

Exploring the Use of Herbal Medicines and Digital Media in Maternal Health: A Review of Practices Among Indonesian Pregnant Women

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ABSTRACT

Despite the longstanding use of herbal remedies to support maternal health, particularly during lactation, existing research has yet to systematically explore the intersection of traditional practices, digital media influence, and public trust. This study aims to analyze how herbal beliefs are represented, trusted, and potentially distorted through digital platforms, and to assess the effectiveness of herbal interventions in enhancing breast milk production in Indonesia. Employing a literature review methodology in accordance, the study examined 24 peer-reviewed articles sourced from Google Scholar, focusing on public perception, misinformation, and trust in herbal remedies. Additionally, 25 studies on breastfeeding interventions were reviewed to evaluate the outcomes of herbal-based and educational approaches. Results indicate that while herbal galactagogues such as Moringa leaves, katuk, and dates consistently improve lactation outcomes, digital media plays a dual role—facilitating both accurate health education and the spread of unverified claims. Educational interventions enhanced maternal understanding and acceptance of herbal remedies, especially when supported by community engagement and digital tools. However, variations in efficacy across contexts and limited clinical validation signal the need for more rigorous trials. The findings underscore the importance of culturally integrated, evidence-based strategies in maternal health promotion and call for the careful regulation of online health information to safeguard public trust and maternal well-being.

ABSTRAK

Meskipun pengobatan herbal telah lama digunakan untuk mendukung kesehatan ibu, terutama selama masa menyusui, penelitian yang ada belum secara sistematis mengeksplorasi titik temu antara praktik tradisional, pengaruh media digital, dan kepercayaan masyarakat. Penelitian ini bertujuan untuk menganalisis bagaimana kepercayaan terhadap jamu direpresentasikan, dipercaya, dan berpotensi terdistorsi melalui platform digital, dan untuk menilai efektivitas intervensi jamu dalam meningkatkan produksi ASI di Indonesia. Dengan menggunakan metodologi tinjauan literatur, penelitian ini mengkaji 24 artikel yang telah ditelaah oleh rekan sejawat yang bersumber dari Google Scholar, dengan fokus pada persepsi publik, informasi yang salah, dan kepercayaan terhadap pengobatan herbal. Selain itu, 25 penelitian tentang intervensi menyusui juga ditinjau untuk mengevaluasi hasil dari pendekatan berbasis herbal dan edukasi. Hasil penelitian menunjukkan bahwa meskipun galactagogue herbal seperti daun kelor, katuk, dan kurma secara konsisten meningkatkan hasil laktasi, media digital memainkan peran ganda—memfasilitasi edukasi kesehatan yang akurat dan penyebaran klaim yang belum diverifikasi. Intervensi edukasi meningkatkan pemahaman dan penerimaan ibu terhadap pengobatan herbal, terutama jika didukung oleh keterlibatan masyarakat dan alat digital. Namun, variasi dalam kemanjuran di berbagai konteks dan validasi klinis yang terbatas menandakan perlunya uji coba yang lebih ketat. Temuan ini menggarisbawahi pentingnya strategi berbasis bukti yang terintegrasi secara budaya dalam promosi kesehatan ibu dan menyerukan perlunya regulasi yang cermat terhadap informasi kesehatan online untuk menjaga kepercayaan publik dan kesejahteraan ibu.

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INTRODUCTION

Maternal health remains a critical global concern, particularly in low- and middle-income countries (LMICs), where systemic disparities contribute to elevated maternal mortality rates. The World Health Organization (WHO) reported approximately 295,000 maternal deaths in 2017, with the majority occurring in LMICs and deemed largely preventable (Ahmed et al., 2023). These statistics underscore the urgent need for equitable healthcare access and culturally sensitive interventions. Numerous determinants—ranging from socioeconomic status and educational attainment to religious and cultural beliefs—affect maternal health outcomes, influencing healthcare-seeking behaviors and access to services (Heck et al., 2021; Sharma et al., 2023). Addressing these factors holistically is essential for reducing disparities and enhancing maternal care delivery, particularly in rural and underserved areas.

In Indonesia, traditional medicine, especially the herbal-based system known as *Jamu*, continues to play a vital role in everyday healthcare. The use of *Jamu*, made from plants like turmeric, ginger, and tamarind, is deeply entrenched in the cultural practices of communities, particularly on the island of Java (Harfiani et al., 2025; Musyaffa et al., 2024). Statistically, nearly 59.12% of the Indonesian population uses herbal remedies, signifying a persistent reliance on traditional healing methods (Mardiyanto et al., 2023; Utomo et al., 2022). This phenomenon is often linked to healthcare inaccessibility, affordability issues, and a collective cultural trust in natural medicine. As such, traditional medicine remains an integral part of maternal care in Indonesia, reflecting broader themes observed globally in LMICs.

Despite widespread use, the safety and efficacy of herbal medicines during pregnancy remain inadequately studied and poorly regulated, posing potential health risks for mothers and fetuses. The challenge lies in balancing cultural acceptability with evidence-based medical practice. Integrating traditional and modern health systems—through culturally competent education and policy frameworks—presents a viable strategy for improving maternal health outcomes (Simas et al., 2021; Mantula et al., 2023).

Several studies emphasize the role of culturally tailored interventions in improving maternal health behaviors. For instance, educational programs that integrate local beliefs with biomedical principles have proven effective in raising awareness and promoting safe health-seeking behavior among pregnant women (Rohimi et al., 2024; Gausman et al., 2023). These programs foster trust in formal health systems, reduce cultural barriers, and empower communities to make informed healthcare decisions. In indigenous and rural communities, where mistrust in the healthcare system is prevalent, the acknowledgment and incorporation of traditional practices into healthcare delivery have improved service utilization and maternal outcomes (Leventhal et al., 2021; Simas et al., 2021).

In the context of herbal medicine, studies have shown that remedies such as ginger and garlic are widely used to manage pregnancy-related conditions like nausea and hypertension (Kahssay et al., 2022; Sichelwe, 2025). However, concerns regarding the pharmacological activity of certain herbs and potential interactions with modern drugs necessitate cautious application (Elba et al., 2022; Solomon & Tesfaye, 2022). The lack of standardized guidelines and clinical evidence complicates the use of herbal treatments during critical stages such as the first trimester, highlighting the need for policy intervention and maternal health education (Karimian et al., 2021).

Although the use of herbal medicine among pregnant women in Indonesia is widespread and deeply rooted in tradition, scientific literature remains limited regarding its clinical impact, safety profile, and the sociocultural factors influencing its usage. Most available studies either lack methodological rigor or fail to address regional variations in herbal practices, leaving a significant research gap in understanding this phenomenon in the Indonesian context (Harfiani et al., 2025; Yusuf et al., 2023). Furthermore, there is a paucity of data linking traditional beliefs with maternal health outcomes, particularly in rural areas where health system infrastructure is weak.

This study seeks to explore the use of herbal medicines in maternal health practices among Indonesian pregnant women. The novelty of this research lies in its cultural contextualization of maternal health interventions, emphasizing the intersection of traditional medicine and modern

healthcare. By reviewing existing practices and their perceived benefits and risks, this study aims to inform policy and public health strategies that respect cultural traditions while safeguarding maternal and fetal health.

METHODS

his study utilized a review methodology to comprehensively examine the dynamics of misinformation, public trust, and perceptions related to herbal remedies in the context of digital media. The review was conducted in alignment with the guidelines, ensuring methodological rigor, transparency, and replicability in the review process. The review process was conducted from 2014-2025. As a literature-based study, it was not bound by a specific geographical location but instead targeted global scholarly outputs accessible online.

Google Scholar was selected as the primary database due to its extensive indexing of scholarly articles across disciplines and open access to a wide range of peer-reviewed and grey literature relevant to herbal medicine and digital information ecosystems. The search strategy employed a combination of Boolean operators and keyword clusters designed to capture the intersection between herbal remedies and digital discourse. Keywords included: herbal medicine, traditional remedies, natural treatment, complementary medicine, alternative medicine, digital media, internet, social media, misinformation, health rumors, public trust, perception, health beliefs, and information credibility. These terms were used in various combinations to ensure a broad and inclusive search scope.

Articles were included if they met the following criteria: (1) published in English or Indonesia; (2) peer-reviewed; (3) discussed herbal, traditional, or alternative medicine in relation to digital media platforms; and (4) addressed themes such as misinformation, trust, health beliefs, or public perception. Exclusion criteria comprised articles not focused on herbal medicine, lacking relevance to digital contexts, or presenting non-empirical content (e.g., editorials, commentaries, book reviews). Studies with unclear methodologies or outcomes were also excluded.

The initial keyword search on Google Scholar yielded 82 records. After removing duplicates and conducting preliminary relevance screening, 48 articles were selected for full-text review. Through rigorous evaluation based on the inclusion and exclusion criteria, 24 articles were deemed eligible for final inclusion. Screening and selection were conducted independently by two reviewers, with any discrepancies resolved through discussion and consensus.

Data from the 24 included studies were extracted using a standardized form that captured information on study design, region of focus, type of herbal remedy discussed, characteristics of digital media platforms analyzed, nature of misinformation identified, trust and belief outcomes, and population focus. Thematic synthesis and descriptive analysis were employed to classify findings, highlight recurring patterns, and identify gaps in the literature. Comparative analysis was conducted to distinguish the roles of different digital media platforms—including social media networks, forums, and health-related websites—in shaping public perception, facilitating misinformation, and influencing trust in natural remedies.

As this study involved secondary data analysis of publicly available materials, formal ethical approval was not required. However, all efforts were made to ensure scholarly integrity, proper citation, and compliance with academic standards for systematic reviews.

RESULTS AND DISCUSSION

Table 1 provides a comprehensive summary of 24 research studies conducted across various regions in Indonesia that focus on breastfeeding interventions aimed at enhancing breast milk production and supporting lactating mothers. It includes key details such as the study location, research setting, target population, sample size, research type, and study design. The studies vary from clinical trials and quasi-experiments to community empowerment programs and health education efforts. This consolidated overview highlights the diversity of approaches, settings, and methodologies

used to investigate factors that influence breastfeeding outcomes and maternal health, particularly the use of local herbal remedies, educational strategies, and community-based support systems.

Table 1
Summary of Research Characteristics on Breastfeeding Interventions and Lactation Support in Indonesia

Author & Year	Objective	Main Findings	Conclusion
Dahlia & Maisura (2021)	To examine the effect of Moringa leaf administration on breast milk production	Breast milk production significantly increased in intervention group	Moringa leaves are effective in increasing breast milk production
Fitriana Ritonga et al. (2017)	To determine the effect of black cumin consumption on breastfeeding smoothness	Significant difference in breastfeeding smoothness before and after consuming black cumin	Black cumin is effective in facilitating lactation
Jenni Sibarani (2024)	To analyze the effect of lactation massage and katuk leaf extract on breast milk output	Both interventions increased milk output; no significant difference between groups	Both katuk leaf extract and lactation massage are effective for increasing milk production
Henik Istikhomah & Syefira A. Johar (2014)	To assess breastfeeding mothers' knowledge of katuk leaves based on age, education, and parity	62% of mothers had moderate knowledge about katuk leaves	Knowledge level is moderate; indicates a need for health education
Yosefa S. Atok & Mery F. Tumeluk (2021)	To investigate the relationship between Moringa leaf intake and breast milk production	Moringa leaf consumption had a significant effect on milk production ($p=0.009$)	Moringa effectively increased milk output in the intervention group
Juliastuti (2019)	To determine differences in the effectiveness of sweet leaf decoction and extract on breast milk adequacy	Both decoction and extract effective; decoction showed more infant weight gain ($p = 0.000$)	Sweet leaf decoction is more effective in increasing breast milk adequacy
Suyanti & Anggraeni (2020)	To assess the effectiveness of sweet leaf on breast milk adequacy in breastfeeding mothers	Significant increase in breast milk adequacy from 6.80 to 8.47 in the intervention group	Sweet leaf effectively improves breast milk adequacy
Arisandi, Maimunah & Suryantara (2025)	To analyze the difference between black cumin and moringa leaves consumption on smoothness of breast milk production	No significant difference ($p = 0.373$); both equally improve breast milk production	Both black cumin and moringa leaves contribute equally to improving milk production
Yanti et al. (2022)	To educate mothers and families on the use of herbal medicine to improve breast milk production	75% participants understood the material; high interest in herbal methods	Herbal education improved awareness of local plant use to boost breast milk
Erlanda et al. (2021)	To determine the effect of katuk leaf extract on breast milk production	Significant difference found ($p=0.001$) in milk production with katuk extract	Katuk extract significantly improves breast milk production
Febriani et al. (2022)	To educate breastfeeding mothers on the use and benefits of toga plants to enhance breast milk	Mothers showed improved knowledge and understanding of toga herbs	Participants positively received toga plant education and seed distribution
Purwati R. & Henny D.W. (2021)	To empower posyandu members through knowledge and skills in processing katuk leaves into snacks to support maternal health	100% participants gained knowledge of katuk benefits and business opportunity of katuk snacks; R/C = 1.3, profit Rp. 30,654 per production cycle	Katuk leaf sticks are feasible as a business and helpful for ASI enhancement
Yulianingsih et al. (2024)	To empower communities in increasing breast milk production by optimizing the use of herbal ASI plants (TOGA)	Knowledge improved from 2.3% (good) to 86.6%, willingness from 13.4% to 82.3% post-counseling	Herbal ASI education significantly improves knowledge and willingness for its use
Handoyo et al. (2024)	To educate mothers on herbal preparation (powder) to improve breast milk production	100% participants acknowledged benefit of traditional herbs for breastfeeding	Traditional herbal powder training increases knowledge of ASI enhancement
Nurviana & Ruswanto (2022)	To increase knowledge about herbal immunomodulators via social media	90% willing to consume immunomodulators; 68% had good understanding post-program	Social media is effective to promote herbal knowledge
Sumarni & Anasari (2022)	To identify the most common herbal plants used by breastfeeding mothers	Majority used herbs like turmeric, katuk, cumin, papaya, banana flower	High prevalence of herbal use among lactating women
Kumiawati (2017)	To assess relationship between jamu gepyok and milk production	No significant relationship ($p = 0.468 > 0.05$)	No evidence that jamu gepyok increases ASI
Soka et al. (2023)	To increase understanding and awareness of galactagogue use	Improved knowledge and confidence to use herbal galactagogues	Galactagogue education improves breastfeeding support
Hasanatulhidayah et al. (2021)	To increase community awareness on postpartum care using traditional herbs	Increased knowledge and willingness to use traditional jamu	Knowledge gain on postpartum care and cultural herb revival
Pratama & Destrianzi (2024)	To increase knowledge of using Moringa and banana blossom as ASI boosters	Participants showed improved knowledge and were enthusiastic	Local herbs can be used to increase ASI knowledge and perceived supply
Oktafianti et al. (2022)	To test the effectiveness of almond-moringa smoothies in increasing ASI volume	76.7% of mothers experienced milk output > 100 ml/day; significant p -value < 0.05	Smoothies significantly improved breast milk quantity
Hidana (2018)	To analyze the effect of date extract supplementation on infant nutritional status	Group with dates extract improved z -score (weight for age)	Date extract helped increase weight-for-age index
Putriningtyas & Hidana (2016)	To compare infant weight gain between date extract and non-date extract groups	Significant weight gain in infants receiving date extract ($p = 0.001$)	Dates can help increase infant weight during breastfeeding
Safitri et al. (2021)	To assess the effect of katuk extract on breast milk production	Significant increase in milk production ($p < 0.001$) with katuk extract	Katuk extract effectively enhances lactation

Table 2
Summary of Objectives, Findings, and Conclusions

Author & Year	Objective	Main Findings	Conclusion
Dahlia & Maisura (2021)	To examine the effect of Moringa leaf administration on breast milk production	Breast milk production significantly increased in intervention group	Moringa leaves are effective in increasing breast milk production
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Juliastuti (2019)	To determine differences in the effectiveness of sweet leaf decoction and extract on breast milk adequacy	Both decoction and extract effective; decoction showed more infant weight gain ($p = 0.000$)	Sweet leaf decoction is more effective in increasing breast milk adequacy
Suyanti & Anggraeni (2020)	To assess the effectiveness of sweet leaf on breast milk adequacy in breastfeeding mothers	Significant increase in breast milk adequacy from 6.80 to 8.47 in the intervention group	Sweet leaf effectively improves breast milk adequacy
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Febriani et al. (2022)	To educate breastfeeding mothers on the use and benefits of toga plants to enhance breast milk	Mothers showed improved knowledge and understanding of toga herbs	Participants positively received toga plant education and seed distribution
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Handoyo et al. (2024)	To educate mothers on herbal preparation (powder) to improve breast milk production	100% participants acknowledged benefit of traditional herbs for breastfeeding	Traditional herbal powder training increases knowledge of ASI enhancement
Nurviana & Ruswanto (2022)	To increase knowledge about herbal immunomodulators via social media	90% willing to consume immunomodulators; 68% had good understanding post-program	Social media is effective to promote herbal knowledge
Sumarni & Anasari (2022)	To identify the most common herbal plants used by breastfeeding mothers	Majority used herbs like turmeric, katuk, cumin, papaya, banana flower	High prevalence of herbal use among lactating women
Kurniawati (2017)	To assess relationship between jamu gepyok and milk production	No significant relationship ($p = 0.468 > 0.05$)	No evidence that jamu gepyok increases ASI
Soka et al. (2023)	To increase understanding and awareness of galactagogue use	Improved knowledge and confidence to use herbal galactagogues	Galactagogue education improves breastfeeding support
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Hidana (2018)	To analyze the effect of date extract supplementation on infant nutritional status	Group with dates extract improved z-score (weight for age)	Date extract helped increase weight-for-age index
Putriningtyas & Hidana (2016)	To compare infant weight gain between date extract and non-date extract groups	Significant weight gain in infants receiving date extract ($p = 0.001$)	Dates can help increase infant weight during breastfeeding
Safitri et al. (2021)	To assess the effect of katuk extract on breast milk production	Significant increase in milk production ($p < 0.001$) with katuk extract	Katuk extract effectively enhances lactation

Table 2 provides a structured overview of 25 studies examining various interventions to support and enhance breast milk production (ASI) among breastfeeding mothers in Indonesia. Each study is summarized by its primary objective, key findings, and conclusions. The interventions analyzed include the use of herbal remedies (such as Moringa, katuk, black cumin, dates), traditional practices (like lactation massage and jamu), and health education efforts at the individual, family, and community levels. The studies span both clinical and community-based settings, offering insights into the effectiveness and acceptability of diverse approaches to improving lactation outcomes.

From the **Table 2**, it is evident that herbal-based interventions—particularly Moringa leaves, katuk extract, sweet leaf, and date extracts—consistently showed positive effects on milk production or infant nutritional status. Meanwhile, educational programs significantly improved maternal knowledge and attitudes toward herbal galactagogues and traditional health practices. Notably, some studies highlighted the feasibility of integrating these interventions into small-scale entrepreneurship (e.g., katuk snacks) and digital education (e.g., via social media). However, a few studies also reported non-significant results, emphasizing the importance of context-specific evaluations and the need for further rigorous trials to validate the findings across wider populations.

In Indonesia, the usage of herbal medicine among pregnant women demonstrates distinct patterns and preferences shaped by cultural, social, and economic factors. Predominantly, ginger and garlic are recognized as the most commonly used herbal remedies, with research indicating that these herbs are believed to alleviate nausea and may prevent complications such as preeclampsia Saleh et al. (2022)(Elba et al., 2022). Other herbs frequently utilized include Tenaadam and Telba, highlighting regional variations in herbal preferences that correspond to local agricultural practices and accessibility (Addis et al., 2021).

Socioeconomic status profoundly influences herbal medicine use, with lower-income pregnant women exhibiting a higher propensity to rely on herbal treatments compared to their higher-income counterparts. This trend is often attributed to factors such as affordability and accessibility to healthcare, as well as cultural beliefs surrounding the safety of herbal remedies during pregnancy (Debela et al., 2022). Furthermore, many pregnant women often have pre-existing habits of consuming herbal products, which contribute to their acceptance and reliance on traditional remedies throughout their pregnancy (Elba et al., 2022).

Religious beliefs also play a significant role in shaping attitudes toward herbal medicine, where certain herbal practices are intertwined with spiritual or cultural significance, making them preferable during pregnancy (Debela et al., 2022). A systematic exploration of various studies indicates that a substantial majority of pregnant women in Indonesia, and in other regions, exhibit favorable attitudes towards herbal remedies, citing safety, cultural familiarity, and prior positive experiences as motivating factors for their use (Bouquoui et al., 2023). Consequently, education on the proper and safe use of these remedies is crucial, particularly in light of potential risks associated with unregulated herbal treatments (Elba et al., 2022).

The use of herbal medicine during pregnancy is prevalent among women across various cultures, including Indonesia, and is associated with both positive health outcomes and potential risks. Many pregnant women utilize herbal remedies to manage common pregnancy-related symptoms such as nausea, vomiting, and abdominal pain, as well as to enhance overall well-being Alkhaldi & Alkhamash (2023)(Elba et al., 2022). Some studies indicate that herbal medicines may provide relief from discomfort and improve maternal health, thereby promoting a sense of wellness during pregnancy (Elba et al., 2022). For instance, ginger is widely recognized for its efficacy in alleviating nausea (Elba et al., 2022), while garlic is reputed to have potential benefits, such as helping to prevent hypertensive conditions like preeclampsia (Elba et al., 2022).

However, the safety of herbal medicine use is a crucial concern, particularly because of the lack of formal regulation and the variability in herbal preparation and dosage. Adverse outcomes have been reported, including risks of uterine rupture, fetal distress, and increased maternal complications (Makombe et al., 2023). The dangers associated with herbal remedies may increase when pregnant women use them alongside conventional treatments, potentially leading to harmful interactions (Makombe et al., 2023). Additionally, first-time mothers may be more vulnerable to using

unverified herbal remedies due to a lack of experience and reliance on familial recommendations, which can introduce uncertainty regarding safety and efficacy (Muteebwa et al., 2021).

Despite these risks, many women continue to prefer herbal medicine, believing it to be more natural and safer than pharmaceutical options due to cultural perceptions and historical use (MAKHAPILA et al., 2022; Sumankuuro et al., 2022). Thus, while herbal medicine can provide symptomatic relief and support maternal health, it is essential for healthcare providers to educate pregnant women about the potential risks associated with their use and encourage informed decision-making regarding herbal remedies (Elba et al., 2022).

The decision-making process regarding herbal medicine use during pregnancy among women is influenced by various knowledge sources and social dynamics. Pregnant women often seek out and rely on familial and community advice when considering herbal remedies, making subject matter expertise from relatives vital in shaping their choices (Elba et al., 2022; Karimian et al., 2021). This reliance highlights a broader pattern where many women feel that herbal products are not only safer but also more culturally acceptable compared to conventional medicines (Debela et al., 2022)(Saleh et al., 2022). Consequently, they may prioritize information from family members, friends, and neighbors over healthcare professionals, who are frequently viewed as less influential due to a gap in patient-provider communication regarding herbal remedies (Durmaz & Kakaşçı, 2024; Mudonhi & Nunu, 2022).

Moreover, women's perceptions of the efficacy and safety of herbal medicines are nurtured by traditional practices passed down through generations, promoting a sense of confidence in their use (Debela et al., 2022). Cultural familiarity and historical reliance on herbal treatments foster a sense of assurance that can overshadow concerns over potential risks — a tendency noted across various studies (Saleh et al., 2022). Additionally, awareness about the significance of different pregnancy stages influences their choices; however, many women remain unaware that the first trimester is critical in fetal development (Elba et al., 2022; (Addis et al., 2021).

Another significant determinant in the decision-making process is the socio-economic status of individuals, which often correlates with access to information and healthcare resources (Addis et al., 2021). Lower-income women in rural areas may perceive herbal remedies as more accessible and affordable alternatives, which contributes to a higher incidence of their use during pregnancy (Saleh et al., 2022). In summary, the knowledge sources and decision-making influences for using herbal medicine during pregnancy are deeply rooted in social networks, cultural values, and individual perceptions of safety and efficacy.

Digital media plays a crucial role in health interventions by enhancing accessibility, engagement, and effectiveness of health communication strategies. Social media platforms facilitate real-time communication, enabling the rapid dissemination of health information while simultaneously providing opportunities to monitor public responses and counter misinformation (Moorhead et al., 2013; Nizam et al., 2021). The application of Digital Media Interventions (DMHIs) has been particularly impactful in addressing mental health challenges among adolescents, with studies showing improvements in mental health outcomes through their use (Choirunissa et al., 2023; Friis et al., 2021). Moreover, digital technologies enable the tailoring of public health messages, creating a more personalized approach to health promotion that has been shown to increase participant engagement and intervention reach (Ollier et al., 2021; Rivera-Romero et al., 2022). However, there remain concerns regarding digital inequities that can hinder the effectiveness of such interventions, underscoring the need for inclusive approaches that bridge gaps in digital literacy and access (Jafar et al., 2024).

CONCLUSION

This review examined 24 studies related to herbal medicine use and digital media narratives, and 25 studies evaluating interventions to improve breast milk production among breastfeeding mothers in Indonesia. The findings reveal that herbal-based remedies—particularly Moringa leaves, katuk extract, sweet leaf, and dates—are widely accepted and frequently used to support lactation, with most studies reporting beneficial effects on milk volume and infant nutrition. In parallel,

educational interventions demonstrated strong impacts in improving maternal awareness and positive attitudes toward the use of herbal galactagogues, with increasing integration into digital platforms and community-based support structures.

The review also highlights a growing interest in embedding local health knowledge into entrepreneurial and digital outreach strategies, expanding the accessibility and appeal of traditional remedies. However, some interventions yielded mixed or inconclusive results, underscoring the need for more context-sensitive research designs and larger-scale randomized trials. Public health efforts should emphasize the integration of evidence-based herbal practices with maternal education and digital engagement, particularly in rural and underserved areas, to improve breastfeeding outcomes and maternal well-being.

This study contributes to the expanding field of culturally contextualized maternal health strategies, particularly within the Indonesian context. Future research should prioritize longitudinal assessments, safety evaluations of herbal remedies during lactation, and the development of scalable health education models that respect and leverage traditional knowledge while aligning with modern public health standards.

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