



Changes in lactation scores following hypnobreastfeeding, oxytocin massage, katuk leaf (*Sauropus androgynus*) consumption, or standard care among postpartum women

Perubahan skor laktasi setelah hypnobreastfeeding, pijat oksitosin, konsumsi daun katuk (Sauropus androgynus), atau perawatan standar pada ibu pascapersalinan

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Article History:

Received: July 30, 2026; Revised: August

31, 2026; Accepted: September 11, 2026;

Published: September 15, 2026.

Publisher:



Politeknik Kesehatan Aceh
Kementerian Kesehatan RI

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Abstract

Exclusive breastfeeding remains suboptimal, and concerns regarding insufficient milk production may contribute to early breastfeeding discontinuation. Hypnobreastfeeding, oxytocin massage, and katuk leaf (*Sauropus androgynus*) consumption have been proposed as supportive approaches to lactation, although comparative evidence remains limited. This study aimed to compare the changes in lactation scores among postpartum women receiving these interventions or standard postnatal care. Methods: An exploratory non-randomized quasi-experimental study was conducted at the Independent Midwifery Practice (IMP) Eneng Nurasiah, Bogor, from May to June 2026. Twenty postpartum women were purposively recruited and allocated into four groups (n=5 each): hypnobreastfeeding, oxytocin massage, katuk leaf consumption, and standard postnatal care. The interventions were provided for seven days. Lactation was assessed before and after the intervention using a 12-item checklist. Changes in scores were analyzed using the Kruskal-Wallis test, followed by Holm-adjusted Dunn pairwise comparisons. Results: Lactation score changes differed significantly across groups ($H=17.748$; $p<0.001$; $\epsilon^2=0.92$). Significant pairwise differences were observed between hypnobreastfeeding and oxytocin massage ($p=0.045$), hypnobreastfeeding and standard care ($p<0.001$), and katuk leaf consumption and standard care ($p=0.045$). In conclusion, hypnobreastfeeding and katuk leaf consumption showed greater short-term improvements in lactation scores than standard care in selected comparisons. These findings should be interpreted as preliminary because of the small sample size and non-randomized design.

Keywords: Breast feeding, hypnosis, lactation, massage, postpartum period

Abstrak

Pemberian ASI eksklusif masih belum optimal, dan kekhawatiran terhadap produksi ASI yang tidak mencukupi dapat menyebabkan penghentian menyusui lebih dini. Hypnobreastfeeding, pijat oksitosin, dan konsumsi daun katuk (*Sauropus androgynus*) telah digunakan sebagai pendekatan untuk mendukung laktasi, tetapi bukti yang membandingkan ketiganya masih terbatas. Penelitian ini bertujuan membandingkan perubahan skor laktasi pada ibu pascapersalinan yang memperoleh ketiga intervensi tersebut atau perawatan nifas standar. Metode, penelitian kuasi-eksperimental eksploratif nonacak dilakukan di Bidan Praktik Mandiri (BPM) Eneng Nurasiah, Bogor, pada Mei-Juni 2026. Sebanyak 20 ibu pascapersalinan direkrut secara purposif dan dibagi menjadi empat kelompok (masing-masing n=5):

hypnobreastfeeding, pijat oksitosin, konsumsi daun katuk, dan perawatan nifas standar. Intervensi diberikan selama tujuh hari. Laktasi dinilai sebelum dan sesudah intervensi menggunakan lembar observasi 12 butir. Perubahan skor dianalisis menggunakan uji Kruskal-Wallis dan dilanjutkan dengan uji Dunn berkoreksi Holm. Hasil, perubahan skor laktasi berbeda bermakna antarkelompok ($H=17,748$; $p<0,001$; $\epsilon^2=0,92$). Perbedaan bermakna ditemukan antara hypnobreastfeeding dan pijat oksitosin ($p=0,045$), hypnobreastfeeding dan perawatan standar ($p<0,001$), serta konsumsi daun katuk dan perawatan standar ($p=0,045$). Kesimpulan, hypnobreastfeeding dan konsumsi daun katuk menunjukkan peningkatan skor laktasi jangka pendek yang lebih besar dibandingkan perawatan standar pada beberapa perbandingan. Temuan ini masih bersifat awal karena jumlah sampel kecil dan desain penelitian nonacak.

Kata Kunci: Hipnosis, laktasi, masa pascapersalinan, menyusui, pijat

Introduction

Breastfeeding is fundamental to infant nutrition, growth, and health, and the World Health Organization recommends exclusive breastfeeding during the first six months of life. In 2024, approximately 48% of infants younger than six months worldwide were exclusively breastfed, indicating that substantial gaps remain in optimal breastfeeding practices and postpartum lactation support (World Health Organization, 2026). In Indonesia, national program data for 2023 reported exclusive breastfeeding coverage of 63.9%, while coverage in West Java reached 67.2%, both exceeding the national program target of 50% for that year (Kementerian Kesehatan Republik Indonesia, 2024). Despite these achievements, breastfeeding difficulties during the early postpartum period may compromise continued breastfeeding and warrant accessible and culturally appropriate supportive strategies.

One commonly reported concern is perceived insufficient milk supply, defined as a mother's perception that her milk production is inadequate to meet her infant's needs, regardless of whether objectively low milk production is present. Lactation is influenced by interacting physiological, psychological, behavioral, and social factors, including milk ejection responses, maternal stress, breastfeeding confidence, feeding frequency, and postnatal support. Accordingly, several interventions have been investigated as adjuncts to routine breastfeeding care, including relaxation-based approaches, massage, stress management counseling, motivational support, and structured breastfeeding education (Astuti et al., 2024; Azizi et al., 2020; Cangöl & Şahin,

2017; Çetindemir & Cangöl, 2024; Franco-Antonio et al., 2021; Kundarti, 2025; Naroe et al., 2020; Wulandari et al., 2020). Prolactin and oxytocin are central to lactation physiology, with prolactin supporting milk synthesis and oxytocin facilitating milk ejection reflex. However, changes in these hormonal pathways cannot be inferred from observational lactation scores unless the hormone concentrations are measured directly. Studies incorporating hormonal assessments suggest that interventions involving emotional management and massage may be associated with changes in prolactin and oxytocin levels, although such mechanisms require direct confirmation in each study (Astuti et al., 2024).

Relaxation and mind-body approaches have been increasingly examined as potential supportive strategies for breastfeeding. Randomized studies on relaxation interventions have assessed maternal stress, lactation-related outcomes, and infant growth, with findings varying across populations, intervention protocols, and outcome measures (Dabas et al., 2019; Dib et al., 2022; Mohd Shukri et al., 2019; Yu et al., 2023). Progressive muscle relaxation has also been investigated in relation to breastfeeding self-efficacy (Karbandi et al., 2017). Hypnobreastfeeding, which incorporates relaxation, focused attention, and positive suggestions, has also been proposed to support the maternal breastfeeding experience (Gökçe İsbir & Alus Tokat, 2024). Previous studies have reported favorable changes in lactation-related outcomes following hypnobreastfeeding or related relaxation approaches, although methodological heterogeneity limits definitive interpretations (Sari et al., 2017; Septianingrum, 2022).

Oxytocin massage is another non-pharmacological approach intended to promote maternal relaxation and support breastfeeding. Experimental and quasi-experimental studies have examined the relationship between these factors and lactation measures, milk production, maternal stress, and other breastfeeding-related outcomes (Anbarasi et al., 2023; Dağlı & Çelik, 2022; Kundarti, 2025; Ramezani et al., 2023; Triansyah et al., 2021; Wulandari et al., 2020). Katuk (*Sauropus androgynus*) is widely recognized in Indonesia as a traditional galactagogue. The use of herbal galactagogues among breastfeeding women has been documented in Indonesia, and human studies on katuk preparations, together with experimental animal research, have reported changes in lactation-related outcomes (Marsaulina et al., 2022; Ngadiarti et al., 2021; Suyanti & Anggraeni, 2020; Triandini et al., 2023). However, the intervention formulations, dosages, durations, populations, and outcome measures varied considerably across studies.

Hypnobreastfeeding, oxytocin massage, and katuk consumption represent three conceptually distinct complementary approaches: psychological support through relaxation and suggestion, manual stimulation through massage, and dietary support through traditional galactagogues. However, direct comparative evidence using a common outcome framework is limited. Existing studies often differ in terms of design, intervention protocols, comparator conditions, and outcome definitions, and many involve relatively small or non-randomized samples. Therefore, comparing these approaches within the same clinical setting may provide useful exploratory evidence regarding the patterns of lactation-related changes without implying definitive comparative effectiveness. In the present study, a 12-item observational lactation score was used as a pragmatic common outcome; this measure reflects observable lactation-related indicators rather than directly measuring milk volume.

This study aimed to compare pre- and post-intervention changes in observed lactation scores among postpartum women receiving hypnobreastfeeding, oxytocin massage, katuk leaf consumption, or standard postnatal care at BPM Eneng Nurasiah, Bogor, in 2026. Given the exploratory, nonrandomized design, the four-group omnibus comparison was considered the

primary analysis, and pairwise comparisons were treated as secondary exploratory analyses.

Methods

Study Design and Setting

This exploratory, nonrandomized quasi-experimental study used a four-group pretest-posttest design with a standard care comparison group. The study was conducted at the Eneng Nurasiah Independent Midwifery Practice, Mekarwangi Village, Tanah Sareal District, Bogor City, Indonesia, from May to June 2026.

No a priori sample size calculation was performed. During the study period, 20 eligible postpartum women were recruited and assigned to four groups of five participants each: hypnobreastfeeding, oxytocin massage, katuk leaf consumption, and standard postnatal care. Because no reproducible random allocation sequence or allocation concealment procedure was documented, group assignment was considered non-randomized. The same eligibility criteria, assessment instruments, assessment schedules, and general study procedures were applied across all groups.

Participants

Participants were recruited through purposive sampling. Eligible participants were postpartum women 3–7 days after delivery who reported perceived insufficient milk supply, had infants capable of direct breastfeeding, were not using pharmacological lactation-enhancing agents, were physically able to participate, and agreed to complete the study. Perceived insufficient milk supply was determined from maternal self-reports during screening and was not based on an objectively measured breast milk volume threshold.

The exclusion criteria were as follows: severe postpartum maternal complications requiring referral or intensive medical treatment; breast conditions that substantially interfered with breastfeeding; neonatal congenital or medical conditions preventing direct breastfeeding; use of additional pharmacological or herbal lactation-enhancing products during the intervention period; failure to complete the assigned intervention or postintervention assessment; and withdrawal of consent before study completion.

Hypnobreastfeeding Intervention

Participants assigned to the hypnobreastfeeding group received guided relaxation and positive breastfeeding affirmations intended to promote maternal relaxation and breastfeeding confidence. The mothers were comfortably positioned in a quiet environment. Each session began with slow deep breathing exercises, followed by progressive relaxation. Positive suggestions focused on calmness, confidence in breastfeeding, adequate lactation, and successful breastfeeding were provided.

Each session lasted approximately 15–20 min and was conducted once daily for seven consecutive days. The participants were also encouraged to independently repeat positive affirmations before breastfeeding. The available study documentation did not specify facilitator qualifications, the use of a standardized script or audio recording, or formal intervention fidelity procedures.

Oxytocin Massage Intervention

Participants in the oxytocin massage group received a structured back massage intended to support relaxation and the physiological milk-ejection response. The participants were seated comfortably and leaned slightly forward. Massage was applied bilaterally along the paravertebral region from the upper thoracic area to the lower scapular region using gentle circular and downward movements while avoiding excessive pressure.

Each session lasted approximately 10–15 minutes and was administered once daily for seven consecutive days by trained midwifery personnel, using the same general procedural sequence. The study documentation did not specify the provider training curriculum, quantified pressure standard, formal fidelity checklist, or whether the same provider treated all participants.

Katuk Leaf Intervention

Participants in the katuk leaf group received katuk (*Sauropus androgynus*) as a complementary dietary intervention. Fresh katuk leaves were cleaned and prepared as cooked vegetables, and the participants consumed approximately 100 g of cooked katuk leaves per day for seven consecutive days.

Participants were instructed to maintain their usual diet and breastfeeding patterns and

to avoid other herbal or pharmacological lactation-enhancing products during the intervention period. The 100-g portion referred to the cooked serving size. The study documentation did not provide details regarding standardized leaf sourcing, precooking weight, independent verification of consumption, or a detailed assessment of background dietary intake.

Standard-Care Group and Intervention Adherence

Participants in the comparison group received routine postpartum and breastfeeding care at the Eneng Nurasiah Independent Midwifery Practice. Standard care included breastfeeding education, guidance on breastfeeding positioning and attachment, and routine maternal-neonatal monitoring. Participants in this group did not receive any hypnobreastfeeding, oxytocin massage, or katuk leaf supplementation.

Participants in the three intervention groups continued to receive routine postpartum and breastfeeding care, in addition to their assigned interventions. Provider contact time was not standardized across the groups. Intervention adherence was monitored using daily intervention records. Protocol completion required completion of the assigned seven-day intervention period and post-intervention assessment.

Outcome Measure

The primary outcome was the change in the observed lactation score from baseline to the end of the seven-day intervention period. Lactation was assessed using a structured 12-item breastfeeding and lactation observation sheet, with a total possible score ranging from 12 to 48. Each item was rated on a four-point scale, with higher total scores indicating more favorable breastfeeding and lactation indicators. The total score was analyzed as a continuous variable in this study.

The instrument includes observable indicators related to breast condition and milk flow, infant sucking and swallowing behavior, breastfeeding frequency, infant satisfaction after feeding, and other signs associated with lactation adequacy. The same instrument and scoring procedure were used before the first intervention and after the completion of the seven-day intervention period.

The available documentation did not identify a published validation source, complete item anchors, quantitative content validity results, internal consistency estimates, assessor blinding, or interrater reliability. Accordingly, the score was interpreted as a composite measure of observed lactation-related performance rather than a direct measurement of breast milk volume.

Statistical Analysis

The participant characteristics and lactation scores were summarized descriptively. The primary analytical outcome was the individual change in the lactation score, calculated as the post-intervention score minus the pre-intervention score.

Because each group included only five participants, between-group comparisons of the change scores were conducted using rank-based methods. Overall differences among the hypnobreastfeeding, oxytocin massage, katuk leaf consumption, and standard care groups were assessed using the Kruskal–Wallis test. Tied observations were assigned average ranks, and a standard tie correction was applied.

When the Kruskal–Wallis test indicated an overall statistically significant difference, pairwise comparisons were performed using Dunn's post-hoc test with Holm adjustment for multiple comparisons. Epsilon-squared was calculated as follows:

$$\varepsilon^2 = \frac{H - k + 1}{n - k}$$

Where H represents the Kruskal–Wallis statistic, k the number of groups, and n the total sample size. All tests were two-sided, and statistical significance was set at $p < 0.05$. Values reported by the statistical output as $p = 0.000$ are presented as $p < 0.001$. The statistical software and version used for the original analysis were not documented in the article.

Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Committee of STIKes Abdi Nusantara (approval no. 121/KEPK/ADM/STIKES-AN/III/2026). All participants received information regarding the

study procedures and provided written informed consent before participating.

Result and Discussion

Participant Characteristics

Twenty postpartum women were included in the study, with five participants assigned to each of the four groups: hypno-breastfeeding, oxytocin massage, katuk leaf consumption, and standard postnatal care. All 20 participants completed the post-intervention assessment and were included in the analysis.

Among the participants, 18 (90.0%) were aged 20–35 years, and 2 (10.0%) were older than 35 years. Fourteen participants (70.0%) were on postpartum days 3–4, whereas six (30.0%) were on postpartum days 5–7. The reported baseline mean lactation score was 24.60 ± 0.89 for all four groups. However, because allocation was non-randomized and group-specific information on potentially relevant maternal and infant characteristics was unavailable, comparability across groups could not be established beyond the observed baseline lactation score.

Table 1. Baseline characteristics of participants (n = 20)

Characteristic	n	%
Age		
20–35 years	18	90
>35 years	2	10
Postpartum		
Postpartum days 3–4	14	70
Postpartum days 5–7	6	30
Intervention		
Hypnobreastfeeding	5	25
Oxytocin massage	5	25
Katuk leaf consumption	5	25
Standard-care	5	25

Changes in Observed Lactation Scores

The mean pre-test lactation score was 24.60 for all four groups. After the seven-day intervention period, the mean scores increased to 45.00, 41.00, 39.00, and 30.00 in the hypnobreastfeeding, katuk leaf, oxytocin massage, and 30.00 in the standard-care group, respectively. The corresponding mean changes were 20.40, 16.40, 14.40, and 5.40 points.

Table 2. Observed lactation scores before and after the intervention by study group

Group	Pretest score, Mean $\pm$ SD	Posttest score, Mean $\pm$ SD	Change (Δ)
Hypnobreastfeeding	24.60 $\pm$ 0.89	45.00 $\pm$ 1.58	20.40
Oxytocin Massage	24.60 $\pm$ 0.89	39.00 $\pm$ 1.58	14.40
Katuk Leaf Consumption	24.60 $\pm$ 0.89	41.00 $\pm$ 1.58	16.40
Control	24.60 $\pm$ 0.89	30.00 $\pm$ 1.58	5.40

Note: The outcome was a 12-item observational score (range, 12–48), not a direct measurement of the milk volume. Values are reported as mean $\pm$ SD; Δ = posttest – pretest values.

Between-Group Comparison of Change Scores

The Kruskal–Wallis test indicated a statistically significant difference in the change score distributions among the four groups, $H(3) = 17.748, p < 0.001$. The mean ranks were 18.00 for hypnobreastfeeding, 12.70 for katuk leaf consumption, 8.30 for oxytocin massage, and 3.00 for standard care. The estimated epsilon-squared effect size was $\varepsilon^2 = 0.92$. Given the very small group size, this estimate should be interpreted cautiously, rather than as a precise population effect.

Holm-adjusted Dunn post hoc comparisons showed statistically significant differences between the hypnobreastfeeding and oxytocin massage groups ($p = 0.0447$), the hypnobreastfeeding and standard care groups ($p < 0.001$), and the katuk leaf consumption and standard care groups ($p = 0.0447$). No statistically significant differences were observed between hypnobreastfeeding and katuk leaf consumption, oxytocin massage and katuk leaf consumption, or oxytocin massage and standard care (all adjusted $p = 0.4596$).

Table 3. Kruskal–Wallis comparison of lactation-score changes across groups

Group	n	Mean Change	Mean Rank	H (df=3)	p-value
Hypnobreastfeeding	5	20.40	18.00	17.748	<0.001
Oxytocin Massage	5	14.40	8.30		
Katuk Leaf Consumption	5	16.40	12.70		
Control	5	5.40	3.00		

Table 4. Dunn pairwise comparisons with Holm-adjusted p values

Group Pair	Dunn z	Raw p-value	Holm-adjusted p-value
Hypnobreastfeeding vs Oxytocin Massage	2.614	0.0089	0.0447
Hypnobreastfeeding vs Katuk Leaf Consumption	1.428	0.1532	0.4596
Hypnobreastfeeding vs Control	4.043	<0.001	<0.001
Oxytocin Massage vs Katuk Leaf Consumption	-1.186	0.2357	0.4596
Oxytocin Massage vs Control	1.428	0.1532	0.4596
Katuk Leaf Consumption vs Control	2.614	0.0089	0.0447

Note: z = Dunn’s test statistic. Raw p-values were two-sided, and multiplicity was controlled using the Holm adjustment.

Overall, hypnobreastfeeding showed the largest descriptive increase in the lactation scores. However, it did not differ significantly from katuk leaf consumption, and the oxytocin massage did not differ significantly from the standard care. Therefore, the rank ordering of mean changes should not be interpreted as evidence that all interventions differed from each other.

This exploratory study compared changes in lactation scores among postpartum women receiving hypnobreastfeeding, oxytocin massage, katuk leaf consumption, or standard postnatal care. The overall distribution of the change scores differed significantly across the

four groups. Pairwise analyses indicated greater score changes for hypnobreastfeeding than for oxytocin massage and standard care, and for katuk leaf consumption than for the standard care. In contrast, hypnobreastfeeding did not differ significantly from katuk leaf consumption, and oxytocin massage did not differ significantly from standard care. These findings should be interpreted as preliminary because of the small sample size and nonrandomized allocation.

The largest descriptive increase was observed in the hypnobreastfeeding group. This pattern is broadly consistent with previous studies reporting favorable lactation-related outcomes after hypnobreastfeeding or related

relaxation approaches (Sari et al., 2017; Septianingrum 2022). Randomized studies of relaxation-based interventions during breastfeeding have also reported improvements in maternal psychological outcomes and, in some settings, milk-related outcomes or infant growth, although the findings have varied according to population, intervention protocol, and outcome measurement (Dabas et al., 2019; Dib et al., 2022; Mohd Shukri et al., 2019; Yu et al., 2023). More recent evidence among mothers of very preterm infants has shown limited effects on milk quantity, further illustrating this heterogeneity (Levene et al., 2025).

A potential explanation is that relaxation-oriented approaches may help reduce psychological barriers to breastfeeding and support maternal confidence and breastfeeding experience. This interpretation is indirectly supported by studies on hypnobreastfeeding, emotional management, and relaxation interventions (Astuti et al., 2024; Gökçe İsbir & Alus Tokat, 2024; Karbandi et al., 2017). However, the present study did not assess maternal stress or anxiety, prolactin, oxytocin, or the objectively measured milk volume. Consequently, psychological, neuroendocrine, or milk production mechanisms cannot be established from the observed score changes. The postintervention mean of 45.00 in the hypnobreastfeeding group was also close to the maximum possible score of 48, suggesting that a ceiling effect may have limited the ability of the instrument to discriminate among participants with high post-intervention scores.

The oxytocin massage group showed a larger descriptive increase than the standard care group, but the adjusted pairwise difference was not statistically significant. This finding differs from those of several previous studies in which oxytocin massage or related massage interventions were associated with favorable changes in lactation, milk production, maternal stress, or breastfeeding-related outcomes (Anbarasi et al., 2023; Dağlı & Çelik, 2022; Kilci Erciyas & Kavlak, 2024; Kundarti, 2025; Ramezani et al., 2023; Triansyah et al., 2021; Wulandari et al., 2020). Differences in sample size, massage protocol, duration, provider contact, outcome measurement, and postpartum timing may partly explain these inconsistent findings. The natural progression of lactogenesis during the first postpartum week may also have

contributed to the increase in scores in all groups. Given the absence of a statistically significant contrast with standard care, the present data do not establish the comparative benefit of oxytocin massage.

Katuk leaf consumption showed the second-largest descriptive increase and differed significantly from the standard care, although it did not differ significantly from the hypnobreastfeeding group. Previous human studies on katuk preparations have reported favorable lactation-related outcomes; however, considerable variations exist in terms of dosage, preparation, intervention duration, and outcome assessment (Marsaulina et al., 2022; Suyanti & Anggraeni, 2020). Experimental research also provides biological plausibility for katuk-containing preparations, although animal findings cannot be directly extrapolated to clinical breast milk production in postpartum women (Ngadiarti et al., 2021). In the present study, background dietary intake was not standardized, adherence was not independently verified in detail, and the outcome represented an observational score rather than a directly measured milk volume. Therefore, the findings should be interpreted as an exploratory association rather than evidence that katuk increases breast milk production.

The between-group findings highlight the importance of distinguishing descriptive rankings from statistically supported comparisons. Although hypnobreastfeeding had the highest mean change, it was not statistically different from the effect of katuk leaf consumption. Similarly, the descriptive increase observed with oxytocin massage did not translate into a statistically significant difference from the standard care. This distinction is especially important with only five participants per group, where individual observations can markedly influence group ranks and effect size estimates. Previous breastfeeding support studies have also demonstrated that psychological support, intervention intensity, educational strategies, and maternal context may influence breastfeeding-related outcomes (Azizi et al., 2020; Cangöl & Şahin, 2017; Çetindemir & Cangöl, 2024; Franco-Antonio et al., 2021; Metin & Baltacı, 2024; Naroe et al., 2020).

From a practical perspective, hypnobreastfeeding and katuk leaf consumption

may warrant further evaluation as low-cost complementary approaches to routine postpartum breastfeeding support. However, the present results are insufficient to recommend either intervention as superior or to replace the established breastfeeding counseling and postnatal care. Future studies should use adequately powered randomized designs, standardized intervention protocols, validated lactation instruments, objective measures of milk production where feasible, prospective assessments of relevant maternal and infant confounders, and systematic monitoring of adherence and adverse events. The potential combined or synergistic effects of the interventions may also be investigated, but such effects were not evaluated in the present study.

This study had several limitations. Group allocation was non-randomized, and allocation concealment was not documented. Each group included only five participants, which limited the statistical precision and generalizability. Recruitment was conducted at a single independent midwifery practice, and group-specific data on potentially important confounders, including parity, mode of delivery, maternal nutritional status, breastfeeding frequency, previous breastfeeding experience, psychological condition, family support, gestational age, and birth weight, were unavailable. Natural lactogenesis during the first postpartum week and regression to the mean may also have contributed to the pre- and post-changes. Assessor blinding was not documented, and the 12-item observational instrument lacked complete psychometric information. In addition, this study did not directly measure breast milk volume or lactation-related hormones. Collectively, these limitations restrict causal interpretation and indicate that the findings should be regarded as hypothesis-generating, rather than confirmatory.

Conclusion

Hypnobreastfeeding and katuk leaf consumption showed greater changes in observed lactation scores than standard care in selected pairwise comparisons; however, the study did not establish superiority in milk production or definitive clinical effectiveness.

Hypnobreastfeeding and katuk leaf consumption may be considered complementary

options to support postpartum breastfeeding care, alongside standard counseling and routine postnatal services. These approaches should not replace established breastfeeding support or be interpreted as proven methods for increasing milk production in lactating mothers. Oxytocin massage should remain a supportive option because it did not differ significantly from the standard care. Larger randomized studies are needed before routine clinical implementation can be recommended for this approach.

Acknowledgements

The authors would like to express their sincere gratitude to STIKes Abdi Nusantara for providing academic support and research facilities for the completion of this study. We also extend our appreciation to BPM Eneng Nurasiah, Bogor City, for granting permission and facilitating the implementation of this study. We thank all postpartum mothers who willingly participated as respondents and contributed valuable data to this study. The authors are also grateful to all colleagues, research assistants, and individuals who provided assistance, encouragement, and constructive input during the research process, data analysis, and preparation of this manuscript.

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