



Factors associated with exclusive breastfeeding practices among mothers in Tripura

KEYWORDS

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ABSTRACT *Background:* Exclusive breastfeeding is defined as feeding infants only breast milk, be it directly from breast or expressed, with no addition of any liquid or solids apart from vitamins and mineral supplements or medicine. However, a large portion of infants are not exclusively breastfed according to the infant feeding recommendations. This study was carried out to identify factors predicting exclusive breastfeeding among mothers admitted in Tripura Medial College & Dr BRAM Teaching Hospital, Hapania, Tripura. *Methods:* A community-based cross-sectional study was conducted from 15 / 01 / 2015 to 15 / 03 / 2015 involving both quantitative and qualitative data. A total of 500 mothers were selected randomly. A convenience sampling technique was used to generate the qualitative data. The qualitative data were analyzed using thematic frameworks. A multivariable logistic regression analysis was used to identify independent predictors of exclusive breastfeeding after controlling for background variables. *Results:* The prevalence of exclusive breastfeeding in the last 24 hours preceding the survey was 71.3%. The median duration of exclusive breastfeeding was three months and mean frequency of breastfeeding was six times per day. Being unemployed and age of infants of less than two months were independently associated with exclusive breastfeeding. *Conclusions:* A large proportion of infants are not exclusively breastfed during the first 6 months, despite the national and global infant and young child feeding (IYCF) guidelines. Employed mothers were less likely to practice exclusive breastfeeding, Extensions of maternity leave up to the first six month of child's age to achieve optimal level of exclusive breastfeeding practices should also be looked into as an alternative solution.

Background

The World Health Organization recommends exclusive breastfeeding for the first six months of life and continued breastfeeding up to two years of age or beyond. It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first six months of life, results in 1.4 million deaths and 10% of diseases in under-fives. Non-exclusive breastfeeding also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development. Evidence shows that of the sixty percent of under-five mortality caused by malnutrition (directly or indirectly). Not more than 35% of infants worldwide are exclusively breastfed during their first four months of life. There is a wide range of variation in the practice of exclusive breastfeeding among developing countries, with the rates documented being: Brazil (58%), India (40%), Iran (28%) , Nigeria (20%), Bangladesh (34.5%), In Tripura, 49% of infants were exclusively breastfed for the first six months, while 56.9% were exclusively breastfed for the first four months. Since then, varying levels of interventions, giving due emphasis to key messages of exclusive breast-feeding, were being given both at health institution and community level. Nonetheless, these efforts were not based on organized evidence on the level of existing practices, which might be due to lack of studies which explored the factors predicting the low proportion of exclusive breastfeeding. The objective of this study is, thus, to assess factors associated with exclusive breastfeeding among mothers in Tripura

Methods

A community-based cross-sectional study, using on both quantitative and qualitative methods of data collection, was conducted in Tripura Medial College & Dr BRAM Teaching Hospital, Hapania, Tripura .The sample size for this study was determined using a formula for estimation of single population proportion assuming an expected prevalence for exclusive breast-feeding of 50%, 95% con-

fidence level, 5% margin of error, a design effect of 2 and a non-response rate of 10%. A total of 500 mother-infant pairs were identified using stratified sampling technique from the urban and rural residences. Then a census was conducted to get the sampling frame for selecting mother infant pairs by simple random sampling technique. For the in-depth interview, 23 individuals breastfeeding mothers from urban and rural areas and 8 community health extension workers were selected using a convenience sampling technique.

Measurements

Quantitative data were collected using a validated questionnaire. Data on breastfeeding practices, sociodemographic factors, obstetric factors and antenatal care visits and health service related factors/practices including pre/postnatal counselling were collected by interviewing the mothers of index children. The data were collected by 12th grade complete students who took an intensive training for two days on the questionnaire and on general approaches to data collection. The WHO definition of exclusive breast-feeding: the other/care giver reported that nothing else but breast milk was given in the last 24 hours preceding the interview, was used. Exclusive breastfeeding was measured by asking mothers with infants aged between 0 and 6 months to provide information about the history of infant feeding for the last 24 hours. The prevalence of exclusive breastfeeding was calculated as the ratio of infants below 6 months who fed only on breast milk in the 24-hours preceding the survey to the total number of children in the same age group (< 6 months of age). This was used to calculate the median durations of exclusive breastfeeding practice.

Statistical analysis

Quantitative data were entered, coded, and analyzed using SPSS for windows version 16.0 (SPSS Inc. version 16.1, Chicago, Illinois). Proportions were compared by exclusive breastfeeding using Pearson's chi-square test of independ-

ence. multivariable logistic regression was done to determine independent predictors of exclusive breastfeeding. All tests were two-sided and $p < 0.05$ was considered statistically significant. The interview data were triangulated with the quantitative data. From the total of 500 mother-infant pairs, 500 were included in the analysis, making the response rate 91.0%. The mean (\pm SD) age of mothers was 26.5 (\pm 5.5) years. Sixty-nine percent of respondents were Hindus by religion. The largest ethnic group was (9.9%). Pertaining to the educational status of mothers, (61.0%) had attended formal school of which (45.2%) completed primary school (grade 1 to 8). (82.3%) were housewives by occupation. The prevalence of exclusive breastfeeding for infants' aged less than six months in the study area was 71.3% as measured by last 24 hours recall period preceding the survey date. The median duration of exclusive breastfeeding for infants less than six months was 3 months. The median frequency of exclusive breastfeeding for infants less than six months per day was 6. The results of month-specific lifetime exclusive breastfeeding analysis showed that the majority 88.8% of infants were breastfed exclusively for 2 months, while 84.4% of infants were breastfed exclusively to 2 to 3 months of age. For mothers with infants older than six months, 68.2% reported giving breast milk with additional food, such as cow's milk (57.0%), cereal-based fluids (45.2%), and complementary feeds (23.9%) before their infant reached six months. For instance, a health extension worker expressed that mothers do not consider breast milk as adequate and important. The chi-square test showed that employment status of mothers, age of infant, prelacteal feeding, parity of mothers and timely initiation of breastfeeding were significantly associated with exclusive breastfeeding. The binary logistic regression analysis showed that unemployed mothers were about 5 times more likely to breastfeed exclusively as compared to employed mothers (OR: 5.3; 95% CI: 1.3, 21.8). Infants in the age group less than two months were 2.7 times more likely to be breastfed. Chi-square tests of exclusive breastfeeding by their socio-demographic characteristics among mothers exclusively as compared to those infants in the age group 4 to 5 months. On multivariable logistic regression analyses, maternal employment status and age of infants were significant predictors of exclusive breastfeeding. The adjusted odds of unemployed mothers practicing exclusive breastfeeding was 10.4 times the odds of employed mothers (AOR: 10.4; 95%CI: 1.51, 71.50) and those infants whose age was < 2 months were 5.6 times more likely to be breast-fed exclusively compared with infants in the age range of 4 to 5 months (AOR: 5.6; 95% CI: 2.28, 13.60).

Discussion This study revealed that the prevalence of exclusive breastfeeding practice for infants less than six months old was 71.3%. The majority (89%) of infants less than 2 months were breastfed exclusively, dropping to 17% when infants were 4–5 months of age. This finding is higher than the Ethiopian study, 67% for infants < 2 months and 32% for infants aged 4–5 months. Maternal educational status and exclusive breast-feeding did not show any significant association. This is contrary to the result obtained from health survey, which indicated an increased trend of exclusive breastfeeding practice with the higher maternal education status. The multivariable logistic regression analysis showed that age of infant was a predictor of exclusive breastfeeding practice. Infants in the age group < 2 months were about 6 times more likely to be exclusively breastfed when compared to infants in the age group 4–5 months. Infants in the age group 2–3 months were 2 times more likely to breastfeed exclusively when compared to those infants in the age group 4–5 months.

As the age of the children approached 6 months, the rate of exclusive breastfeeding decreased significantly. The possible reason might be that mothers might have introduced complementary feeding for their infants. This study has indicated a significant difference among employed and unemployed mothers with regard to exclusive breastfeeding (54% vs 88%) and also revealed that unemployment of the mothers is a predictor of exclusive breastfeeding, which is consistent with the findings of several studies. These findings call for policy arguments to initiate breastfeeding-friendly work environments, as well as the extension of maternity leave to encourage mothers to exclusively breastfeed their babies to improve child health outcomes. This study can be interpreted in light of its strengths and limitations. However, the 24-hour recall to determine exclusive breastfeeding practice means some infants who were given other liquids regularly may not have received them in the last 24 hours before the survey, which may cause overestimation of the proportion exclusively breastfed. A proportion of mothers may be providing substances other than breast milk on an irregular, not daily, basis. Many studies have shown that a large proportion of infants who were exclusively breastfed in the previous 24 hours were either not exclusively breastfed during the previous seven days, and/or, not exclusively breastfed since birth. In addition, this study used a cross-sectional study design, making it difficult to establish causal associations. The fact that this study did not assess individual factors, including knowledge and attitude of mothers, as well as variables related to family and peers, are the limitations of our study.

Conclusions:

In this study, the duration and frequency of exclusive breastfeeding were below the World Health Organization and national infant and young child feeding recommendations. Working mothers were more likely to exclusively breastfeed their babies. Promotion of exclusive breastfeeding through creating an enabling, breastfeeding friendly environment for illiterate mothers is recommended. In addition, advocacy efforts targeting the extension of maternity leave up to the first six months after delivery should be exerted to prevent sub-optimal exclusive breastfeeding and associated health problems among children.

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