Original Article

Effect of routine lactation consultant support to mothers on breastfeeding efficacy

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ABSTRACT

Introduction: Studies have concluded that lactation consultant's visit provides more face-to-face time and education than physician support alone in improving the breastfeeding efficacy and rates. **Objectives:** The objective is to study the effect of incorporating routine lactation consultant to daily postnatal rounds with the resident on (a) cumulative weight loss of postnatal neonates and (b) jaundice requiring phototherapy, number of breastfeedings per day, duration of hospital stay and NICU admission. **Methodology:** A cross-sectional study was carried out among all stable neonates admitted in postnatal wards weighing >2 kg and gestation >35 weeks. The babies whose mothers were trained on breastfeeding by the pediatric resident doctor, in the routine postnatal rounds, were considered as Group 1. Infants whose mothers were counseled by the lactation consultant and the resident doctor on the breastfeeding were considered as Group 2. The baseline characteristics of mother and the neonates were recorded by a structured proforma. **Results:** Of 158 eligible babies, during the study period, 84 babies were enrolled for the study. The mean gestation of the babies in Groups 1 and 2 was 38.1±1.9 and 38.2±1.8 weeks, and the mean weight was 2.95±0.42 and 2.87±0.04 kg, respectively. The cumulative weight loss was 5.43±2.53% and 5.59±2.35 % (p=0.75) in Groups 1 and 2, respectively. The duration of hospital stay was 5.6±1.98 and 5.1±0.81 days (p=0.09), jaundice requiring phototherapy 22 (47%) and 15 (37%) with p=0.56 and the number of breastfeedings per day was 10.2±2.98 and 10.5±1.2 times with p=0.60 between the Groups 1 and 2, respectively. **Conclusion:** Even though there was no difference in either the primary or secondary objective between the groups, postnatal lactation counseling is very essential for improving the breastfeeding efficacy with the support of either doctor or the lactation consultant. There was acceptable cumulative weight loss, urine output, number of breastfeedings per day, and NICU admissions.

Key words: *Breastfeeding efficacy, Daily rounds, Jaundice, Lactation consultant*

The World Health Organization and the American Academy of Pediatrics (AAP) recommend breastfeeding starting at birth and continuing until at least 6 months of age [1]. It is an ideal way of providing nutrition to gain healthy growth and development of infants and it also protects the infant from chronic diseases such as childhood obesity, hypertension, coronary artery disease in young age, early onset diabetes, childhood lymphoma, liver disease, and bronchial asthma, later in life [2-4]. However, with the introduction of breast milk substituent, the rate and duration of breastfeeding have decreased [5].

There are interventions, which are presently being used to improve the breastfeeding outcomes. They are the use of policies or guidelines of baby-friendly hospital initiative and distribution of written materials or the use of structured counseling, education, or support programs [6]. The goal of breastfeeding education is to increase mother's knowledge and skills and help them develop positive attitude towards breastfeeding. Supporting the mothers during lactation crisis and addressing their concerns are necessary for the success of breastfeeding. CDC guidelines conclude that the lack of the support from the professionals is a barrier for the effective breastfeeding [7].

The certified lactation counselor training program is designed to provide up-to-date research-based information on lactation, the art of counseling, and comprehensive breastfeeding management. It also offers continuing education credits for registered nurses, registered dieticians, International Board Certified Lactation Consultants (IBCLCs), and nurse-midwives [7]. Lactation counseling can be provided face-to-face or over the phone, which can be learned in either one contact or multiple visits over several months.

It is time-consuming for the pediatricians to address the issues of breastfeeding during their routine postnatal rounds. Even though we pediatricians counsel and educate mothers on breastfeeding during our daily postnatal rounds, we noticed that many of the babies had weight loss more than 10%, hypernatremia, jaundice requiring phototherapy, and NICU admission. We refer the mother and baby dyad to the lactation consultant, only if they are at a risk of developing above-mentioned problems. Hence,

this study was performed to analyze the effects of incorporating the lactation consultants to daily postnatal rounds and to check whether it would reduce the complications.

MATERIALS AND METHODS

This was a cross-sectional study conducted in the postnatal wards of a tertiary care hospital, Bengaluru, during October 2016 for 1 month, and the institutional ethical committee approved the study. After getting the written consent from the mothers, mother-baby dyad was included in the study. Mothers of all the neonates, admitted in postnatal ward weighing >2 kg with a gestational age of >35 weeks, were included in the study. Those neonates who were shifted to NICU for any reason, multiple gestation, and babies with congenital malformations were excluded from the study.

Study subjects were recruited from the birth register placed in the delivery room. Convenient sampling was done for the study; babies who were born in the first 2 weeks of the month were categorized as Group 1 and babies who were born in the later part of the month were in Group 2. For the Group 1, the pediatric resident educated the respective mothers about breastfeeding and all mothers were shown an hour-long video demonstration on breastfeeding problems followed by an interactive session to clarify their doubts. For the Group 2, mothers were educated daily by the lactation consultant (Fig. 1), apart from resident's counseling during daily rounds. Pediatric residents and the lactation consultant were blinded each other for their counselling, and babies in both the groups were compared.

The maternal and neonatal baseline details were collected from the medical charts as per the structured proforma. Maternal obstetric problems included severe anemia, pregnancy-induced hypertension, pre-eclamptic toxemia, eclampsia, gestational diabetes, oligohydramnios, polyhydramnios, previous caesarian delivery, antepartum hemorrhages, and multiple gestation, whereas medical problems such as asthma, heart disease, tuberculosis, hepatitis, syphilis, HIV infection, hypothyroidism, psychological problems, and seizure disorder were also observed. The neonatal problems were hyperbilirubinemia, hypoglycemia, hypocalcemia, Rh incompatibility, meconium aspiration syndrome, probable sepsis, and low birth weight.

Figure 1: Lactation consultant counseling the mother on breastfeeding

Neonates were considered to have significant weight loss if they loose >10% of their birth weight or 5% on any day [8]. Babies were shifted to NICU, if their serum sodium was more than 150 mEq/L and jaundice requiring phototherapy, as per AAP recommendations [9].

All the data were statistically analyzed by entering into MS Excel 2010 which was followed by analyzing with SPSS version 18. Descriptive statistics were reported using mean, standard deviation, number, and percentages. Continuous variables, such as birth weight, gestational age, cumulative weight loss, number of breastfeeding, and duration of hospital stay, were compared between the study groups using independent t-test for normally distributed variables. Mann–Whitney U test was used for variables not normally distributed, Chi-square test was used to analyze the association between categorical variables, and $p<0.05$ was considered as statistically significant.

RESULTS

A total of 227 babies were admitted to the postnatal ward during the study period. Of which, 158 babies were eligible and a total of 84 babies were included in the study. There were 47 and 37 babies in Groups 1 and 2, respectively. The mean gestation of the babies in Groups 1 and 2 was 38.13±1.90 and 38.2±1.81 weeks and the mean weight was 2.95±0.42 and 2.87±0.04 kg, respectively. The baseline variables between the Groups 1 and 2 are shown in Table 1. There was no significant difference in any of the baseline parameters between the study groups except for the neonatal problems and the major risk factor for jaundice.

The primary and secondary outcomes are shown in Table 2. The mean cumulative weight losses were 5.43±2.53% and 5.59±2.35%, respectively, and mean urine output was 5.98±1.58 and 6.35±0.9, respectively. The duration of hospital stay was 5.6±1.98 and 5.1±0.81 days in Groups 1 and 2, respectively, with no significant difference. Between the two groups, there were no significant difference, in the number of breastfeedings per day, jaundice requiring phototherapy, duration of hospital stay, and NICU admission (Table 2).

DISCUSSION

Breastfeeding support can be offered by health professionals or lay people, trained or untrained, and it can be given in hospital or community settings either face to face or over the phone. It can be only one contact or multiple visits over several months. In a Cochrane analysis, Mary *et al*. have concluded that extra support, by both lay and professionals, had a positive impact on breastfeeding outcomes [10], but the significant effect of professional support was limited to 4 months.

In a study by Hopkins *et al*., mothers in the intervention group were offered breastfeeding support from para professionals supervised by a registered nurse or IBCLC [11]. Mothers in the intervention group had significantly higher rates of exclusive breastfeeding than the control (16.8% vs. 10.4%). In a meta-analysis of 16 RCTs by Sanjay Patel *et al*., the intervention group

Table 1: Comparison of baseline characteristics between study groups

Variables (mean±SD)	Group-1 (n=47)	Group-2 (n=37)	p value
Mean birth weight (kg)	2.95±0.42	2.87±0.04	0.35
Mean gestation (weeks)	38.1±1.90	38.2±1.81	0.83
Vaginal delivery (%)	24 (51)	31 (83)	0.002
Maternal medical problems (%)	22 (46.8)	16 (43.2)	0.82
Neonatal problems (%)	16 (34.0)	4 (10.8)	0.01
Major risk factors for jaundice (%)	14 (29.8)	4 (10.8)	0.05
Minor risk factors for jaundice (%)	3 (6.4)	7 (18.9)	0.09

SD: Standard deviation

Table 2: Comparison of primary outcomes between study groups

Variables (Mean±SD)	Group 1 (%)	Group 2 (%)	p value
Cumulative weight loss	5.43±2.53	5.59±2.35	0.75
Jaundice requiring phototherapy	22 (47)	15 (37)	0.56
Number of breastfeedings per day	10.2±2.98	10.5±1.2	0.60
Duration of hospital stay (days)	5.6±1.98	5.05±0.81	0.09
NICU admission	7 (15)	3 (8)	0.36

SD: Standard deviation

counseled by lactation consultants and counselors had an increase in breastfeeding initiation rate with odds of 1.35; 95% confidence interval (CI) versus 1.10–1.67 with no intervention [12]. The intervention improved any breastfeeding rates (odds ratio for any breastfeeding up to 1 month vs. not breastfeeding=1.49; 95% CI, 1.09–2.04). Most of the evidence suggests that developing and improving postpartum support programs incorporating lactation consultants and lactation counselors. They suggest that health-care settings serving low-income populations should consider the use of lactation consultants and lactation counselors in their breastfeeding education and support programs. In our study, all the mothers (n=84) initiated breastfeeding on day 1, and all the babies were on breastfeeding at discharge which could be due to our baby friendly hospital policy not to use any breast milk substitutes.

Involvement of a skilled lactation consultant may be especially helpful for mothers who have problems in latching baby with their breast since patient support for such issues can be, especially, time intensive. Gartner *et al*. concluded that, by developing appropriate knowledge and skills and with the support systems to anticipate and attend to the needs of breastfeeding mothers, pediatricians can help increase breastfeeding duration and exclusivity [13]. The AAP is currently in the process of developing an office-based breastfeeding training curriculum with the goal of providing pediatricians with an improved skill set [14].

Systematic reviews have shown that various breastfeeding education and support interventions increase breastfeeding initiation, duration, and incidence [15]. However, it was not clear which type of health professional is the most effective in providing breastfeeding education and support. Physicians are not often adequately prepared for their role in breastfeeding management. Similarly, nurses have reported that their education program lacks breastfeeding training and management [16].

There may be a situation where pediatricians may feel unsure about their role when assisting the non-patient breastfeeding mother. By having practical solutions and support systems in place to anticipate and tend to breastfeeding mother's needs, pediatricians can be instrumental in preventing early weaning [17]. Breastfeeding mothers often need encouragement and support, yet pediatricians report feeling inadequately trained in breastfeeding management and may need guidance in the care of breastfeeding mothers [17-23].

All the researched data were about breastfeeding outcomes later, but there are no studies looking at the short-term neonatal outcome as we discussed in our study. In our study, all the babies were term and the normal weight babies. Majority of the babies in the Group 2 were born by a vaginal route which might influence the early initiation of feeding in this group of babies. Babies with the neonatal problems, which developed after 24 h of life, were more in Group 1 (34% vs. 10.8%, p=0.01), which would influence the neonatal morbidities, in turn, the results of the study. Even though the babies with neonatal problems, maternal medical problems were more in Group 1, and there was no difference in the hospital stay and the NICU admission rates.

There was no difference in the baseline variables between the study groups. The risk factor for jaundice was more in Group 1 (29.8 %) as compared to Group 2. In the primary and secondary outcome, the mean cumulative weight loss between the groups was 5.43±2.53 and 5.59±2.35% which was not statistically significant. In secondary outcomes, jaundice requiring phototherapy, number of breastfeeding per day, duration of hospital stay, and NICU admission were not different between the groups statistically, and seven babies in Group 1 and three babies in Group-2 were shifted to NICU.

In our study, there was no difference in either the primary or secondary outcome between the groups as compared to other studies, which has shown the difference when lactation consultant was involved [11,12]. The residents, in our study, have

been trained in the lactation workshop for 8 hours in their tenure and the lactation counselor had experience in the same field for more than 1 year. The pediatric residents having the necessary knowledge and skills required to address the mother's concern, regarding problems of breastfeeding, and video demonstration to address the problems of breastfeeding, must also have contributed to the reason for the Group 1 to score in par with the Group 2. Our concern was that the babies of the mothers, who were supported by the trained doctors, continued to be shifted to NICU. The possible solution to this could be to provide residents with more time to spend with the respective mothers for support and the counseling should start right from the antenatal period. As per the studies, where pediatricians report feeling inadequately trained in breastfeeding management and may need guidance in the care of breastfeeding, our residents were confident to handle because they underwent training on the management of lactation [18-23].

As no randomization was done for the recruitment of the study subjects, small sample size might have contributed to no difference in the primary and secondary outcomes between the groups. Postpartum depression which can be 10–15% in the postnatal period was not taken into account at the time of analysis.

CONCLUSION

Even though there was no difference in either the primary or secondary objective between the groups, postnatal lactation counseling, either by doctor or lactation consultant, is very essential for improving the breastfeeding efficacy There were acceptable cumulative weight loss, urine output, number of breastfeedings per day, and NICU admissions. This study is recommended, with the larger sample size, to show the difference between the groups if any.

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