

RESEARCH ARTICLE (ORIGINAL)

Factors Influencing the Duration of Exclusive Breastfeeding Among Mexican Women: A Cross-Sectional Study

Fatores que Influenciam a Duração do Aleitamento Materno Exclusivo Entre Mulheres Mexicanas: Um Estudo Transversal

Factores que Influyen a la Duración de la Lactancia Materna Exclusiva Entre las Mujeres Mexicanas: Estudio Transversal

Adriana Lerma Valdez ¹

 <https://orcid.org/0000-0002-2767-190X>

Yari Rodríguez-Santamaría ¹

 <https://orcid.org/0000-0002-7010-2753>

Liliana Leticia Juárez-Medina ¹

 <https://orcid.org/0000-0002-9656-4198>

Nohemí Selene Alarcón-Luna ¹

 <https://orcid.org/0000-0002-1407-695X>

Patricia Marisol Márquez-Vargas ¹

 <https://orcid.org/0000-0003-1069-423X>

Martha Lilia Zuñiga-Vargas ¹

 <https://orcid.org/0000-0002-4028-9190>

Alma Leticia Juárez-de Llano ¹

 <https://orcid.org/0009-0000-1659-1093>

¹ Autonomous University of Tamaulipas,
Faculty of Nursing, Nuevo Laredo,
Tamaulipas, Mexico

Abstract

Background: Exclusive breastfeeding for the first six months is crucial for infant nutrition and maternal health, strengthening infants' immune systems and supporting postpartum recovery. Despite its benefits, the global rate of exclusive breastfeeding is 41%, and in Mexico it is 35.8%.

Objective: To identify social and psychosocial factors influencing the duration of exclusive breastfeeding in northern Mexico.

Methodology: A descriptive, correlational, cross-sectional study was conducted with 114 women who were selected using non-probability convenience sampling. A questionnaire was used to collect sociodemographic, biological, social, and psychosocial data.

Results: The average age was 27 years; 44% practiced exclusive breastfeeding, 43% combined breastfeeding with formula, and 16.7% used only artificial feeding. Nationality and prenatal counseling were associated with breastfeeding duration ($\chi^2 = 8.40$, $p < 0.05$; $\chi^2 = 8.671$, $p < 0.05$, respectively).

Conclusion: Less than half of the women practice exclusive breastfeeding. Psychosocial factors, prenatal counseling, and nationality influence its duration.

Keywords: breastfeeding; exclusive breastfeeding; risk factors

Resumo

Enquadramento: O aleitamento materno exclusivo até aos 6 meses é essencial para a saúde infantil e materna, reforçando o sistema imunitário do bebé e facilitando a recuperação pós-parto. Apesar dos benefícios, a taxa global é de 41%, sendo 35,8% no México.

Objetivo: Identificar fatores sociais e psicossociais que influenciam a duração do aleitamento materno exclusivo na região norte do México.

Metodologia: Estudo descritivo, correlacional e transversal com 114 mulheres, selecionadas por amostragem não probabilística por conveniência. Foi aplicado um questionário com perguntas sobre aspetos sociodemográficos, biológicos, sociais e psicossociais.

Resultados: A média de idades foi de 27 anos. Do total, 44% amamentavam exclusivamente, 43% combinavam aleitamento materno com leite artificial e 16,7% recorriam apenas ao aleitamento artificial. Foi identificada uma associação entre a duração do aleitamento e a nacionalidade ($\chi^2 = 8,40$; $p < 0,05$) e o aconselhamento pré-natal ($\chi^2 = 8,671$; $p < 0,05$).

Conclusão: No norte do México, menos de 50% das mulheres praticam aleitamento materno exclusivo. Fatores psicossociais, aconselhamento pré-natal e nacionalidade influenciam a duração do aleitamento.

Palavras-chave: aleitamento materno; amamentação exclusiva; fatores de risco

Resumen

Marco contextual: La lactancia materna exclusiva durante los primeros 6 meses es vital para la nutrición infantil y la salud materna, ya que mejora el sistema inmunitario del bebé y favorece la recuperación posparto. A pesar de sus ventajas, la tasa global es del 41%, y en México del 35,8%.

Objetivo: Identificar los factores sociales y psicossociales que contribuyen a la duración de la lactancia materna exclusiva en la región norte de México.

Metodología: Estudio descriptivo, correlacional y transversal con 114 mujeres seleccionadas por muestreo no probabilístico de conveniencia, mediante un cuestionario con datos sociodemográficos, biológicos, sociales y psicossociales.

Resultados: La edad media era de 27 años. Del total, el 44% se alimentó exclusivamente con leche materna, el 43% combinó la lactancia materna con leche de fórmula y el 16,7% utilizó sólo alimentación artificial. La nacionalidad se asoció con la duración de la lactancia ($\chi^2 = 8,40$; $p < 0,05$), al igual que el asesoramiento prenatal ($\chi^2 = 8,671$; $p < 0,05$).

Conclusión: Menos de la mitad de las mujeres practican la lactancia materna exclusiva. Los factores psicossociales, el asesoramiento prenatal y la nacionalidad influyen en su duración.

Palabras clave: lactancia materna; lactancia materna exclusiva; factores de riesgo

Corresponding author

Adriana Lerma-Valdez

E-mail: adriana.lerma@docentes.uat.edu.mx

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Introduction

Breastfeeding is a critical component of infant nutrition and maternal health, offering numerous benefits that extend well beyond childhood. The World Health Organization (WHO) and many health entities globally recommend exclusive breastfeeding (EBF), which is defined as feeding an infant only breast milk for the first six months of life. It has been shown to strengthen infants' immune system, reduce their risk of infection, and enhance their cognitive development. For mothers, EBF contributes to quicker postpartum recovery and reduces the risk of certain types of cancer. Despite these benefits, global rates of EBF remain low. According to the WHO (Safety, 2019), only about 41% of infants under six months were exclusively breastfed globally in 2019. In Mexico, the rate of EBF is even lower. According to the 2020 National Nutrition Survey, only 35.08% of infants under six months were exclusively breastfed. In recent decades, societal and cultural dynamics have significantly disrupted established breastfeeding practices, positioning early cessation as a major public health concern (Valenzuela et al., 2016).

The WHO (2023) recommends EBF for the first 6 months, followed by continued breastfeeding with supplementary nutrition until the age of two. However, adherence to these guidelines is remarkably low in high-income countries, with fewer than 20% of neonates benefiting from EBF. In contrast, middle- and low-income countries report higher levels of adherence, with approximately 66% of children aged six months to two years receiving breast milk (Campiño Valderrama & Duque, 2019). Despite the fact that EBF is considered the main source of nutrition for infants, breastfeeding rates have decreased in recent years.

In North America, although breastfeeding initiation rates are high (81%-91%), 62% of mothers exclusively breastfeed at 3 months, and only one-third at 6 months (Brown et al., 2023). In Mexico, while an estimated 91.9% of newborns receive breast milk, significant disparities exist regarding EBF duration across urban and rural sectors, particularly in regions such as Tamaulipas, as reported by the National Institute of Statistics and Geography (INEGI, 2018) in the National Survey of Demographic Dynamics (ENADID).

The success of EBF is influenced by multiple factors, encompassing sociocultural, psychosocial, and biological dimensions. A comprehensive understanding of these elements is crucial for addressing the increasing rates of EBF cessation among young women, providing a basis for public health policy formulation. Strategic interventions at the nurse-care level, focusing on both preventive measures and promotional strategies, can greatly enhance health outcomes and ensure optimal breastfeeding practices across diverse demographics in Mexico. Therefore, this study aims to identify the social and psychosocial factors that influence the duration of EBF in the northern region of Mexico.

Background

Breastfeeding is highly recommended as the primary source of infant nutrition for the first 6 months of life. EBF is widely recognized as essential for optimizing neonatal nutrition and maternal health. It offers numerous benefits, including enhanced infant growth and a significant reduction in both morbidity and the incidence of infectious diseases. It plays a crucial role in providing essential nutrients for an infant's growth, development, and immunity, and is beneficial for both cognitive and emotional development, as well as maternal health. Key challenges include difficulties in milk production and societal pressures, with factors such as educational level and socioeconomic status influencing breastfeeding practices. Studies by researchers such as Badell et al. (2022) and Ruiz et al. (2023) support the nutritional and protective benefits of breastfeeding, while Salazar et al. (2009) emphasize its importance for cognitive and emotional development. García-Fernández et al. (2022) discuss the challenges faced by breastfeeding mothers, and research by Iglesias-Rosado and Leon-Larios (2021) and Buenaño Miranda and Chila León (2019) examines the impact of educational and socioeconomic factors on breastfeeding practices.

Research question

What are the social, psychosocial, and biological factors that influence the duration of exclusive breastfeeding in the northern region of Mexico?

Methodology

Study design

This research used a cross-sectional descriptive correlational design. The study population comprised women from various hospitals in the northern region of Mexico, specifically the state of Tamaulipas. A non-probability convenience sampling method was used based on participant availability over a two-month period. The final sample consisted of 114 women, each of whom had given birth at least one year prior. Pregnant women or women whose last childbirth occurred over three years prior were excluded from the study. Before data collection, approval was obtained from the Institutional Review Board (IRB) of the *Universidad Autónoma de Tamaulipas*, (reference number FENL-CEI-L003) and from the hospitals. After obtaining informed consent from the participants, a personal data sheet with 25 multiple-choice items about sociodemographic questions, social factors (e.g., nationality, education, marital status, occupation), psychosocial factors (e.g., counseling, support networks, education on breastfeeding), and biological factors (e.g., nipple malformations, pregnancy-related pathologies, breast milk production, and medication use) was administered to the participants. This

study adhered to the General Health Law's regulations for health research (De Diputados et al., 2014).

Data analysis

Descriptive statistics were used to analyze frequencies, percentages, and measures of central tendency to describe the social, psychosocial, and biological factors that potentially influence the duration of EBF among women in Tamaulipas, Mexico. Chi-square tests examined the association between social and psychological and the duration of EBF. Data were analyzed using

IBM SPSS Statistics, version 26.0 for Windows 10.

Results

The participants' average age was 27 years ($SD = 6.77$). Among them, 55.3% were homemakers, and 45.6% were living in cohabitation. With regard to prenatal care, most women (43.0%) opted for mixed feeding (combining breast milk and formula), 40.4% for exclusive breastfeeding, and only 16.7% for artificial feeding (Table 1).

Table 1

Breastfeeding Classification

Breastfeeding	<i>f</i>	%
Exclusive breastfeeding	46	40.4
Artificial feeding	19	16.7
Mixed feeding	49	43.0

Note. *f* = Frequency; % = Percentage.

A significant association was found between social factors and the duration of breastfeeding. Specifically, nationality was associated with the practice of breastfeeding for six

months or less, with a chi-square value of $X^2 = 8.40$ ($df = 2$; $p < 0.05$; Table 2).

Table 2

Association between social factors and the duration of exclusive breastfeeding

Social factor	<i>No BF</i>		≤ 6 months		>6 months		χ^2	<i>df</i>	<i>p</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%			
Nationality									
Mexican	8	7.5	75	70.1	24	22.4	8.401	2	0.015
American	0	0.0	2	28.6	5	71.4			

Note. BF = Breastfeeding; *f* = Frequency; % = Percentage; χ^2 = Chi-square test; *df* = Degrees of freedom; *p* = Significance test.

Furthermore, prenatal counseling was significantly associated with the duration of breastfeeding, especially

in cases of EBF for six months or less, with a chi-square value of $\chi^2 = 8.671$ ($df = 2$; $p < 0.05$; Table 3).

Table 3

Association between psychosocial factors and the duration of exclusive breastfeeding

Prevalence	<i>No BF</i>		≤ 6 months		>6 months		χ^2	<i>df</i>	<i>p</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%			
Prenatal counseling									
Yes	0	0	42	73.7	15	26.3	8.671	2	0.013
No	8	14	35	61.4	14	24.6			

Note. BF = Breastfeeding; *f* = Frequency; % = Percentage; χ^2 = Chi-square test; *df* = Degrees of freedom; *p* = Significance test.

Discussion

The findings indicate that being Mexican is associated with a longer duration of breastfeeding. Variables such as education, marital status, and occupation did not show statistically significant associations. However, mothers who are married, have a secondary education, and are homemakers tend to breastfeed longer, which is aligned with the findings of Barrera-Rojas (2023).

Although psychosocial factors showed no significant association with breastfeeding duration, mothers who received prenatal and postnatal counseling, primarily from nursing staff, tended to breastfeed longer. This support is critical since inadequate guidance during prenatal visits can contribute to the early cessation of EBF. Higher percentages of mothers who received prenatal counseling chose to breastfeed for six months or less, indicating that informed mothers make positive decisions about breastfeeding duration.

Strengthening prenatal counseling, particularly through informative breastfeeding sessions, is crucial for improving breastfeeding rates and infant health. These findings underscore the pivotal role of prenatal counseling in promoting breastfeeding. Significant associations suggest that suitable interventions can increase breastfeeding duration, which is essential for child well-being. A comparison of breastfeeding rates between women who received prenatal counselling and those who did not revealed compelling results, underlining the importance of importance prenatal education in promoting breastfeeding. A study by Espinoza Cadima et al. (2014) found that 52.1% of mothers who received counselling maintained breastfeeding during early infancy. In contrast, those without guidance had lower breastfeeding rates, often due to insufficient information and support, possibly leading to early weaning and the use of formula.

In Mexico, young women who exclusively breastfeed face social, demographic, and occupational pressures. The need to return to work and the lack of breastfeeding support are the main factors affecting their decision to continue EBF. Support and counseling programs are essential to increasing breastfeeding rates in this group.

Conclusion

These findings point to a significant trend toward mixed feeding and EBF among participants. The preference for mixed feeding suggests a desire to balance the benefits of breast milk with the convenience of bottle-feeding. These insights can inform the development of supportive breastfeeding policies and educational programs that foster child health and family well-being.

The evidence also indicates that prenatal counseling has a positive influence on the duration of breastfeeding and EBF. Mothers who are well-informed and supported during pregnancy are better prepared to manage breastfeeding challenges and tend to achieve higher rates than those without such guidance. The multifaceted nature of EBF duration among young women involves the com-

plex interplay of social, economic, cultural, and personal factors. Addressing this challenge requires interventions that provide enhanced social and educational support, as well as policies that make EBF feasible, ensuring that more women can maintain this essential practice for their children's well-being.

Author contributions

Conceptualization: Lerma-Valdez, A. L.
Data curation: Rodríguez-Santamaría, Y.
Formal analysis: Lerma-Valdez, A. L., Rodríguez-Santamaría, Y., Juárez-Medina, L. L., Alarcón-Luna, N. S.
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Investigation: Lerma-Valdez, A. L., Rodríguez-Santamaría, Y.
Methodology: Lerma-Valdez, A. L., Juárez-Medina, L. L.
Project administration: [Not applicable]
Resources: Márquez-Vargas, P. M., Zúñiga-Vargas, M. L.
Software: Alarcón-Luna, N. S., Márquez-Vargas, P. M.
Supervision: Zúñiga-Vargas, M. L., Juárez-de Llano, A. L.
Validation: Márquez-Vargas, P. M.
Visualization: Alarcón-Luna, N. S.
Writing – Original draft: Lerma-Valdez, A. L., Juárez-Medina, L. L.
Writing – Review & Editing: Lerma-Valdez, A. L., Rodríguez-Santamaría, Y.

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