UNIVERSITAS NAHDLATUL ULAMA SURABAYA
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT
Kampus A Wonokromo : Jl. SMEA No.57 Tlp. 031-8291920, 8284508 Fax. 031-8298582 – Surabaya 60243
Kampus B RSIJemursari : Jl. Jemursari NO.51-57 Tlp. 031-8479070 Fax. 031-8433670 – Surabaya 60237
Website : unusa.ac.id Email: info@unusa.ac.id

SURAT KETERANGAN

Nomor: 2120/UNUSA-LPPM/Adm.I/IX/2022

Lembaga Penelitian dan Pengabdin Kepada Masyarakat (LPPM) Universitas Nahdlatul Ulama Surabaya menerangkan telah selesai melakukan pemeriksaan duplikasi dengan membandingkan artikel-artikel lain menggunakan perangkat lunak **Turnitin** pada tanggal 28 September 2022.

Judul	: The Effectiveness of Hypnobreastfeeding Massage on Anxiety and Breast Milk Production in Postpartum Mothers
Penulis	: Yurike Septianingrum, Nety Mawarda Hatmanti, Andikawati Fitriasari, Lono Wijayanti, Nunik Purwanti
No. Pemeriksaan	: 2022.10.11.889

Dengan Hasil sebagai Berikut:

Tingkat Kesamaan diseluruh artikel (*Similarity Index*) yaitu 17%

Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Surabaya, 11 Oktober 2022

Ketua LPPM

UNUSA LPPM

Achmad Syafiuddin, Ph.D
NPP: 20071300

The Effectiveness of Hypnobreastfeeding Massage on Anxiety and Breast Milk Production in Postpartum Mothers

by Yurike Septianingrum

Submission date: 28-Sep-2022 03:34PM (UTC+0700)
Submission ID: 1911124782
File name: On_Anxiety_And_Breast_Milk_Production_In_Postpartum_Mothers.pdf (158.11K)
Word count: 5456
Character count: 30850

ARTÍCULO ORIGINAL

Gac Méd Caracas 2022;130(Supl 1):S299-S307
DOI: 10.47307/GMC.2022.130.s1.48

The Effectiveness of Hypnobreastfeeding Massage on Anxiety and Breast Milk Production in Postpartum Mothers

La eficacia del masaje de hipnolactancia materna sobre la ansiedad y la producción de leche materna en madres posparto

Yurike Septianingrum[1a*], Nety Mawarda Hatmanti[2a], Andikawati Fitriasari[3a], Lono Wijayanti[4a], Nunik Purwanti[5a]

SUMMARY

Introduction: *Low milk production on the first day after delivery causes the mother to experience anxiety, which increases the hormone cortisol. When the hormone cortisol level is high, milk production will be hampered, resulting in an early stop of the breastfeeding process. This study aimed to analyze the effectiveness of Hypno-breastfeeding massage on anxiety and milk production in postpartum mothers at the Public Health Center.*
Method: *This study was a single-blind randomized control trial (RCT). The target population was all postpartum mothers who gave birth at Surabaya Public Health Center. They were selected according to the inclusion criteria (n = 60) by simple random sampling technique and divided randomly into two groups, namely the Hypno-breastfeeding massage (n = 30) and the control (n = 30). Postpartum anxiety was measured by The Spielberger State-Trait Anxiety Inventory (STAI), while breast milk production was measured by the volume of milk pumped in 24 hours. Data analysis used Paired and Independent T-tests.*
Results: *The main finding was the anxiety of the Hypno-breastfeeding massage group decreased after being given Hypno-breastfeeding massage. In addition, mothers who received the treatment experienced a significant reduction in anxiety (p-value = 0.001) and increased breast milk production (p-value = 0.0001) compared to the control group.*
Conclusion: *Hypno-breastfeeding massage effectively reduces anxiety and increases milk production in postpartum mothers. Furthermore, nurses are recommended to apply this intervention as part of postpartum care so that mothers can provide exclusive breastfeeding for their babies.*

Keywords: *Anxiety, breast milk production, hypno-breastfeeding massage, postpartum mother.*

DOI: https://doi.org/10.47307/GMC.2022.130.s1.48

ORCID ID: 0000-0002-7206-6389[1]
ORCID ID: 0000-0001-7812-6699[2]
ORCID ID: 0000-0002-5801-8807[3]
ORCID ID: 0000-0002-6659-5540[4]
ORCID ID: 0000-0003-2502-6138[5]

[a]Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia

*Corresponding Author: Yurike Septianingrum
E-mail: yurikesepti1209@unusa.ac.id

Recibido: 1 de mayo 2022
Aceptado: 9 de mayo 2022

RESUMEN

Introducción: *La baja producción de leche en el primer día después del parto genera ansiedad en la madre, lo que aumenta la hormona cortisol. Cuando el nivel de la hormona cortisol es alto, la producción de leche se verá obstaculizada, lo que provocará una interrupción temprana del proceso de lactancia. Este estudio tuvo como objetivo analizar la efectividad del masaje Hipnolactancia sobre la ansiedad y la*

producción de leche en madres posparto en el Centro de Salud Pública.

Método: *Este estudio fue un ensayo de control aleatorio (ECA) simple ciego. La población objetivo fueron todas las madres posparto que dieron a luz en el Centro de Salud Pública de Surabaya. Fueron seleccionados de acuerdo con los criterios de inclusión (n = 60) mediante la técnica de muestreo aleatorio simple y divididos al azar en dos grupos, a saber, el masaje hipnolactancia (n = 30) y el control (n = 30). La ansiedad posparto se midió mediante The Spielberger State-Trait Anxiety Inventory (STAI), mientras que la producción de leche materna se midió por el volumen de leche extraída en 24 horas. El análisis de datos utilizó pruebas T pareadas e independientes.*

Resultados: *El principal hallazgo fue que la ansiedad del grupo de masaje hipnolactancia disminuyó después de recibir masaje hipnolactancia. Además, las madres que recibieron el tratamiento experimentaron una reducción significativa de la ansiedad (valor de p= 0,001) y un aumento de la producción de leche materna (valor de p= 0,0001) en comparación con el grupo de control.*

Conclusión: *El masaje de hipnolactancia reduce efectivamente la ansiedad y aumenta la producción de leche en madres posparto. Además, se recomienda a las enfermeras aplicar esta intervención como parte de la atención posparto para que las madres puedan brindar lactancia materna exclusiva a sus bebés.*

Palabras clave: *Ansiedad, producción de leche materna, Masaje hipnolactancia, madre posparto.*

INTRODUCTION

Breast milk contains many nutrients that babies need in the first six months (1-3). The function of these nutrients is total breastmilk calories correlated with head circumference growth during the first, second, and third months of life. Also, breastmilk protein level was positively associated with body length and head circumference during the first month of life (2,4,5) studies on the practice of exclusive breastfeeding. The fact shows that low milk production and lactation in the first days after delivery are obstacles to early breastfeeding. Based on the study, firstborn children had higher odds of experiencing delayed breastfeeding initiation for many reasons, and 40.2 % of newborns in Indonesia did not receive timely breastfeeding initiation (6). According to a previous study, mothers who do not breastfeed their babies on the first day are caused by anxiety and fear of low milk production (7). Primiparous mothers are prone to this issue because they have less experienced in the care of babies (8). Primiparous anxiety is the inability to do newborn care and produce enough milk. Causing the mother to think that the baby is not satisfied every time they complete breastfeeding because the baby was crying or the baby refuses to breastfeed (9). Breastfeeding difficulties may also play a role (e.g., mediation) in breastfeeding behaviours. Early in the postpartum period, breastfeeding concerns or perceptions, like difficulty latching or low milk supply, are a significant source of maternal stress (10,11) breastfeeding difficulties (mediator. Psychological stress affects the hypothalamus and affects the pituitary gland to express adrenocorticotropic hormone (ACTH). Eventually affects the adrenaline hormone (a hormone that affects stress) and causes cortisol to rise. When the level of cortisol is high, milk production will be hampered (12,13).

Breastfeeding is potentially one of the top interventions for reducing the under-5 mortality rate. However, the modest changes in breastfeeding rates since 2000 have contributed to the fact that most LMICs did not reach the fourth Millennium Development Goal by reducing the under-5 mortality rate by two-thirds (14). The rate of exclusive breastfeeding for infants 0-6 months in Indonesia in 2012 was 42 % (15). This statistic is clearly below the WHO target, suggesting that the breastfeeding rate is up to 50 %. One of the reasons for the low breastfeeding rate in Indonesia is the anxiety experienced by postpartum mothers and their knowledge (16). Postpartum anxiety has a negative effect on breastfeeding and bonding with infants, especially in primiparous mothers (6,13,17,18).

Several methods to facilitate milk production and overcome anxiety in postpartum mothers include oxytocin massage, back massage, breast care, stimulated endorphin massage, oxytocin, and suggestive message (SPEOS) (19,20), warm shower hydrotherapy, and exercise with a ball (21). Hypno-breastfeeding has been shown to reduce anxiety in postpartum mothers (13) and increase milk production in working mothers (22). This therapy enhances body, mind, and spirit. The implementation of holistic nursing must consider

the psycho neuroendocrine-Immuno (PNE-I) aspect because an imbalance between mind and spirit will disrupt the balance between the nervous, hormonal, and immune systems (13,22,23). Endorphin massage is effective in reducing postpartum maternal anxiety (23). Therefore, this study aimed to analyze the effectiveness of Hypno-breastfeeding massage on anxiety and breast milk production in postpartum mothers.

The low rate of breastfeeding in Indonesia has become a concern of the government, so the government has made an exclusive breastfeeding program for babies aged 0-6 months (24). Primiparous mothers who experience anxiety can affect breastfeeding. To achieve the success of exclusive breastfeeding, non-pharmacologic intervention such as Hypno-breastfeeding massage is needed. From several current kinds of literature, Hypno-breastfeeding combined with oxytocin massage effectively increases the prolactin hormone and breast milk production (9,25,26). Still, this study combines Hypno-breastfeeding and endorphin massage, where research on this subject has never been available. Therefore, this research is the first to be conducted in Indonesia to see its effectiveness in reducing anxiety and increasing milk production.

METHODS

Study Design

This study was a single-blind randomized control trial (RCT), which employed 60 primiparous mothers in two groups, namely Hypno-breastfeeding massage (n = 30) and control (n = 30).

Sample

The population was 112 postpartum mothers who gave birth at Public Health Center from April to August 2020, sorted using the inclusion and exclusion criteria. The inclusion criteria for determining study subjects were: 1) primiparous with spontaneous labor without complications, 2) mothers were able to sit during 48 hours of postpartum, 3) mothers who immediately breastfed their babies, 4) healthy babies or had no congenital abnormalities, 5) mothers did not consume alcohol or smoking and are willing to sign the informed consent. The exclusion criteria were mothers who gave formula milk, premature babies with birth weight ≤2500 gr. The drop-out criteria were mothers who decided to give formula milk before four interventions were delivered. The selected research subjects were 60 respondents taken through a simple random sampling technique. Then the research subjects were randomly divided into two groups, namely Hypno-breastfeeding massage (n = 30) and control (n = 30). The employed mother as the research subject received a research explanation and then signed the informed consent provided by the research assistant.

Instruments

Data were collected using The Spielberger State-Trait Anxiety Inventory (STAI), a commonly used measure of trait and state anxiety. It differentiates between the temporary "state anxiety" condition and the more general and long-standing quality of "trait anxiety." The STAI has 40 items, 20 items allocated to each of the S-anxiety and T-anxiety subscales (10) breastfeeding difficulties (mediator. Responses for the S-anxiety scale assess the intensity of current feelings "at this moment": 1) not at all, 2) somewhat, 3) moderately so, and 4) very much so; the higher score indicates higher anxiety (27) nonpharmacological nursing interventions were considered for this group of patients. This led to the present study aimed at comparing the effect of aromatherapy massage with inhalation aromatherapy for anxiety and pain in burn patients. Methods This single-blind clinical trial was carried out on 90 patients with burns <20%. Patients were randomly assigned to one of three groups, namely aromatherapy massage, inhalation aromatherapy, and control group. The patients assigned to the aromatherapy massage group received a massage for half an hour using a blend of lavender and almond oils, while a blend of rose and lavender aroma was used for the inhalation aromatherapy group. Spielberger State Anxiety Inventory was used for measuring anxiety and the visual analog scale (VAS. The reliability test of this questionnaire obtained an Alpha Cronbach's value of 0.619, which means

the questionnaire was reliable. Breast milk production is measured by the volume of milk pumped within 24 hours. Pumping breastmilk is done after the baby is fully fed.

Data collection

Before observation, the mother was informed about the Hypno-breastfeeding massage procedure. After that, the researcher randomized into two groups, namely the intervention and control groups. The odd number (first, third, etc.) is included in the intervention group then the even number (second, fourth, etc.) is included in the control group. In the intervention group, a trial of Hypno-breastfeeding message was given. If the respondent agrees with the intervention, she can sign an informed consent. Before being given a Hypno-breastfeeding massage, both groups performed a pretest, namely anxiety using the STAI questionnaire, before being given Hypno-breastfeeding massage. Hypno-breastfeeding massage is given twice a day with a duration of 30 minutes. Anxiety evaluation (posttest) with STAI and observation of milk production was carried out after a Hypno-breastfeeding massage by a research assistant who did not know the purpose of the study (single-blinded).

Meanwhile, the sample in the control group was employed to explain the research to mothers, and they signed the informed consent. Then mother was determined as the subject of the control group. Finally, the control group was given breast care. The control group was also evaluated for anxiety using STAI and observation of milk production after four times of breast care.

Data Analysis

Anxiety data were analyzed by paired and independent t-tests, while data on breast milk production were tested with an independent t-test.

Ethical Consideration

This research has gone through an ethical test from the Health Research Ethics Commission of Universitas Nahdlatul Ulama Surabaya (No. 103/EC/KEPK/UNUSA/2020).

RESULTS

The homogeneity test of the characteristics of respondents in the intervention group and the control group was used Lavene's test. It showed a p-value of age (0.903), upper arm circumference (0.082), education (0.478), occupation (0.606), and history of antenatal care (0.254). The homogeneity test results in the two groups showed no difference in the characteristics of the respondents in the two groups (Table 1).

Table 1

Subjects' characteristics

Characteristics	Experimental group	Control group	p-value
Age (year), mean ± SD	23.70 ± 2.706	24.70 ± 2.680	0.903
Upper arm circumference, mean ± SD	25.77 ± 2.89	33.417 ± 2.89	0.082
Education, n (%)			
<senior high school	4 (6.67)	5 (8.33)	0.478
≥senior high school	26 (43.33)	25 (41.67)	
Occupation, n (%)			
Working	8 (13.33)	15 (25)	0.606
Not working	22 (36.67)	15 (25)	
Antenatal care (ANC), n (%)			
Less than four times	7 (11.67)	9 (15)	0.254
Four times or more	23 (38.33)	21 (35)	

The analysis result of anxiety data in the intervention group showed that there was a significant difference before and after receiving Hypno-breastfeeding massage (p-value = 0.0001), as well as in the control group, there was also a significant difference before and after breast care was given (p-value = 0.020) (Table 2). The mean difference in anxiety in the experimental group was 4.63 ± 2.512, while in the control group, 1.47 ± 3.267. In addition, independent t-test results between both groups showed a statistically significant difference (p= 0.001).

Table 2

Anxiety and breast milk production between the experimental and control group

	Group		p-value
	Experimental	Control	
Anxiety			
Before intervention	44.43 ± 3.928	45.50 ± 4.117	0.0002
After intervention	39.80 ± 4.536	44.03 ± 4.247	0.0002
Difference	4.63 ± 2.512	1.47 ± 3.267	0.0011
p-value	0.0001	0.0201	
Milk production (mL)			
After intervention	15.37 ± 7.613	9.00 ± 4.807	0.00012

[1] Paired t-test [2]Independent t-test

DISCUSSION

Hypno-breastfeeding massage is an alternative non-pharmacological therapy to reduce anxiety in primiparous mothers facing their new motherhood role. Hypno-breastfeeding massage is a combination of Hypno-breastfeeding and endorphin massage. The principle of Hypno-breastfeeding is by inducing positive affirmations in the breastfeeding process when the mother is very relaxed and focused. The mother has repeatedly listened to the affirmative words to be firmly embedded in the mother's subconscious mind. As a result, any time the mother is breastfed, she will be aroused in motivation and confidence (22,25). In addition, endorphin massage can increase relaxation in postpartum mothers by releasing endorphin hormones (23).

Primiparous mothers have higher anxiety than multiparous mothers because of their lack of experience in newborn care (8). Postpartum mothers who cannot cope with anxiety will trigger postpartum blues and even postpartum depression (28). Anxiety in postpartum mothers can also affect the process of breastfeeding and newborn weight loss (29,30). Anxiety management, such as relaxation and massage, can balance the progesterone and estrogen secretion after childbirth (31). The relaxation response simultaneously activates the parasympathetic nervous system, resulting in decreased muscle tension and an increased calming effect (32).

This study is in line with a previous study, which stated that Hypno-breastfeeding showed a significant difference in postpartum maternal anxiety between the group given Hypno-breastfeeding intervention and the control group (p = 0.002). First, the positive suggestion implanted will be channeled to the brainstem towards the thalamus sensor, and then the stimulus is formatted according to the brain's language. Next, the stimulus is transmitted to the amygdala, hippocampus, and cerebral cortex. In the cerebral cortex occurs the process of sensory associations in which stimuli are analyzed, and understood to be composed into something so real that the brain recognizes the object and the meaning of its presence. The hippocampus acts as a determinant of judgment, and the

preferred things are considered essential signals by the hippocampus so that it is processed into memory (25).

Hypno-breastfeeding is a hypnosis technique for breastfeeding mothers by giving positive suggestions and visualizing the desired expectations to reduce all the anxiety experienced. Positive suggestions can inhibit sympathetic nerve activation, resulting in the inhibition of the cortisol release and increasing the oxytocin and endorphins released.

Besides Hypno-breastfeeding, a relaxation technique that can reduce anxiety is endorphin massage. Another study also states that the endorphin massage delivered by the husband to postpartum mothers reduces maternal anxiety (p = 0,001) (23).

Endorphin massage is a relaxation technique through light massage applied to the skin's surface, which increases circulation and stimulates the release of endorphins (33). Endorphins play a vital role in dealing with pain, stress, and anxiety (34). In addition, the hormone β-endorphins can inhibit nociception so that there is a change in the perception of stressors (21).

Endorphin massage performed by the husband for 30 minutes as a form of support by the partner increases the mother's confidence to do newborn care and breastfeed. Light massage relaxation can activate the parasympathetic nerves to release endorphins to provide comfort to the mother. The combination of Hypno-breastfeeding played through mp3 and endorphin massage performed by the husband can effectively reduce anxiety in postpartum mothers.

Anxiety states increase cortisol levels and then inhibit breast milk production, decreasing breastfeeding volume and duration. Additionally, mothers who experience prenatal anxiety about parenting may avoid challenging parenting behaviours, such as breastfeeding, leading to decreased maternal-infant interaction and breastfeeding (10). Prenatal anxiety mostly leads to the case of postpartum anxiety and bad breastfeeding behaviour (35). Anxiety states increase cortisol levels and then inhibit breast milk production, decreasing breastfeeding volume and duration. Additionally, mothers who experience prenatal anxiety about parenting may avoid challenging parenting behaviours, such as breastfeeding, leading to decreased maternal-infant interaction and breastfeeding (10). Prenatal anxiety mostly leads to the case of postpartum anxiety and bad breastfeeding behaviour (35)

The mean difference in the volume of breastfeeding in the intervention group (Table 2) was 15.37 mL, while the control group was 9 ml. The results of the independent t-test analysis between the two groups showed a statistically significant difference (p = 0.0001).

Psychological conditions such as stress trigger an increase in cortisol and catecholamine, which can inhibit the release of prolactin and oxytocin (36,37). Suppose the opposite occurs, namely in the Hypno-breastfeeding induction stage. In that case, the mother can feel the effect of relaxation, physical calm, mind, and comfort, resulting in a positive feedback mechanism in the form of an increased response to the release of oxytocin and prolactin by the pituitary. The mother's psychological condition determines the smoothness of milk production, and Hypno-breastfeeding affects anxiety and the length of breastfeeding. Hypno-breastfeeding can significantly reduce anxiety and accelerate breastfeeding (22,38). Hypno-breastfeeding provides positive suggestions for mothers to increase self-confidence in carrying out the role of a mother (9). Deep and regular relaxation during Hypno-breastfeeding increases the production of endorphins, leading to an enjoyable breastfeeding process for both mother and baby (26,39). Psychological conditions such as stress trigger an increase in cortisol and catecholamine, which can inhibit the release of prolactin and oxytocin (36,37). Suppose the opposite occurs, namely in the Hypno-breastfeeding induction stage. In that case, the mother can feel the effect of relaxation, physical calm, mind, and comfort, resulting in a positive feedback mechanism in the form of an increased response to the release of oxytocin and prolactin by the pituitary. The mother's psychological condition determines the smoothness of milk production, and Hypno-breastfeeding affects anxiety and the length of breastfeeding. Hypno-breastfeeding can significantly reduce anxiety and accelerate breastfeeding (22,38). Hypno-breastfeeding provides positive suggestions for mothers to increase self-confidence in carrying

out the role of a mother (9). Deep and regular relaxation during Hypno-breastfeeding increases the production of endorphins and leads to an enjoyable breastfeeding process for both mother and baby (26,39).

Another study explained a statistically significant effect of oxytocin massage and Hypno-breastfeeding on prolactin levels in postpartum mothers (p = 0,005) (26). Hypno-breastfeeding combined with oxytocin massage given during 48 hours of postpartum effectively increases milk volume (9). Early breastfeeding initiation within 6 hours postpartum has been shown to increase milk production in mothers of very-low-birth-weight (VLBW) infants (40). A positive breastfeeding behaviour and early breastfeeding initiation can predict exclusive breastfeeding practices among primiparous women (41). Another study explained a statistically significant effect of oxytocin massage and Hypno-breastfeeding on prolactin levels in postpartum mothers (p = 0,005) (26). Hypno-breastfeeding combined with oxytocin massage given during 48 hours of postpartum effectively increases milk volume (9). Early breastfeeding initiation within 6 hours postpartum has been shown to increase milk production in mothers of very-low-birth-weight (VLBW) infants (40). A positive breastfeeding behaviour and early breastfeeding initiation can predict exclusive breastfeeding practices among primiparous women (41).

Early breastfeeding initiation is needed to increase bonding between mother and baby and stimulate the increased release of the hormone oxytocin. In addition, the earlier breastfeeding initiation, the more breast milk production, and maternal nutritional status can make the success of exclusive breastfeeding higher (11).
Early breastfeeding initiation is needed to increase bonding between mother and baby and stimulate the increased release of the hormone oxytocin. The earlier breastfeeding initiation, the more breast milk production, and maternal nutritional status can make the success of exclusive breastfeeding higher (11).

The success of breastfeeding is influenced by self-efficacy, whereas the increase in self-efficacy is also influenced by partner support (42). Partner support is provided responsively as part of a 'breastfeeding team' (43). Intervention promoting partner responsiveness includes co-parenting techniques that include effective communication, mutual problem solving, and couple relationship quality (44). Qualitative studies on fathers show that fathers have a significant role in making breastfeeding decisions, providing emotional and financial support, motivation, and assistance in seeking health care (45,46).

Hypno-breastfeeding is a relaxation technique that focuses on positive things and increases the mother's confidence to provide breast milk which is the best nutrition for her baby. In addition, light touches such as endorphin massage can improve romantic couple relationships and develop a mother's feelings to love and the full support of her husband. Mothers who have partner support and feel relaxed when breastfeeding will increase prolactin levels to increase breast milk production.

This study has a limited sample because the COVID-19 pandemic causes many mothers to fear giving birth at the health center. In addition, when collecting data, Public Health Center did not accept deliveries for two weeks because of a history of contact with a cheerful COVID-19 mother who was dishonest with her condition. Therefore, both patients and researchers must apply strict health protocols when collecting data.

CONCLUSION

The combination of Hypno-breastfeeding and endorphin massage or Hypno-breastfeeding massage for 30 minutes can provide a relaxing effect on the mother. Positive suggestions given through mp3 can instill positive thoughts in mothers so that their confidence in breastfeeding increases. Light massage performed by the husband is a form of support in the postpartum breastfeeding process. Hypno-breastfeeding massage is a non-pharmacological intervention that midwives and nurses can apply as postpartum care to prevent postpartum depression and the success of exclusive breastfeeding. Education about this intervention needs to be provided to avoid missed communication between postpartum mothers and their families. Future studies will use a larger sample and other instruments to measure milk production.

ACKNOWLEDGEMENT

The authors would like to thank the participants of this study and Universitas Nahdlatul Ulama Surabaya for facilitating this research. This research was supported by the Indonesian Ministry of Education and Culture (Budding Lecturer Research Grant) funding in 2020.

REFERENCES

1. Widayanti W. Efektivitas Metode "SPEOS" (Stimulasi Pijat Endorphin, Oksitosin, dan Sugestif) terhadap Pengeluaran ASI pada Ibu Nifas: (Quasi Ekperimen, di BPM Wilayah Kabupaten Cirebon Tahun 2013). 2014.
2. Martini, Irwanto, Irawan R, Widjaja NA. Breastmilk macronutrient levels and infant growth during the first three months: A cohort study. Siriraj Med J. 2020;72(1):10-17.
3. Handayani KD, Irwanto, Masturina M, Etika R, Harianto A, Sauer PJJ. Duration of Breastfeeding in Late Preterm Infants: Maternal and Infant Factors. J Hum Lact. 2021;37(4):795-802.
4. Vandenplas Y, Munasir Z, Hegar B, Kumarawati D, Suryawan A, Kadim M, et al. A perspective on partially hydrolyzed protein infant formula in nonexclusively breastfed infants. Korean J Pediatr. 2019;62(5):149-154.
5. Hegar B, Wibowo Y, Basrowi RW, Ranuh RG, Sudarmo SM, Munasir Z, et al. The role of two human milk oligosaccharides, 2'-fucosyllactose and lacto-N-neotetraose, in infant nutrition. Pediatr Gastroenterol Hepatol Nutr. 2019;22(4):330-340.
6. Tama TD, Astutik E, Katmawanti S, Reuwpassa JO. Birth patterns and delayed breastfeeding initiation in Indonesia. J Prev Med Public Heal. 2020;53(6):465-475.
7. Dewi AP, Indrayani E, Khanifah R. Kombinasi Pijat Punggung dan Endorphin terhadap Produksi ASI pada Ibu Postpartum. J Ilm Kesehat Keperawatan. 2017;13(2):62-68.
8. Kalinowski LC, Favero L, Carraro TE, Wall ML, Lacerda MR. Postpartum primipara at home and associated nursing care: Grounded theory. Online Brazilian J Nurs. 2012;11(3):701-719.
9. Sari LP, Salimo H, Budihastuti UR. Optimizing the Combination of Oxytocin Massage and Hypnobreastfeeding for Breast Milk Production among Post-Partum Mothers. J Matern Child Heal. 2017;02(01):20-29.
10. Riedstra JP, Aubuchon-Endsley NL. A moderated mediation model of maternal perinatal stress, anxiety, infant perceptions and breastfeeding. Nutrients. 2019;11(12).
11. Shofiya D, Sumarmi S, Ahmed F. Nutritional status, family income and early breastfeeding initiation as determinants to successful exclusive breastfeeding. J Public health Res. 2020;9(2):110-112.
12. Mardjun Z, Korompis G, Rompas S. Hubungan Kecemasan Dengan Kelancaran Pengeluaran Asi Pada Ibu Post Partum Selama Dirawat Di Rumah Sakit Ibu Dan Anak Kasih Ibu Manado. e-journal Keperawatan. 2019;7(1).
13. Sari LP, Salimo H, Budihastuti UR. Hypnobreast-feeding Dapat Menurunkan Kecemasan Pada Ibu Post Partum. J Kebidanan dan Kesehat Tradis. 2019;4(1):20-27.
14. Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. Lancet. 2016;387(10017):475-490.
15. Kemenkes. Infodatin ASI: Situasi dan Analisis ASI Eksklusif. Jakarta: Kementerian Kesehatan Republik Indonesia; 2014.
16. Laksono AD, Wulandari RD, Ibad M, Kusrini I. The effects of mother's education on achieving exclusive breastfeeding in Indonesia. BMC Public Health. 2021;21(1):14.
17. Field T. Postnatal anxiety prevalence, predictors and effects on development: A narrative review. Infant Behav Dev. 2018;51(October 2017):24-32.
18. Pradanie R. Breastfeeding Self Efficacy and Effective Breastfeeding on Postpartum Mother. J Ners. 2015;10(1):20-29.
19. Nugraheni DE, Kosma H. Metode SPEOS (Stimulasi Pijat Endorphin, Oksitosin dan Sugestif) dapat Meningkatkan Produksi ASI dan Peningkatan Berat Badan Bayi. J Kesehat. 2017;8(1):1-7.
20. Budiarti T. Efektifitas Pemberian Paket "Sukses Asi" Terhadap Produksi Asi Ibu Menyusui Dengan Seksio Sesarea Di Wilayah Depok Jawa Barat. Thesis Post Grad Program, Fac Nursing, Univ Indones. 2009:1-128.
21. Henrique AJ, Gabrielloni MC, Rodney P, Barbieri M. Non-pharmacological interventions during childbirth for pain relief, anxiety, and neuroendocrine stress parameters: A randomized controlled trial. Int J Nurs Pract. 2018;24(3):1-8.
22. Rahmawati A, Bisepta P. Hypnobreastfeeding Untuk Meningkatkan Produksi Asi Pada Ibu Menyusui Yang Bekerja. Semin Nas dan Gelar Prod. 2017:48-53.
23. Rahayu S, Widyaawti MN, Dewi RK. Pengaruh Masase Endorphin terhadap Tingkat Kecemasan dan Involusio Uteri Ibu Nifas. J Kebidanan. 2018;8(1):29-36.

24. WHO. Maternal, newborn, child and adolescent health: Breastfeeding. https://www.who.int/maternal_child_adolescent/topics/child/nutrition/breastfeeding/en/. 2020.
25. Dini PR, Suwondo A, Hardjanti TS, Hadisaputro S, Mardiyono, Widyawati MN. The Effect of Hypnobreastfeeding and Oxytocin Massage on Breastmilk Production in Postpartum. J Med Sci Clin Res. 2017;05(10):28600-4.
26. Nor Aini Y, Hadi H, Rahayu S, Pramono N, Mulyantoro DK. Effect of Combination of Oxytocin Massage and Hypnobreastfeeding on Uterine Involution and Prolactin Levels in Postpartum Mothers. Belitung Nurs J. 2017;3(3):213-220.
27. Seyyed-Rasooli A, Salehi F, Mohammadpoorasl A, Goljaryan S, Seyyedi Z, Thomson B. Comparing the effects of aromatherapy massage and inhalation aromatherapy on anxiety and pain in burn patients: A single-blind randomized clinical trial. Burns. 2016;42(8):1774-1780.
28. Maliszewska K, Świątkowska-Freund M, Bidzan M, Preis K. Relationship, social support, and personality as psychosocial determinants of the risk for postpartum blues. Ginekol Pol. 2016;87(6):442-447.
29. Flaherman VJ, Beiler JS, Cabana MD, Paul IM. Relationship of newborn weight loss to milk supply concern and anxiety: the impact on breastfeeding duration. Matern Child Nutr. 2016;12(3):463-472.
30. Kusumaningrum T, Kurnia ID, Doka YP. Factors Related to Mother's Competency in Caring for Low Birth Weight Baby Based on Theory of Planned Behavior. In: 4th International Conference on Tropical and Coastal Region Eco-Development, ICTCRED 2018. Faculty of Nursing, Universitas Airlangga, Jl. Mulyorejo (Kampus C) UNAIR, Indonesia: Institute of Physics Publishing; 2019.
31. Dixon L, Skinner J, Foureur M. The Emotional and Hormonal Pathways of Labour and Birth: Integrating Mind, Body and Behaviour. New Zeal Coll Midwives J. 2013;48:15-23.
32. Toosi M, Akbarzadeh M, Ghaemi Z. The Effect of Relaxation on Mother's Anxiety and Maternal-Fetal Attachment in Primiparous IVF Mothers. J Natl Med Assoc. 2017;109(3):164-171.
33. Septianingrum Y, Hatmanti N. Pengaruh Endorphin Massage Terhadap Nyeri Haid Mahasiswi Tingkat Akhir S1 Keperawatan Universitas Nahdlatul Ulama Surabaya. J Keperawatan Muhammadiyah. 2019;4(2):187-192.
34. Senudin PK, Syamsuddin S, Nurdin AA. The Role of Endorphin Hormones As Predictors of Pregnancy Anxiety. Int J Nurs Heal Serv. 2019;2(3):16-21.
35. Fallon V, Bennett KM, Harrold JA. Prenatal Anxiety and Infant Feeding Outcomes: A Systematic Review. J Hum Lact. 2016;32(1):53-66.
36. Kamariyah N. Kondisi Psikologi Mempengaruhi Produksi ASI Ibu Menyusui di BPS Aski Pakis Sido Kumpul Surabaya. J Ilm Kesehat. 2014;7(12):29-36.
37. Septianingrum Y, Hatmanti NM, Fitriasari A. Correlation Between Anxiety and Breast Milk Production Among Breastfeeding Mothers in Public Health Center of Jagir, Surabaya. Nurse Heal J Keperawatan. 2020;9(1):50.
38. Christian LM. Psychoneuroimmunology in pregnancy: Immune pathways linking stress with maternal health, adverse birth outcomes, and fetal development. Neurosci Biobehav Rev. 2012;36(1):350-361.
39. Armini NW. Hypnobreastfeeding Awali Suksesnya ASI Eksklusif. J Skala Husada. 2016;1:21-29.
40. Parker LA, Sullivan S, Krueger C, Mueller M. Association of timing of initiation of breastmilk expression on milk volume and timing of lactogenesis stage II among mothers of very-low-birth-weight infants. Breastfeed Med. 2015;10(2):84-91.
41. Minas A, Limando M. Impact of knowledge and attitude of primiparous women in Addis Ababa, Ethiopia, on achieving optimal breastfeeding practices. Afr J Nurs Midwifery. 2016;18(2):179-195.
42. Gerçek E, Sarıkaya Karabudak S, Ardıç Çelik N, Saruhan A. The relationship between breastfeeding self-efficacy and LATCH scores and affecting factors. J Clin Nurs. 2017;26(7–8):994–1004.
43. Davidson EL, Ollerton RL. Partner behaviours improving breastfeeding outcomes: An integrative review. Women Birth. 2020;33(1):e15-e23.
44. Feinberg ME, Kan ML. Establishing Family Foundations: Intervention Effects on Coparenting, Parent/Infant Well-Being, and Parent-Child Relations. J Fam Psychol. 2008;22(2):253-263.
45. Mgolozeli SE, Khoza LB, Shilubane HN, Nesamvuni CN. Perceived roles of fathers in the promotion, support and protection of breastfeeding. Afr J Nurs Midwifery. 2018;20(2):1-19.
46. Kurniati A, Chen C-M, Efendi F, Elizabeth Ku L-J, Berliana SM. Suami SIAGA: Male engagement in maternal health in Indonesia. Health Policy Plan. 2017;32(8):1203-1211.

The Effectiveness of Hypnobreastfeeding Massage on Anxiety and Breast Milk Production in Postpartum Mothers

ORIGINALITY REPORT

17%	13%	9%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

2%

★ pure.iiasa.ac.at

Internet Source

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		