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Sociodemographic determinants associated with breast milk feeding in term infants with low birth weight in Latin American countries

Socio-demigraphic determinants and breastfeeding LBW Infants

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Abstract

BACKGROUND

In Latin America and the Caribbean, there is evidence of a progressive decrease in exclusive breastfeeding compared to global results. In low birth-weight children, the possibility of being breastfed and continuing breastfeeding for more than six months is lower than in healthy-weight infants

AIM

To Identify factors associated with breastfeeding maintenance and promotion, with particular attention to low- and middle-income countries from the study of geographic, socioeconomic, and individual or neonatal health factors.

METHODS

A scoping review was conducted under the conceptual model of social determinants of health published by the Commission on Equity and Health Inequalities in the Americas in 2018. The extracted data with common characteristics were synthesized and categorized into two main themes: 1) sociodemographic factors and proximal

determinants involved in the initiation and maintenance of breastfeeding with low-birth-weight term infants in Latin America, and 2) individual characteristics related to the capacity for self-efficacy for breastfeeding maintenance and adherence in low-birth-weight term infants.

RESULTS

This study identified maternal age, educational level, maternal economic capacity, social stratum, exposure to breastfeeding substitutes, access to information on breastfeeding, and the quality of health services as mediators for maintaining breastfeeding.

CONCLUSION

Analysis of individual self-efficacy factors that enable breastfeeding adherence in at-risk populations is essential for better health outcomes.

Key Words: breastfeeding; low birth weight; Latin America; self-efficacy; Social determinants of health

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Core Tip: The analysis of the sociodemographic and individual conditions for maintaining breastfeeding is fundamental for fulfilling the second sustainable development goal. The analysis of feeding behavior in term infants with low birth weight in Latin America has been limited. Few studies have evaluated the mediating factors for breastfeeding maintenance, opening the way to challenges facing at-risk populations, mainly in developing countries. Evidence-based interventions should start

with strategies based on knowledge of the social and individual factors that compromise the feeding of at-risk populations.

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INTRODUCTION

According to the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), one in seven live births will be underweight by 2020, which is equivalent to 19.8 million babies worldwide. South Asia and sub-Saharan Africa have a prevalence of nearly 70% of all low birth weight infants with stunting and wasting in early childhood^[1]. In Latin America, the variation has been minimal, maintaining a prevalence between 12% and 9.6% over the last ten years ^[1]. No region has experienced significant changes in prevalence since 2012, preventing achieving the low birth weight target set by the World Health Assembly for 2030^[1]. In this context, low birth weight is considered a public health problem associated with the newborn's well-being due to the high risk of acquiring diseases or disabilities that affect physical and cognitive development and as a predictor of morbidity and mortality^[2].

In this sense, access to breastfeeding is essential and indicates better child health outcomes. However, the likelihood of being breastfed and continuing breastfeeding for more than six months in low birth-weight infants is lower than in healthy-weight infants. Underweight children without adequate nutrition trigger an increased risk of fetal and neonatal death in the first years of life, physical and cognitive growth retardation, and increased chronic diseases later in the perinatal period, childhood, and adulthood^[3].

In this regard, the literature has shown the benefits of breastfeeding in the newborn and infant, and the sociodemographic determinants associated with its maintenance are of particular relevance, mainly in low and middle-income regions^[4]. The individual characteristics of the mother and the newborn, associated with cultural feeding practices, as well as social and health system determinants, are some factors that influence breastfeeding^[5].

Among the individual characteristics of the mother associated with the initiation and continuation of breastfeeding, smoking, schooling, obstetric conditions, complications of the newborn that require separation from the dyad, and breastfeeding education have been identified as moderating factors of feeding practices^[6]. In addition, conditions specific to the breastfeeding woman, such as self-efficacy and her family nucleus, especially the emotional and mental situation, can contribute to the abandonment of breastfeeding^[6]. Among the factors associated with late or impossible breastfeeding initiation in low birth weight infants during the first hour postpartum are geographical factors, socioeconomic factors, individual factors, and health complications^[7,8].

It has been shown that the trend in improving the duration of breastfeeding in Latin America and the Caribbean depends not only on the policies implemented by each government but also on the particularities of population subgroups^[9]. However, studies related to breastfeeding and nutrition in low birth weight term infants have generally been limited, mainly due to the difficulty in generating reference parameters to observe nutritional behavior and its impact on the neuro-physical development of the child; therefore, efforts have been directed to preterm infants and those with adequate weight for gestational age, for whom follow-up scales have been constructed^[10,11]

Studies worldwide have identified the significant variability of feeding practices in low birth weight populations^[9], reporting the prevalence of breastfeeding and its association with socioeconomic conditions of the environment. However, the findings are more limited in Latin America, a region characterized by vast social inequalities, mainly to materializing social policies affecting the health and education system and generally satisfying basic needs^[12].

In this context, aspects related to health equity are determinants. The absence of social, economic, and demographic guarantees can influence the initiation and adherence to breastfeeding in low birth weight infants^[9]; some cultural and social aspects can interfere with the promotion and support of breastfeeding to ensure adherence. Consequently, it is essential to analyze the sociodemographic determinants

and individual conditions associated with breastfeeding in low-birth-weight term infants in Latin American countries from a health inequities perspective.

MATERIALS AND METHODS

A scoping review was performed according to the five phases proposed by Arksey and O'Malley^[13] and reporting according to the Preferred Reporting Items for Systematic Reviews for Systematic Reviews and Meta-Analyses (PRISMA-ScR) statement^[14].

For the present review, we adopted the conceptual model of social determinants of health published by the Commission on Equity and Health Inequalities in the Americas in 2018. We are taking as a central component the social position as explanatory of the construct that allows determining the representations of inequality, including income, education, occupation, gender, ethnic belonging, and other dimensions to determine the distribution of health and well-being in the population mediated by the so-called proximate or intermediary determinants, which include material circumstances, social cohesion, human behavior, genetic inheritance and the organization of health systems^[15].

The concept of self-efficacy was determined according to Bandura (1987), who defines it as the judgments of each individual about their abilities and their use to organize and execute actions with the highest possible performance, contributing to the achievement of human accomplishments and the increase of motivation^[16].

Phase 1. Identification of research questions.

This review addresses the following research questions: 1) What sociodemographic factors are involved in initiating and maintaining breastfeeding with low-birth-weight term infants in Latin America? 2) What proximal health determinants are involved in inequality for breastfeeding maintenance and adherence in low-birth-weight term infants? Moreover, 3) What individual characteristics are related to self-efficacy for breastfeeding maintenance and adherence in low-birth-weight term infants?

Phase 2. Identification of relevant studies

The search strategy included articles published in MEDLINE, Embase, OvidSP, CINAHL, and the Latin American and Caribbean Health Sciences Database (LILACS) using the Medical Subject Headings MeSH and DeCS terms reference list. The combinations of search terms using Boolean operators "AND" AND "OR" were as follows: Social determinants of health AND Self-efficacy AND Breastfeeding AND Infant, low birth weight (Appendix A). Additional information was obtained by manually searching the reference lists of relevant articles. Full-text articles published up to 2022 with qualitative and quantitative methodologies were considered. The search strategy was limited to English and Spanish languages. Commentaries, editorials, opinion articles, and book chapters were excluded.

Phase 3. Selection of studies

In this phase, the following aspects were contemplated: a) construction of the search formulas elaborated by an experienced research team member, b) identification of the search strategy by database exploring the best scientific evidence, and c) analyzing the titles and abstracts to select the relevant studies. Subsequently, three researchers assessed the titles and abstracts of the identified publications and independently performed data extraction. Discrepancies were discussed and resolved by consensus.

Phase 4. Data analysis

The organization and thematic analysis of the scientific evidence was carried out in the Excel program with the extraction of data such as bibliographic source, the purpose of the study, country of origin, type of study, design, sociodemographic characteristics, cultural characteristics, type of breastfeeding and individual aspects of the mother in terms of self-efficacy and knowledge gaps (Table 1). During the process, three reviewers compared the authors' contributions and the sociodemographic characteristics of the individual conditions responsible for initiating and sustaining breastfeeding with low birth-weight term infants.

Phase 5. Collate, summarize, and communicate the results.

The extracted data with common characteristics were synthesized and categorized into two main themes: 1) sociodemographic factors and proximal determinants involved in

the initiation and maintenance of breastfeeding with low-birth-weight term infants in Latin America, and 2) individual characteristics related to the capacity for self-efficacy for breastfeeding maintenance and adherence in low-birth-weight term infants (Tables 2 and 3).

RESULTS

Search flow and study characteristics

The search strategy identified one thousand four hundred eighty-three articles; 1263 studies were discarded. ¹ Sixty full-text articles were reviewed, after which 47 articles were excluded. Eleven studies were included after applying the study criteria for synthesizing the results (Figure 1). One clinical trial was identified in the selected eleven studies. Most participants were recruited through convenience sampling, and 46% used comparison groups. Table 1 shows the primary characteristics of the included studies.

Sociodemographic factors involved in the initiation and maintenance of breastfeeding with low-birth-weight term infants in Latin America.

Seven observational studies reported sociodemographic factors and proximal determinants associated with breastfeeding adherence and maintenance in low-birth-weight term infants. Studies are focused on identifying the prevalence of breastfeeding, feeding patterns, and associated factors for its maintenance. Most breastfeeding reported in the study population ranged from 34.7% to 58.5% at six months. The primary mediators to maintaining breastfeeding were educational level, access to health services, and social status[2,17–22]. Agudelo *et al*^[23] conducted a randomized clinical trial on the effect of the time of initiation of skin-to-skin contact at birth, immediately compared to early, on the duration of breastfeeding in term newborns, analyzing the percentage of infants exclusively breastfed at three months and the period in months of exclusive breastfeeding. The results showed that skin-to-skin contact, regardless of the time of initiation, improves the percentage of exclusively breastfed infants in at-risk populations^[23] (Table 2).

Individual characteristics related to self-efficacy for breastfeeding maintenance and adherence in low-birth-weight term infants in Latin America

Individual characteristics associated with breastfeeding maintenance in the study population were mainly related to maternal age and education, perception of breastfeeding success, type of birth, pathologies related to the newborn or the mother, and previous breastfeeding experience. Some barriers to breastfeeding adherence were associated with the use of breast milk substitutes, extreme ages, separation of the mother-child dyad, and compromised emotional states of the mother. Facilitators for achieving levels of self-efficacy were family and social support, maternal education and experience, and adequate follow-up of the mother's and newborn's health status by health services[2,17,19–26] (Table 3).

DISCUSSION

Low birth weight is a public health problem associated with a series of determinants that condition the child's health status in the short and long term, representing a challenge for the health system. This review identified the social and individual determinants present in the mother that modify breastfeeding practices for its maintenance and adherence in an under-explored at-risk population.

The study revealed that certain social factors hinder exclusive breastfeeding within the first six months of life. These factors contribute to low breastfeeding rates in Latin America. Demographic factors such as extreme ages, mainly in adolescence, low family income, ethnicity, marital status, support, and orientation of health services showed a direct relationship with feeding outcomes in the study population. Various studies have shown how social factors, such as marital status, impact the effectiveness of breastfeeding. These factors are related to family stability and economic situations for child rearing and protection^[27].

In this context, educational level becomes vitally important. Studies report a greater tendency for early discontinuation of exclusive breastfeeding during the first hour up to six months of life in mothers with low education with lower rates of breastfeeding in

low birth weight infants compared to full-term infants with adequate weight for gestational age^[28]. However, a pattern of breastfeeding abandonment is also present in pregnant women with higher levels of education. Breastfeeding policies focused on vulnerable populations and work activities specific to this level of education may explain this phenomenon, so it is necessary to recognize the needs of the people in occupational terms and according to the economic growth of the regions^[29].

Consequently, access to quality health services is essential. Our results showed positive effects in mothers who received education on the importance and benefits of breastfeeding during follow-up, maternal perinatal care, and newborn hospitalization. Intervention strategies based on population needs and geographic diversity through analysis of the social structure's multi-components can significantly promote adherence and maintenance of breastfeeding in the study population^[30]. However, these intervention processes should be accompanied by the joint construction of skills to develop self-efficacy to minimize the risk of abandonment of good feeding practices in the infant population^[31]. Additionally, the conditions of the newborn and the mother related to the manifestation of pathologies should be considered to strengthen the response capacity and the breastfeeding technique during the healthcare process to ensure adherence to hospital discharge^[27,32].

In this sense, family and health personnel support is essential for the mother to make the right decisions regarding breastfeeding. The early diagnosis of risk factors associated with individual characteristics can become a protective factor that contributes to managing deficient emotional states and, by extension, positively stimulates confidence and security skills to continue breastfeeding^[33]. In addition, involving parents in the orientation process for breastfeeding techniques and encouraging active participation helps to foster positive outcomes for the couple. Breastfeeding self-efficacy in low birth weight infants is considered an emotional factor that influences milk production and prolongs the exclusivity and maintenance of breastfeeding, enabling empowerment in the breastfeeding process to overcome obstacles and difficulties for comprehensive care^[33]. Implementing health interventions

on the overall care of the low-birth-weight newborn at home from a skills approach allows interaction in health management with the child. It is essential to assess mothers' self-efficacy in order to detect the risk of breastfeeding abandonment and facilitate a safe transition based on the population's needs^[34].

CONCLUSION

Diagnosing the proximal determinants that mediate breastfeeding adherence and maintenance with a differential approach and under a self-efficacy skills development perspective is essential for the comprehensive care of low-birth-weight term infants in developing countries.

ARTICLE HIGHLIGHTS

Research background

Proximal determinants define the maintenance of breastfeeding in infants with low birth weights in the Latin American population

Research motivation

Equity in health is an essential issue to address to achieve sustainable development goals regarding the food security of the population at risk

Research objectives

To identify proximal determinants associated with breastfeeding maintenance in low birth weight infants at term.

Little literature describes how proximal determinants affect breastfeeding maintenance in populations at nutritional risk.

Determining the epigenetic conditions involved in infant feeding practices is essential to develop good health practices.

Research methods

A scoping review was performed according to the five phases proposed by Arksey and O'Malley and reporting ³ according to the Preferred Reporting Items for Systematic Reviews for Systematic Reviews and Meta-Analyses (PRISMA-ScR) statement.

Research results

Proximal determinants related to social position are involved in the maintenance of breastfeeding in population at nutritional risk.

Despite the fact that breastfeeding is considered the best food for the population at nutritional risk, the prevalence at a global level does not allow achieving sustainable development objectives.

Individual factors and self-management skills should be promoted to reinforce infant feeding practices.

Research conclusions

The analysis of social inequalities is fundamental to reduce the gaps in the provision of health services.

A comprehensive approach with a differential emphasis based on individual and collective response capacity is a priority for the formulation of public health policies.

Research perspectives

To analyze individual and collective differences based on the epidemiological behavior of possible nutritional affectations in the population at risk.

Develop public policies based on evidence-based medicine and on the needs perceived by the population.

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SIMILARITY INDEX

PRIMARY SOURCES

1	Carlos Javier Avendaño-Vásquez, Nadia Carolina Reina-Gamba, Luis Antonio Daza-Castillo, Lucas Quarantini. "Nursing interventions in children living under armed conflict situations and quality of life: a scoping review", Journal of Pediatric Nursing, 2021	24 words — 1%
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