Breastfeeding self-efficacy as a mediator between maternal food insecurity and breastfeeding practices

Examining breastfeeding self-efficacy as a mediator between maternal food insecurity and breastfeeding practices in Soweto, South Africa.

Background

One of the most important aspects of the early infant caregiving environment is meeting the infant's nutritional needs. According to the World Health Organization's recommendations for improving early childhood development, exclusive breastfeeding is the most comprehensive and best form of nourishment for the first six months of an infant's life.

In low- and middle-income countries (LMICs), approximately 250 million children (43% of children under the age of five) - are at risk of not reaching their full developmental potential. Children's sensory-motor, cognitive, and social-emotional development in these regions has been demonstrated to be greatly impacted by factors such as poverty, poor health and nutrition, and inadequate care.

This study examined the possible mediation role of breastfeeding self-efficacy in the association between breastfeeding practices and maternal food insecurity among Black South African mothers who live in urban areas and have infants younger than one month.

Methodology

This study is a component of the broader PLAY Love And You (PLAY) community-based randomised controlled trial, which aims to increase maternal self-efficacy in the first year postpartum by providing behavioral feedback and health literacy content, with the goal of ultimately improving infant development. Shortly after giving birth, 210 mothers were recruited from two community clinics in Soweto, an urbanpoor township in Johannesburg. All participants were primary caregivers of their infants, resided in Soweto, and were older than 18.

Participants who had infants older than a month at the time of data collection and those who lacked information on their current breastfeeding status were not included in this analysis for the current study. Thus, 197 mothers were included in the sample for this research. Participants gave a written consent for the inclusion of material, including the use of personal data (such as demographic and survey data) and any other relevant study materials (such as audio and video recordings) acquired as part of the study. They were informed that their data would be completely anonymised, ensuring that they could not be identified from it.

The following measures were used:

Outcome variable – Breastfeeding practices in the first month after delivery were assessed by asking mothers if they were currently breast-feeding (outcome recorded as yes or no).

Exposure variable – Food insecurity was assessed using a modified Community Childhood Hunger Identification Project (CCHIP) index that had been validated for household-level food insecurity. A specific CCHIP index question addressed perceived food insufficiency, maternal food insecurity, and altered food intake as a result of resource constraints. A score of one or more, that is, one affirmative/positive (Yes) response out of a maximum of three, indicated which mothers were ever at risk of food insecurity. Two follow-up questions were asked for each item to measure the degree of such food insecurity over the past 30days. A score of one or more, or one affirmative/ positive (Yes) response out of a maximum of six, indicated a current risk of maternal food insecurity.

Mediator variable – The Breastfeeding Self-Efficacy Short Form29 was used to measure maternal breastfeeding selfefficacy within the first month after birth. The 14-item 5-point Likert scale includes statements with the phrase 'I can always ...' with responses ranging from 'not at all confident' to very confident. Statements address many elements of breastfeeding, including whether the infant is seen to be getting enough milk and latching on correctly, as well as how the mother feels about and copes with breastfeeding. Higher aggregate scores indicated higher levels of self-efficacy with breastfeeding. The Breastfeeding Self-Efficacy Short Form demonstrated strong internal consistency (α = 0.98), indicating its suitability for assessing breastfeeding self-efficacy in this population.

Confounders – The model was adjusted to account for the potential effects of confounding variables known to be associated with maternal food insecurity and breastfeeding self-efficacy. A self-report questionnaire was used to measure maternal socio-demographic characteristics such as age, education level, and relationship status. The mother's age was classified as a continuous variable, her educational level as, "Not completed matric/completed matric (Grade 12)", and her relationship status as, 'Single/married/in a relationship/co-habiting." Mothers were asked if their baby was breastfed within the first hour of giving birth, and the outcome was recorded as yes or no.

Generalised Structural Equation Modelling (GSEM) was used to determine whether maternal food insecurity (exposure variable) was associated with current breastfeeding status (outcome variable), and whether these associations were mediated by breastfeeding self-efficacy.



Figure 1: Proposed mediation model

Figure 2 shows the model for mothers who have ever experienced food insecurity.



Figure 2: Mediation path model for the relationship between ever experienced food insecurity and current breastfeeding status. Standardised regression coefficients (β) are presented for the direct paths. The model is adjusted for infant put to breast, age, level of education, and relationship status. *p < 0.05.

Figure 3 shows the model for mothers currently experiencing food insecurity.



Figure 3: Mediation path model for the relationship between currently experiencing food insecurity and current breast feeding status. Standardised regression coefficients (β) are presented for the direct paths. The model is adjusted for infant put to breast, age, level of education, and relationship status. *p < 0.05.

Stata® (Version 17.0, StataCorp, College Station, Texas, USA) was used to clean and analyse the data.

Findings

The study found no statistically significant relationships between the exposure-mediator, mediator-outcome, and exposure-outcome variables. The mediation analysis found that maternal food insecurity, whether experienced historically or currently, had no statistically significant relationship with breastfeeding status, either directly or indirectly through breastfeeding self-efficacy.

Given the lack of a significant overall effect, it is possible that mothers' decision to breastfeed is not solely influenced by food insecurity. Furthermore, the direct effects were not statistically significant, suggesting that breastfeeding self-efficacy was not a relevant mediator in this case. This would suggest that, despite their importance, mothers' perceptions and beliefs about breastfeeding do not adequately mitigate the impact of food insecurity on actual breastfeeding practices.

Despite the fact that breastfeeding was not linked to food insecurity in this study, some noteworthy findings on education did surface. Food insecurity was linked to lower levels of education, which is in line with previous research emphasising the socioeconomic determinants of health.

Among the women in this study, 28% were currently experiencing food insecurity, and 36% had a history of it. Findings from a related study on women in Soweto are in line with these prevalence rates. The complexity of the relationship between breastfeeding practices and food security has been highlighted by the conflicting findings of earlier studies on the subject.

Although the study's findings showed that among urban Black South African mothers, maternal food insecurity did not significantly correlate with either breastfeeding status or selfefficacy, they nevertheless point to crucial areas for further investigation and intervention. Strategies to improve breastfeeding confidence among a wider range of mothers can be informed by an understanding of the characteristics that contribute to strong self-efficacy in this population.

Early breastfeeding initiation- placing the infant to the breast within the first hour of birth- and maternal relationship status were positively correlated with high breastfeeding self-efficacy. Additionally, current breastfeeding status and breastfeeding self-efficacy were linked.

Conclusion

The results did not confirm the anticipated mediation function of breastfeeding self-efficacy, but they did show that breastfeeding status was not statistically substantially correlated with maternal food insecurity, either historical or current. Contrary to earlier research, findings imply that food insecurity might not be a significant factor linked to breastfeeding practices in this sample.

According to the authors, promoting breastfeeding may depend heavily on resolving educational inequalities and improving social support for mothers, especially single mothers. Reinforcing early breastfeeding initiation may also be an important component of mother and child health programs aiming at increasing breastfeeding rates.

Furthermore, in order to better understand the long-term effects of these concerns, the authors suggest that future research should take into account the specifics of exclusive breastfeeding, look at other psychological and social aspects, and use longitudinal designs.

Reference:

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Funding: This work was supported by the National Institute for Health Research (NIHR) (using the UK's Official Development Assistance Funding) and Wellcome (222007/Z/20/Z) under the NIHR-Wellcome Partnership for Global Health Research. The views expressed are those of the authors and not necessarily those of Wellcome, the NIHR, or the Department of Health and Social Care. This study was funded by the DSTI-NRF Centre of Excellence in Human Development at the University of the Witwatersrand, Johannesburg.





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