital, Thiruvanathapuram, Kerala, a tertiary care maternal and children's hospital which is a key testing and referral centre with 1025 beds, 75000 annual patient turn over, 28000 admissions, 10,000 deliveries, 3000 caesareans and 2000 major gynaecological surgeries. It has 50 bedded labour room with 5 delivery cots and 9 antenatal, postnatal and gynaec wards.

Population

Women who delivered in the study setting. Mothers with a live newborn at the time of data collection only were included in the sample. Mothers who did not give consent were excluded.

Sample

Sample consisted of 370 women selected consecutively who satisfied the selection criteria. Sample size was calculated using the rate of initiation 64.3 (NFHS-4) and the relative precision of 8% and the calculated sample size was 370.

Study variables

Early initiation of breast-feeding

Initiation of breast-feeding of the newborn within 60 minutes of delivery.

Delayed initiation of breast feeding

Initiation of breast feeding of the newborn later than 60 minutes of delivery.

Socio-demographic variables of mother

Age, religion, education, occupation, occupation of husband, monthly income, type of family, place of residence, exposure to mass media.

Clinical variables of mother

Obstetric score, parity, previous experience with breast feeding, antenatal check-up, place of antenatal check-up, received antenatal counselling regarding breast feeding, breast examination during antenatal period, complications associated with present pregnancy, present pregnancy planning, type of present delivery, complications during pregnancy and delivery.

Neonatal variables

Birth weight of child, period of gestation at delivery.

Others

Baby not given to mother immediately after delivery, complications during intra-natal and immediate postnatal period, Baby shifted to ICU due to sickness/complications.

Data collection instruments

A structured and validated questionnaire and checklist were used for collecting the information on the variables. Using record review, information on the clinical variables were collected.

Data collection technique

The data was collected by interview and record review.

Data collection

The data collection started after getting the necessary permissions and ethics approval. The period of data collection extended from January 2020 to February 2020.

The study participants consisted of 370 postnatal mothers, recruited consecutively from labour room, emergency operation theatre, and post-natal wards. The investigator had given a brief self-explanation of the study and established good rapport with the postnatal mothers, then explained the purpose of the study and provided participant information sheet.

The investigator assured about the confidentiality of data and obtained informed consent. The duration of data

collection was about 15 minutes for one mother using the interview schedule and checklist.

Statistical analysis

Descriptive statistics including frequencies and proportions for categorical variables and median and interquartile range (IQR) for continuous variables.

Ethical considerations

Obtained the ethical clearance from a competent human ethics committee.

Reporting guidelines

STROBE (strengthening the reporting of an observational study in epidemiology).

RESULTS

The rate of early initiation among the study group was found to be 80.8% (95%CI 76.4 to 84.6) and the delay was found among 71 participants. There were three reasons of delayed initiation and are given in the following pie chart. The variables among the study group are given in the following Table 1. The most common complication associated with pregnancy was GDM (Gestational Diabetes Mellitus 35.1%) and 118 (43.3%) had more than one complication. The most common complication associated with the delivery was preterm labour 29.2% and 41.5% had more than one complication.

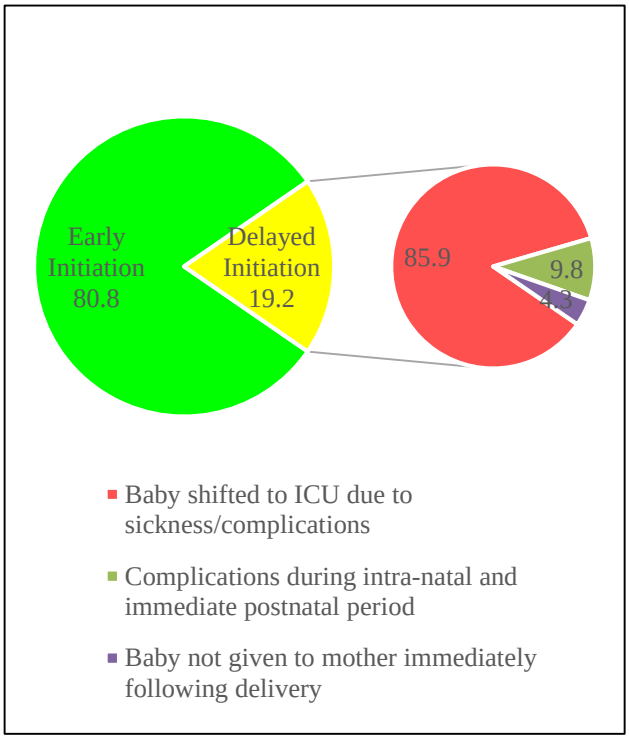

Figure 1: Initiation of breastfeeding and reasons for delay.

Table 1: Variables among the study group (n=370).

Study variables	n	%
Socio-demographic variables of mother		
Age- 20-24 years	139	37.6
Religion- Hindu	267	72.2
Education of mother- higher secondary	197	53.2
Occupation of mother- housewife	285	77.0
Occupation of husband- coolie	192	51.9
Monthly income -BPL	302	81.6
Type of family-nuclear	278	75.1
Place of residence- Panchayat	233	63.0
Exposure to mass media- newspaper, TV and internet	121	32.7
Clinical variables of mother		
Obstetric score- primigravida	216	58.4
Parity- one child	220	59.5
Previous experience with breast-feeding-no	220	59.5
Regular antenatal checkup- yes	370	100.0
Hospital at which antenatal check-up conducted- government	359	97.0
Antenatal counselling regarding breast feeding-yes	313	84.6
Month of pregnancy in which antenatal counselling regarding breastfeeding was received-second trimester	153	41.4
Antenatal counselling regarding breastfeeding given by- nurse	165	44.6
Breast examination-no	368	99.5
Present pregnancy- planned	362	97.8

Continued.

Study variables	n	%
Type of present delivery- CS	210	56.8
Complications associated with present pregnancy- yes	272	73.5
Complications associated with present delivery-yes	89	24.1
Neonatal variables		
Birth weight-2.5-3.5 kg	263	71.1
Period of gestation at delivery-FT	297	80.3
Median time for initiation of BF after delivery (IQR)	49 (46.3-55) min	

DISCUSSION

This study found that the rate of early initiation of breastfeeding in the study setting was 80.8% (95% CI 76.4 to 84.6). The WHO reported that during 2010-2018, the rate of early initiation of breastfeeding in 57 LMICs was 51.9% (51.6–52.2%).[8] Niti Aayog 2019-20 reports indicated that early initiation of breastfeeding rate in Kerala was 67%.[9] The recently released NFHS-5 has reported an improvement in the early initiation rate by 2.4% from NFHS-4 in Kerala.[10] Another study reported 80.9% as the early initiation rate, very close to the present study findings, from a tertiary care hospital in Kerala.[11]

In this study, the delay was reported among 71 participants (19.2%) and the reasons for delay were baby shifted to ICU (85.9%), complications during intra-natal and immediate postnatal period (9.8%), and baby not given to mother immediately following delivery (4.3%). A study from Odisha reported that among 86.4% of children the reason for delay in initiation was sickness of the child after delivey.[12] A study from South India reported the causes of delay in initiation were shifting of baby to ICU (78.7%) and increased time for the transfer of baby to mother (56.5%).[13]

The median time of initiation of breastfeeding was 49 minutes (IQR 46.25 to 55 minutes) in this study. Among the vaginal delivery, 87.5% of participants had initiated breastfeeding within 1 hour. Among the CS, 75.71% of participants had initiated breastfeeding within 0 to1 hour. A study from Puducherry reported the median breastfeeding initiation time as 90 minutes (IQR 30 to180 minutes).[14] The present study revealed that 37.6% of participants belong to the age group of 20-24 years and 1.1% of them belongs to the age group of > 39 years. A study from Kerala reported that 22% of breastfeeding mothers belong to the age group of 18-25 years. [15]

Majority of the study subjects (58.4%) were primigravida. A study on exclusive breastfeeding from Bangalore reported that 51.5% of their sample were primiparous.[16] Similar studies also reported that majority of the study group were primiparous.[15,17,18]

Though all participants were on antenatal check-up, 15.4% of them did not receive antenatal counselling regarding breastfeeding. Among the participants who received antenatal counselling regarding breast feeding, 41.3% received it during the second trimester and 3.24% during the last trimester. Most of them (97%) had their antenatal check-up at government hospital. Frontline health workers gave antenatal counselling for 54% of the group. Nurse was the major health person (44.5%) imparted the antenatal counselling on breastfeeding. Almost all (99.45%) did not have breast examination during the antenatal period and for those (0.54%) who had breast examination, it was done by the nurse. Based on NFHS-4, 90.2% of the mothers had at least 4 ANCs in Kerala.[19] A similar study from Kerala reported that 9.3% of their study participants did not receive antenatal counselling.[11] A study from Chennai reported that 68.33% of the study participants received information on breastfeeding from healthcare workers.[17] Prenatal counselling was reported to be important in improving early initiation of breastfeeding in Uttar Pradesh. It was found that early initiation was highest among mothers who received both antenatal and postnatal counselling (65.4%), among mothers who received only prenatal counselling was 44.9% and 50% among those who received postnatal support only.[20] An RCT among Indian urban women reported that breastfeeding counselling by a skilled person resulted in significantly higher early initiation rate among the experimental group.[21] Another study also reported that lactation counselling by trained lactation counsellors effected better early initiation rates in the experimental group.[22] As nurses were the main health workers involved in antenatal counselling, they can be empowered as trained lactation managers who can impart breastfeeding education from the first antenatal checkup and can perform breast examination of the prospective mothers to detect problems like inverted nipple.

Most of the pregnancies were planned (97.8%). The rate of caesarean section (CS) in the study group was 56.8%. Most of them (80.3 %) delivered at term and only 1.9% of them delivered in 28-32 weeks. Sharma[23] reported that 91.86% of pregnancies are planned, based on the NFHS-4 data. A study from Chennai reported that the CS rate was 58.33%.[17] Another study from Kerala reported that the rate of CS was only 25%.[15] The rate of preterm delivery was 6.6%, reported by another study.[16] Studies have reported that planned CS can negatively affect breastfeeding initiation.[24] A meta-analysis reported that only 40.1% of mothers have early initiation compared to 72.4% of mothers with vaginal delivery.[25]

In this study, GDM was the major (35.1%) pregnancy-related complication, while 26.5% had no complications, 7% of them had other complications such as systemic

lupus erythematous, gestational thrombocytopenia, cardiovascular disease, fibroid disorder and 3% of them had preterm rupture of membrane, while 43.3% had more than one complication. Among the mothers 24.1% had delivery related complications. The most common complication during delivery was preterm labour (17%) and 0.3% of them had other complications such as retained placenta and 41.5% had more than one complication. A study from Madhya Pradesh reported 21.88% study subjects had delivery complications causing delay in initiation.[26]

This study results revealed that that 71.1 % of babies had their birth weight in between 2.5-3.5 kg and 3% of them had their birth weight<1.5 kg. Most of the babies were term (80.3%). Similar findings were reported by another study, 86.3% babies had birth weight >2.5 kg, and 87.9% babies were term.[11]

Further studies can be conducted with more analytical designs to establish the cause effect relationships for delayed initiation and relevant variables. Also, the time of successful establishment of milk production need to be studied.

The main strengths of the study were data collection could be completed in a short period of 6 weeks and it was easy to conduct. The study had limitations that there was no comparison group, so the factors causing the delay could not be established and chance might have played a role. Another limitation was, the study setting was a government hospital, and the situation in the private hospitals could not be evaluated by this study.

Implications

The results have shown that though most of the women had their antenatal checkup at government hospital, there is still deficiency of adequate antenatal advice on breastfeeding. Nurses can be utilised further for imparting antenatal breastfeeding education and postnatal breastfeeding support by further empowerment through lactation management training. They can be further utilised for doing breast examination during the antenatal period.

CONCLUSION

From the study, it can be concluded that the rate of early initiation of breastfeeding in the setting is very good, but it can be still improved.

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