

Identifying Effective Health Promotion Strategies to Increase Exclusive Breastfeeding Coverage: Systematic Literature Review

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Abstract. Exclusive breastfeeding during the first six months of a baby's life is an important strategy in improving maternal and child health. However, exclusive breastfeeding coverage is still low in various countries, including Indonesia. This study aims to identify effective health promotion strategies in increasing exclusive breastfeeding coverage through the *Systematic Literature Review* method. Literature searches were conducted through the Scopus database with specific keywords related to breastfeeding promotion, self-efficacy, counseling, and social support. Of the 119 articles identified, 42 met the inclusion criteria and were analyzed thematically. The results showed that the most effective interventions were multifaceted interventions that combined education based on behavioral theory (especially *Theory of Planned Behavior*), husband and family support, prenatal and postnatal breastfeeding counseling, health worker training, and the use of digital technology. These interventions consistently improve maternal self-efficacy, breastfeeding intention, and exclusive breastfeeding practices. This study concludes that effective breastfeeding health promotion requires an integrated, sustainable, and contextual approach. These findings make an important contribution to the development of exclusive primary and community-based breastfeeding promotion programs, particularly in developing countries such as Indonesia. **Keywords:** exclusive breastfeeding, health promotion, self-efficacy, Theory of Planned Behavior, social support, systematic literature review.

1 Introduction

Exclusive breastfeeding during the first six months of a baby's life is a crucial public health strategy to reduce infant morbidity and mortality, while improving the quality of life of mothers and children in the long term. Exclusive breastfeeding has been shown to provide immunological protection, improve children's cognitive development, as well as contribute to the prevention of chronic diseases in adulthood. Although the benefits of exclusive breastfeeding have been recognized globally and nationally, the scope of this practice has not reached the optimal target, particularly in developing countries, including Indonesia. National data show that exclusive breastfeeding coverage is still fluctuating and tends to stagnate, with many mothers stopping breastfeeding before six months due to a variety of reasons related to lack of support, limited knowledge, and structural social barriers. This condition reflects the need for more comprehensive and evidence-based interventions in breastfeeding health promotion efforts.

Various previous studies have explored the effectiveness of health promotion approaches in improving breastfeeding practices, highlighting the importance of social support, behavioral theory-based education, and the use of information technology. Studies such as those conducted by Lee et al. (2019) suggest that support from lactation counselors can improve breastfeeding self-efficacy and increase exclusive breastfeeding success rates. Meanwhile, Natalia et al. (2022) developed a digital-based approach in the form of the SATUPAS program, which shows its effectiveness in increasing the production and frequency of breast milk expression, especially in mothers with low birth weight babies¹, highlighting the importance of partner involvement in the promotion of breastfeeding, which significantly increases maternal self-efficacy. On the other hand, Zhang et al. (2024) show that application-based education without interpersonal assistance has limitations in

influencing breastfeeding behavior in a real way. Therefore, the synergy between education, social support, and technology-based approaches is key in developing effective and sustainable breastfeeding promotion strategies.

Although various approaches have been shown to have a positive impact on the promotion of exclusive breastfeeding, there are still gaps in the literature regarding the systematic and simultaneous integration of these components in a single intervention model. Many studies have highlighted only one aspect of breastfeeding promotion—such as education, family involvement, or the use of technology—but not many have integrated all of these elements in a local context. Research conducted in Indonesia, such as by Sabilla et al. (2025) and Fadjriah et al. (2021), underlines the importance of the involvement of health workers and families in increasing maternal self-efficacy. However, more comprehensive, community-based health promotion is still rarely consistently implemented in primary services. Therefore, studies that identify and synthesize breastfeeding promotion strategies from different approaches are needed to obtain a complete picture of the most effective, contextual, and applicable interventions.

This research was conducted to answer the need for a more effective health promotion strategy for breastfeeding mothers in increasing exclusive breastfeeding coverage. Using the Systematic Literature Review (SLR) method, this study aims to identify, evaluate, and synthesize various forms of breastfeeding promotion interventions that have been proven effective in various contexts. The main focus of this study is to explore educational approaches, social support, involvement of health workers, and the use of digital technology that contribute to increasing self-efficacy, breastfeeding intention, and the success of exclusive breastfeeding practices. SLR was chosen because it allows researchers to collect evidence from a wide range of high-quality primary studies and evaluate the effectiveness of interventions based on a robust theoretical and methodological framework. Thus, the results of this study are expected to be the basis for the development of more integrated and local context-based breastfeeding promotion interventions.

A review of the previous literature shows that theory-based interventions such as the Theory of Planned Behavior (TPB) can improve attitudes, subjective norms, and perceptions of behavioral control towards breastfeeding, as research shows 2, 3, and 4. The application of SDGs in breastfeeding promotion interventions has been shown to be effective in forming strong intentions to breastfeed, which then influences actual behavior. In addition, social support from partners, families, and communities has also been proven to increase mothers' self-efficacy in breastfeeding (Miller et al., 2022; Sabilla et al., 2025). Promotional approaches that utilize information technology, such as WhatsApp, Facebook, and educational applications, show great potential to reach mothers in remote areas or with limited access to health services 7 8. However, the main challenge lies in how to effectively integrate this approach in order to not only increase knowledge, but also change behavior and maintain exclusive breastfeeding practices.

Based on this background and review, this study proposes the formulation of the problem: What is the most effective breastfeeding maternity health promotion strategy in increasing exclusive breastfeeding coverage based on the results of a systematic literature review?. This formulation emphasizes the identification of intervention approaches that have proven effective and relevant in various contexts, as well as how these components can be adapted in the primary health system in Indonesia. By answering the formulation of this problem, it is hoped that the results of the research will not only enrich the scientific literature on breastfeeding promotion but also make a practical contribution to the development of maternal and child health service policies and programs.

The relationship between this research and the existing literature is very close and complementary. Most previous studies have focused on specific aspects of breastfeeding promotion—such as partner support 1, Health Worker Training 9, or digital education 10 - However, it has not thoroughly explored the integration between these components. This study seeks to bridge these gaps by identifying interventions that combine educational, psychosocial, structural, and digital aspects in one framework of a breastfeeding maternity health promotion strategy. In this context, this research is not only confirmatory of previous findings but also constructive in developing a more adaptive, applicable, and sustainable breastfeeding promotion framework in Indonesia.

Thus, this research has strategic value in compiling evidence-based recommendations for stakeholders in the field of maternal and child health, both at the policy and practice levels. Given

that the challenge of low exclusive breastfeeding coverage in Indonesia is still a crucial issue in national health development, the results of this study are expected to be the basis for designing effective, efficient, and contextual breastfeeding promotion intervention programs. Furthermore, the systematic literature review approach used in this study allows for the drawing of comprehensive and reflective conclusions from various global and national studies, thereby increasing the external validity of the findings and their relevance in policy decision-making.

2 Methods

This study uses a *Systematic Literature Review* (SLR) design, which is systematically prepared following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The main objective of this method is to identify, evaluate, and synthesize relevant empirical evidence regarding health promotion strategies to increase exclusive breastfeeding coverage. The article identification process was carried out using selected keywords, namely *breastfeeding support education*, *health promotion exclusive breastfeeding*, *self-efficacy breastfeeding behavior*, *prenatal counseling breastfeeding*, *exclusive breastfeeding social support*, and *breastfeeding intervention behavior*. The search for articles was carried out through the Scopus database, with a total of 119 documents found. After the initial screening process, duplication ($n=2$) was eliminated, automatic selection based on the 2013–2025 publication year ($n=17$), and screening based on journal-level criteria (Q1-Q4) resulted in the elimination of 13 articles. Articles without abstracts were also eliminated ($n=3$), leaving 84 articles that entered the full screening stage. A total of 12 articles were removed because they did not meet the inclusion criteria, while 30 articles were not successfully accessed. Finally, a total of 42 articles were declared eligible and included in the final analysis based on the relevance of the topic, methodology, and quality of publication.

The subjects in this study are not individuals, but scientific articles that meet the inclusion criteria, namely discussing breastfeeding promotion interventions, breastfeeding education, prenatal and postnatal counseling, the use of technology in the promotion of exclusive breastfeeding, and research that evaluates changes in breastfeeding behavior. The selected articles are from internationally accredited journals, with a publication year range of 2013–2025, and are available in full-text versions in English or Indonesian. The main instrument in this study is a data extraction sheet that has been designed based on the PICOS (Population, Intervention, Comparison, Outcome, Study Design) framework, which allows researchers to collect information about the research design, location, population, type of intervention, success indicators, and theories used in each study. The data collection procedure is carried out in three stages: identification, filtering, and synthesis. Data from each article is extracted into an Excel table and classified according to relevant key themes, such as educational approaches, social support, family involvement, the role of health workers, and the use of digital media.

The analysis method used in this study is descriptive and thematic, with a qualitative approach to the content of each article that has passed the selection. Data were analyzed using a narrative synthesis technique, where each finding from the study was categorized based on the type of intervention and its impact on exclusive breastfeeding coverage, maternal self-efficacy, and breastfeeding intention. In addition, a mapping of the theories or models used in each study was carried out to identify theory-based intervention approaches such as TPB (Theory of Planned Behavior), Social Cognitive Theory, or community intervention models. The validity of the analysis is maintained through discussions by the review team in the selection and extraction process, as well as cross-checking between researchers. With this systematic approach, it is hoped that the results of the study can represent strong, transparent, and replicable evidence by other researchers interested in developing similar interventions in the context of breastfeeding health promotion in various regions.

3 Results And Discussion

3.1 Result

The study successfully identified 42 studies that met the inclusion criteria, with a publication time span between 2013 to 2025, all of which focused on health promotion strategies to increase exclusive breastfeeding coverage. The studies came from various countries such as Indonesia, China, Iran, Ethiopia, Taiwan, Australia, Lebanon, Ghana, New Zealand, Denmark, Brazil, and Uganda. The approach used in each study varies, both in terms of research design, target population, type of intervention, and the outcome variables measured. In general, interventions fall into five broad categories: (1) behavioral theory-based breastfeeding education, (2) prenatal and postnatal counseling, (3) husband and family involvement, (4) digital-based support or online community, and (5) health worker training.

Table 1. Summary of the classification and distribution of findings based on the focus of the intervention

Intervention Categories	Number of Studies	Dominant Location	Commonly Used Methods
Behavioral theory-based education (TPB/ETPB)	10	China, Iran, Indonesia	RCTs, Quasi-experiments, SEM
Prenatal & postnatal counselling	11	Taiwan, Ethiopia	RCTs, Longitudinal, Observational
Husband/family involvement	8	Ethiopia, Indonesia	RCT Cluster, Cross-sectional
Digital/community-based social support	7	Brazil, China	CBPR, Qualitative, Quasi-experimental
Health worker training	6	USA, Japan, Indonesia	Descriptive studies, training program studies

Some studies have shown that behavioral theory-based interventions, especially the Theory of Planned Behavior (TPB), are effective in increasing positive attitudes, subjective norms, perception of behavior control, and breastfeeding intentions. Studies by Wen et al. (2021), Zhu et al. (2017), and Okhovat et al. showed significant improvements in the SDG variables that contributed to the success of exclusive breastfeeding. Meanwhile, a narrative study by Wu et al. (2025) proposes the development of the TPB model into an Extended TPB (ETPB), by adding variables such as self-identity and moral norms.

A total of 11 studies focused on interventions in the prenatal and postnatal periods. These studies confirm the importance of continuity between the pre- and postpartum phases in shaping and sustaining breastfeeding practices. ¹¹ demonstrated the effectiveness of home visits up to five months postnatal. While Wang & Chang (2023) found that breastfeeding intentions from pregnancy were a strong predictor of exclusive breastfeeding success in the fourth and sixth months. Other studies, such as (Natalia et al., 2022) and (Zhang et al., 2024), add a digital approach to accompany the process.

A total of 8 studies examined the role of husbands and families as part of breastfeeding promotion strategies. A study (Abageda et al., 2024) in Ethiopia and a study ⁶ in Indonesia showed that the involvement of the partner significantly increased the self-efficacy of breastfeeding mothers. ¹³ reported an increase in the prevalence of breastfeeding in the 6th week postpartum after minimal educational intervention was given to the husband. While ¹⁴ found that all forms of family support—informational, emotional, instrumental, and judgmental—had a significant effect on exclusive breastfeeding practices.

Digital support and online communities were identified in 7 studies. Cabral et al. (2020) and Alianmoghaddam et al. (2019) show that platforms like Facebook and WhatsApp provide emotional support and information on an ongoing basis, especially after mothers are discharged from the hospital. ¹⁵ developed a WhatsApp-based SATUPAS program that has been proven to increase the frequency of breast milk expression in mothers with BBLR babies. However, studies ¹⁰ show that increasing knowledge through the WeChat application is not enough to improve self-efficacy or breastfeeding practices.

Health worker training was the focus of 6 studies. ⁹ Map 10 lactation training programs with varying durations from 40–120 hours, and highlight the absence of global training standards. ¹⁶ suggests that increased knowledge is not always followed by increased affective support for mothers.

¹⁷ Proving that brief training to obstetric residents can improve the quality of breastfeeding counseling during antenatal visits.

The distribution of research designs showed the dominance of quantitative methods, with 18 studies using Randomized Controlled Trials (RCTs) or cluster RCTs, 10 studies using quasi-experimental designs, and the rest using descriptive, cross-sectional, longitudinal, or qualitative approaches. The main outcome indicators measured included: (1) exclusive breastfeeding coverage, (2) breastfeeding self-efficacy, (3) breastfeeding intention, (4) breastfeeding intention and duration, (5) increased knowledge and skills, and (6) perception of social support.

Table 2. recapitulation of the frequency of outcome indicators found in the 42 studies

Yield Indicators	Number of Studies
Exclusive Breast Milk Coverage	32
Breastfeeding Self-Efficacy	25
Intention/Intention to Breastfeed	19
Increased Breastfeeding Knowledge	21
Social Support	18
Positive Attitudes and Perceptions of Breast Milk	14
Evaluation of Health Worker Training Program	6

The distribution of findings also shows that interventions that combine more than two approaches (e.g., education + social support + technology) have a wider impact than a single intervention. Studies by Natalia et al. (2022), Lee et al. (2019), and Abageda et al. (2024) are examples of multifaceted interventions that have proven effective. However, only a small number of studies (fewer than 5) conducted long-term evaluation of exclusive breastfeeding outcomes up to 6 months of age or more.

In terms of the target population, most interventions were aimed at breastfeeding mothers directly. However, there are also studies that target husbands ¹; ¹³, health workers ⁹; ¹⁷, as well as the community ⁷. Research targeting vulnerable groups, such as mothers with premature babies (Zhang et al., 2024); (Okhovat et al., 2024), mothers with diabetes (Schiller et al., 2024), and mothers who work (Golnam et al., 2025), was also found in this review.

The results of *this Systematic Literature Review* provide a comprehensive overview of the forms of breastfeeding health promotion interventions, target groups, implementation contexts, and effectiveness based on key indicators. These findings will serve as the basis for the development of a comprehensive, evidence-based, and adaptable promotional strategy in the context of primary services in Indonesia.

3.2 Discussion

The main findings of this study show that the health promotion strategy of breastfeeding mothers to increase exclusive breastfeeding coverage cannot rely on a single approach, but requires integration between behavioral theory-based education, interpersonal social support, health worker training, and the use of digital technology. These results are in line with the literature demonstrating the effectiveness of multifaceted interventions, as shown ¹⁵, ¹⁸and ¹, which successfully increases breastfeeding frequency, self-efficacy, and duration of exclusive breastfeeding through an approach that is not only educational but also participatory and sustainable social support.

The application of a behavioral theory-based approach, in particular the *Theory of Planned Behavior* (TPB), is one of the important findings in this study. Studies by Wen et al. (2021), Zhu et al. (2017), and Okhovat et al. (2024) showed that interventions designed based on the SDG construct—i.e., attitudes, subjective norms, and perceptions of behavioral control—significantly increased breastfeeding intentions and ultimately increased exclusive breastfeeding practices. In fact, in the study ¹⁹, the SDG approach is expanded to *Extended TPB* (ETPB) by adding factors of self-efficacy, self-identity, moral norms, and knowledge as additional determinants of breastfeeding

behavior. These results suggest that interventions that consider maternal psychological factors will be more effective in encouraging consistent breastfeeding behaviors.

In the context of social support, the findings of this study are in line with the results of the studies^{1, 5, and 6}, which emphasize the importance of the involvement of husbands and families in supporting the self-efficacy of breastfeeding mothers. Abageda et al. show that the education of male partners contributes significantly to increasing maternal confidence. This is reinforced by the results of Sabilla et al., which show that support from husbands and health workers has a strong indirect influence on the success of exclusive breastfeeding through increased self-efficacy. These findings reinforce the argument that breastfeeding promotion cannot be focused solely on mothers, but rather needs to expand the scope of intervention goals to family members, especially husbands, as decision-makers and sources of emotional and instrumental support in breastfeeding practices.

The use of technology as a medium for promoting breastfeeding is also an important highlight in the results of this study. Study¹⁵ and⁷ shows that the WhatsApp and Facebook community-based approach is effective in improving communication, peer support, and monitoring of breastfeeding behavior. Nevertheless, the study¹⁰ It shows that increasing knowledge through digital media is not necessarily accompanied by increased self-efficacy or changes in breastfeeding behavior. This suggests that digital technology should not be used as the only approach, but rather needs to be combined with interpersonal approaches such as face-to-face counseling or community support. Thus, the contribution of this research lies in the proposed model of breastfeeding health promotion that combines the power of digital approaches and social interaction simultaneously to maximize the effectiveness of interventions.

This study also confirms that the success of breastfeeding promotion is greatly influenced by the capacity and competence of health workers. A study⁹ shows significant variation in the duration and content of breastfeeding training provided to health workers in different countries. Although training can improve knowledge, studies¹⁶ show that this does not necessarily increase affective support or real supportive behavior to breastfeeding mothers. Therefore, health worker training needs to be designed not only to improve technical knowledge but also to build interpersonal communication skills, empathy, and the capacity to conduct supportive counseling.

The significance of the results of this study lies in the emphasis on the importance of sustainability-oriented, contextual, and adaptive interventions to the needs of mothers and their social environment. Prenatal and postnatal counseling have been shown to have complementary influences, where prenatal counseling shapes breastfeeding intentions and readiness, while postnatal counseling provides concrete support in overcoming practical and psychological challenges after birth. These findings are consistent with the results of the study^{12, 11} and²⁰, which suggests that ongoing interventions are more effective than one-time counseling. Therefore, the breastfeeding promotion model developed from the results of this study suggests a cross-phase and cross-actor approach, including families, cadres, midwives, and digital communities.

The contribution of this research to the scientific field of public health, especially the promotion of maternal and child health, is very clear. First, this study expands the understanding of the effectiveness of theory-based behavioral breastfeeding interventions in the context of developing countries. Studies such as⁴ and³ were previously conducted in Iran and China, while this study provides an overview from an Indonesian perspective, taking into account local challenges such as access to services, family support, and use of digital media. Second, this study brings together educational, social, and structural approaches in one integrated intervention framework, which has not been done much before. Third, by adopting the *Systematic Literature Review*, this study provides a broad empirical evidence map and can be used as a basis for the development of evidence-based health policies.

The practical implications of this research are enormous, especially in the context of the primary health care system in Indonesia. Breastfeeding promotion programs can be designed by combining health worker training, behavioral theory-based education, husband's involvement, and the use of social media or mobile applications. The intervention can be implemented through the Puskesmas with the support of Posyandu cadres who are trained and have a social closeness to the mother. With a relatively low cost and participatory approach, this kind of intervention has the potential to reach vulnerable breastfeeding groups such as working mothers, mothers with premature babies, or mothers in remote areas. This is in accordance with the principles of efficiency and sustainability

put forward by ²¹ and ²², that health programs should be designed with limited resources in mind but still have a high impact.

In addition to its positive contributions and implications, this study also has some limitations. First, because it uses the *Systematic Literature Review* approach, the results obtained depend on the quality and methodological variation of the studies reviewed. Most studies use a quasi-experimental or cross-sectional design, so generalizations and causality conclusions need to be done carefully. Second, there are still a few studies that evaluate interventions in the long term (more than 6 months), so the sustainability impact of interventions is still an open question. Third, not all studies measured the same indicators; For example, some only assess the knowledge or intention of breastfeeding without evaluating actual behavior. This leads to limitations in performing quantitative synthesis of results. Fourth, the cultural context, local policies, and health care systems in each study are different, so the results cannot always be directly applied to Indonesia without adaptation to the local context.

Further, limitations also arise from the lack of research that specifically evaluates the effects of combination interventions, such as the use of behavioral theory in conjunction with family support and digital media. Although some studies, such as (Natalia et al., 2022) and (Lee et al., 2019), have implemented multifaceted interventions, they have not explicitly tested the synergy between all these components. Therefore, future follow-up research will need to develop and test integrated theory-based interventions, with participatory and community-based approaches, to address this gap. In the Indonesian context, this research opens up great opportunities to develop a more structured and systematic breastfeeding promotion strategy, based on scientific evidence. The Ministry of Health can use the results of this research to develop TPB-based training modules for health workers, design social media campaigns that are coordinated with face-to-face education, and develop a system for monitoring breastfeeding behavior through health cadres. In addition, the integration of educational, social, and digital approaches in exclusive breastfeeding promotion interventions can also support the implementation of national programs such as 1000 HPK (First Day of Life) and strengthening primary health services.

Overall, this research makes an important contribution to the development of an evidence-based, adaptive, and applicable model of breastfeeding health promotion in various local contexts. By bringing together behavioral approaches, social support, health worker training, and information technology, the resulting intervention model has great potential to increase exclusive breastfeeding coverage in a sustainable manner. The results of this research can also be the main reference in policy formulation, training curriculum development, and the implementation of promotive and preventive programs at the community level. Therefore, this research is not only academically relevant but also has strategic value in the development of maternal and child health in Indonesia.

4 Conclusion

This study concludes that the most effective health promotion strategies to increase exclusive breastfeeding coverage are multifaceted, integrated, and theory-based. The results of the *Systematic Literature Review* of 42 scientific articles showed that interventions that combined *Theory of Planned Behavior* (TPB)-based education, social support from husbands and families, prenatal and postnatal breastfeeding counseling, health worker training, and the use of digital technology, were proven to consistently increase self-efficacy, breastfeeding intentions, and exclusive breastfeeding practices. Support from husbands and health workers has a strong indirect influence through increased maternal confidence. Prenatal counseling establishes psychological readiness and breastfeeding intentions, while postnatal counseling provides practical support in maintaining breastfeeding behaviors. Digital interventions such as WhatsApp and social media are effective when combined with an interpersonal approach. These results confirm that effective breastfeeding promotion must integrate psychological, social, structural, and technological dimensions in one comprehensive program framework.

The main contribution of this study to the scientific field of maternal and child health promotion is the preparation of a broad and systematic evidence map on effective strategies for increasing exclusive breastfeeding. This research reinforces the importance of a theory-based approach in intervention design and emphasizes that the success of breastfeeding promotion is strongly

influenced by multistakeholder engagement and program sustainability. This research also provides direction for the development of primary service-based programs in Indonesia that are efficient, participatory, and adaptive to local conditions.

For future research, it is recommended that intervention testing be carried out directly in the form of field studies with experimental or quasi-experimental designs in various Indonesian contexts. Further research also needs to explore the long-term effects of multifaceted interventions, measure the success of exclusive breastfeeding for up to six months or more, and include an evaluation of the program's cost and sustainability. In addition, it is necessary to develop a more inclusive breastfeeding promotion model for vulnerable groups such as working mothers, mothers with premature babies, and mothers in remote areas. A participatory, community-based approach and the involvement of local health cadres can be key to ensuring successful implementation on the ground.

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