Assessment of initiation and establishment of lactation among primiparous mothers

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ABSTRACT

Breastfeeding the infants within one hour of birth can reduce infant mortality. Knowledge of exclusive breastfeeding among women is essential when promoting optimal breastfeeding practices. Hence, this study was conducted to evaluate initiation and establishment of lactation, level of knowledge and attitude, and actual practices of breastfeeding among postnatal primigravida mothers. This cross-sectional study was carried out on 400 postnatal primigravida mothers for one year. Mothers were interviewed and their socio-demographic details and data on time of initiation of prelacteal feeds, number of times of feeding per day, and breastfeeding duration were collected using semi-structured questionnaires. Proper counseling on breastfeeding practices including initiation and establishment of lactation was provided on the basis of the responses to the questionnaire. Pre- and post-counseling scores were interpreted and compared for all the primiparous mothers. The association between variables was examined using t-test. P-value of <0.0001 was considered statistically significant. Remarkable improvement in the post-counseling test scores was observed in terms of education, age, residence, religion, mode of delivery, weight, occupation, type of family, and sex of the baby (p<0.0001). A significant improvement was noted in mothers with more than 12th grade level of education and those who were from nuclear families and resided in urban areas (p<0.0001). Knowledge of initiation and establishment of lactation improved in primiparous mothers. Counseling improved the attitude towards lactation in all the primiparous mothers. Hence, wherever possible, relevant health programs on the awareness of timely breastfeeding should be initiated in future for all primiparous mothers.

INTRODUCTION

Breastfeeding is a universally accepted program to decrease high infant and childhood mortality and morbidity (Zenebu Begna Bayissa, 2015). Timely initiation of breastfeeding is the measure of the number of children put to their mothers’ breast within an hour of delivery (Victora et al., 2016). This has remarkable benefits both for mother and newborns in enhancing bonding, protection against infections, increasing mothers’ confidence, and generally increasing the breastfeeding duration (World Health Organization, 2018; World Health Organization, 2003; Suparmi and Saptarini, 2016). Accord-
ing to WHO, early initiation of breastfeeding could save about 1.45 million deaths each year in under-developing countries alone (Ogbo et al., 2016).

Primiparous mothers face more challenges in practicing exclusive breastfeeding due to lack of experience. They are unlikely to practice exclusive breastfeeding (EBF) until 6 months and also unlikely to breastfeed for 2 years and more (Hackman et al., 2015). Among primiparous mothers, factors like breastfeeding outcome expectancy, early initiation of breastfeeding, self-efficacy, and sociocultural factors are shown to impact EBF (Minas and Ganga-Limando, 2016).Breastfeeding problems developed during the postnatal period will generate situations that will negatively influence the duration of breastfeeding (Karacam and Saglik, 2018).The problems encountered by the mothers include insufficient milk, nipple marks, obstruction and poor evacuation of the breast, breast abscess, mastitis, and flattened nipples (Mathur and Dhingra, 2014; Caka et al., 2017). Counseling regarding breastfeeding problems increases the rate of EBF.

Breastfeeding is influenced by socioeconomic factors and the cultural and educational background of parents. The duration and time of initiation of breastfeeding in low-income countries is determined by various factors like education, maternal age, family pressure, parity, employment (Ogbonna and Daboer, 2007), place of delivery, and cultural values (Qiu et al., 2009; Ukegbu et al., 2011; Lin et al., 2008). Identification of these factors will aid the healthcare providers in encouraging breastfeeding and targeting mothers who are highly likely to refuse to breastfeed. There is a paucity of literature on the levels of knowledge and attitude in primiparous mothers in a tertiary care center setting where information on the interaction of socio-demographic variables with feeding practices and association of childhood mortality is limited. Therefore, the present study aimed to study the attitude of mothers towards breastfeeding, their level of knowledge and actual practices of breastfeeding and also to assess changes in mothers’ knowledge after counseling.

MATERIALS AND METHODS

Study design

This cross-sectional study was conducted at a tertiary care hospital for one year. The institutional ethics committee’s clearance and prior written informed consent from all the participants were obtained. The sample size was calculated based on t-test with 95% level of confidence and 94% power to obtain a minimum sample size of 383 subjects. Postnatal primigravida mothers who were willing to participate were included. Postnatal mothers who had neonates with congenital anomalies; neonates shifted to neonatal intensive care unit (NICU); and mothers with serious medical and obstetrical complications like post-partum hemorrhage (PPH), eclampsia, and breast abscess were excluded.

A total of 400 postnatal primigravida mothers who delivered in the tertiary care hospital were included in the study. All of them were interviewed, and lactation details including time of initiation, prelacteal feeds, number of times of feeding per day, and duration of breastfeeding were noted. Positioning and attachment of the babies were observed as per Integrated Management of Neonatal and Childhood Illness guidelines. All the data for the above parameters was collected using semi-structured questionnaires. Questions not easily understood by the mother were rephrased and repeated with explanation of their significance wherever necessary to assess the accuracy and validity of the responses. Based on the responses to the questionnaire, proper counseling was provided to all the primiparous mothers. Socio-demographic details were collected and analyzed for all the mothers. After counseling, the questionnaire was administered once again to assess the changes in knowledge, attitude, and actual practices of breastfeeding. Pre- and post-counseling scores were interpreted and compared for all the primiparous mothers.

Statistical analysis

Statistical analysis was performed using InStat software. Data was expressed as frequency and percentage, and t-test was used to determine the association. P-value of <0.0001 was considered statistically significant.

RESULTS

Majority of the participants were graduates, i.e., above 12th grade (53.5%). There was a significant improvement in the test scores after counseling (p<0.0001) as compared to the pre-test scores in both the educated groups and the difference in the improvement rate between the two groups was statistically significant (p<0.0001). With regard to age, majority of the mothers were in the age group of 25-32 years. There was a significant improvement (p<0.0001) in the post-counseling scores in both the age groups but no marked difference in the post-test scores between the pre- and post-test groups. In terms of residence, majority of the mothers were from rural areas (70.5%). There was a significant improvement in the post-counseling test score
Table 1: Comparison of pre-test and post-test performance based on mothers’ socio-demographic characteristics

| Variables | N (%) | Pre test Mean ± SD | Post test Mean ± SD | Paired t-test | P-value |
|-----------|-------|-------------------|-------------------|-------------|--------|
| **Education** | | | | | |
| Up to 12th | 186 (46.50) | 3.054±1.97 | 8.637±2.08 | 25.943 | <0.0001* |
| Above | 214 (53.50) | 3.492±1.94 | 10.28±1.65 | 39.564 | <0.0001* |
| Unpaired t-test | | | | | 4.342 |
| P-value | | <0.0001* | 0.374 |
| **Age (years)** | | | | | |
| 19-24 | 162 (40.5%) | 3.388±2.012 | 9.417±2.070 | 36.205 | <0.0001* |
| 25-32 | 238 (59.5%) | 2.978±1.82 | 9.851±1.90 | 30.478 | <0.0001* |
| Unpaired t-test | | | | | 1.763 |
| P-value | | 0.078 | 0.714 |
| **Residence** | | | | | |
| Rural | 282 (70.5) | 3.412±1.918 | 9.131±2.053 | 34.605 | <0.0001* |
| Urban | 118 (29.5) | 3.042±2.069 | 10.444±1.674 | 72.014 | <0.0001* |
| Unpaired t-test | | | | | 1.713 |
| P-value | | 0.0875 | <0.0001* |
| **Religion** | | | | | |
| Hindu | 372 (93) | 3.412±1.937 | 9.490±2.021 | 42.192 | <0.0001* |
| Muslim | 28 (7) | 1.740±1.85 | 9.851±2.248 | 22.088 | <0.0001* |
| Unpaired t-test | | | | | 4.342 |
| P-value | | <0.0001 | 0.3740 |

*p<0.0001 considered statistically significant

compared to pre-test score (p<0.0001) in both the groups. Also, mothers from urban areas showed better post-test scores as compared to mothers from rural areas (p<0.0001). Majority (93%) of the mothers were Hindus than Muslims. A significant improvement was noted in the post-counseling scores compared to pre-counseling (p<0.0001) in both the religious groups, but no significant difference in the scores between the Hindu and Muslim mothers was noted (Table 1).

The number of mothers who delivered by lower segment cesarean section (LSCS) were more (57%) as compared to the mothers who delivered by normal vaginal delivery (NVD) (43%). A statistically significant improvement was observed post counseling in mothers who delivered by either mode of delivery (p<0.0001). However, no significant difference in the scores between the two groups was observed. With regard to weight, most of the mothers (50.75%) had weight in the range of 40-59 kg. There was a statistically significant improvement in the (p<0.0001) post-counseling scores of mothers with weight ranging from 40-59 kg and 60-75 kg, but there was no difference in the scores between the groups. With regard to occupation, majority of the mothers were non-working women (61%). There was a marked improvement in the post-test scores of both working and non-working mothers (p<0.0001). Also, working mothers scored well as compared to non-working mothers (p<0.0001). In terms of the type of family, most of the mothers came from joint families (51.5%) than nuclear families, and a significant improvement in the post-counseling scores was observed (p<0.0001). Mothers from nuclear families scored significantly better (p<0.0001) as compared to those from joint families. With respect to sex of the baby, majority of the mothers delivered female babies (53.5%). There was a statistically significant improvement in the post-test scores compared to pre-test scores (p<0.0001); however, no significant difference was observed in the post-test scores between the groups (Table 2).

**DISCUSSION**

Early initiation of breastfeeding is one of the most important and immediate steps in newborn care, which provides longer-term health benefits for infants. Breastfeeding intentions could be affected
by a number of socio-demographic and psychological factors. Repeated counseling of primiparous mothers on lactation has an important role in dramatic improvement in the initiation and establishment of EBF in mothers.

In the present study, 53.5% mothers had completed graduation as compared to mothers who completed education up to 12th. Although majority of them were educated, they still lacked the knowledge on breastfeeding. Post counseling, a significant improvement in the knowledge and practice of breastfeeding was observed. Patel et al. reported that there was no significant association between maternal education with the initiation and duration of breastfeeding (Patel et al., 2015). Various studies from India have suggested a significant association between maternal literacy and timely initiation of complementary feeding (Aggarwal et al., 2008; Rao, 2011). This could be attributed to the fact that women with higher education are more likely to seek medical care or be better informed about their child’s nutritional requirements and adopt better and healthier practices.

In terms of age, 53.5% of mothers were 25-32 years old and showed improvement in EBF post counseling. With regard to the association between breastfeeding and maternal age, our present study did not show any significant association with older age and
EBF. This is consistent with the results reported by Tiwari et al. which showed no significant difference between maternal age and EBF (Tiwari et al., 2018). In contrast, Lutsiv et al. and Britten et al. reported that older age had positive effects on the intention to breastfeed compared to younger age groups (Lutsiv et al., 2013; Britten et al., 2001).

With regard to the place of residence, majority of the mothers were from rural area and counseling helped them improve their knowledge on breastfeeding significantly. A study conducted by Ihudiebube-Splendor et al. showed that mothers’ place of residence had a significant influence on their EBF knowledge as people who stayed in rural areas had a poor knowledge with regard to EBF (Ihudiebube-Splendor et al., 2019).

With respect to impact of the occupation of mothers on the scores, mothers from working groups scored significantly better as compared to the non-working groups. A study carried out by Patel et al. did not show any significant association of maternal occupation with initiation of breastfeeding (Patel et al., 2015). One of the probable reasons could be that working mothers carry their children to their place of work and are able to breastfeed. Conversely, few other studies similar to the current study reported a significant association of maternal occupation with suboptimal feeding practices (Seid et al., 2013; El-Gilany et al., 2011). The reason for mothers from working group scoring well as compared to non-working mothers in the present study could be that working mothers understood the benefits of breastfeeding while they were working.

Mothers from nuclear families scored significantly well as compared to those from joint families with regard to breastfeeding. A similar relation was observed by a study conducted by Radhakrishnan et al. in a study conducted among mothers of rural Tamil Nadu, which showed a significant association between nuclear families and EBF (Radhakrishnan and Balamuruga, 2012). This could be explained by the family inhibitions highlighted by some of the participants in the study, which are likely to be encountered more by mothers from non-nuclear families.

The overall results of the present study demonstrated that proper counseling helped the primiparous mothers to overcome the obstacles and improve breastfeeding practices. Hence, it can be concluded that breastfeeding promotion programs should be included in health education for counseling primiparous mothers to make them aware of the proper techniques and benefits of breastfeeding. However, the present study has a few limitations. There was no verification of actual breastfeeding rates at a second time point as it was a cross-sectional study measuring solely breastfeeding propensity. Also, the present study focused mainly on demographic variables and did not take into consideration cultural, political, or physiological variables.

The awareness with regard to breastfeeding issues has not changed significantly with education and economic independence in Indian mothers. Further studies comparing the actual breastfeeding rates between primiparous and multiparous mothers and evaluating the effect of counseling on their attitude towards and knowledge of EBF are warranted.

CONCLUSION

Findings of the study revealed improvement in the knowledge on initiation and establishment of lactation and intention to practice in primiparous mothers. A significant influence of the mothers’ place of residence, educational status, occupation, and type of family on the willingness to practice exclusive breastfeeding was noted. Further interventions that seek to increase exclusive breastfeeding should be more focused on women who are at increased risk of early discontinuation of breastfeeding.

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Conflict of Interest

The authors declare that there is no conflict of interest for this study.

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