



THE ROLE OF MEDIA IN BREASTFEEDING: A SYSTEMATIC REVIEW

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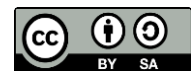
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Abstract

Introduction: Exclusive breastfeeding is a critical intervention for improving infant health, yet its coverage remains suboptimal. The advancement of digital information media has emerged as an effective strategy for modifying breastfeeding mothers' behavior amidst cultural challenges and formula milk promotion. **Purpose:** This study aims to identify, evaluate, and synthesize scientific evidence regarding the impact of various types of digital information media on breastfeeding practices. **Method:** This study employed a systematic review design following the PRISMA guidelines. A literature search was conducted across the ScienceDirect, PubMed, and Google Scholar databases, covering the period from 2021 to 2025. **Results:** Findings from various studies indicate that interventions via digital platforms such as WhatsApp, Instagram, TikTok, and interactive websites consistently increase exclusive breastfeeding rates. Social media has proven effective in enhancing the knowledge and self-efficacy of millennial mothers. Nevertheless, challenges exist in the form of aggressive formula milk advertisements on social media, which may undermine maternal commitment. **Conclusion:** Digital media-based education (WhatsApp, Instagram, TikTok, and the Web) serves as an innovative and effective solution for improving exclusive breastfeeding behaviors among breastfeeding mothers.

Keywords: Breastfeeding, Exclusive Breastfeeding, Health Education, Media, Postpartum



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INTRODUCTION

Exclusive breastfeeding for the first six months of a baby's life is a global recommendation due to its benefits in reducing infant morbidity and mortality rates. Breast milk contains a complete range of nutrients as well as antibodies that can strengthen a baby's immune system (WHO, 2021). However, the rate of exclusive breastfeeding has not yet reached global targets, including in Indonesia.

Low rates of exclusive breastfeeding are influenced by various factors, such as mothers' lack of knowledge, insufficient family support, and limited access to health information (UNICEF, 2020). Additionally, myths and cultural factors also influence mothers' decisions regarding breastfeeding.

Advances in information technology have transformed the delivery of health education. Media such as social media, mobile apps, and educational videos have become effective tools for raising public awareness (Brown et al., 2018). These media can reach a wider audience and disseminate information quickly.

Various studies indicate that the media have great potential to improve breastfeeding practices. However, their effectiveness varies depending on the type of media and the method of delivery. Therefore, a systematic review is needed to comprehensively analyze the role of media (McFadden et al., 2019). The objective of this study is to identify, evaluate, and synthesize scientific evidence regarding the impact of various types of informational media on breastfeeding.

RESEARCH METHOD

Research Design

This study employs a systematic review design following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The data analyzed were derived from randomized controlled trials (RCTs), quasi-experimental studies, and qualitative studies focusing on the influence of media on breastfeeding. By adhering to the PRISMA guidelines, this study provides stronger evidence regarding the role of media in breastfeeding. Additionally, the study has a broad scope, covering data sources from ScienceDirect, PubMed, Google Scholar, from 2021 to 2025.

Research Target/Subject

The primary subjects of this systematic review are breastfeeding mothers who have been exposed to various digital information media interventions. The study specifically targets populations within randomized controlled trials (RCTs), quasi-experimental studies, and qualitative research that examine the influence of media on exclusive breastfeeding practices. By focusing on these participants, the study ensures that the synthesized evidence reflects the direct experiences and behavioral outcomes of mothers navigating modern digital health education.

Research Procedure

The literature search began with the development of a PICO framework to guide the search process. After formulating the PICO, the search was conducted using primary keywords such as "media," "breastfeeding," and "exclusive breastfeeding," effectively combining these keywords. The article selection process was carried out systematically, including the removal of duplicates, screening of titles and abstracts, and a full-text review.

This study established the following inclusion criteria: (1) use of quantitative (RCT or quasi-experimental) or qualitative designs, (2) study subjects were breastfeeding mothers, (3) focus on information media interventions, and (4) demonstration of the media's influence on breastfeeding. Articles that are systematic reviews or meta-analyses of the literature, and do not present relevant results, will be excluded. Subsequently, all articles that pass the selection process will be analyzed using a narrative approach.

The literature selection process begins by transferring all search results to a reference management application to eliminate duplicate articles. Next, two researchers independently screen the titles and abstracts according to eligibility criteria. Manuscripts that pass the initial stage are then thoroughly reviewed to ensure their relevance to the study's focus. If discrepancies in opinion arise between researchers during the evaluation process, a resolution is reached through consensus-based discussion. If agreement still cannot be reached, a third researcher will intervene to provide an objective final decision.

Instruments, and Data Collection Techniques

Data collection was conducted through a systematic literature search across high-quality electronic databases, including ScienceDirect, PubMed, and Google Scholar, covering the period from 2021 to 2025. The search instrument was built upon a structured PICO framework, utilizing primary keywords such as "media," "breastfeeding," and "exclusive breastfeeding" to retrieve relevant academic publications. A reference management application served as the technical tool to organize search results and eliminate duplicate entries before the screening process began.

Data Analysis Technique

The data analysis follows a narrative synthesis approach to evaluate and integrate the findings from the selected articles. The process involves a rigorous selection protocol where two independent researchers screen titles and abstracts, followed by a full-text review to ensure alignment with inclusion criteria. To maintain objectivity and minimize selection bias, any discrepancies in assessment are resolved through consensus-based discussions, and a third researcher should be consulted if an agreement cannot be reached.

RESULTS AND DISCUSSION

A total of 22,335 articles were found through a keyword search utilizing the terms: media, breastfeeding, and exclusive breastfeeding. The flowchart for article selection, derived from the PRISMA Flow Diagram, can be accessed [here](#). Following the article search, a total of 22,335 publications were discovered from searches on ScienceDirect (n=8,291), PubMed (n=544), and Google Scholar (n=13,500).

The systematic literature search yielded an extensive collection of academic publications across three major databases, reflecting the high volume of research on digital media and infant nutrition. To ensure the quality and relevance of the evidence synthesized, a rigorous filtering process was implemented according to the PRISMA guidelines, moving from initial identification to a detailed eligibility assessment. This systematic approach allowed for the narrowing of thousands of potential sources into a highly focused selection of studies that directly address the impact of informational media on exclusive breastfeeding practices.

During the initial screening of titles and abstracts, only 102 articles remained out of 22,335 because the rest did not align with the research topic. Subsequently, 264 articles were excluded because they did not focus on information media regarding breastfeeding. After duplicates were removed, 29 specific articles were further selected through full-text analysis. At this point, 23 articles were eliminated for the following reasons: they did not use an RCT or quasi-experimental design and were qualitative (n=15), the sample population was not breastfeeding mothers (n=6), and the research methods did not meet the review's objectives (n=2). Therefore, 6 articles met the inclusion criteria and could be analyzed in this systematic review. Figure 1. Below.

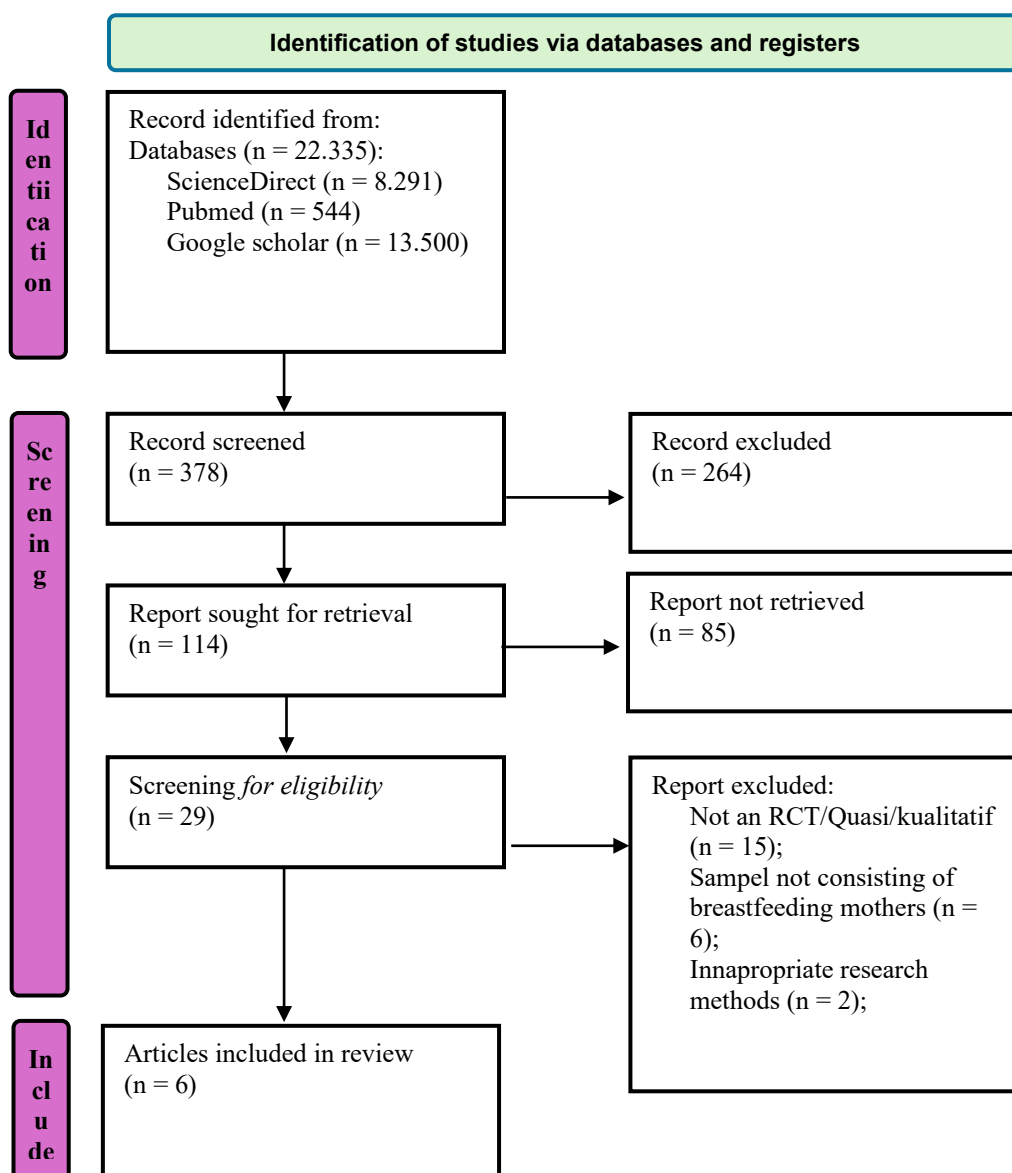


Figure 1. PRISMA Flow Diagram Illustrating the Systematic Review Selection Process

Table 1. PICO Analysis The Role of Media in Breastfeeding

Title	Author	Population	Intervention	Comparison	Outcome
Breastfeeding Interpersonal Communication, Mobile Phone Support, and Mass Media Messaging Increase Exclusive Breastfeeding	Valerie L. Flax et al.	Pregnant women in the third trimester through the postpartum period (n=1200) at a private health facility in Lagos, Nigeria	Breastfeeding promotion intervention: training of healthcare workers, interpersonal communication, WhatsApp-support, mass media	Control facility without intervention anpa intervensi	Significant increase in the percentage of exclusive breastfeeding at week 6 (83%) and week 24 (66%)
The Effect of Information Provision via WhatsApp on Mothers' Behavior	Pidiyanti et al.	31 mothers with infants aged 0-6 months at	Education via WhatsApp	Not explicitly described (non-	There was a significant effect on exclusive breastfeeding

Title	Author	Population	Intervention	Comparison	Outcome
Regarding Exclusive Breastfeeding		the Pongok Community Health Center 241 millennial mothers who exclusively breastfed from 21 countries who participated in social media breastfeeding support groups 50	Participation in Social Media Breastfeeding Support Groups (SMBSGs) on Facebook	intervention group/pre-intervention) No comparison group (longitudinal repeated-measures design)	behavior (p=0.018) Social support on social media has a direct effect on mothers' confidence, knowledge, and attitudes; the rate of exclusive breastfeeding at 6 months reached 66%
The Relationship Between Social Media Breastfeeding Support Groups and Breastfeeding Confidence, Knowledge, and Attitudes	Bridges, N.				
The Effect of Social Media-Based Education on Knowledge and Behavior Regarding Exclusive Breastfeeding Among Breastfeeding Mothers in the Gedongtengen Community Health Center Service Area	Oli Viya Aprilita	Gedongtengen Community Health Center service area (25 experimental, 25 control)	Social media-based education via the Instagram and TikTok platforms	Control group (did not receive specific social media intervention)	Significant improvement in knowledge scores (p=0.019) and behavior scores (p=0.009) regarding exclusive breastfeeding.
Perceptions of Media and Advertisements on Breastfeeding Decisions of Mothers in Turkey	Arslan & Eksioğlu	20 mothers with infants aged 0-12 months in Turkey	Exposure to media and advertisements (social media, TV, etc.)	None (qualitative study)	Formula milk advertisements and the influence of celebrities affect mothers' decisions to breastfeed or use formula
Influence of Social Media on Maternal Decision-Making and Breastfeeding Practices	Prashanth GP	Breastfeeding mothers (general, not specific to sample size)	Social media exposure	No direct comparison	Social media may influence breastfeeding decisions (positive/negative)

Results from various studies show that information interventions via digital platforms consistently increase exclusive breastfeeding rates across different regions. In Nigeria, the use of text messages and WhatsApp groups has been shown to increase exclusive breastfeeding rates by up to 66% at 24 weeks of age (Flax et al., 2022). Meanwhile, in Iran, the use of an interactive website increased the self-efficacy of first-time mothers in breastfeeding, which is a key factor for the sustainability of the breastfeeding process (Fallah-Karimi et al., 2025).

In Indonesia, social media platforms such as Instagram, TikTok, and WhatsApp have proven to be highly effective tools in influencing mothers' cognitive and behavioral aspects. Research by Aprilita (2025) shows a significant increase in knowledge and behavioral scores through creative content on Instagram and TikTok. Similar findings were reported by Wibowo et al. (2025) and Pidiyanti et al. (2023), where WhatsApp plays a crucial role in distributing educational videos and regular updates that are directly correlated with improvements in positive behaviors among breastfeeding mothers.

However, qualitative research findings reveal another side of digital media. Arslan and Eksioglu (2025) found that mothers' perceptions of formula milk advertisements and the influence of celebrities' lifestyles on social media often pose obstacles. These advertisements create the perception that formula milk is a more modern and practical alternative, thereby undermining mothers' commitment to exclusive breastfeeding for the full six months.

The integration of digital technology into health promotion has become a crucial strategy for increasing exclusive breastfeeding rates globally. Research by Flax et al. (2022) highlights that continuous, easily accessible information support via mobile phones can strengthen mothers' intentions to continue breastfeeding despite social environmental challenges. Interpersonal communication supported by digital media creates a support system that makes mothers feel supported during critical periods of breastfeeding.

The use of popular social media platforms like Instagram and TikTok in Indonesia has brought a new dimension to health education. According to Aprilita (2025), these visual platforms are highly effective because they can present technical information in the form of entertaining content that is easily digestible by millennial mothers. This effectiveness is further supported by the use of WhatsApp as a medium for sharing videos, which, according to Wibowo et al. (2025), has been shown to significantly increase mothers' knowledge because the videos can be replayed as often as needed.

In addition to knowledge, the psychological aspect of self-efficacy is a key determinant of breastfeeding success that can be strengthened through digital interventions. A study by Fallah-Karimi et al. (2025) demonstrated that structured web-based education helps first-time mothers feel more competent in addressing breastfeeding challenges. This boost in self-confidence is particularly crucial for new mothers who often doubt the adequacy of their breast milk supply or their use of proper breastfeeding techniques particularly crucial for new mothers who often doubt the adequacy of their breast milk supply or their use of proper breastfeeding techniques.

However, despite its benefits, digital media also carries the risk of aggressive exposure to advertisements for breast milk substitutes. Arslan and Eksioglu (2025) highlight how formula milk advertisements on social media can undermine breastfeeding values in society. This finding is reinforced by Prashanth (2024), who states that mothers' decisions are heavily influenced by cultural norms shaped on social media. Therefore, digital education strategies must be designed to serve as a counter-narrative to information that does not support breastfeeding.

Overall, an analysis of these various studies concludes that digital media is a highly effective communication tool when used strategically. Pidiyanti et al. (2023) emphasize that the regular provision of information via social media is key to behavioral change. Therefore, strengthening breastfeeding programs through digital platforms is highly recommended for healthcare workers to optimally achieve global targets for exclusive breastfeeding coverage.

CONCLUSION

Based on the series of studies analyzed, it can be concluded that digital media-based educational interventions (WhatsApp, Instagram, TikTok, and the Web) are significantly effective in improving knowledge, self-efficacy, and exclusive breastfeeding behavior among breastfeeding mothers. Although there are challenges in the form of the influence of formula milk advertisements on social media, regular and structured information support through digital platforms has proven to be an innovative solution to overcome barriers to conventional educational access.

Future research should also focus on developing and testing digital interventions that involve the active participation of caregivers or other family members, given that social support is a key factor that can strengthen the psychological determinants of breastfeeding among mothers.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors utilized Google Gemini and DeepL to optimize the linguistic quality and readability of this manuscript. For the literature review, references were identified through searches in ScienceDirect, PubMed, and Google Scholar.

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AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation.

Author 3: Data curation; Investigation; Writing - original draft

Author 4: Other contribution; Validation.

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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