


Influence Massage Oxytocin to Smoothness Breast Milk in Primipara Mothers

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received January 8, 2025 Revised February 12, 2025 Accepted February 12, 2025</p> <hr/> <p>Corresponding Author:</p> <p>Rut Yohana Girsang D-III Midwifery Study Program, Universitas Satya Terra Bhinneka, Medan, Indonesia Email: ruthyohanagirsang@satyaterrabhinneka.ac.id</p>	<p>The inability of secretion of breastfeeding was a problem which was experienced by breastfeeding mothers. It was needed non pharmacology effort namely massage of oxytocyn. The purpose of this study was to analyze the effect of oxytocyn massage to the smoothness of breastfeeding in primiparous mother in the Village of Segodobancang Districts of Tarik, Sidoarjo regency. This research design was one group pre test post test design. The population in this study were all primiparous mothers who experienced insufficiency of breastfeeding expenditure in Puskesmas Cimanggis Depok a number of 27 mothers. The sample amounted to 25 mothers with simple random sampling technique. The independent variable was the oxytocyn massage and the dependent variable was the fluency of mother's milk in primiparous. The data collection used observation sheet and questionnaire. The technique of data processing used editing, coding, scoring, tabulating and its statistical test used the statistical test of wilcoxon rank test. The results of this study were obtained from 25 respondents, before Oxytocyn massage was conducted, most of the respondents of their fluidity breastfeeding expenditure of 0 (0%), smoothly enough were 8 mothers (32%), less fluent were 17 mothers (68%), after being conducted oxytocyn massage most of their fluidity breastfeeding expenditure were 25 mothers (100%). The wilcoxon statistical test showed that's the value of $p = 0,000 < \alpha (0.05)$ so that H_1 was accepted. The conclusion was that there's an effect of oxytocyn massage to the smoothness of breastfeeding in Puskesmas Cimanggis Depok.</p> <p>Keywords: <i>Oxytocyn Massage, Fluidity Breastfeeding, Primiparous Mother</i></p> <p>This article is licensed under a Creative Commons Attribution 4.0 International License.</p> <div style="text-align: center;"></div>

1. INTRODUCTION

Women are creatures who have been blessed by God to be able to conceive, give birth, and breastfeed. The nature given to women is marked by the reproductive organs they have, namely the uterus and all its parts, for the growth and development of the fetus while in the womb, and breasts to be able to breastfeed the child when it is born, which means that all women have the potential to breastfeed their children, the same as their potential to conceive and give birth [1]. The phenomenon that occurs in mothers giving birth to their first child is breastfeeding problems with the inability to produce breast milk [2]. In addition, mothers often complain that their babies cry or refuse to breastfeed. Sore nipples do not contain breast milk [3]. Often interpreted as not having enough breast milk or not tasting good, it often causes the decision to stop breastfeeding [4].

In Indonesia, exclusive breastfeeding remains far from the national target. by 80%. The results of the survey Demographics Health Indonesia (IDHS) 2023 show that coverage giving breast milk exclusive baby 0-6 months is only 42% [5]. Based on data from the East Java Health Office [6][7], the coverage of exclusive breastfeeding in west Java Province was 68.3% [8]. Based on Leni's profile data [9], the coverage of exclusive breastfeeding was 8,598 (56.89%) out of 15,111 babies. In 2024, there were 13,574 (54.5%) of 24,942 babies. Compared to the 2024 target of 75%, the achievement of exclusive breastfeeding in Puskesmas Cimanggis Depok is still far below this target. In Puskesmas Cimanggis Depok, 152 babies were exclusively given breast milk. From the introduction of studies on

during in Puskesmas Cimanggis Depok, nine mothers obtained seven breastfeeding mothers who experienced irregular expenditure ASI and two said that milk production was smooth [10].

The benefits of breast milk are not balanced by breastfeeding, so babies do not receive breast milk properly. Several factors are thought to be the cause of babies not getting breast milk properly, one of which is the mother's knowledge [11]. The mother was reluctant to breastfeed because of pain during breastfeeding, fatigue during breastfeeding, and concerns about changes in the breasts after breastfeeding. Socio-cultural factors, lack of family, and environmental support in the breastfeeding process also greatly influence the breastfeeding process [12]. Lack of health education regarding factors that can increase production of breast milk also influences knowledge of primipara, which can cause a lack of breast milk volume [13]. None of the mothers postpartum directly out breast milk because expenditure breast milk is an interaction that is very complex between mechanical stimulation, nerves, and various hormones that influence the production of oxytocin [14]. The release of the hormone oxytocin is influenced not only by the baby's sucking but also by influenced by receptors located in the duct system, if the duct widens or becomes soft, then oxytocin is reflexively released by the pituitary gland which plays a role in squeezing milk from the alveoli [15].

Breast milk production can be influenced by two factors, its production and release. Breast milk production is influenced by prolactin, while its release is influenced by oxytocin [16]. The hormone oxytocin will come out through stimulation of the nipples through the baby's mouth sucking or through massage on the mother's spine, with done massage on which will feel calm, relaxed, increase the pain threshold, and love her baby, so that the hormone oxytocin is released and breast milk will come out quickly [17]. Massage or stimulation of the spine, neurotransmitters will stimulate the medulla oblongata directly sends a message to the hypothalamus in the posterior pituitary to release oxytocin which causes the breasts to release milk [18]. Massage in the spinal area will also relax tension and relieve stress and thus hormones oxytocin out and will help with expenses of breast milk, assisted by the baby's sucking on the nipple immediately after the baby is born under normal condition [19].

Based on the description above, the researcher is interested in conducting a study on "The Effect of Oxytocin Massage on the Smoothness of Breast Milk in primiparous mothers". Based on the background of the above problem, the problem in this study can be formulated as: "Is there an effect of Oxytocin Massage on the smoothness of breast milk in primiparous mothers at the Cimanggis Depok Health Center?"

2. METHODS

A method used in this research is pre-test. experiment (experimental activities aimed at determining the effects that arise as a result of certain treatments) by using a one-group pre-test post-test design, namely design experiments that use one group of subjects and carry out measurements before and after treatment [20]. This sample consisted of 25 primiparous mothers who breastfed for one month after giving birth in September-October at the Cimanggis Depok Health Center [21].

3. RESULTS AND DISCUSSION

1. Characteristics Respondent Based On Age

The age characteristics explained the age of the respondents. The results of the review of respondent characteristics based on age were as follows [22]:

Table 1. Distribution Respondent Frequency Based On Type Age At The Cimanggis Health Center, Depok.

Age	Amount (Mother)	Percentage (%)
<20	5	20
20-25	18	72
>25	2	8
Total	25	100

2. Characteristics Respondent Based On Education Final

The characteristics of the final education explain the respondents' last education. The results of the review of respondent characteristics based on last education are as follows [23]:

Table 2. Distribution Frequency Respondent Based on Education Final Mother Primipara at Cimanggis Health Center, Depok

Education Last	Number (Mother)	Percentage (%)
SD / MI	0	0
Junior High School / Mts	0	0
Senior High School / Ma	17	68
PT	8	32
Total	25	100

The table, shows that the majority of respondents had a high school education and 17 mothers (68%).

3. Characteristics Of Respondents Based On Work

Job characteristics explain the respondents' jobs. The results of a review of respondents' characteristics based on their work are as follows [24].

Table 3. Frequency Distribution of Respondent Characteristics Based On Work at The Cimanggis Health Center, Depok

Work	Amount (Mother)	Percentage (%)
housewife	11	44
Self-employed	0	0
Private	12	48
Farmer	0	0
civil servant	2	8
Total	25	100

4. Characteristics Respondent Based On Maintenance Breast

The characteristics of breast care will explain the breast care carried out by the respondents. The results of the review of respondent characteristics based on breast care were as follows [25]:

Table 4. Frequency distribution of respondent characteristics based on breast care at the Cimanggis Health Center Depok

Maintenance Breast	Amount (Mother)	Percentage (%)
Yes	2	8
No	23	92
Total	25	100

As shown in Table show the 23 mothers (92%) did not receive breast care.

5. Characteristics Respondent Based On Drug Launcher Breast Milk

The characteristics of breast milk stimulant drugs will explain their consumption, by respondents. Results of the review of characteristics Respondents based on breast milk stimulant drugs are as follows [26]:

Table 5. Frequency Distribution of Respondent Characteristics Based on Breast Milk Stimulant Drugs at Cimanggis Health Center, Depok

Drug Launcher Breast Milk	Amount (Mother)	Percentage (%)
Yes	18	72
No	7	28
Total	25	100

The table, shows that the majority of respondents, namely 18 mothers (72%), consumed breast milk-stimulating drugs.

Data Special

Specific data from respondents in this study included the smoothness of breast milk in primiparous mothers before being given oxytocin massage, the smoothness of breast milk in primiparous mothers after being given oxytocin massage, and cross tabulation [27][28]. Effect of oxytocin massage on the smoothness of breast milk in primiparous mothers at the Cimanggis Depok Health Center. The results review description data specifically in the form of a table as follows [29]:

1. Smoothness Of Breast Milk In Primiparous Mothers Before Oxytocin Massage At The Community Health Center

Table 6. Frequency Distribution Of Respondents Based On The Smoothness Of Breast Milk In Primiparous Mothers Before Oxytocin Massage At The Cimanggis Health Center, Depok

Smoothness breast milk	Amount (Mother)	Percentage (%)
Fluent	0	0
Enough Fluent	8	32
Not enough Fluent	17	68
Total	25	100

Based on the table, it can be seen that part big respondents before the administration of oxytocin massage, breast milk production was not smooth for 17 mothers (68%).

2. Primiparous Mothers After Oxytocin Massage At Cimanggis Health Center, Depok

Table 7. Distribution frequency Respondent based on smoothness Breast milk in primiparous mothers after oxytocin massage at Cimanggis Health Center, Depok

Smoothness breast milk	Amount (Mother)	Percentage (%)
Fluent	25	100
Enough Fluent	0	0
Not enough Fluent	0	0
Total	25	100

The table shows that part big Respondents after being given oxytocin massage, 25 mothers (100%) experienced smooth breast milk production.

Tabulation Cross Influence Massage Oxytocin To Smoothness Breast Milk On Primiparous Mother.

Cross tabulation describes and conveys the results of the effect of oxytocin massage on breast milk smoothness in primiparous mothers. The results are presented in the following cross-tabulation table:

Table 8. Tabulation Cross Influence Oxytocin Massage on The Smooth Flow Of Breast Milk In Primiparous Mothers At The Cimanggis Depok Health Center

	Massage Oxytocin	Smoothness breast milk					Total	
		Smooth		Enough		Less		
		□	%	□	%	□		%
Before	0	0	8	32	17	68	25	100
After	25	100	0	0	0	0	25	100

Based on Table show that known existence change amount Respondent before done treatment in the form of oxytocin massage, most of the breast milk production was not smooth, amounting to 17 mothers (68%), while the number of respondents after the treatment in the form of oxytocin massage, most of the respondents had smooth breast milk production, amounting to 25 mothers (100%) [30]. The results of this study were strengthened by the results of the Wilcoxon difference test. The p value obtained was 0.000. The p-value of this research shows a p-value $< \alpha$ (0.05), which means having a difference mark that is very meaningful. Based on the fluency value of breast milk before and after massage, oxytocin showed that before oxytocin massage, the majority of respondents' breast milk production was not smooth, whereas after massage oxytocin, some big expenditure respondents breast milk fluent so that we can conclude that there is influence massage [31].

oxytocin against smooth breast milk on mother primipara at the Cimanggis Health Center, Depok.

4. CONCLUSION

1. The smoothness of breast milk in primiparous mothers before oxytocin massage at the Cimanggis Depok Health Center showed that, most of the breast milk production was not smooth.
2. The smooth flow of breast milk in primiparous mothers after oxytocin massage at the Cimanggis Depok Health Center showed that, most of the breast milk production was smooth.
3. There is Influence Massage Oxytocin To Smoothness breast milk in Cimanggis Health Center, Depok.

REFERENCES

- [1] A. R. Dahl, A. L. Armellino, C. L. Tran, En P. J. Tebben, "Skimmed Breast Milk For Treatment Of Hypertriglyceridemia In An Infant With Congenital Nephrotic Syndrome", *Nutr. Clin. Pract.*, Vol 37, No 2, Bll 383–387, Apr 2022, Doi: 10.1002/Ncp.10759.
- [2] V. U. Muktamath, P. R. Hegde, R. Koneru, En R. Lakkashetti, "Breastfeeding Practices And Infant Development Outcomes", In *Infant Nutrition And Feeding*, Intechopen, 2024.
- [3] P. Lestari, F. Fatimah, L. Ayuningrum, H. D. Herawati, En N. Afifaturohmah, "Influence Oxytocin Massage On Reduce Lactation Problems And Support Infants Growth", *Open Access Maced. J. Med. Sci.*, Vol 10, No T8, Bll 81–85, Jan 2022, Doi: 10.3889/Oamjms.2022.9487.
- [4] K. El Bairi *Et Al.*, "The Tale Of Tils In Breast Cancer: A Report From The International Immuno-Oncology Biomarker Working Group", *Npj Breast Cancer*, Vol 7, No 1, Bll 150, 2021, Doi: <https://doi.org/10.1038/S41523-021-00346-1>.
- [5] S. Triberti, L. Savioni, V. Sebri, En G. Pravettoni, "Corrigendum To Ehealth For Improving Quality Of Life In Breast Cancer Patients: A Systematic Review (Cancer Treatment Reviews (2019) 74 (1–14), (S0305737219300076), (10.1016/J.Ctrv.2019.01.003))", *Cancer Treat. Rev.*, Vol 81, Bll 1–14, 2019, Doi: 10.1016/J.Ctrv.2019.101928.
- [6] R. Afrina, N. Nuriasni, En N. A. Shifa, "Aplikasi Breast Care Terhadap Ketidaknyamanan Pasca Partum Ibu Dengan Bendungan Asi", *Protein J. Ilmu Keperawatan Dan Kebidanan.*, Vol 2, No 1, Bll 33–44, 2024, Doi: <https://doi.org/10.61132/Protein.V2i1.45>.
- [7] Kharisma Muhsanatia En S. Sulastris, "The Effectiveness Of Oxytocin Massage On Breast Milk Production: A Literature Review", *Malahayati Int. J. Nurs. Heal. Sci.*, Vol 7, No 2, Bll 214–223, Apr 2024, Doi: 10.33024/Minh.V7i2.245.
- [8] N. A. Mokodompis En N. M. R. Nilasanti, "Penerapan Kompres Daun Kubis Terhadap Penurunan Pembengkakan Payudara Pada Askep Ibu Post Partum Di Puskesmas Kayamanya: The Application Of Cabbage Leaf Compresses To Reduce Breast Engagement In Post Partum Askep Mothersat Kayamanya Health Center", *Madago Nurs. J.*, Vol 4, No 1, Bll 69–78, 2023, Doi: <https://doi.org/10.33860/Mnj.V4i1.1985>.
- [9] & H. S. Norman P., "The Theory Of Planned Behavior And Breast Self-Examination: Distinguishing Between Perceived Control And Self-Efficacy", *J. Appl. Soc. Psychol.*, Vol 34, No 4, Bll 694–708, 2004.
- [10] I. O. E. Mcs, "Traditional Practices Of Turkish Mothers At Breast Engorgment During Postpartum Period", *Int. J. Caring Sci.*, Vol 11, No 3, Bll 1954–1961, 2018.
- [11] A. Mcgrath, "Sounding A Quietening: Breastfeeding Choreographies And The Sonic–Corporeal Dialogue Of Maternal Experience", *Theatr. Res. Int.*, Vol 46, No 2, Bll 148–168, Jul 2021, Doi: 10.1017/S0307883321000079.
- [12] F. E. Normeshie, "Techno-Maternal Identities: A Critical Feminist Examination Of Breast Pumping, And The Construction Of Maternal Identities". Michigan Technological University, 2024.
- [13] W. Elshami, M. M. Abuzaid, En H. O. Tekin, "Effectiveness Of Breast And Eye Shielding During Cervical Spine Radiography: An Experimental Study", *Risk Manag. Healthc. Policy*, Bll 697–704, 2020.
- [14] N. Agustya En L. Farlikhatun, "The Effect Of Papaya Fruit Consumption (Carica Papaya L) On Increasing Breast Milk Production In Breastfeeding Mothers", In *Proceedings Of The International Conference On Nursing And Health Sciences*, 2023, Vol 4, No 2, Bll 457–462, Doi: <https://doi.org/10.37287/Picnhs.V4i2.2004>.
- [15] C. M. Dieli-Conwright *Et Al.*, "Aerobic And Resistance Exercise Improves Physical Fitness, Bone Health, And Quality Of Life In Overweight And Obese Breast Cancer Survivors: A Randomized Controlled Trial 11 Medical And Health Sciences 1117 Public Health And Health Services", *Breast Cancer Res.*, Vol 20, No 1, Bll 1–10, 2018, Doi: 10.1186/S13058-018-1051-6.
- [16] H. Shi, Y. Yang, X. Yin, J. Li, J. Fang, En X. Wang, "Determinants Of Exclusive Breastfeeding For The First Six Months In China: A Cross-Sectional Study", *Int. Breastfeed. J.*, Vol 16, No 1, Bll 1–12, 2021, Doi: 10.1186/S13006-021-00388-Y.
- [17] "Palmeira P, Carneiro-Sampaio M. Immunology Of Breast Milk. *Rev Assoc Med Bras* (1992). 2016 Sep;62(6):584-593. Doi: 10.1590/1806-9282.62.06.584. Pmid: 27849237."

- [18] A. Triansyah *Et Al.*, “The Effect Of Oxytocin Massage And Breast Care On The Increased Production Of Breast Milk Of Breastfeeding Mothers In The Working Area Of The Public Health Center Of Lawanga Of Poso District”, *Gac. Sanit.*, Vol 35, Bll S168–S170, 2021.
- [19] H. S. Rugo *Et Al.*, “The Characterization, Management, And Future Considerations For Erbb-Family Tki-Associated Diarrhea”, *Breast Cancer Res. Treat.*, Vol 175, No 1, Bll 5–15, Mei 2019, Doi: 10.1007/S10549-018-05102-X.
- [20] D. Saint-Laurent, L. Arsenault-Boucher, En J.-S. Berthelot, “Contrasting Effects Of Flood Disturbance On Alluvial Soils And Riparian Tree Structure And Species Composition In Mixed Temperate Forests”, *Air, Soil Water Res.*, Vol 12, Bll 117862211987277, Jan 2019, Doi: 10.1177/1178622119872773.
- [21] S. Llorente-Pulido, E. Custodio, M. R. López-Giménez, B. Sanz-Barbero, En L. Otero-García, “Barriers And Facilitators For Exclusive Breastfeeding In Women’s Biopsychosocial Spheres According To Primary Care Midwives In Tenerife (Canary Islands, Spain)”, *Int. J. Environ. Res. Public Health*, Vol 18, No 7, Bll 3819, Apr 2021, Doi: 10.3390/Ijerp18073819.
- [22] M. J. Mantilla, “Consciousness, Healing And Personal Growth: How ‘Therapeutic Mothering’ impacts On Raising Children For Argentinean Natural Mothers”, *Subjectivity*, Vol 30, No 1, Bll 39–53, 2023.
- [23] R. Domenici En F. Vierucci, “Exclusive Breastfeeding And Vitamin D Supplementation: A Positive Synergistic Effect On Prevention Of Childhood Infections?”, *Int. J. Environ. Res. Public Health*, Vol 19, No 5, Bll 2973, Mrt 2022, Doi: 10.3390/Ijerp19052973.
- [24] E. Dağlı En N. Çelik, “The Effect Of Oxytocin Massage And Music On Breast Milk Production And Anxiety Level Of The Mothers Of Premature Infants Who Are In The Neonatal Intensive Care Unit: A Self-Controlled Trial”, *Health Care Women Int.*, Vol 43, No 5, Bll 465–478, Mei 2022, Doi: 10.1080/07399332.2021.1947286.
- [25] A. Ali, “Current Status Of Malnutrition And Stunting In Pakistani Children: What Needs To Be Done?”, *J. Am. Coll. Nutr.*, Vol 40, No 2, Bll 180–192, 2021, Doi: 10.1080/07315724.2020.1750504.
- [26] K. Dewi, “The Effect Of Oxytocin Massage On Anxiety Changes In Breastfeeding Mother”, *J. Psychiatry Psychol. Behav. Res.*, Vol 3, No 2, Bll 22–24, Sep 2022, Doi: 10.21776/Ub.Jppbr.2022.003.02.5.
- [27] T. M. Osaili *Et Al.*, “A Status Review On Health-Promoting Properties And Global Regulation Of Essential Oils”, *Molecules*, Vol 28, No 4, Bll 1809, Feb 2023, Doi: 10.3390/Molecules28041809.
- [28] E. Dağlı En N. Çelik, “The Effect Of Oxytocin Massage And Music On Breast Milk Production And Anxiety Level Of The Mothers Of Premature Infants Who Are In The Neonatal Intensive Care Unit: A Self-Controlled Trial”, *Health Care Women Int.*, Vol 43, No 5, Bll 465–478, 2022, Doi: <https://doi.org/10.1080/07399332.2021.1947286>.
- [29] V. J. Taylor, “Lactation From The Inside Out: Maternal Homeorhetic Gastrointestinal Adaptations Regulating Energy And Nutrient Flow Into Milk Production”, *Mol. Cell. Endocrinol.*, Vol 559, Bll 111797, Jan 2023, Doi: 10.1016/J.Mce.2022.111797.
- [30] N. L. Dinsdale En B. J. Crespi, “Niles Newton’s Triune Goddess: Sex-Birth-Breastfeeding Interactions Shape Women’s Capacity For Pleasure”, *Women’s Pleasures, Women’s Pains Oxytocin, Orgasm, Endometr.*, Bll 149, 2022.
- [31] N. Hasanah, E. Kamelia, En T. Kartilah, “The Effect Of Oxytocin Massage And Fennel Aromatherapy On Milk Fluidity In Lactating Women Within The Kawalu Health Centre Working Area, Tasikmalaya”, *Jnki (Jurnal Ners Dan Kebidanan Indones. (Indonesian J. Nurs. Midwifery)*, Vol 12, No 2, Bll 168, Jun 2024, Doi: 10.21927/Jnki.2024.12(2).168-177.