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Factors influencing nursing mothers' exclusive breastfeeding practices and their effects on infants aged zero to six months in Nigeria: A review of current evidence

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ABSTRACT

Objectives: This systematic review aimed to investigate the various factors contributing to the practice of Exclusive Breastfeeding (EBF) among nursing mothers in Nigeria and its potential effects on infants aged 0–6 months.
Methods: A literature review was conducted using reputable electronic databases, including PubMed, African Journals Online, Science Direct, Scopus, Research Gate, and Google Scholar. The search was limited to studies published between January 2013 and August 2023.
Results: Eleven studies were analyzed, and their outcomes are presented in this review. The results suggest significant diversity in the maternal understanding of EBF. While certain mothers exhibit a commendable comprehension of the significance and advantages of breastfeeding, others require greater awareness or hold misconceptions regarding this practice. The lack of comprehensive data on the effects of EBF on maternal practices poses a challenge to mothers when making informed choices about infant feeding. Behaviors related to breastfeeding are notably influenced by sociocultural factors, wherein specific communities adhere to cultural standards that support the early introduction of supplementary food.
Conclusions: The implications of adhering to EBF practices are significant for both maternal and infant well-being. The findings of this review have led to several recommendations to enhance the promotion of EBF practices in Nigeria. These include bolstering breastfeeding education and awareness, implementing workplace policies that support breastfeeding, addressing sociocultural barriers through community-based interventions, enhancing healthcare support, and conducting ongoing research and monitoring efforts.

1. Introduction

Exclusive Breastfeeding (EBF), defined as providing newborns only with their mother's milk for the first six months of life, excluding medications, vitamins, and mineral supplements,[1] is a crucial public health measure benefiting both mothers and infants. For babies, EBF ensures the intake of vital nutrients necessary for optimal growth and development, reducing infant mortality and morbidity, especially in low- and middle-income countries.[2,3] EBF can also prevent chronic non-communicable diseases such as diabetes and hypertension later in life.[4] For mothers, breastfeeding aids in uterine contraction, fosters an intimate bond with the baby, reduces the risk of postnatal complications, postpartum hemorrhage, breast and ovarian cancers, and anemia, and may provide a period of recovery before the next pregnancy.[2,5] Health organizations recommend EBF for the first six months and continued breastfeeding with appropriate supplements for up to two years for maximum growth, development, and health.[6]

Despite the known benefits, breastfeeding practices often fall short of these recommendations, particularly in many underdeveloped nations, including Nigeria.[7,8] More than half of Nigerian infants receive

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supplemental foods early, often with poor nutritional value.[8] Efforts by health officials to promote EBF have had limited success, partly due to insufficient access to breastfeeding counseling during pregnancy and natural delivery, and lack of support from partners.[9] Additionally, workplace facilities for nursing mothers play a critical role in supporting optimal breastfeeding practices.[10]

Poor breastfeeding practices have severe consequences for infants aged 0–6 months, contributing to malnutrition, responsible for 60% of the world's 10.9 million under-five fatalities.[11] In Nigeria, inappropriate feeding practices account for over 40% of infant deaths.[6] Failure to breastfeed exclusively increases the risk of neonatal diseases such as diarrhea and respiratory infections,[12] and starting breastfeeding more than 24 h after birth significantly increases infant mortality risk.[13] Factors influencing EBF adoption include maternal employment status, infant age, delivery method, and breastfeeding challenges.[14] Despite existing research on breastfeeding in Nigeria, limited knowledge about the factors specifically influencing EBF necessitates further investigation.[14]

Inadequate EBF practices have immediate and long-term consequences for infants. Poor nutrition in early years can impede physical and cognitive development, leading to long-term health issues.[15,16] Ensuring proper nutrition through EBF during the first six months is vital for preventing malnutrition and growth delays, thereby improving child survival rates and maternal health.[16] This study aims to examine the factors affecting EBF practices among nursing mothers in Nigeria and their impact on infants under six months old. By identifying and addressing these factors, we can target the main preventable causes of maternal and infant mortality and malnutrition, contributing to the achievement of the United Nations Sustainable Development Goals related to hunger, nutrition, and health.[2,17,18]

Breastfeeding is a crucial public health measure that benefits mothers, infants, and the general populace.[19] To meet United Nations Sustainable Development Goals such as eliminating famine, enhancing nutrition, reducing newborn death, lowering the likelihood of non-communicable diseases, and boosting intellectual growth and learning, it is critical to study the factors influencing EBF.[2] Promoting EBF in low-resource environments and countries in transition with high rates of neonatal, infant, and maternal death and disease is essential.[17] More research is needed on the factors affecting EBF practice in Nigeria because many current studies on the subject originate outside Africa.[20]

A systematic review was chosen for this study due to its comprehensive nature, which allows for the synthesis of a wide range of existing literature, providing a holistic understanding of the factors influencing EBF practices in Nigeria. Unlike cross-sectional, longitudinal, or intervention studies that may be limited in scope and time, a systematic review can aggregate findings from various contexts and methodologies, offering a more robust analysis. Furthermore, there is a lack of comprehensive reviews on this topic specifically in Nigeria, making this study a unique and valuable contribution to the literature. The primary objective of this study is to identify and analyze these influencing factors, ultimately providing actionable insights to policymakers and healthcare providers to support and promote EBF among nursing mothers in Nigeria.

2. Methodology

2.1. Study design

This study employed a systematic review design. This approach was chosen because of its ability to comprehensively and systematically synthesize existing literature on the various factors that influence the breastfeeding practices of nursing mothers and the subsequent effects on infants aged 0–6 months in Nigeria.[21] The systematic review methodology aligns with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which provide a clear and standardized approach for selecting and analyzing relevant studies.[22] The PRISMA framework ensures a structured and rigorous synthesis of the existing literature, enabling the identification of critical factors influencing EBF practices and their effects on infants' well-being.[23] Eleven articles were selected for systematic review. The selection process was meticulously conducted to examine and assess the various factors affecting the EBF behavior of nursing mothers and their subsequent impact on infants aged zero to six months in Nigeria.

2.2. Literature search

A thorough and exhaustive literature search was conducted across reputable electronic databases, including PubMed, Scopus, Science Direct, Google Scholar, Research Gate, and African Journals Online. These databases were chosen for their comprehensive coverage, quality, search tools, citation data, and accessibility.[24] A combination of key search terms such as "exclusive breastfeeding," "nursing mothers," "infants," "0–6 months," and "Nigeria" was employed to ensure a broad and relevant coverage of studies. The Boolean search operator (OR, NOT, AND) was utilized to effectively retrieve studies focused on EBF practices among nursing mothers of infants under six months of age in Nigeria. The search string used was ("exclusive breastfeeding" OR "breastfeeding practices") AND ("nursing mothers" OR "mothers") AND ("babies" OR "newborns" OR "infants") AND ("0–6 months" OR "early infancy") AND "Nigeria." This meticulous search strategy aimed to gather up-to-date and high-quality literature, allowing for a robust analysis of the factors influencing EBF practices and their implications on infant health in Nigeria (Fig. 1).

2.3. Inclusion and exclusion criteria

Inclusion and exclusion criteria were defined to ensure the selection of relevant, high-quality studies. The included studies fulfilled the following criteria: i) Conducted in Nigeria to ensure relevance to the local context; ii) Published in peer-reviewed journals, reputable academic databases, or official reports to maintain source credibility; iii) Focus on factors influencing EBF practice among nursing mothers of infants aged zero to six months, aligning with the research objectives; iv) Published in English for easy comprehension and analysis; v) Published between 2013 and the present to maintain contemporary relevance and focus on recent developments; and vi) Primary studies with a cross-sectional design to ensure methodological consistency and reliability.

Literature was excluded if it did not meet the inclusion criteria, such as studies conducted outside Nigeria, studies not directly addressing EBF factors, gray literature, conference abstracts, commentary, unpublished works, and studies not written in English. Additionally, review papers were excluded to ensure that only primary cross-sectional studies were included. These exclusion criteria were necessary to maintain the study's focus, relevance, and credibility.

2.4. PEO framework

The Population, Exposure, and Outcome (PEO) framework was adopted for this study[25]:

- Population: Nursing mothers in Nigeria with infants aged zero to six months.
- Exposure: Factors impacting EBF practices, including sociodemographic characteristics, cultural beliefs, maternal knowledge, support from the health system, workplace, and family, and the impact of breast milk substitutes.
- Outcome: Impact of EBF practices on infants aged zero to six months in Nigeria, focusing on health outcomes, growth and development, nutritional status, and other pertinent indicators.

2.5. Data extraction and analysis

Data were obtained from two independent reviewers using a

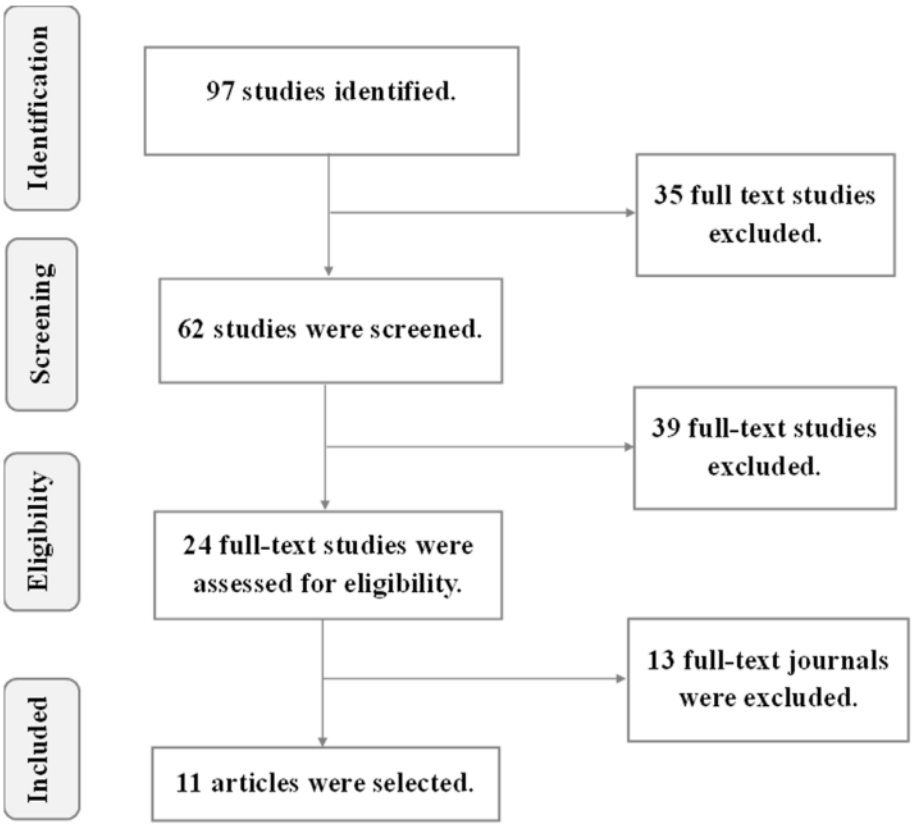

Fig. 1. Flowchart for journal selection/search.

standardized data extraction form.[26] Key information included research characteristics (author(s), year of publication, and study design), sample size, participant demographics, factors influencing EBF, and infant health outcomes.[22] The data were subjected to thematic analysis to identify common themes and patterns across the studies, with themes based on the study's objectives.[27] This qualitative method allows for thorough data synthesis and the identification of significant factors affecting EBF practices and their potential impact on infant health.[27]

2.6. Quality assessment

The quality of the selected articles was determined using the Joanna Briggs Institute's Critical Appraisal Checklist for Analytical Cross-Sectional Studies.[28] This appraisal process evaluated each study's methodological rigor, validity, and transparency and identified potential biases and limitations in the existing literature.[29] Quality assessment results were carefully considered during data synthesis and interpretation to ensure the reliability and validity of the findings presented in this systematic review.[30]

2.7. Limitation of the review

In our systematic review, all the included studies were descriptive or cross-sectional in design, which are considered lower in terms of rigor for establishing causality. The absence of randomized controlled trials (RCTs) and cohort studies in our review is due to our inclusion criteria, which focused solely on cross-sectional studies. We acknowledge that longitudinal and intervention studies, such as RCTs and cohort designs, could provide more robust evidence on the influencing factors of EBF. These designs offer better quality data by tracking changes over time and assessing the impact of specific interventions.

Our choice to exclude these more rigorous study designs was not based on logistical challenges or ethical concerns alone. We recognize that while cross-sectional studies are more feasible and cost-effective, the exclusion of RCTs and cohort studies limits the strength of our conclusions. Future research should aim to include high-quality RCTs and cohort studies to provide a more comprehensive understanding of the factors influencing EBF practices in Nigeria. This approach would enhance the evidence base and inform more effective interventions to promote EBF in various contexts.

3. Results

3.1. Characteristics of included studies

Using the PRISMA guidelines and search approach recommended in the previous section, eleven (11) publications were identified as relevant to answering the study's question and addressing the study's goal. The studies under investigation were as follows: Alade et al. (2021), Tawose et al. (2023), Osibogun et al. (2018), Okoroiwu et al. (2021), Okafor et al. (2017), Ogbo et al. (2018), Akadri et al. (2020), Olasinde et al. (2021), Ibekwe et al. (2022), Adamu et al. (2022), and Itse et al. (2016).[2,10,18,19,31–36] An overview of the selected articles is provided in Table 1.

3.2. PEO framework

The PEO Framework was initially applied to structure the study around the Population, Exposure, and Outcome dimensions. Regarding the Population, all selected studies are relevant, as they focus on nursing mothers in Nigeria with infants aged 0–6 months. However, the framework's applicability to Exposure factors appears limited as only ten out of the total selected articles directly address factors hindering EBF among nursing mothers.[2,5,10,19,31,32,34–36] These factors include sociodemographic characteristics, sociocultural influences, maternal knowledge, health system support, workplace dynamics, family income, maternal

Table 1
The characteristics of the selected articles.

S/N	Title	Author(s) and Date of Publication	Aim	Location	Methodology	Findings
1	Factors Affecting Exclusive Breastfeeding Among Nursing Mothers in Ekiti State, Nigeria.	Alade et al. 2021[18]	The study investigated how socioeconomic factors affected nursing women in the Nigerian state of Ekiti when it came to exclusive breastfeeding.	Ekiti State	Study Design: A quantitative descriptive study. Sample size: 400	The study concluded that factors influencing exclusive breastfeeding among nursing women were education, income, and postpartum health status.
2	Exclusive Breastfeeding Practice and Factors Affecting It among Women of Reproductive Age in Ogbomoso North LGA, Oyo State, Nigeria.	Tawose et al. 2023[2]	The objective of this study was to ascertain the prevalence of exclusive breastfeeding practices and the factors that influence such practices among new mothers residing in Ogbomosho North Local Government Area, located in Oyo State.	Oyo State	A descriptive study design. Sample size: 400	The maternal understanding of exclusive breastfeeding demonstrated associations with various factors, including the mother's level of education, occupation, the occupation of the father, the nature of the marital relationship, ethnicity, and the average monthly income. Furthermore, the correlation between a mother's knowledge of exclusive breastfeeding and other demographic factors such as age, marital status, education level, employment, father's education, and father's average wage were observed.
3	Knowledge, Attitude, and Practice of Exclusive Breastfeeding amongst Mothers of Infants in Gwagwalada Area Council, FCT, Abuja, Nigeria.	Okoroiwu et al. 2021[5]	The objective of this study was to assess the level of knowledge, attitude, and practice regarding exclusive breastfeeding among women who were attending antenatal clinics in four regions of Gwagwalada Area Council in the Federal Capital Territory, Abuja.	Abuja	A cross-sectional descriptive design. Sample size:150 respondents	Illiteracy and culture hindered exclusive breastfeeding in the regional council. However, most women knew and supported exclusive breastfeeding (EBF), but few practiced it.
4	Factors Associated with Exclusive Breastfeeding Practice among Nursing Mothers in Rural Areas of Enugu State and its Implications for Social Work Practice in Nigeria.	Okafor et al. 2018[35]	This study analyses factors that promote exclusive breastfeeding practices.	Enugu State	Qualitative Study (focus group Discussion). Sample size: 60 women	The results demonstrate that breastfeeding moms in the research area have not yet fully embraced the practice of exclusive breastfeeding for six months. Culture, financial difficulty, and social support systems were found to have a significant impact on the practice of exclusive breastfeeding.
5	Population Attributable Risk of Key Modifiable Risk Factors Associated with Non-Exclusive Breastfeeding in Nigeria.	Ogbo et al., 2018[36]	The objective of this study was to compare and quantify the attributable burden of the major modifiable risk factors for non-EBF in Nigeria to inform strategic policy responses and actions.	All States in Nigeria	Analysis of nationally representative data, Nigeria Demographic and Health Survey (NDHS) for the years. Sample Size-1999 (N = 8199), 2003 (N = 7620), 2008 (N = 33,385) and 2013 (N = 38,948).	This study evaluated the number of Nigerian mothers with non-EBF due to modifiable risk factors like maternal education, family affluence, prenatal visits, home birth, and non-health professional delivery support.
6	Breastfeeding Practices among Mothers in Southwest Nigeria.	Akadri and Odelola 2020[10]	This study was conducted to determine the Breastfeeding practices among various antenatal attendees in two teaching hospitals in Southwest Nigeria.	Ogun State	A cross-sectional study at two teaching hospitals. Sample Size = 340 patients	Several demographic, cultural, psychosocial, and maternal health characteristics have also been linked to the commencement of breastfeeding, length of breastfeeding, and exclusive breastfeeding practice.
7	Determinants of Exclusive Breastfeeding Practices Among Mothers of Infants Less Than Six Months Attending an Immunization Clinic in Southwestern Nigeria.	Olasinde et al. 2021[19]	The study looked at the factors that influence 'EBF' in mothers with infants under six months old in Southwestern Nigeria.	Oyo State	A cross-sectional descriptive study. Sample Size = 271 women	This study found an average level of 'EBF', with one in every two women using 'EBF' on their infants during the first six months of life. Furthermore, only two out of every five babies started breastfeeding within an hour of birth. Mothers over the age of 30, vaginal delivery, and a family size of more than four are all risk factors for 'EBF'. Only vaginal delivery and family sizes bigger than four were associated with 'EBF'. Maternal illness and the necessity to return to work were the most common reasons for non- 'EBF'.
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Table 1 (*continued*)

S/N	Title	Author(s) and Date of Publication	Aim	Location	Methodology	Findings
	Challenges of Exclusive Breastfeeding among Working-Class Women in a Teaching Hospital, Southeast, Nigeria.	Ibekwe et al. 2022[37]	The study investigated the socioeconomic factors influencing exclusive breastfeeding among working mothers at Nnamdi Azikiwe Teaching Hospital in Nnewi.	Anambra State	A descriptive survey design. The sample size = 296	The level of education of working-class mothers is one of the biggest determinants of their attitudes towards exclusive breastfeeding; most respondents have a junior secondary school diploma, which is seen as having positively influenced the acceptance and practice of exclusive breastfeeding. Again, many of them still have limited knowledge of colostrums despite their knowledge of exclusive breastfeeding.
9	The Factors Influencing the Exclusive Breastfeeding Practice of Nursing Mothers and Its Impact on Infants Aged 0–6 Months in Nigeria.	Adamu et al. 2022[31]	This study aimed to assess the prevalence of 'EBF' practice and the factors influencing it among nursing mothers attending UDUTH, Sokoto.	Sokoto State	A descriptive cross-sectional study Sample Size: 240	'EBF' practice among women was linked with maternal educational status, occupation, prenatal care attendance, and hospital delivery. Most mothers do not practice 'EBF' because they are unaware of its importance.
10	Determinants of Exclusive Breastfeeding Continuity among Mothers of Infants Under Six Months in Plateau State, Nigeria.	Itse et al. 2016[32]	This study aimed to identify characteristics linked with exclusive breastfeeding practices among mothers of infants under six months of age.	Plateau State	A cross-sectional investigation was conducted. Sample Size: 310 mother-infant couples.	The factors of exclusive breastfeeding were identified as the mother's ethnicity, level of education, marital status, and religion. Additional factors that were considered in the study encompassed the initiation of breastfeeding immediately following delivery, the practice of colostrum feeding, and the provision of counseling to mothers.
11	Knowledge, Attitude, and Support for Exclusive Breastfeeding among Bankers in Mainland Local Government in Lagos State, Nigeria.	Osibogun et al. 2018[33]	This study aimed to examine the knowledge, attitudes, and support for exclusive breastfeeding among female bank employees in Lagos, Nigeria.	Lagos State	The study was a cross-sectional descriptive study. Sample size = 210	This survey found that most bank workers in Mainland Local Government in Lagos State knew the advantages and importance of exclusive breastfeeding. Only 33% practiced it for six months after birth. Work schedules were the main reason for not practicing 'EBF'.

challenges, and the availability of breast milk substitutes. Regarding Outcome, while all studies assess the impact of EBF practices on infants in Nigeria, focusing on health outcomes such as reduced infection rates, improved immune system function, decreased allergies, growth and developmental milestones, nutritional status, and reduced infant mortality and morbidity, the framework may lack specificity in defining a singular, measurable index of outcomes across studies. Therefore, although the PEO Framework provides a structured approach, its limitations in capturing specific exposure factors and defining uniform outcome measures suggest the need for alternative frameworks or methods that better align with the diverse nature of the included studies and their findings.

3.3. Knowledge of EBF among Nigerian nursing mothers of infants below six months of age

From the eleven relevant articles selected for this study, Alade et al., Tawose et al., Osibogun et al., Okoroiwu et al., Akadri et al., Ibekwe et al., and Itse et al. examined mothers' understanding of EBF and its importance.[2,5,10,18,32–34] These studies define EBF as providing infants with breast milk exclusively, without supplementation with water, other liquids, tea, herbal remedies, or solid foods, for the first six months of life while allowing for vitamins, minerals, and necessary medications. According to Alade et al., Tawose et al., Okoroiwu et al., Akadri et al., Olasinde et al., and Itse et al., breastfeeding is recognized for enhancing neurological development and protecting against diseases such as diarrhea, pneumonia, and malnutrition.[2,5,10,18,19,32] Furthermore, breastfeeding contributes to maternal health by promoting optimal pregnancyspacing and reducing the risks of ovarian and breast cancers as well as type II diabetes. Ibekwe et al. emphasize breast milk's role as a natural and highly effective preventive medicine.[34] Despite these benefits, studies by Alade et al., Tawose et al., and Okoroiwu et al. indicate that a significant percentage of Nigerian mothers lack comprehensive knowledge of EBF's importance during the first six months of their child's life.[2,5,18] Nevertheless, these mothers generally understand the overall benefits of EBF for their child's growth, well-being, and survival.[19]

3.4. Barriers to EBF among Nigerian nursing mothers of infants below six months of age

Across all selected studies, common barriers to EBF among Nigerian mothers include inadequate knowledge and awareness of breastfeeding benefits, misconceptions, sociocultural influences, demographic characteristics, nipple soreness, lack of support from the health system, insufficient support in the workplace, family income, and the availability of breast milk substitutes. However, Olasinde et al., Ibekwe et al., and Alade et al. highlight additional barriers, such as time management, workload, maternal stress, and social stigma.[18,19,34] These findings illustrate a complex landscape where, despite some mothers' understanding of breastfeeding advantages, various practical, cultural, and systemic factors pose significant challenges to achieving sustained EBF practices among Nigerian mothers of infants under six months of age.

3.5. Outcomes and impact of EBF among Nigerian nursing mothers of infants below six months of age

All of the selected studies first identified that the implementation of EBF practices in Nigeria has been found to have notable implications for the health and developmental outcomes of mothers and infants below six months. According to Alade et al. and Akadri et al., the choice to solely engage in breastfeeding has wide-ranging implications that contribute favorably to the holistic welfare of the infant.[10,18] Also, all the studies reported that the outcomes of adhering to EBF practices and their impact on infants zero to six months of age were identified as reduced risk of infection, improved cognitive development, economic benefit for the household, psychological bonding of mother and child, a sound digestive system, and boosting of the immune system.

4. Discussion

The findings from the eleven selected articles provide valuable insights into the factors influencing EBF practices among nursing mothers and their effects on infants aged zero to six months in Nigeria. This discourse examines the varying levels of awareness and misconceptions among mothers, highlighting the critical importance of adhering to EBF practices. EBF is universally recognized as a pivotal strategy for enhancing the health and development of infants, as emphasized by Itse et al. and Akadri et al.[9,32] Breast milk, the primary source of nutrition for infants, provides essential nutrients, antibodies, and immune-enhancing factors crucial for optimal growth and development.[18] Its high digestibility promotes healthy gastrointestinal microbiota, thereby reducing the risk of infections and allergic reactions.[18] Additionally, breastfeeding fosters a strong emotional bond between mother and child, contributing positively to their psychological well-being.[35]

Moreover, breastfeeding confers significant health benefits on mothers, as noted by Akadri et al. and Okoroiwu et al., including a reduced risk of type II diabetes, ovarian cancer, and breast cancer.[5,10,18,34–36] Ibekwe et al. underscore the preventive attributes of breast milk and highlight its role as a natural and potent preventive medicine.[34] Furthermore, Adamu et al. emphasize that beyond health benefits, breastfeeding contributes to economic stability by reducing household expenses for infant formulas and complementary foods.[31]

Despite the acknowledged benefits of EBF, studies have shown varying levels of awareness among Nigerian mothers. While some studies have demonstrated a strong understanding of its importance, others have exhibited limited knowledge or misconceptions.[2,5,18] This discrepancy underscores the critical role of education in promoting EBF practices. Comprehensive knowledge empowers mothers to make informed decisions about their infants' nutrition and health.[18] The studies by Osibogun et al. and Okoroiwu et al. highlight significant barriers hindering EBF in Nigeria, including misconceptions about breast milk adequacy and inadequate support from health facilities.[5,33] These barriers contribute to the early introduction of water or complementary foods, contrary to recommended guidelines, thus compromising the practice of EBF.[36] Additionally, sociocultural standards and workplace challenges, such as inadequate support for nursing mothers, further impede the adoption of EBF practices.[19,31]

Cultural standards promoting the early introduction of complementary foods and water have deep-seated influences on breastfeeding practices in rural and urban communities.[1] These standards, coupled with insufficient workplace support, pose significant challenges to sustaining EBF beyond the early postnatal period.[31] The lack of designated breastfeeding areas and support for breast milk expression in workplaces exacerbates these challenges.[34] Overall, while EBF offers substantial health and economic benefits for infants and mothers, its widespread adoption in Nigeria faces multifaceted challenges.[34,37] Addressing these challenges requires targeted interventions that encompass educational campaigns, policy reforms to support working mothers, and culturally sensitive approaches to promote breastfeeding as an optimal infant feeding practice. By comprehensively addressing these barriers, Nigeria can enhance maternal and child health outcomes by increasing the rates of EBF.

5. Conclusion

The primary purpose of this research was to conduct a systematic review of the factors that influence EBF practice among nursing mothers in Nigeria, with a particular focus on infants aged zero to six months. This was achieved through the fulfillment of two main objectives: (i) to investigate the level of understanding regarding EBF practices among nursing mothers of infants under six months in Nigeria, (ii) to analyze the barriers that hinder EBF practices among nursing mothers of infants under six months of age in Nigeria. This research provided insights into the key elements of EBF practices within the nation.

The knowledge of nursing mothers regarding EBF was identified as potentially challenging as it is hampered by knowledge gaps hampered by knowledge gaps, misunderstandings, and societal pressures.[37] Despite these difficulties, EBF remains essential to early infant nutrition and maternal health, providing many advantages to mothers and infants alike.[33,38] Reviewing eleven articles identified that a significant percentage of nursing mothers have limited knowledge and misconceptions about breastfeeding and its practices, whereas few women have a commendable understanding of EBF.[31] This highlights the pressing need for targeted educational programs and counseling to enhance nursing mothers' comprehension of EBF.[5,33] By disseminating accurate and culturally appropriate information during prenatal care, postnatal visits, and breastfeeding support sessions, healthcare providers and community health workers can empower mothers to make informed decisions and embrace EBF practices.[5,39]

Evaluating the obstacles to EBF practices among nursing mothers in Nigeria revealed numerous issues that prevent its broad adoption.[31] Misconceptions and sociocultural influences were identified as barriers, as mothers are swayed from following the EBF recommendations in some regions by cultural standards that encouraged the early introduction of supplementary foods.[2] The inability of working mothers to maintain EBF after returning to their jobs has also been hampered by a lack of workplace support and time restrictions.[37] A cooperative strategy combining legislators, employers, and community influencers is required to address these impediments. Public health campaigns, community-based initiatives, and supportive workplace regulations can be implemented to foster an atmosphere that supports EBF and eliminates obstacles that nursing mothers confront.[40] Supportive work environments and adaptable maternity leave regulations are essential for assisting working women in their breastfeeding journey.[41] For nursing mothers who frequently struggle to integrate their work obligations with breastfeeding and expressing breast milk, a lack of proper workplace support is a significant obstacle. The likelihood that mothers will continue EBF even after returning to work can be considerably increased by implementing regulations that provide the necessary time and space for breastfeeding and expressing milk.[41]

The discussion on the effects of EBF practices on infants under six months of age in Nigeria highlighted the significant effects on the health and well-being of mothers and infants.[40] During the crucial first few months of life, nursing exclusively provides children with unmatched nourishment, immune system support, and emotional connections, thus enabling healthy growth and development.[32] EBF improves maternal health outcomes by lowering the risk of conditions, including type II diabetes and breast cancer. Additionally, breastfeeding significantly increases household income and food security.[31] Nigeria should prioritize evidence-based policies and programs to encourage a culture of EBF by identifying the adverse effects of the practice and its numerous positive effects, thus improving mother and child health outcomes in the country.[36]

CRediT authorship contribution statement

Elizabeth F. Apara: Writing – review & editing, Writing – original draft, Resources, Formal analysis, Data curation, Conceptualization. **David B. Olawade:** Writing – review & editing, Supervision, Resources, Methodology, Investigation, Conceptualization. **Gbolahan Deji Olatunji:** Writing – review & editing, Writing – original draft, Resources, Data curation. **Emmanuel Kokori:** Writing – review & editing, Writing – original draft. **Nicholas Aderinto:** Writing – review & editing, Writing – original draft. **Aanuoluwapo Clement David-Olawade:** Writing – review & editing, Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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