

A STUDY ON EFFECT OF ANTENATAL INTERVENTION ON BREAST FEEDING PERFORMANCE IN PRIMI MOTHERS

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ABSTRACT

Breast milk is the best food a new born should get. A breast fed baby is always a low risk for morbidity compared to a poorly fed / alternate feed given newborn.

Breast milk remains the optimal choice of feeding for both full term and preterm newborn infant.

Due to effect of media, cultural practices, false beliefs etc, in this course of natural nutrition a mother has to face a number of hurdles especially in early post natal period. With no previous experience of breast feeding, a higher number of Primi gravida mothers are affected than Multi gravida.

Breast feeding though a natural process, in order to overcome the obstacles and uncertainty, interventions in the antenatal and postnatal period have proved to be helpful. Anxiety and tension of delivery coupled with lack of experience of primi mother can lead to poor feeding performance.

Hence, effective counseling and proper feeding techniques regarding early initiation and continuation of breastfeeding is a must during their antenatal and postnatal period to achieve a healthy mother and a healthy newborn.

Keywords: *Antenatal Counselling, Breast Feeding, Primi Mothers*

INTRODUCTION

Mother and child bonding is something unique; be it amongst human beings or other mammals. This magnificent universal bonding is the intimate association between the mother and child which begins during the antenatal period and becomes stronger postnatally. Soon after the birth, the child develops this extraordinary relationship with mother and this most wonderful event in the bonding, without any refutation, is firmly associated with breastfeeding.

The most ancient and important act of feeding newborn is breastfeeding which is a delightful transformation between pregnancy and parenthood. However, in recent years, this natural process is facing numerous hurdles and a new mother often feels she is not adequately prepared.

“Breastfeeding is much more than the best and most healthy way to feed your baby, it is also nourishment for the heart, and it maintains, in a special way, the close relationship a mother and her baby develop during pregnancy”. Some babies, when put on a mother’s bare belly immediately after birth, can squiggle and wiggle their way to find her breast. How amazing that breastfeeding is that instinctive!

Exclusive breastfeeding has seen a drastic decline in the late 90’s and has indirectly led to increased morbidity among infants. Hence, it is an issue which needs immediate attention.

Now a days, several factors play significant role deterring exclusive breastfeeding. Pain, anxiety, unawareness, lack of support, illiteracy, misbeliefs and taboos in different cultures, working woman trends has added to this misery.

There is an immediate need to spread awareness among mothers but it is hardly appreciated. Hence it is imminent that the health care professionals should initiate projects to hit the target right from the antenatal period and to monitor closely in the golden week post-delivery.

The Womanly Art of Breastfeeding (La Leche League International, 2004) states that “Feeding at mother’s breast is nature’s way of bridging the developmental gap between growing in the protective environment of the womb and being able to survive out in the world”. Mother and the infant get the opportunity to learn about each other in the initial few hours and days following birth. Mother begins to

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learn how her infant likes to be held, whether he is easily distracted, or how the turn of his head a certain way might mean he's had enough. Baby learns about mom's smell, her touch, her warmth, and the sound of her heartbeat.

It is the combined duty of obstetrician and pediatrician to involve equally and solve this pending issue which has been neglected over the years!

MATERIALS AND METHODS

Primi mothers aged 18-34 were selected for this study undertaken between Nov. 2015 to Aug. 2017. Out of the 200 primi mothers selected, 100 mothers who visited for antenatal counselling were taken as "Booked" and 100 mothers who were admitted at the time of delivery were taken as "Unbooked" cases. Booked cases were given antenatal counselling regarding breastfeeding and unbooked cases that got admitted only at the time of delivery and had not received prior counselling in the antenatal period were counselled during their stay in the hospital and were considered the control group. The mothers and babies were studied in the immediate post natal period up to 08 days in terms of breast feeding technique, time to initiate DBF, time to establish adequate feeding, neonatal changes in terms of weight gain/loss and other morbidities that could occur as a result of inadequate feeding.

RESULTS

It was clearly observed that more the number of antenatal counselling sessions, better was the performance of booked mothers. These mothers were well prepared and performed better postnatally. Booked primi mothers were well trained and showed better performance in latching, proper positioning and comfortability in breastfeeding.

The babies of booked mothers regained birth weight faster.

Booked mothers had lower prevalence of physical breast issues as they were already dealt with antenatally.

DISCUSSION

The present study on effect of antenatal intervention in breastfeeding performance in primi mothers was conducted in M.V.J. Medical College and Research Hospital, a peripheral hospital near Bengaluru. The purpose of this study was to explore the effectiveness of antenatal counseling in establishment of effective lactation in Primi mothers, attitude to breast feeding, barriers and cultural practices in rural Karnataka. This study was also aimed at prospectively examining primi mothers' breastfeeding knowledge. It also explores the trajectory of the ideology of "natural motherhood," and its role in the resurgence in breastfeeding in rural areas around Bengaluru. This study was conducted over a period of two years. A total number of 200 primi mothers who could be followed up till the end of the study period were enrolled in the study. The study group consisted of 100 primi mothers who visited the hospital for antenatal checkups and had benefit of counselling in the Ante natal period (Group1). Unbooked mothers were counselled during their stay in the hospital after delivery (Group 2).

Breastfeeding has roots in sociology, gender studies, the history and philosophy of science, medical anthropology, and social policy (Freidenfelds *et al.*, 2016). In the present prospective study, working primi mothers were counselled regarding the importance of continuation of breastfeeding up to the age of 6 months.

The group 1 mothers consisted of 83% in age group 18-24 years of age, 15% were of 25-29 years, and 2% were of 30-34 years of age (Table 1). In a cross-sectional study by Ogbeide *et al.*, (2004) mean age of the mothers was 30yrs. A positive significant correlation between mother's age and duration of breastfeeding was observed. Gosh *et al.*, (2006) studied the effect of maternal factor such as mothers age and observed that older mothers (>35yrs) breastfed with higher frequency during the first two months, but thereafter, the feed frequency decreased with increasing age of infant. Modi *et al.*, (2016) conducted a study at a tertiary centre among primi teenage and non-teenage pregnant mothers. He reported that the mean age of

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primi was 18.5yrs and observed that adolescent pregnancy is an issue that calls for more education, support and to encourage girls to delay motherhood until they are ready physically and mentally. Ritu *et al.*, (2017) conducted a study among 500 mothers from Chandigarh and Sriganganagar. In her study, maximum respondent were in the age group of 26-29yrs. Interestingly, few mothers were in the age group less than 21yrs and more than 34yrs.

Basrowi *et al.*, (2015) showed that among 186 subjects just over half of the mothers were between 20 and 46yrs old, mean age of 33. Kulkarni *et al.*, (2004) showed that among 122 mothers who were interviewed, mean age of the mothers was 24.36. A study by Harshitha *et al.*, (2017) had mean age distribution of 23yrs.

The present study involved majority of the primis belonging to 18 to 24.

Table 1: Age Distribution

STUDY	Ogbeide <i>et al</i>	Modi <i>et al</i>	Ritu P <i>et al</i>	Basrowi <i>et al</i>	Kulkarni <i>et al</i>	Harshitha <i>et al</i>	Present study
Mean Age distribution (yrs)	30	18.5	27.5	33	24.36	23	21

Demographic distribution in the present study showed majority (83.5% average of Group 1 and Group 2) of the mothers were belonging to Hindu community and 16.5% belonged to Muslim community. Our area is predominantly Hindu and Muslim community. In contrast to the study by Modi *et al.*, (2016) where majority of the primi women were Muslims (88.33%) and 11.66% were Hindus. This was in direct contrast to the distribution in our study because the villages surrounding our institution were predominantly Hindu villages and Muslims are a minority in the surroundings. Religion of the study population would have an impact on initiation of breast feeding since in some community like in Muslims presence of a Religious cleric to read out the azaan is a prerequisite to breast feeding and this may delay initiation of the same.

Harshitha *et al.*, (2017) had studied on socio demographic data about knowledge, attitudes, practices of breast feeding among primi para in a tertiary care hospital in which 71% were Hindus and 27% were Muslims.

Table 2: Religion Distribution

Religion distribution	Ogbeide <i>et al</i>	Modi <i>et al</i>	Harshitha <i>et al</i>	Present study
Muslims	100%	88.3%	27%	16.5%
Hindu	0%	11.7%	71%	83.5%

Majority of the primi mothers in our study group belonged to High school education (69%) and 11% were illiterates and irrespective of education, all breastfed their babies. This is in contrast to the study by Pavan *et al.*, (2015) which showed that mothers with higher education were more likely to initiate DBF within the first hour of childbirth. Ogbeide *et al.*, (2004) showed in his study that 41.9% were uneducated, 18.3% had elementary education, 3.1% had higher secondary education, 16.7% had college and university education. Further, proper counselling (antenatal or at the time of birth) can improve the knowledge regarding EBF.

In a study conducted by Kulkarni *et al.*, (2004), 13.2 % were illiterate and 86.8% were literate.

Harshitha *et al.*, (2017) conducted a study in a tertiary care hospital where 5.5% were illiterates, 24% had studied primary education. 44% were higher primary and 19.25% were pre-university, and 7.25 were graduates.

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Table 3: Education Status Distribution

Education Status	Pavan <i>et al</i>	Ogbeide <i>et al</i>	Kulkarni <i>et al</i>	Harshitha <i>et al</i>	Present study
Illiterates	58.68%	41.9%	13.2%	5.5%	11%
Primary education	17.50%	18.3%	86.8%	24%	5%
High school	23.82%	3.1%		44%	69%
Graduation and professional degree	Nil	16.7%		7.25%	15%

The number of babies who were EBF by Group 1 mothers in present study was higher than most of the other studies and this could be the result of antenatal counselling. Most of the mothers were eager to learn about continued EBF. This further suggests the need to counsel all primi mothers regarding the benefits of EBF and to remove the inhibition barriers such as working mother dilemma, cultural believes and taboos.

The present work also explored into the prevalence of taboos and pre-lacteal cultural practices. 65% mothers (74 Group 1 and 56 Group 2) did not have any social or religious custom restricting them from DBF. However, 35% mothers revealed taboos (26 Group 1, and 44 Group 2) and the difference was significant between the two. Pre-lacteal cultural practices included branding in Group 1 and Group 2 were (8% and 19%), Honey/Sugar water (12% and 15%) and Oil (6% and 10%) respectively. Group 2 mothers showed higher affinity towards maintaining traditional practices. Swetha *et al.*, (2014) did a cross sectional study of breastfeeding practices on a population in Vijayavada, a coastal region of Andhra Pradesh. Their study reported that 58.22% mothers practiced pre-lacteal feedings. Sugar water accounted for 33.33% and was the most common type of pre-lacteal feeds. It was followed closely by honey based feedings which accounted for 32.78% of all pre-lacteal feeds. Of the mothers who initiated breastfeeding, colostrum was rejected by 28.29%. 44.57% of the mothers who practiced pre-lacteal feeds cited insufficient milk production as the main reason for supplementation. Compared to their study showing 58.22% of pre-lacteal feeding, our study showed lower incidence (35%). In another study carried out by Oomen *et al.*, (2009) in urban hospital in Delhi and rural hospital in Haryana, it was observed that around 55% mothers of urban set up gave formula milk and 16% of the mothers in the rural set up gave honey, tea and water. A study done by Dakshayani *et al.*, (2008) in Karnataka among the Hakki pikkis, a tribal population of Mysore district reported that more than 76% of mothers breastfed their children up to one year or beyond. Among the pre-lacteal feeds, sugar water (2.4%) was on top of the list followed by milk mixed with jaggery (7.2%), honey (4.8%), while 6% of mothers did not use pre-lacteal feeds. This indicates that there are regional differences in the practice of pre-lacteal feeds. Nirojini *et al.*, (2004) in their study found the prevalence of pre-lacteal feed as high as 88% in Kashmiri Pandits and 96% in Dogras. Salami *et al.*, (2006) studied the factors influencing breast feeding practices in Nigeria. Although her study indicated that 82% of mothers practiced breast feeding, 66% gave corn-gruel and glucose-water as supplement and 14% gave herbal brew. Only 20% of mothers practiced exclusive breast feeding. This clearly indicates that practice of giving pre-lacteal feed like honey, glucose-water, and cow's milk to a baby is a customarily accepted universal practice. These studies further suggest that in order to attain millennium developmental goals, there is a need to enhance efforts within the healthcare system to improve infant feeding practices.

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Table 4: Prolacteal Feed Distribution

Prolacteal feeds practices	Shwetha <i>et al</i>	Oomen <i>et al</i> (Urban study)	Dakshyaini <i>et al</i>	Nirojini <i>et al</i> (KASHMIR)	Salami Li	Parmar <i>et al</i>	Banapurmath	Present study
Yes	58.22%	55%	40%	88%		25.2%		35%
No	41.78%	45%	60%	12%	20%	74.8%		65%
Sugar water	33.33 %		2.4%	66%	66%			15%
Honey	32.78%		4.8%					12%
Oil								16%
Formula Feed	30.26%	34.4%						
Jaggery			7.2%					
Herbal Brew				14%				
Colostrum Rejection	28.29%		24%				28.6%	
Water		34.4%						
Animal milk		34.4%						

In our study 14% of the Group 1 mothers had one antenatal counselling and 86% received two or more sessions. It was observed that mothers who received more than two sessions performed better postnatally, initiated DBF early and had lower incidence of breast issues. The mothers who had breast issues identified in first contact were followed up in subsequent sessions and were treated for the same. These mothers were well prepared with regard to proper positioning and latching skills. In a study by Parmar *et al.*, (2000) it was observed that 64.7% of mothers who attended antenatal clinic started early breastfeeding as against 46.2% of those who did not attend. 49% mothers of rural slum area gave pre-lacteal feed as compared to 36.6% from urban slum area. 74.8% mothers were aware against prolacteal feeds. Whereas, 25.2% believed that prolacteals should be given. Chaturvedi *et al.*, (2000) observed that mothers who attended ANC desired to start breastfeeding and avoided additional pre-lacteal feeds. A study by Chhabra *et al.*, (1998) majority (76.9%) of the infants received pre-lacteal feeds. These studies clearly indicate advantages of ANC.

In our study, mothers who initiated breastfeeding by 1 hour were 36% in the Group 1 patients and 34% in Group 2. Maximum number of mothers initiated breastfeeding by 2 hours' time (48% and 43% respectively). Only minimum of 3% Group 1 and 6% Group 2 mothers initiated breastfeed by 3 hours. Even though our hospital is not BFHI certified, we promote early initiation of breastfeeding. Yet, we have experienced that, invariably in LSCS babies initiation of DBF is later than babies delivered through NVD. Antenatal screening of primi mothers conducted in our study for physical breast issues such as flat/retracted/cracked/sore nipples at first contact revealed that 39% of the mothers had breast issues in the first contact. These mothers were treated for the respective discomforts. They were followed up regularly. Postnatally, there were no breast issues in 88% of the Group 1 and 52% of the Group 2 cases and the difference between the two groups was significant. Only 12% of Group 1 cases continued to have breast issues after counselling and treating physical breast conditions. Group 2 had significantly large number of issues in postnatal period as they were not screened and treated prenatally. A study by Harshitha *et al.*, (2017) showed only 7.5% had breast examination and 3 had breast problems in the form of retracted and cracked nipples. UNICEF and WHO (2003) advocates antenatal counseling of a pregnant woman is an

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important factor for successful breastfeeding. Breast of pregnant women should be checked for any retracted, cracked nipples and must be offered timely assistance to avoid difficulty in breastfeeding.

A study conducted by Shanti *et al.*, (2012) 36% of the counselled mothers had breast issues and 42% of the non counselled mothers had breast issues in the form of breast engorgement and tenderness.

In a study by Bushra *et al.*, (2011) 4% had nipple soreness, 3.2% had nipple retraction, 2.8% had nipple side problems, 2.4% had breast engorgement, 18.7% had breast pain and 1.2% had big breasts which were barriers for breastfeeding in primi para in early post natal period.

Table 5: Distribution of Breast Issues

Breast issues	Harshitha <i>et al</i>	Shanti <i>et al</i>	Bushra <i>et al</i>	Present study (Group1)	Present study (Group 2)
Yes	0.75%	36%	28.3%	39%	48%
No	99.25%	42%	71.7%	61%	52%

A comparison between the babies of Group 1 and Group 2 cases showed better weight gain in Group 1 cases and the difference between the groups was highly significant. This study suggests that proper counselling paves way towards successful EBF, decreased incidence of lactation failure and adequate weight gain among booked cases.

Conclusions and Recommendations

Our study provides sufficient evidence that:

1. Early intervention in antenatal period plays a major role in successful and effective breastfeeding. In primi mothers, the knowledge regarding breastfeeding is poor. Antenatal counselling greatly improves the knowledge on EBF, faster EBF establishment, lesser breast issues, proper positioning and latching, importance of early initiation of breastfeeding.
2. Improper counselling or lack of support from health care personnel leads to delayed initiation of breastfeeding. Factors such as LSCS, pre lacteal feeds and cultural beliefs precipitate the inclination towards lactation failure. If the health care personnel are not well trained, they may misguide the expectant mother.
3. Benefits of EBF include reduced incidence of dehydration fever, better weight gain. This study suggests that there is an immediate need to establish BFHI units in all the hospitals. The hospitals should also appoint well trained breastfeeding counselors. These professionals can give proper counselling and educate the mothers during antenatal visits. They are also able to support the mothers during the postnatal period. Due to awareness of prevalence of lactational problems, majority of corporate hospitals have a designated lactational consultant who can educate the expectant mothers with help of audio-visual aids and hands-on training. These personnel also follow up the high risk mothers postnatally to ensure that there are no barriers for effective EBF.
4. Illiteracy, poor family support, inadequate mass communication, myths and un safe cultural practices, poverty, poor health care accessibility in rural areas most likely lead to failure of lactation. This can be addressed by the hospitals by conducting regular camps with good campaigning. Surplus use of materials like pamphlets, daily newspapers, radio communication, Anganwadi worker help to reach to the most remote areas of rural India to deal with the core population who are deprived of good health care facility.
5. Posters and other visual aids such as charts in the hospital wards should be exhibited with photos. The posters can be in local language for better social impact. There should also be advertisements which focus on the negative effects of formula feeds and top feeds.
6. Common man is often misled by media and pharmacies regarding benefits of formula feeds. During their visit to the hospital for checkups, the mothers should be made aware of such misleading advertisements and they should be discouraged from using pre lacteal feeds up to 6 months of childbirth. Formula feeds interfere with establishment of successful breastfeeding. Use of substitutes such as honey, sugar water, cow's milk etc. should be discouraged.

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7. Often, it is the problems of the breast that hinder feeding²³ (Anderson *et al.*, 2005). Hence there is utmost necessity to address breast issues by obstetrician along with fetal wellbeing assessment. We ensured the common problems were screened right from the third trimester and was followed up in postnatal period to ensure there is nothing coming in the way of effective exclusive breastfeeding. Inverted syringe technique invented by Hoffman (1953) was employed in this study. After feeding, the nipple may retract back, but doing it each time before feeding over a period of few days will help to solve the problem. It was proved very productive in our study. There is an immediate need for establishing more baby friendly hospitals so that breastfeeding is addressed adequately.

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