

Original article

Comparative study of breastfeeding support and guidance to mother alone, mother and father, mother father and family

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ABSTRACT:

Introduction: Exclusive breastfeeding rate in India is only 41.5%. Counselling plays a vital role in maintaining exclusive breastfeeding that can help reduce under five mortality. So, the present study aimed at assessing the impact of three methods of counselling on subsequent exclusive breastfeeding rates.

Methods : A prospective comparative study was conducted from December 2016 to August 2018 in a tertiary care teaching hospital at Pune to assess the impact of counselling mother alone (Group A), mother and father (Group B), and whole family (Group C) on breastfeeding rates and weight gain at the end of six months. Sixty mothers along with their babies were randomly allotted to each group, counselled by single trained study clinician and designated trained nurses. The data collected was analysed using SPSS 20.0 software and Fisher exact test was used. P value of less than 0.05 considered significant.

Results : 180 mothers were included from antenatal, postnatal care ward and labour room of tertiary care hospital, of which 60 were allotted randomly to each Group. At the end of six months, Overall EBF rate was 77.7% with statistically significant higher rates in group C (90%) as compared to group A (68.7%) and group B(73.9%); (p value = 0.025), while median weight of the babies was higher in group B, but the difference was not statistically different compared to group A and group C (p value = 0.168).

Conclusion: Counselling of the family and not only mother is an important factor in promoting breastfeeding.

KEYWORDS: Breastfeeding, Counselling.

INTRODUCTION:

Breast milk is the perfect food for infants in the first six months of life, containing all nutrients optimal health and growth (1) According to WHO in 2016, Diarrhea and pneumonia are the most common causes of under 5 mortality worldwide. Optimal breastfeeding of all children aged 0-23 months could lead to an annual saving of about 8,00,000 under 5 children's lives around the world and 22% neonatal deaths can be prevented by proper breast feeding.(2)

According to international statistics exclusive breastfeeding rate is 39.568% in developing countries.(3) In India according to NFHS 4 databy 4-5 months 41.5% were exclusively breastfed, 23.9% on plain water, 1.6% on other liquids like juices, 14% other forms of milk and 14.1% were complementary feeds. Whereas by 6-8 months only 17% were exclusively breastfeed. (4) Previous studies have documented barriers to exclusive breastfeeding like painful breast ,inadequate milk output ,lack of privacy, family stress ,working mother ,young mothers and those who lack appropriate knowledge or confidence etc.(5,6) But, one of the important factors is also lack of support and help from husband and family (7).

Counselling has an inevitable role in successful and sustained exclusive breastfeeding along with early initiation of breastfeeding. (8) Several randomized studies have demonstrated that the promotion of exclusive breastfeeding can be increased by counselling (9). Though, there are studies showing the positive effects of counselling, not many studies are done on the role of father and family in successful breastfeeding, especially in Indian scenario. Therefore, this study was conducted to compare the impact of counselling on exclusive breastfeeding rates after giving breastfeeding guidance and support to the mothers and also the role of the father and family in supporting the mother and the child during the initial 6 months so that mothers can exclusively breastfeed for 6 months.

AIMS & OBJECTIVES;

Primary objective: To determine whether breastfeeding support and guidance to the entire family helps in successful exclusive breastfeeding as compared to counselling of mother and father or mother alone.

Secondary objective: To determine whether breastfeeding support and guidance to the entire family helps insignificant weight gain at the end of six months as compared to counselling of mother and father or mother alone.

MATERIAL & METHODS;

This study was conducted in Government medical college with attached tertiary care hospital, between December 2016 to August 2018, with sample size of 180, based on the formula $4pq/d^2$ where p stands for prevalence of exclusive breastfeeding rates in India which was 42 % by NFHS 3, q is (1-p) and d is proportion of sampling error which is taken 7.5%. It was prospective comparative cohort study; patients were enrolled from antenatal, postnatal care ward and labour room of tertiary care hospital.

All antenatal women in the 3rd trimester gestation admitted in antenatal ward, All term gestation admitted for safe confinement, all post-natal mothers who have delivered healthy baby were included in the study, excluding Women with antenatal, medical or obstetric conditions who are unstable in the perinatal period and are unable to breastfeed, and HIV positive mother.

All babies of consenting mothers and their families were included except those with Congenital abnormalities detected at the time of birth like cleft lip/cleft palate, tracheoesophageal fistula, imperforate anus, neural tube defects, congenital heart diseases presenting at the time of birth; respiratory distress, early onset sepsis, hypoglycemia, polycythaemia, hypocalcemia. The study was conducted after due permission from the ethics committee.

60 women with their babies randomly assigned to the study groups. Randomisation was done by using the "random table method" into 3 study groups

A: COUNSELLING OF MOTHER ALONE.

B: COUNSELLING OF MOTHER AND FATHER.

C: COUNSELLING OF MOTHER, FATHER AND FAMILY.

Counselling was done by single trained study clinician and designated trained nurses of the respective wards in the language of the study participants understood best. It was based on breastfeeding training module by World Health Organization - CDD program and UNICEFF. (41)

Counselling was conducted as a single session in a group of 4 to 5 subjects for a period of 30 minutes with 15 minutes for questions/answers as per the WHO breastfeeding guide.

All study participants with their babies were followed up till 6 months of age at intervals of 6 weeks , 14 weeks and 6 months via, direct contact with the study clinician at the time of child's first immunization at 6 weeks of age at the same hospital immunization center or telephonic interview.

At the end, demographics analyzed as SPSS version 20.0. Categorical variables were compared with the Fisher exact test, while continuous variables were analyzed using the Anova and Kruskal Wallis test whichever is appropriate.

OBSERVATION & RESULTS:

After data collection, it was analysed for three different groups, Maternal age, educational status, occupation, parity of the mother and socio-economic status assessed by Modified Kuppaswamy Scale in all the age groups were non- significant, analysed using Fischer- exact test, so all the three groups were comparable.

The median weight of the baby across all three groups were 2750 grams in group A, 2700 grams in group B and 2550 grams in group C, classified as normal weight babies and was comparable across all 3 groups, Fischer's exact test used. P value is 0.148 which is not significant. Hence all 3 groups are comparable at baseline with respect to babies birth weight. (Table-1)

Among 180, study population, 20% of the study participants were loss to follow-up (LTFU), 11.1% gave telephonic follow-up of the visits. 3.8% completed all 3 hospital visits more in group C. (Fig-1) Overall follow-up of six months completed by 80% of the participants with either hospital visits or telephonically as scheduled, higher in group C (83.33%) compared to group A (80%) and B (76%). Of the 31.1% who did not have hospital visits –majority (30%) had given wrong contact numbers or had moved out of the area (32.1%).

Overall EBF rate was 77.7% with statistically significant higher rates in group C (90%) as compared to group A (68.7%) and group B(73.9%); with P value 0.025 which is statistically significant. (Table-2)

In non-EBF babies majority of them (56%) were being partially breast-fed, more so in group A (44.4%) and group B (38.8%) followed by predominant breastfeeding which was 10% in group c, 50% in group A, 40% in group B. (Table-3)

Those mothers who did not EBF their babies cited as the main reason to be lack of support from the family and family problems (52.5%) in group A when compared to group B (28.5%) and group C (19.04%). (Table-4)

Inter-current illness were higher in group A 44.3% and group B 40.5% compared to group C 15.2% with no in-patient admissions in group C when compared to group A (80% with diarrhoea and 50 % with respiratory infections) and group B (20% with diarrhoea and 50% with respiratory infections).

At the end of follow up period of 6 months the median weight of the babies was higher in group B, but the difference was not statistically different compared to group A and group C. P value is 0.168 by kruskal wallis test and is statistically insignificant. (Table- 5)

Figure-1- Study flow chart

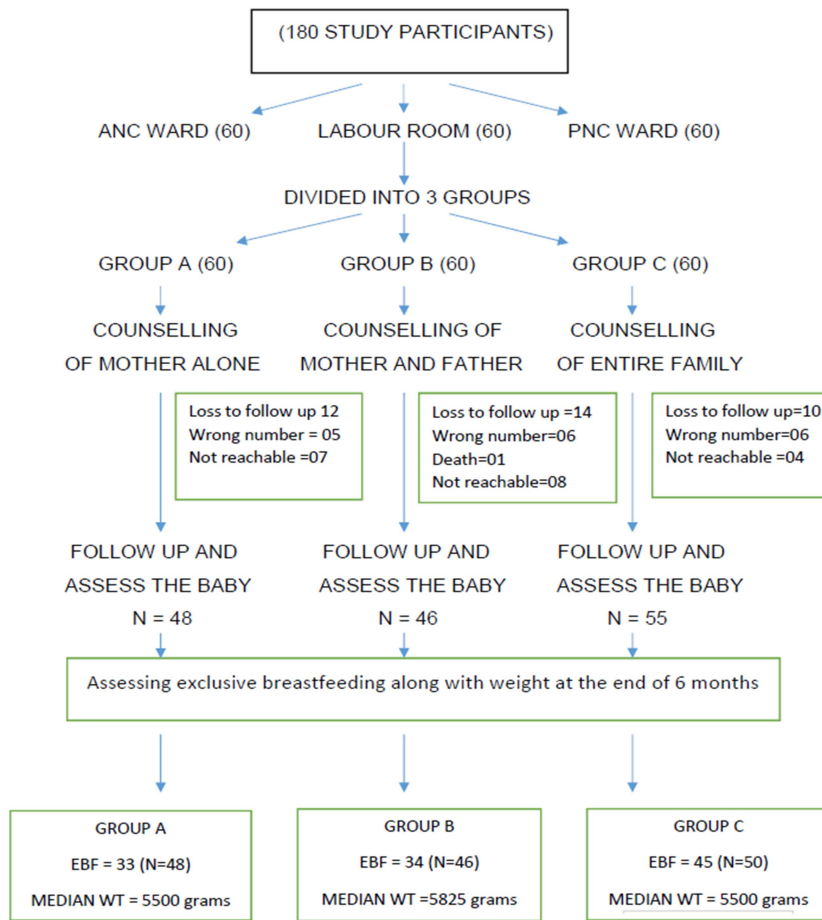


Table-1- Weight of the babies at birth

	MEDIAN (grams)	INTERQUARTILE RANGE (grams)	P VALUE
GROUP A	2750	2450-3000	0.148
GROUP B	2700	2300-2825	
GROUP C	2550	2330-2800	

Table-2 Exclusive Breastfeeding in all three groups

FEEDING TYPE	GROUP A N / %	GROUP B N / %	GROUP C N / %	TOTAL
PREDOMINANT BREASTFEEDING	05 (50)	04 (40)	01 (10)	10
PARTIAL FEEDING	08 (44.4)	07 (38.8)	03 (16.67)	18
STOPPED BREASTFEEDING AND SHIFTED TO COMPLETE TOP FEEDS	02 (50)	01 (25)	01 (25)	04
TOTAL	15	12	05	32

Table-3- Feeding type in Non- EBF among three groups

EXCLUSIVE BREASTFEEDING	A (%)	B (%)	C (%)	TOTAL (%)	P VALUE
YES	33 (68.7%)	34 (73.9 %)	45 (90%)	112(77.7%)	0.025
NO	15	12	05	32	
TOTAL (N)	48	46	50	144	

Table-4- Reasons for not continuing EBF

REASONS FOR NOT CONTINUING BREASTFEEDING	GROUP A N / %	GROUP B N / %	GROUP C N / %	TOTAL	P VALUE
DECREASED MILK OUTPUT	08 (53.3)	05 (33.3)	02 (13.3)	15	0.157
BREAST PROBLEMS	02 (66.6)	01 (33.3)	00 (0)	03	0.365
LACK OF SUPPORT AND FAMILY PROBLEMS	11 (52.38)	06 (28.5)	04 (19.04)	21	0.144
WORKING MOTHERS	00 (0)	01 (100)	00 (0)	01	0.368

Table-5: Number of episodes of diarrhoea and respiratory infections in the six months period

DISEASES	GROUP A N / %	GROUP B N / %	GROUP C N / %	TOTAL
DIARRHOEA -OPD	10 (38.4)	13 (50)	03 (11.5)	26
- IPD	04 (80)	01 (20)	00 (0)	05
RESPIRATORY – OPD	19 (43.2)	16 (36.36)	09 (20.45)	44
- IPD	02 (50)	02 (50)	00 (0)	04
TOTAL EPISODES	35 (44.3)	32 (40.5)	12(15.18)	79

Table-6- Median weight of the babies at the end of six month

	MEDIAN	INTERQUARTILE RANGE	P VALUE
GROUP A	5500	4950-6200	0.168
GROUP B	5825	5150-6575	
GROUP C	5500	5200-6037.5	

DISCUSSION:

This study demonstrates that an intervention at family level counselling and supporting the mothers and family members on breastfeeding practices has a positive impact on the breastfeeding practice. This educational counselling greatly improved the breastfeeding practices such as exclusive breastfeeding until 6 months of age. Out of total 180 study participants enrolled ,60 were assigned to each group ,there was loss to follow up of 36 , that is 12 in group A ,14 in group B and 10 in group C and hence were excluded from the study .A total of 144 ,48 in group A and 46 in group B and 50 in group C, were followed up for a period of 6 months.

In this study comparing three different types of methods of counselling to the mother regarding importance of exclusive breastfeeding, it was observed that in these three demographically similar groups, on counselling of the entire family, exclusive breast feeding rates were significantly higher with a p value of 0.025 when compared with exclusive breastfeeding rates of counselling of mother and father and the mother alone. As shown in table-2, the exclusive breastfeeding rates were 68.7 % with the counselling of the mother alone ,73.9% with counselling of both the father and the mother while the third group which included counselling of the entire family was 90%.the overall exclusive breastfeeding rate was 77.7%.

A study conducted by Nita Bhandari et al showed 79% in intervention group and 48% in control group mothers exclusively breastfeeding at 3 months (p <0.001)(10).Michael SK et al. study showed infants from the intervention group were more likely to be exclusively breastfed at 3 months (43.3% vs. 6.4%; P <0.001) and at 6 months (7.9% vs. 0.6%; P = 0.01) (11). Similarly, studies by Divakar S Nayak et al, Valdes et al and Sinha et al showed positive impact of family level counselling on breastfeeding practices. (12)(13)(14)

In a study by Jenny Tohotoa et al showed that paternal emotional, practical and physical supports were identified as important factors to promote successful breastfeeding and to enrich the experience for the mother and subsequently the father (15), though no significant increase in the exclusive breastfeeding rates were seen in our study.In the present study those mothers who did not follow exclusive breastfeeding that is of the total 32 who were not exclusively breastfeeding, 9(4 in group A,4 in group B,1 in group C) were predominantly breastfed that is started on small amounts of water and water based diet along with breastfeed. 19(9 in group A, 7 in group B, 3 in group C) were started on partial feeding that is breast feed plus top feed in the form of either formula feed or animal milk while there were 4(2 in group A, 1 in group B, 1 in group C) women who completely stopped breastfeeding.so from the above results it was seen that most of them who stopped exclusive breastfeeding were started on partial feeding. In a study by M.D. Froozani et al showed the rate of exclusive breastfeeding was significantly higher.

($P < 0.01$) in the study group (54%) than the control group (6.5%), while predominant breastfeeding was significantly lower ($P < 0.01$) in the study group. During the 4 months of study, 5% and 18% of infants in the study and control groups, respectively, had completely stopped breastfeeding. (3)

Table 1 documents the initial median weights of the babies at birth. The initial weights are comparable with a p value of 0.148. Table 6 shows median weight and interquartile range at the end of 6 months which are 5500 grams, 5825 grams and 5500 grams in group A, B, and C respectively with a p value of 0.168 which was statistically insignificant.

Therefore there was no much difference in the weight gain patterns in all the three groups. However in a similar study conducted by Divkar.S.N showed that intervention group children gained 794 grams more at the end of 2 years than control group ($p < 0.002$) (12). Another study by M J Mehta et al in civil hospital Surat, had gain of 5.49 kg in infants at the end of two years (16) Onyango AW et al a prospective cohort study showed children in the longest-duration breastfeeding group gained 3.4 cm ($p = 0.0001$) and 370 g ($p = 0.005$) more than those in the shortest duration group, and 0.6 cm

($p = 0.0015$) and 230 g ($p = 0.038$) more than children in the intermediate group. (17)

In our study it was seen that the number of episodes of acute gastroenteritis and respiratory infections were lower in the group C that is total of 3 episodes of gastroenteritis and 9 episodes of respiratory infections with none requiring hospital admissions. While in group B had 13 OPD and 1 IPD episodes of gastroenteritis and 16 OPD and 2 IPD cases of respiratory infections and in group A included 4 IPD and 10 OPD cases of acute gastroenteritis and 2 IPD and 19 OPD of respiratory infections.

Therefore the number of episodes of diarrhea and respiratory infections were lesser in that group which had 90% exclusive breastfeeding rate. In a study by Nita Bhandari et al showed the 7-day diarrhea prevalence was lower in the intervention than in the control communities at 3 months (0.64, 0.44–0.95, $p = 0.028$) and 6 months (0.85, 0.72–0.99, $p = 0.04$) (10). Some of the studies have also reported decreased incidence of diarrheal illness among breast-fed infants (18,19,20).

There was a loss to follow up of 36 patients which constituted 20% of the total study population, whereas 20 (11.1%) had only telephonic follow up and no hospital visits. Of the 180 participants 75 (41.6%) had only single visit whereas 42 (23.3%) had completed 2 visits and 7 (3.8%) completed all the 3 visits personally and 1 death which occurred in the B group, at around 2 months of age of the baby. The cause of death on verbal enquiry was found to be SIDS.

Table-4 shows reasons for not exclusive breastfeeding, most common among them were decreased milk output (8 in group A, 5 in group B, 2 in group C), lack of support from husband and family (11 in group A, 6 in group B, 4 in group C), breast problems (2 in group A, 1 in group B), working mother (1 in group B). Though there was not any statistically significant result in comparison between the 3 groups, 11 mothers in group-A said that lack of support was the reason for unsuccessful exclusive breastfeeding when compared to group C which had only 4 mothers, which shows that counselling of the family members is essential to improve breastfeeding rates. According to Scott JA et al family support plays an important role in breastfeeding (21). Mothers who were encouraged and had very good support presented a significantly higher rate of full breastfeeding at 6 months than did mothers with fair family support. (22) Study by Ceranades concluded mothers without nipple problems had a significantly higher rate of exclusive breastfeeding, from the first through the sixth months. Moreover,

there was a significant difference between this group of mothers and those who only had mild nipple problems, thus emphasizing the importance of providing careful attention to this issue. (22)

Strengths of study:

All the demographic factors in this study are equally distributed among the three

Groups; this study compared the effects of counselling of mother alone, mother and father and then the family on breastfeeding, there are no such studies especially in the Indian community where family's role in counselling sessions and its impact on EBF rates has been systematically studied.

Limitations:

One time counselling was done at the time of enrollment, whereas repeated enforcement at regular intervals with opportunity to clear doubts and problems is known to have better outcome which could have been achieved in this study partly through telephonic contacts or hospital visits. Some follow up visits were based on telephonic conversation hence the information was based on recall of the informant.

CONCLUSION:

1. Exclusive breastfeeding rates were higher when counselling and support was provided to the entire family (90%) as compared to mother and father (73.9%) and mother alone (68.7%).
2. Weight gain of the babies at the end of six months was similar in all the three groups, however the episodes of diarrhea and respiratory infections among babies were significantly less in babies being exclusively breastfed and in those whose entire family was counselled about importance of EBF practices (15.18%) when compared to group A (44.3%) and group B (40.5%).
3. Working mothers required additional support and counselling regarding ways of storage of breastmilk and workplace daycare centers as compared to the nonworking mothers who had higher EBF rates.
4. Among the reasons for not exclusively breastfeeding, lack of husband's and family support was one of the main reasons reported by mothers who were counselled alone, highlighting the importance of counselling the entire family about importance of EBF practices and supporting the mother in this process.

ACKNOWLEDGEMENTS:

Dr. A. Chandanwale, Dean, B.J. Government Medical College and Sassoon General Hospital, Pune.

Dr. Pradip W. Sambarey, Professor and Head of Department of Gynaecology and Obstetrics, B.J. Government Medical College, Pune.

Nursing Staff, B.J. Government Medical College and Sassoon General Hospital, Pune.

Study participants and their families.

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<http://journals.sagepub.com/doi/10.1177/0890334403253292>

Author Declaration: Source of support: Nil, Conflict of interest: Nil

Was informed consent obtained from the subjects involved in the study? YES

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DOI: 10.36848/IJBAMR/2020/26215.55725