

論文の内容の要旨

論文題目 Factors influencing exclusive breastfeeding in early infancy: a prospective study in North Central Nigeria

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氏名 バロゲン オルクミ オモボラレ
Balogun Olukunmi Omobolanle

Background: Breastfeeding is the optimal feeding method for infants, and an important public health practice that provides health benefits for both mother and the breastfed infant. On the other hand, suboptimal breastfeeding, especially non-exclusive breastfeeding of infants less than 6 months old has been linked with infant mortality and morbidity. Despite the clear advantages for maternal, infant and population-level health, exclusive breastfeeding (EBF) rates remain low, especially in developing countries where the burden associated with sub-optimal breastfeeding practices is greatest. For breastfeeding rates to be improved, there must be an understanding of the cultural and context-specific determinants of breastfeeding.

Recent studies focusing on factors influencing EBF mainly in developed countries have revealed that breastfeeding intention is one of the strongest modifiable factors associated with breastfeeding compliance. However, breastfeeding is influenced by a complex combination of traits and behaviours in different contexts, hence the need for region specific investigations.

Therefore, the aim of this study was to:

- 1) Assess breastfeeding intentions prenatally among pregnant women and determine its association with exclusive breastfeeding
- 2) Identify factors related to sub-optimal breastfeeding practices during early infancy among breastfeeding mothers in suburban places of residence and
- 3) Determine maternal characteristics influencing breastfeeding intentions.

Methods: This was a longitudinal observational study; it involved the recruitment of pregnant women from several antenatal care sites. Prior to commencing the study, a systematic review of

literature was conducted to comprehensively delineate the barriers and facilitators of exclusive breastfeeding of infants aged 0-6 months old by mothers in developing countries. A further comparison was made, of the determinants of EBF among mothers in developed and developing countries in order to identify predictors of breastfeeding exclusivity that have not been studied in the population of interest. This involved a search of CINAHL, MEDLINE/PubMed, and PsycINFO to retrieve relevant studies from January 2001 to January 2014. Qualitative and quantitative studies were considered. Thematic synthesis of data was performed for qualitative studies and a textual narrative analysis was provided. Key findings and conclusions of individual studies were then summarised.

Based on the findings from the systematic review, a longitudinal observational study was carried out. This study involved the recruitment of 210 pregnant women from antenatal clinics attached to four separate public secondary health facilities located in the suburban areas of Abuja, Nigeria. Participants were deemed eligible to participate in the study if they were ≥ 36 weeks gestational age, ≥ 18 years old, reported singleton pregnancy and did not have any medical condition that would contraindicate breastfeeding or severely compromise its success. All eligible women who subsequently delivered a healthy term infant weighing ≥ 2.5 kg at birth were prospectively followed until 3 months postpartum.

Data were collected during face-to-face interviews using semi-structured questionnaires administered at the time of recruitment in the hospital antenatal clinic; at approximately six weeks postpartum in the mother's home; and at three months infant's age via telephone. The questionnaires elicited responses on socio-demographic factors; breastfeeding intentions using the infant feeding intentions (IFI) scale; breastfeeding practice and barriers; and postpartum depressive symptoms using the Edinburgh Postnatal Depression Scale (EPDS).

Survival analysis using the Cox Proportional Hazards model was used to estimate the risk as Hazard Ratios (HR) and 95% confidence intervals for cessation of exclusive breastfeeding over the follow-up period from birth until three months postpartum. Ordinal logistic regression analysis was conducted to determine maternal factors associated with infant feeding intention

scores (low, moderate, and strong). All statistical analyses were performed with SAS statistical software, version 9.3.

Results: In the systematic review of literature, a total of 1302 articles were screened and 272 potentially relevant titles were retrieved. Twenty-five studies involving 11,025 participants from nineteen countries were included in the review. Barriers and facilitators of exclusive/full breastfeeding were identified. Maternal employment was the most frequently cited barrier to exclusive breastfeeding. The perception of insufficient breast milk was commonly reported among studies. Medical barriers to exclusive breastfeeding frequently cited included illness of mothers and/or infants, breast problems and non-attendance of antenatal care clinics. Socio-cultural factors such as maternal and significant other's (e.g. husbands' grandmother and mother-in-law) beliefs about infant nutrition also often constitute strong barriers to exclusive breastfeeding among mothers in developing countries.

Despite these barriers, mothers in developing countries often possess certain personal characteristics such as resilience, and develop strategic plans to enhance their success at breastfeeding. A further comparison of EBF determinants among mothers in developed and developing countries revealed a dearth of studies focusing on psychosocial determinants of exclusive breastfeeding in most developing countries. While none of the studies from developing countries assessed the impact of breastfeeding intention on breastfeeding outcomes, several studies from developed countries showed that breastfeeding intention is an important predictor of infant feeding methods; and it is strongly correlated to initiation and longer duration of breastfeeding.

The longitudinal observational study revealed that breastfeeding was almost universally practiced among follow-up participants. The prevalence of any breastfeeding was 99.5% and 98.6% at six weeks and three months postpartum respectively, while EBF rate was 89.1% and 79.4% at the same time points. Pre-lacteal feeding was practiced among 48 (23.0%) respondents, with most mothers (62.5%) citing "lack of breast milk" as the main reason for administering other fluids prior to first breastfeed.

Prenatally, 149 (71%) of the 210 study participants expressed strong intentions to exclusively breastfeed their infants until six months infant age. The risk for exclusive breastfeeding cessation was significantly lower in women with strong breastfeeding intentions (HR=0.87, 95% CI 0.8-0.95). Other risk factors for cessation of exclusive breastfeeding were pre-lacteal feed administration (HR 2.93 95% CI 1.49-5.77) and mode of delivery (HR 0.17 95% CI 0.04 - 0.67). Higher maternal age (being ≥ 35 years old) (OR=0.21, 95% CI 0.05-0.85), maternal religion being Muslim (OR=0.23, 95% CI 0.06-0.86) and having an unplanned pregnancy (OR=2.12, 95% CI 0.99-4.54) increased the odds among women for having lower IFI scores and low breastfeeding intention. However, the association with pregnancy intendedness only showed borderline level of statistical significance ($p=0.05$).

Conclusion: Breastfeeding practices among mothers in developing countries are influenced by a variety of socio-demographic, sociocultural and health related factors. However, research examining the impact of psychosocial correlates such as preconception and early prenatal breastfeeding intention as well as maternal self-confidence on breastfeeding duration and exclusivity are scarce in developing countries.

The findings from this study provide clear evidence on the positive association between prenatal breastfeeding intention and exclusive breastfeeding. Importantly, this study also found that mothers who did not practice pre-lacteal feeding at birth were at significantly reduced risk of exclusive breastfeeding cessation throughout the study period. Breastfeeding intentions were predicted by maternal characteristics such as religion, age and pregnancy intendedness.

Although socio-demographic characteristics associated with infant feeding choices and methods among women in Nigeria may be difficult to change, maternal breastfeeding intentions are likely to change in response to interventions and actual experiences. Identifying at risk groups will facilitate healthcare providers in delivering targeted guidance and counselling messages that could help mothers in Nigeria to foster positive breastfeeding attitudes.