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Original Research Article

Barriers to exclusive breastfeeding in first 6 months of life in infants born in a tertiary care center in Hyderabad

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ABSTRACT

Background: Exclusive breast feeding during first 6-months has been proven to ensure growth and development of children. The habit of Exclusive breast feeding is often overlooked by mothers due to various factors. Therefore, this study aims to identify the barriers to Exclusive Breast Feeding.
Methods: This is a prospective study conducted from August 2018 to October 2020 in a tertiary care hospital in Hyderabad among 155 mothers with neonate to 6 months old infants. Data was collected through face-to-face interview using premade questionnaire and a predetermined sample size of 155 was considered.
Results: The prevalence of exclusive breast feeding was 20%. The barriers to exclusive breastfeeding practice were identified as lower socio-economic status (59.4%), Lack of formal education (52.9%), lack of counselling about breast feeding (10.3%), early return to work (32.2%), poor family support (49.03%), 22-25years mean age group (36.7%) , use of bottle feeding (16.3%) and pacifiers (12.2%). It was also observed that mothers experienced difficulties such as cracks (2.58%) and suction problems (2.58%) currently, and breast pain (2.58%) previously.
Conclusions: Promoting education of women especially in lower socio-economic sector and emphasizing need of avoiding complementary feeding rather counselling women regarding importance of exclusive breastfeeding during first 6-months and negative impact of early return to work, and providing health care for the difficulties faced during breastfeeding and encouraging family support are recommendations to improve exclusive breastfeeding practice.

Keywords: Exclusive breast feeding, Neonatology, Newborns, Breastmilk

INTRODUCTION

The World Health Organization (WHO) defines exclusive breastfeeding (EBF) as when "an infant receives only breast milk, no other liquids or solids are given not even water, with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines". Breast milk is an extremely complex and highly variable bio-fluid which has evolved over millennia to nourish infants and protect them from diseases. Breast milk is unique in its composition such that it changes in response to the infant's requirements according to age and other characteristics.[1,2] Thus it may be said that breastmilk is tailormade by each mother to precisely reflect the requirements of her infant.[3] The antipathogenic and immunomodulatory components of breast milk compensate for the relatively weak neonatal immune system and impair transfer of infectious microbes across gastrointestinal tract.[4] Breast-fed infants possess more stable and less diverse intestinal microbiota than formula-fed infants, but possess more than twice the number of bacterial cells.[5] This may be due to alterations

at the level of gut mucosa due to bioactive substances in human milk. Studies have shown that gene expression in the neonatal gastrointestinal tract is influenced by breastfeeding, with differential expression found between formula-fed and breast-fed infants in genes regulating intestinal cell proliferation, differentiation, and barrier function.[6] EBF for the first 6 months of life has shown to protect infants against gastro-intestinal infection, pneumonia, otitis media and also contribute to health and well-being of mothers by reducing their risk of developing diabetes, ovarian and breast cancer and helps her to return to pre-pregnancy weight rapidly.[7,8]

The Government of India's two flagship programs, National Rural Health Mission (NRHM) and the Integrated Child Development Services (ICDS) placed several interventions to promote exclusive breastfeeding. Despite breastfeeding's numerous advantages, exclusive breastfeeding rates in most states of India are low.[9] In India, a study in 2017 revealed the rate of EBF to be only at 55%. Any nutrition program for EBF; would succeed if we could identify modifiable factors and design a program addressing them in order to achieve optimum breastfeeding behaviours.[10] The habit of EBF is an untapped elixir which is overlooked by mothers due to social or cultural and even peer beliefs. Some of the major factors that could be responsible for low prevalence of EBF are mother's lack of formal education, lack of counselling regarding breast-feeding during hospital stay leading to lesser knowledge of EBF especially in lower socio-economic sectors and other factors such as resuming work early after childbirth, poor family support, negative impact on EBF by using bottle feeding and pacifiers. Breast-feeding is sometimes ceased due to certain difficulties faced such as breast pain, cracks, mastitis, suction problems.

Objectives

Through this study, our objectives include to question the notion of breastfeeding in mothers, to evaluate the hindrances to exclusive breast feeding, to remove any false beliefs regarding breast feeding and finally, to improve the rate of Exclusive Breast Feeding in semi-urban Hyderabad.

METHODS

Study design, location and duration

This was a prospective and an observational study conducted at Princess Esra Hospital/ Tertiary Care Centre/ Medical College and Hospital, Hyderabad, from August 2018 to October 2020.

Sample size

A predetermined sample size of 155 was considered. The sample size (n) is calculated according to the formula:

$$n = z2 * p * (1 - p) / e2$$

Where: z = 1.96 for a confidence level (α) of 95%, p = proportion (expressed as a decimal here 90%=0.9), e = margin of error. Thus, the sample size is equal to 139. However, considering a dropout rate of 12%, an additional 16 mother-child pairs were included. Hence, the total sample size = 155 subjects

Inclusion criteria

Inclusion criteria were term babies without any risk factors and mothers willing to give a valid consent for the purpose of the study.

Exclusion criteria

Exclusion criteria were term babies with risk factors, Pre-Term babies, Risk factors (Contraindications to Exclusive Breast Feeding): Baby with galactosemia, A mother with active untreated Tuberculosis will be unable to directly breastfeed, however expressed breast milk may be given), Women who test positive for HIV are advised to not breastfeed and Mothers on chemotherapeutic drugs.

Procedure

A total of 155 subjects were recruited for the purpose of study after obtaining due informed consent. The purpose of the study and need to answer the questionnaire was explained to the mothers so as to collect baseline data regarding breast feeding, questionnaire asking about various barriers to the same, counselling about merits of EBF. Baseline data was collected such as; Demographics such as maternal age, Socio-economic status, Educational status of mother and Type of delivery was obtained. The data was compiled in an Microsoft excel tracker. The data was analyzed and depicted adequately in the result section below. The data was expressed in terms of percentages, graphs and tables as needed.

Statistical analysis

The data was compiled in a prefixed proforma and obtained from every subject. The data was subsequently compiled in to an excel tracker and analysed. The percentages and proportions were calculated using simple arithmetic. This was cross checked on SPSS software version 22.0. Analysed data was depicted in the form of bar charts and pie-charts. Microsoft excel and word were used to prepare the tables, bar charts and the pie-charts. The percentages were rounded off up to second decimal point.

RESULTS

One fifty-five mothers with neonate to six-month-old infants were included in the study. Out of 155 study participants, only 31 participants (20%) were among those who were exclusively breastfed. The (Figure 1) depicted that very low percentage of participants (20%) were practicing EBF. The (Figure 2) shows that the majority of

the participants (57.42%) had lower socio-economic status. It was also observed that more than half (52.90%) of the mothers did not receive formal education.

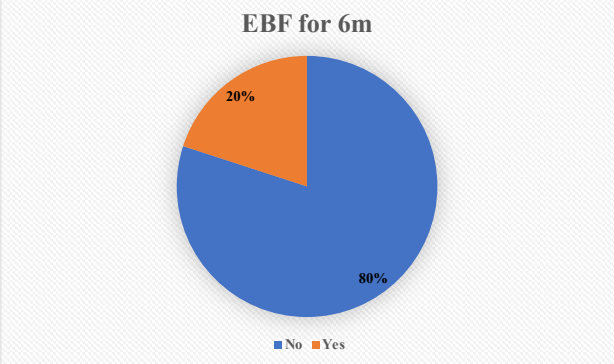

Figure 1: Percentage of participants practicing in EBF.

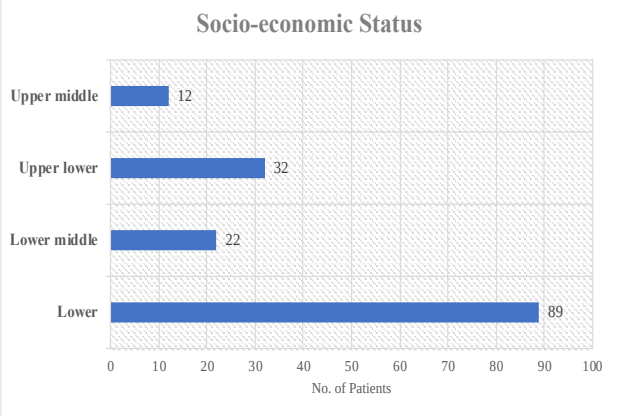

Figure 2: Socioeconomic status of participants.

Most of the mothers (52.9%) were illiterate. The mean age-group of study participants was 23 years. Fifty-seven (36.77%) participants were in the range of 22-25 years followed by participants in the age range of 18-21 years (29.68%). The (Figure 4) depicts that most of the mothers participated in the study belonged to 22-25 years age range.

Health service-related factors

Out of 155 mothers participated in the study only 16 mothers (10.32%) were counselled regarding breast-feeding during hospital stay and only 31 (20%) participants had early skin to skin contact with their neonate. Around 10.3% of the mothers were hospitalized. Most of the women (80%) did not have early skin-to-skin contact. The (Figure 7) showed that Majority of the study participants (77.42%) had normal vaginal delivery.

Other factors associated with EBF

Early return to work: It was observed that fifty (32.26%) of the study participants had to return early to work after child-birth. The (Figure 8) Concludes that 32% of the study participants had to return early to work.

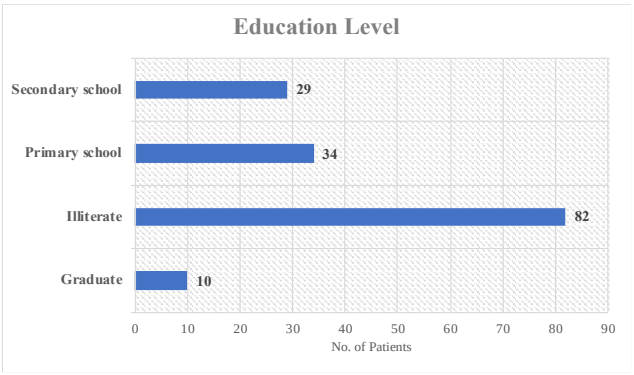

Figure 3: Education level of participants.

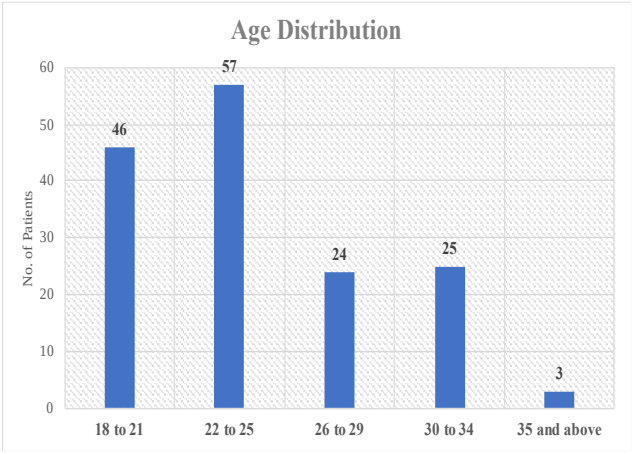

Figure 4: Age based distribution.

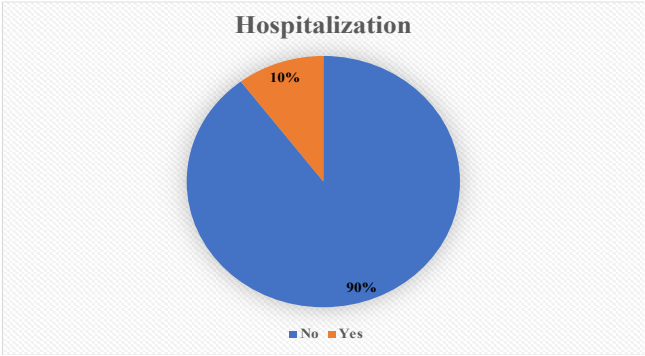

Figure 5: Hospitalization

Psychosocial factors such as family support was deprived from seventy-six participants (49.03%) while 79 mothers (50.97%) received good family support. Roughly equal numbers of mothers had either good or bad family support.

Difficulties faced due to breastfeeding

Cracks and suction problems were the most common maternal health conditions. Breast pain was the most common finding in prior experiences with breast feeding.

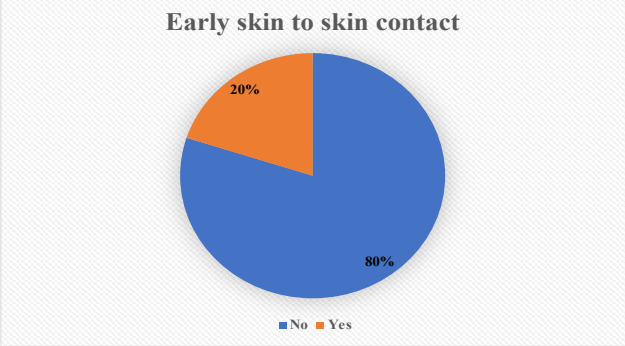

Figure 6: Early skin to skin contact.

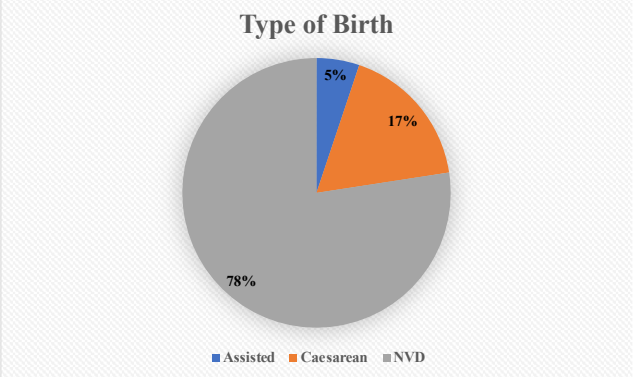

Figure 7: Type of birth.

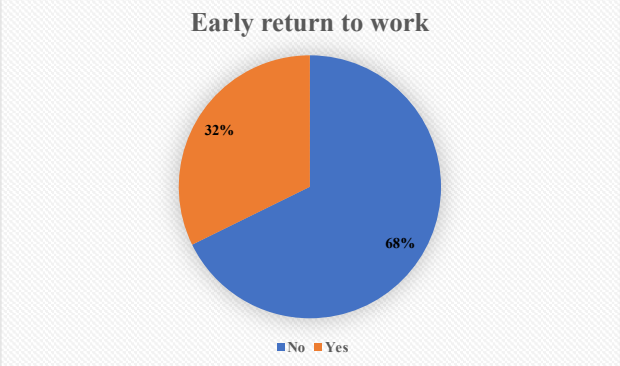

Figure 8: Early return to work.

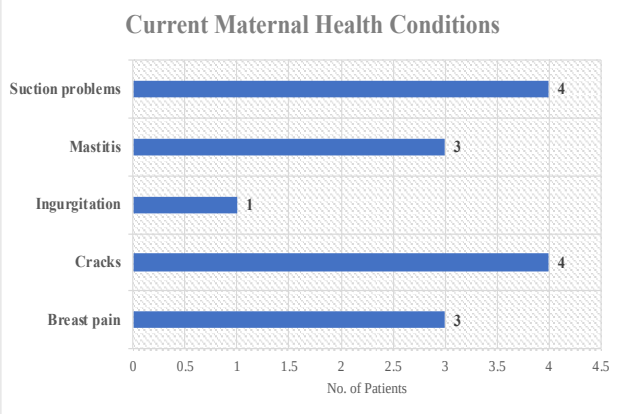

Figure 9: Current maternal health conditions.

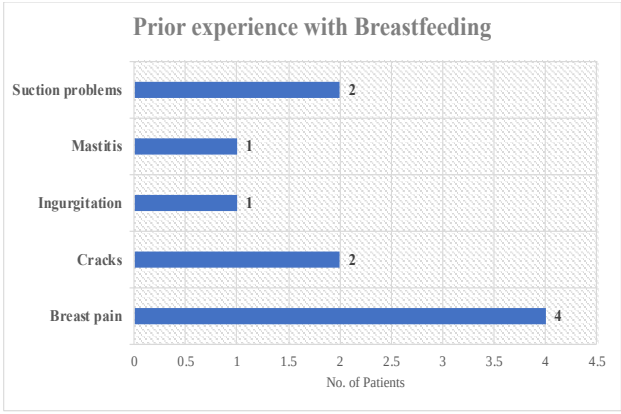

Figure 10: Prior experience with breastfeeding.

DISCUSSION

This study was carried out in a semi urban hospital in the Southern Indian city of Hyderabad to identify barriers affecting exclusive breastfeeding among new mothers during the first 6 months postpartum. We intended to ascertain as to what were the current feeding practices of new mothers who reported to the Obstetric and Paediatric departments of Princess Esra Hospital in Hyderabad during the first six months postpartum. There is very strong evidence that Exclusive Breast Feeding (EBF) has excellent health benefits to the mother, infant, community, and the nation.[11,12] EBF in the first six months of life and continued breastfeeding from 6-11 months has been found to be the single most effective preventive intervention for reducing child mortality, with the potential of saving 1.3 million lives worldwide each year.[13]

India has the highest mortality rate for children below 5 years largely due to factors like poverty, poor sanitation and healthcare access and lack of EBF.[14] A national study based on the analysis of the 1992 and 2006 India Demographic and Health Surveys (DHS) indicated that there exists differences in EBF prevalence due to the impact of sociodemographic (maternal education, low household wealth status and older maternal age, ≥35 years), health service (≥4 antenatal care visits) and community (urban residence) factors.[15] Our study somewhat reinforced this belief. Prior research has indicated that a detailed surveying of the regional prevalence and understanding the determinants of EBF is essential to devise policies, plan resources, and design targeted interventions to improve EBF in India. Our study aimed to examine the prevalence and determine the causes of lack of EBF in Hyderabad, India.

Breast feeding barriers

Our study indicated that although the majority of pregnant females had the intention to breastfeed, only a few women (20%) practised EBF for the first six months postpartum. It was revealed through our questionnaires that many women knew about the advantages of EBF but did not receive good support from their families. Close to 10% of

the women (15 out of 155) had some maternal health concerns like Breast or Nipple pain, Cracks, Ingurgitation or Retraction of the Nipple, Mastitis (probably due to improper hygiene), Suction problems (probably due to lack of knowledge or low birth weight etc) with majority of them experiencing pain or cracks. 10 out of the 155 females also had prior painful experiences with breast feeding due to which they were reluctant to breastfeed the present child even though they did not have any current conditions affecting EBF. This further emphasises the role of maternal mental condition in exercising EBF and the need for improving maternal awareness about the importance of continuing EBF in spite of the barriers which could easily be controlled using medications such as breast pain.[16]

10% of the women (16 out of 155) had to be hospitalised post-delivery due to varied reasons and couldn't continue with EBF due to that. All these findings were consistent with the findings of few other studies which had proved that maternal intention, psychological status, and other maternal demographic and individual variables influenced exclusive breastfeeding duration.[17] Findings of our study also showed that although the majority of women continued EBF during the first week postpartum, the number of women who continued EBF during the subsequent weeks was gradually decreasing. The maximum inclination towards EBF during the first six months postpartum was during the first two weeks. This indicates that more support is needed to create awareness and meet the challenging needs of women to continue EBF during the early postpartum period. Women who have had higher perceptions of control and support are more likely to continue EBF. Our findings indicated that although most of the females initiated breastfeeding within two hours after delivery, only a few women (20%) continued EBF for 6 months postpartum. These findings support the USCDC's breastfeeding report card statement that though breastfeeding rates continue, breastfeeding does not continue for as long as recommended.[18] The findings also support a report by the UN that although there are many evidence-based documented breastfeeding promotional activities, EBF rate is still far below the stated goals.[19] Research indicates that for women who plan to breastfeed, experiences and support during the first hours and days after birth influence their later ability to continue breastfeeding.[20] To improve exclusive breastfeeding success and duration rates, hospital policies and practices to support breastfeeding are critical. Studies have proved that mothers who room in with their babies during the entire hospital stay, breastfeed longer and are more likely to breastfeed exclusively compared with mothers who have limited contact with their babies or whose babies are in the nursery.[21] In our study, 80% of the new mothers did not establish early skin to skin contact with their babies which reduced their chances for EBF drastically. Similar studies by Declerq et al have shown that certain practices such as delay of skin-to-skin contact, separation of mothers and newborns, and supplementation of breast milk with infant formula may interfere with breastfeeding.[22]

Demographic variables

The majority of the mothers (65%) in our study were between the ages of 18 to 25 years, had an income of less than Rs 1, 00,000 annually (57%), and an education less than high school (74%). Only a few women continued EBF after the initial 2-3 weeks postpartum, and there was not much difference between females of varying maternal age but significant difference when income, education, and duration of EBF were compared. One more significant finding of our study was that most of the females belonged to the minority community which has lower literacy level when compared to their majority counterparts. These findings supported earlier research that individual education and counselling are an important strategy to overcome challenges and meet the particular needs of low-income working women and to identify specific needs, establish rapport through active listening, acknowledge specific concerns or myths, reassure women with positive feedback, and reinforce consistent and accurate information.[23]

Maternal problems

Most of the findings of our study suggest that the mother needs to be advised on the best feeding positions to help and eliminate her painful symptoms. Research indicates that the correction of positioning and attachment is the most common experience-based recommendation for treatment of nipple pain; and when performed within the first week of birth, this has been associated with a longer duration of breastfeeding and fewer breastfeeding problems.[24]

Maternal employment

Most of the women in our study had to return to work immediately postpartum which prevented exclusive breastfeeding. Research indicates that maternal employment was indeed a barrier to continuing EBF as working full time had a negative effect on the duration of EBF.[23] One of the significant maternal barriers to continuing EBF during the early postpartum period was embarrassment to feed the baby in public proving that attitude is determined by behavioural beliefs and a more favourable attitude will lead to positive outcomes. Adequate facilities for privacy should be arranged for the women to encourage breastfeeding in public and the workplace.[25]

Misconceptions among mothers

Some of the misconceptions the females in our group had were that the baby will not receive adequate nutrition by EBF, mother's food may make the baby sick, breastfeeding is time-consuming and stressful, breastfed babies are smaller compared to formula-fed babies, and the use of medications while breastfeeding may be harmful to the baby. Perceived insufficient milk supply is a worldwide issue that women report for early

discontinuation of EBF, and it is one of the leading reasons for cessation in the first four weeks postpartum.[26] In our study, 16% of the females were found to bottle feed their children and around 12% gave the child pacifiers, reiterating the fact that it was more about a lack of will to feed the child rather than lack of breast milk. The results suggest that educational intervention is needed during the early postpartum period wherein the reasons given for discontinuation of breastfeeding could be avoided with better information and emotional support.

Family support

Close to half of the females in our study reported a lack of family support to carry out EBF. The intention to perform a desired behaviour is based on various perceptions of individuals in performing the desired behaviour, self-efficacy, previous breastfeeding experience, and solid social support.[27] and may discontinue EBF during the early period of postpartum.

Knowledge of benefits

Most of the women in our study were aware of the benefits of exclusive breastfeeding for the mother and infant; however, only a few women continued exclusive breastfeeding for six months postpartum. There was no correlation between the knowledge level of the mother and continuation of EBF. Findings of the study suggest that adequate knowledge on the benefits of EBF alone is not a determinant factor among women to continue EBF. Strong self-determination and a positive attitude toward breastfeeding among the women were the most important elements for a woman to choose breastfeeding.[28]

Implications for healthcare professionals

The findings of our study identified many barriers that may influence cessation of EBF among mothers during the first 6 months postpartum. Early interventions during the immediate postpartum period will help new mothers who face various difficulties prevent early breastfeeding discontinuation. Educating women about the benefits of EBF will help all mothers develop a positive attitude toward EBF. Our study findings also suggest that healthcare providers have an important role in identifying potential barriers and maternal concerns and providing the support to overcome the challenges faced with EBF. Additionally, hospitals and birth centres can strongly influence the outcomes of EBF for mothers who choose to exclusively breastfeed by developing policies that promote EBF at clinical practice and establishing effective breastfeeding behaviours such as rooming-in, uninterrupted immediate skin to-skin contact, and initiating breastfeeding within the first hour for normal vaginal delivery and within two hours for a caesarean section.[29] Research indicates that the exclusive breastfeeding intention among women living in economically poor conditions is affected by their attitude, subjective norm, and perceived behavioural control for EBF.[30] Findings of our study suggest developing educational interventions focusing on making mothers confident and committed to breastfeeding continuation. During the early postpartum period, mothers need consistent, sustained information and adequate support to develop and meet personal breastfeeding goals. Adequate support in the early postpartum period is vital to increasing the duration of EBF among women who initiated breastfeeding immediately after birth and until their hospital discharge.[31] Research done by Xu et al suggested an education program aimed to correct traditional inappropriate breastfeeding perceptions and promote 'exclusive breastfeeding' in Xinjiang, China.[32] Laugen et al conducted a study to examine whether social support is associated with exclusive breastfeeding up to 6 months among Canadian mothers.[33] It was noted that efforts to encourage exclusive breast feeding must address social support for mothers, especially those with lower education. Matare et al conducted a study in rural Tanzania to understand whether effective promotion of exclusive breast-feeding (EBF) is needed to improve child nutrition and survival.[34] They assessed parents' willingness and ability to try specific recommended EBF practices plus strategies for men to support breast-feeding. It was also noted that engaging men in EBF interventions could help change social norms and facilitate men's involvement in improving breast-feeding practices.

Strength and limitations

The strength of our study lies in the fact that it will benefit physicians, nurses, and other healthcare professionals at the clinics to develop appropriate interventions focusing on how to overcome the barriers reported by mothers to continue EBF. The number of participants in our study was small and this may limit the generalisation of the findings, as the sample may not be representative of the mothers who experienced barriers during the first 6 months postpartum. Another limitation of our study was that almost 93.3% of the women were not educated beyond secondary school which could have led to a bias.

CONCLUSION

The present study suggests that there were considerable variations in the prevalence of EBF practice in Hyderabad, India. The determinants of EBF also varied across regional lines, where minorities were more prone to discontinue it. Key modifiable determinants of discontinuing EBF included lower maternal education and poorer socio-economic conditions. Efforts to improve EBF in Hyderabad would require a multipronged approach, where political will and dedicated funds for public health actions by establishing focussed government policies and programmes must remain core priorities. Our study will benefit healthcare professionals at the clinics to develop appropriate interventions focusing on how to overcome the barriers reported by mothers to continue EBF. Future studies must concentrate on mixing the population with an equal number of less educated and graduate educated

females to compare the exact influence of maternal education on EBF.

Recommendations

Healthcare professionals and childbirth educators need to identify and promote strategies to increase exclusive breastfeeding initiation and continuation rates. Evidence based educational strategies and individual support will help women gain confidence in breastfeeding by minimising their uncertainties and fears. For women returning to work, employers need to be encouraged to establish policies that allow flexible schedules and appropriate places to breastfeed or express milk. Another key strategy for improving the rate of EBF among low-income mothers is to build partnerships among healthcare professionals, legislators, employers and the community by working together to support breastfeeding. Maternity hospitals should continue to reform maternity care practices that promote continuation of EBF for the recommended period of six months.

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