

ANTENATAL MATERNAL EDUCATION: ITS OUTCOME AND EFFECT ON PATTERNS OF BREAST-FEEDING IN KUMAON REGION OF UTTARAKHAND

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ABSTRACT

AIM

To assess the maternal knowledge, attitude and practices towards breast-feeding and to assess the effectiveness of antenatal maternal breast-feeding education for increasing breast-feeding initiation and duration.

STUDY DESIGN

A prospective clinical observational study performed for six-month period at a tertiary care hospital of Uttarakhand.

METHODS

150 healthy pregnant women attending ANC Clinic and their newborns admitted in Department of Paediatrics and Obstetrics & Gynaecology were included in our study. These women and their newborns are followed up at birth, after one month, three and six months.

RESULTS

The study shows that 65.71% of mothers had initiated first breast-feed within 1 hour of normal vaginal delivery while none had initiated after caesarean section. Within first 4 hours, 34.28% initiated breast-feed after normal vaginal delivery and 20.0% after caesarean section. EBF for six months was continued in 48.33% babies in the counselled group while only in 28.0% in the non-counselled group and the association was found to be highly significant (p value<0.01). The practice of bottle feeding (1.33%), top feeding (6.67%), episodes of diarrhoea (6.67%) and ARI (6.67%) are much lower in the counselled group as compared to non-counselled group (14.67%, 18.67%, 18.67% and 9.33% respectively).

CONCLUSION

More effective community approaches are needed in Kumaon region's antenatal clinics to prepare expectant mothers to make informed decisions regarding breast-feeding and lactation management and to ensure early initiation and continuation of exclusive breast-feeding.

KEYWORDS

Breast-feeding, Antenatal Counselling, Newborn, Knowledge, Attitude, Practice.

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INTRODUCTION: Antenatal education refers to structured teaching during the 40 weeks of pregnancy designed to promote breast-feeding.^[1,2] It is postulated that this type of education could have an important influence on breast-feeding initiation and continuation rates. However, research in this area is limited. More than 2.4 million child deaths occur in India each year and two third of these deaths are related to inappropriate infant feeding practices.^[3] In India, the National Family Health Survey-3 (NFHS-3, 2005-2006) reveals that only 46 percent children in the age group 0-6 months are exclusively breast-fed.^[3] WHO along with UNICEF recommends exclusive breast-feeding up to 6 months of age and continued breast-feeding with

complementary feeds until 2 years of age (WHO Geneva 2001). Hence, the Government of India incorporated The Infant and Young Child Feeding guidelines in IMNCI. Its aim is to increase rate of initiation of breast-feeding within 1 hour from existing 15.8% to 50% and also to increase exclusive breast-feeding rate in the first 6 months from the existing level of around 46% to 80% as stated by Apurba Sinhababu and Dipta et al in their study.^[4] Several studies have reported a low rate of initiation of breast-feeding within one hour after birth in India.^[5] According to National Family Health Survey (NFHS-3) data from India, it is 23.5 percent.^[3,6,7] Breast-feeding practices are determined by socio-cultural factors, as is evident from the marked differences in the rate of initiation of breast-feeding within one hour depending on the region, place of residence, caste, and the education status of the mother.^[5,8] After the introduction of the 'Baby Friendly Hospital Initiative' (BFHI) in 1992, exclusive demand feeding is accepted as the only mode of early infant feeding.

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Babies are well known to thrive on breast milk alone during the first 6 months of age.^[9,10]

We conducted this study to assess the maternal knowledge, attitude and practices towards breast-feeding and to assess the effectiveness of antenatal maternal breast-feeding education for increasing breast-feeding initiation and duration.

MATERIAL & METHODS: This prospective clinical observational study was carried out from January to June 2014 in the Department of Paediatrics and Obstetrics & Gynaecology at Government Medical College, Haldwani and Dr. Shusheela Tiwari Government Hospital after obtaining approval from the Institutional Ethics Committee. We recruited healthy pregnant women who were attending Antenatal Clinics at Dr. Shusheela Tiwari Government Hospital, Haldwani. Mothers were eligible for participation if they were more than 34 weeks' gestation at the time of delivery, expressed an intention to breast-feed, and had no illness that would contraindicate breast-feeding or severely compromise its success. Mothers who were transferred to an intensive care unit after delivery or if their infant was admitted to a neonatal unit were excluded from the study. 150 pregnant women included in our study were divided into two groups each containing 75 subjects. Group A included 75 mothers practising breast-feeding with antenatal counselling, and Group B included 75 mothers practising breast-feeding without antenatal counselling.

Informed consent was taken from the mothers who agreed to participate in the study. A face-to-face interview using a pre-designed, self-administered, standardised pre-coded questionnaire regarding knowledge, attitude and practices towards breast-feeding was conducted. The questionnaire included data about maternal age, education, socio-economic status, type of delivery, place of delivery, employment, religion, residence, sex of the child, initiation and duration of exclusive breast-feeding and weaning practices. The mothers were interviewed in the language they understood. Health education was given to all the mothers interviewed regarding the advantages of exclusive breast-feeding in the form of printed material.

Data so collected was analysed using SPSS-21. Descriptive statistics were used to calculate means and standard deviations for numerical data. These were compared using Student's t tests at a confidence level of 95%. Frequencies were calculated for categorical data. These were compared using Chi-square tests and $p < 0.05$ was considered significant. The prospective study was performed for a six-month period.

The first postnatal interview was conducted before the women were discharged from the hospital. Detailed data about the intrapartum and immediate postpartum experience, including mode of delivery, birth weight of newborns, and infant feeding in the hospital, were recorded during this interview.

The mothers were subsequently interviewed either during the women's routine clinic visit for postnatal checkup or via home visits or over the telephone at one month, three months and six months after delivery regarding their breast-feeding and weaning practices as recorded in their infant feeding diaries. Rates of exclusive, predominant, partial, and no breast-feeding were tracked at all these time points.

Infants were assessed at birth and were followed up at one month, three month and six month. At each visit they were assessed for their anthropometric status, feeding details (e.g. type of feed etc.) and details of any morbidity they have experienced (sepsis, acute respiratory illness, diarrhoea prolonged jaundice > 2 weeks and need for hospitalisation). All mothers were counselled at each visit about care of infants particularly maintaining temperature and hygiene, exclusive breast-feeding for six month, prevention of infection, immunisation and next date of follow up.

RESULTS: The study shows that 65.71% of mothers had initiated first breast-feeding within 1 hour of normal vaginal delivery while none had initiated after caesarean section. Within first 4 hours, 34.28% initiated breast-feeding after normal vaginal delivery and 20.0% after caesarean section. EBF for six months was continued in 48.33% babies in the counselled group while only in 28.0% in the non-counselled group and the association was found to be highly significant ($p \text{ value} < 0.01$). The practice of bottle feeding (1.33%), top feeding (6.67%), episodes of diarrhoea (6.67%) and ARI (6.67%) are much lower in the counselled group as compared to non-counselled group (14.67%, 18.67%, 18.67% and 9.33% respectively). Table 1 shows that bottle fed (12.5%), top fed (25.0%) and so the episodes of diarrhoea (25.0%) occurred maximum in the illiterate group and minimum in graduates (0%, 7.69% and 0% respectively). Table 2 shows that 92 (65.71%) mothers initiated breast-feeding in less than 1 hour after normal vaginal delivery, whereas none has initiated breast-feeding in less than 1 hour after caesarean section. 48 (34.28%) mothers initiated breast-feeding in 1-4 hours after normal vaginal delivery, whereas 2 (20%) mothers initiated breast-feeding in 1-4 hours after caesarean section. By applying Chi-Square Test, association between the time of first breast-feed after delivery and type of delivery was found to be highly significant ($p < 0.01$) Table 3 shows EBF for six months was continued in 48.33% babies in the counselled group while only in 28.0% in the non-counselled group and the association was found to be highly significant ($p \text{ value} < 0.01$). Table 4 shows that the practice of bottle feeding (1.33%), top feeding (6.67%), episodes of diarrhoea (6.67%) and ARI (6.67%) are much lower in the counselled group as compared to non-counselled group (14.67%, 18.67%, 18.67% & 9.33%, respectively) and the association was found to be highly significant ($p \text{ value} < 0.05$).

Education	No. of Cases	Bottle Feed Given	Top Feeds Given	Diarrheal Episode	A.R.I.
Illiterate	8(5.3%)	1(12.5%)	2(25%)	2(25%)	2(25%)
Primary	29(19.3%)	4(13.79%)	4(13.79%)	5(17.24%)	1(3.45%)
High school	63(42.0%)	4(6.34%)	6(9.52%)	9(14.28%)	8(12.70%)
Intermediate	37(24.7%)	3(8.11%)	5(13.51%)	3(8.11)	1(2.70)
Graduate	13(8.7%)	0(0%)	1(7.69%)	0(0%)	0(0%)

Table 1: Relation of Education of Mother with Feeding Practices

How soon the baby was breastfed after delivery	Normal vaginal delivery	Caesarean section	Total
< one hour	92	0	92
1-4 hours	48	2	50
>4 hours	0	8	8
Total	140	10	150

Table 2: Association of First Breast-feed with Type of Delivery

Duration of EBF	Counselling (n = 75)	Non-counselling (n = 75)
1 month	1(1.33%)	2(2.67%)
2 months	1(1.33%)	10(13.33%)
3 months	5(6.67%)	18(24.00)
4 months	9(12.00%)	11(14.67%)
5 months	22(29.33%)	13(17.33%)
6 months	37(49.33%)	21(28.00%)

Table 3: Effect of Counselling on duration of Exclusive Breast-feeding

	Counselling (n = 75)	Non-counselling (n = 75)
Bottle Feed given	1(1.33%)	11(14.67%)
Top Feeds Given	5(6.67%)	14(18.67%)
Diarrhoeal episode	5(6.67%)	14(18.67%)
A.R.I.	5(6.67%)	7(9.33%)

Table 4: Effect of Counselling on Pattern of Feeding

DISCUSSION: This clinical observational study was designed to address the research question whether antenatal maternal counselling regarding breast-feeding would have an impact on initiation of early breast-feeding and duration of exclusive breast-feeding and on weight gain of the newborn.

The key to successful breast-feeding is likely to be Information, Education and Communication (IEC) strategies aimed at behaviour change.^[11,12,13] It is evident that counselling on breast-feeding is not given due importance as part of antenatal visits.^[7,14] Though a trial by Alexander et al suggested that routine breast examination during antenatal care does not increase the chances of successful breast-feeding, detection of retractile nipples in the

antenatal period followed by appropriate manoeuvres to make nipples protracted may help in ensuring the success of breast-feeding in postnatal period.^[13] However, further research on this issue is required.

The benefits of exclusive breast-feeding for infant health are documented in a vast scientific literature, and exclusive breast-feeding is also widely considered to be a strong predictor of longer breast-feeding duration. Breast-feeding support provided by the primary care physician during routine preventive visits is likely to have limited impact, compared with the effects of various barriers that affect breast-feeding duration negatively, such as psychological factors, cultural factors, and return to work.^[15]

Studies have documented that infant feeding counselling is often of poor quality or unavailable for many women. In a study by Dhandapany et al in Pondicherry,^[7] India, most of the mothers who were antenatally counselled on breast-feeding initiated breast-feeding immediately after birth as compared to the non-counselled mothers with a highly significant difference (p<0.01) between the two groups.

The results of our study were also not very different from the study conducted by Brajesh Kumar et al at Sullia, Karnataka,^[16] as the number of mothers of the counselled group who initiated breast-feeding immediately after birth were more than those who were not counselled with a statistically significant difference (p<0.05) between the two groups. Majority of the mothers in our study who were counselled practised exclusive breast-feeding for 1st six months of their infant's life as against those who were not counselled with a statistically very highly significant difference (p<0.01) between the two groups (Table 3 and 4).

CONCLUSION: More effective community approaches are needed in Kumaon region's antenatal clinics to prepare expectant mothers to make informed decisions regarding breast-feeding and lactation management and to ensure early initiation and continuation of exclusive breast-feeding. If appropriate measures are undertaken to strengthen training in breast-feeding counselling and the number of trained professional/peer counsellors at all levels is increased, exclusive breast-feeding might become a social norm. There is an urgent need to train all those involved in infant feeding counselling so that they have both the knowledge and the skills to help women make appropriate choices, and so they can support women in their choice after delivery. Selection of motivated clinicians is likely to be an important factor contributing to the improvements in breast-feeding outcomes.

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