

The Effect of Back Massage on Increasing Oxytocin Levels in Breastfeeding Women

Sri Putriani Sinaga¹, Mufdlilah², Dhesi Ari Astuti³

Universitas 'Aisyiyah Yogyakarta

¹Email: putrisinaga222@gmail.com

ARTICLE INFO

Article History

Received: September 27th, 2024

Revised: January 27th, 2025

Accepted: August 3rd, 2025

Keywords: Back
Massage, Increased
Oxytocin Levels,
Breastfeeding Mother,
Breast Milk Production

ABSTRACT

One of the efforts made to facilitate breast milk production is by doing back massage. Back massage is one solution to overcome insufficient breast milk. The purpose of this study was to determine the effect of back massage on increasing oxytocin levels in breastfeeding mothers at TPMB Istri Utami, Yogyakarta. This study used a quantitative method with a quasi-experimental research design with a one-group pretest-posttest design. The population in this study were 30 breastfeeding mothers with normal delivery. The number of samples was 30. The instruments used were observation sheets and questionnaires. There was a difference in increasing oxytocin levels in breastfeeding mothers before and after back massage with the results of the logistic regression test using the F test obtained a sig. value of $0.004 < 0.05$, and using the t test obtained a sig. value of $0.005 < 0.05$ with an Exp (B) / OR value of 8,750 having a chance of 8,750 times increasing oxytocin levels after being given treatment (back massage). Value B = Natural Logarithm of 8.750 = 2.558. Back massage has an effect on increasing oxytocin levels in breastfeeding mothers.

INTRODUCTION

Problems lactation has become significant issues in support success exclusive breastfeeding, which is one of the step important for ensure grow flower optimal child development (Angraeni, L., & Lubis, DR, 2021). Exclusive breastfeeding No only give benefit extraordinary health normal for baby, but also play role important in reduce risk disease infection, increase intelligence, and strengthen connection emotional between mother and baby (Arthyka, 2021). However, in reality

exclusive breastfeeding in Indonesia is still face various challenge. One of the factor main influencing factors low success of exclusive breastfeeding is problem breast milk production which is often not sufficient need baby (Astutik, LY, Mr, Z., & Kholisotin, 2019). This often related with low level hormone oxytocin , which plays a role important in the process of producing breast milk (Ayuningrum, LD, F, & Lestari, 2021).

Based on data released by the Ministry of Health of the Republic of Indonesia, the coverage of exclusive



breastfeeding in a way national Still is below the expected target (Simamora, Br Ginting & Br Pinem, 2019) . Report from the local Health Service of the Special Region of Yogyakarta Province show that exclusive breastfeeding coverage only reach around 65% in the year lastly , while the targets set in a way national is 80%. The situation This show existence significant gap between reality and expectations, which are caused by various factors, such as lack of support family, lack of access to facility counseling lactation, as well as condition physical and psychological mother who does not supporting (Belarminus, 2021). Factors This can hinder production hormone oxytocin is needed For smoothness breast milk production .

Government center and area, has do various effort For increase success exclusive breastfeeding. In Yogyakarta, such as has done a number of programs such as training counseling lactation for power health, provision room breastfeeding on the spot general, and exclusive breastfeeding campaigns through mass media. In addition, the government also encourages initiative For support Mother breastfeeding, especially in relation to with improvement level hormone oxytocin

For support smooth breastfeeding process.

Title study this, "The Influence Massage Back to Increased Oxytocin Levels in Breastfeeding Mothers" selected Because its high relevance with need will solution effective in overcome problem lactation. Focus on massage back as non- pharmacological interventions offer cheap , safe and easy alternative accessible For help Mother breast-feed increase their breast milk production. In addition, research This expected can give contribution real for development of strategies that can integrated in service health, such as integrated health post or health center, so that the benefits can felt by the community wide .

Research by Sri Wahyuningsih (2022) highlights benefit massage oxytocin in help Mother breast-feed increase smooth flow of breast milk. In research this, 40 mothers breast-feed given session massage oxytocin for 15 minutes every day for two weeks. The results show improvement significant in the volume of breast milk produced as well as decline level stress. Research This focuses on massage in the shoulder and back area part above, but No measure direct level hormone oxytocin



as indicators.

Although Lots study has identify importance hormone oxytocin in support success breastfeeding, some big studies previously more focused on intervention pharmacological or psychological For increase level hormone this. Research about non- pharmacological approaches, such as massage back, is still very limited, especially in Indonesia. Some existing research only give description general about effectiveness massage without measure in a way specific its influence to level oxytocin and its impact on smoothness breastfeeding. In addition, the implementation of massage back as intervention in facilities health Not yet Lots explored, so that potential its integration in the service program health Mother breast-feed Still Not yet maximum.

General purpose study This is For know influence massage back to improvement level oxytocin in the

mother breastfeeding at TPMB Utami's wife, Yogyakarta.

RESEARCH METHODS

Method uses quantitative with *Quasi Experiment* using *one group with pretest and posttest* . This *quasi-experimental research* will be conducted on breastfeeding mothers with normal delivery at TPMB Istri Utami, Yogyakarta, namely back massage actions to increase oxytocin levels. The sampling technique uses total sampling with observation sheet instruments and questionnaires collected from September to November 2024. Data analysis used in this study is univariate using *descriptive statistics* with frequency distribution test results, bivariate using *chi-square test*, and multivariate with the statistical test used is *logistic regression*. This research has been Ethical Appropriate with Number No. 3599 / KEP-UNISA / IV / 2024.

RESULTS AND DISCUSSION

Table 1. Tabulation S missing Between Relationships Massage Back To Increased Oxytocin Levels in Breastfeeding Mothers at TPMB Utami's Wife Yogyakarta

Massage Back	Oxytocin Levels				Odds Ratio	CI 95%		P-value
	Increase f	Increase %	Not Increasing f	Not Increasing %		Lower	Upper	
Pretest	8	13.3	22	36.7	0.421	0.219	0.809	0.009
Posttest	19	31.7	11	18.3				

Source : Results by Researchers, 2024

Available Online at <https://journal.ibrahimy.ac.id/index.php/oksitosin>

p-ISSN: 2354-9653| e-ISSN: 2597-6524



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Based on Table 1 above shows that before (*pretest*) and after (*posttest*) is carried out action massage back of the mother breast-feed obtained mark *p*-

value $0.009 < 0.05$, meaning massage back relate to improvement level oxytocin.

Table 2. Cross Tabulation Between Relationships Age, Education, Occupation, Parity and Anxiety To Increased Oxytocin Levels in Breastfeeding Mothers at Tpmb Utami's Wife Yogyakarta

	Variables Disturber	Oxytocin Levels				<i>P-value</i>
		Increase	Not Increasing	f	%	
Age	<20 and >35 Years	10	33.3	7	23.3	0.708
	20-35 Years	9	30	4	13.3	
Education	Low	13	43.3	2	6.7	0.030
	Currently	4	13.3	6	20	
Work	Tall	2	6.7	3	10	0.023
	Work	9	30	10	33.3	
Parity	Doesn't work	10	33.3	1	3.3	0.023
	Primipara	5	16.7	8	26.7	
Anxiety	Multipara	14	46.6	3	10	0.007
	Light	8	26.7	2	6.7	
	Currently	1	3.3	7	23.3	
	Heavy	6	20	1	3.3	
	Panic	4	13.3	1	3.3	

Source : Results by Researchers , 2024

Based on Table 2 above shows that age get mark *p-value* $0.708 > 0.05$, meaning age No own connection to improvement level Oxytocin. Education obtained a *p-value* of $0.030 < 0.05$, meaning.

That education is related to increased oxytocin levels. Work obtained a *p-value* of $0.023 < 0.05$, which means that work is related to increased oxytocin levels. Parity obtained a *p-value* of $0.023 < 0.05$, meaning that

parity is related to increased oxytocin levels. Anxiety obtained a *p-value* of $0.007 < 0.05$, meaning that anxiety is related to increased oxytocin levels.



Table 3 Logistic Regression and Odds Ration of Variables in the Equation

		B	SE	Wald	Df	Sig.	Exp(B)
Step 1 ^a	Back Massage	2,558	2,560	7,732	1	.005	8,750
	Education	1,096	1,582	1,827	1	.268	1.101
	Work	2,810	1,871	3,865	1	.026	1,445
	Parity	1,809	3,864	2,875	1	.018	2,245
	Anxiety	1,211	1,405	6,272	1	.012	6,235
	Constant	19,210	8,358	6,738	1	.029	.000

a. Variable(s) entered on step 1: Back_Massage , Education, Occupation , Parity , Anxiety .

Source : Results by Researchers , 2024

In the table above, it is known that the magnitude of the influence is indicated by the Exp (B) value or also called *the ODDS RATIO (OR)*.

1. The significant value of the independent variable (back massage) is $0.005 < 0.05$, so H_0 is rejected and H_a is accepted, meaning that back massage has an effect on increasing oxytocin levels in breastfeeding mothers.
2. The significant value of the interfering variable (work) is $0.026 < 0.05$, so H_0 is rejected and H_a is accepted, meaning that work has an effect on increasing oxytocin levels in breastfeeding mothers.
3. The significant value of the interfering variable (parity) is $0.018 < 0.05$, so H_0 is rejected and H_a is accepted, meaning that parity has an effect on increasing oxytocin levels in breastfeeding mothers.

4. The significant value of the interfering variable (anxiety) is $0.012 < 0.05$, so H_0 is rejected and H_a is accepted, meaning that anxiety has an effect on increasing oxytocin levels in breastfeeding mothers.

BASED on results research that has been done that improvement level oxytocin Mother breast-feed before it is done action massage back of 30 people level oxytocin increasing mother as many as 8 people (13.3%) and those who did not increase as many as 22 people (36.7%).

Study This in line with research conducted by Ika Mustika Dewi, (2022), the results study show that There is influence massage back to breast milk production in mothers *postpartum* with get mark *p-value* $0.000 < 0.05$. Research conducted by Ika Nur Saputri and Desideria Yosepha Ginting (2019) found that results study show There is a

significant influence to breast milk production before and after done massage oxytocin for Postpartum Mothers at the Clinic Primary Nining Attendant with mark $p\text{-value} = 0.008$ ($p = 0.05$) (Ika Mustika Dewi, 2022).

BASED on results research that has been done that improvement level oxytocin Mother breast-feed after it's done action massage back of 30 people level oxytocin increasing mother as many as 19 people (31.7%) and those who did not increase as many as 11 people (18.3%).

Research conducted by Agustina Catur Setyaningrum (2018) that There is a difference significant breast milk production after treatment for all group with p value = 0.000 (p value <0.05) and the average difference is 40.364 ml. RESEARCH conducted by Kurnia Dewi Rimandini (2022), that results study show changes at the time after and before done treatment massage through the Wilcoxon test obtained p -value of 0.000 which means $<(0.05)$ then stated existence significant changes Where increased flow of breast milk after done treatment massage (because mark *positive ranks* $>$ *negative ranks*). Based on mark smoothness of breast milk before and after massage oxytocin

known that before massage oxytocin, partly big respondents insufficient breast milk production fluent whereas after massage oxytocin part big respondents smooth breast milk production so that can concluded There is influence massage oxytocin to smooth flow of breast milk in mothers *postpartum* primipara at Moty Care Baby, Kids & Mom in Ciangsana Village Subdistrict Mount Putri, Bogor Regency (Agustina Catur Setyaningrum , 2018).

THERE is a difference in the increase in oxytocin levels of breastfeeding mothers before and after back massage with the results of the logistic regression test using the F test obtained a sig. $0.004 < 0.05$, and the t test obtained a sig. $0.005 < 0.05$ with an Exp (B) / OR value of 8.750 meaning that back massage has an effect on increasing oxytocin levels in breastfeeding mothers at TPMB Istri Utami Yogyakarta.

THE RESEARCH conducted in line with Kurnia Dewi Rimandini (2022), that the results of the study showed that maternal anxiety can affect the state of increasing oxytocin with the Wilcoxon test $0.000 <(0.05)$, there is a feeling of anxiety that is being experienced by the mother will reduce oxytocin levels and vice versa, where the



smoothness of breast milk increases if the mother does not experience anxiety or stress during the postpartum period (Rimandini, 2022).

The benefits of doing this back massage are: increasing the hormone oxytocin, facilitating...

BREASTFEEDING provides psychological support, increases self-confidence, reduces anxiety, reduces stress, and reduces fatigue. This massage works by relaxing tense muscles, thereby reducing pain and swelling, and improving sleep quality. This massage can also help overcome breastfeeding obstacles and maintain milk production (Mufdlilah, 2022).

By massaging the spine from the neck to the upper ribs, oxytocin massage stimulates the peripheral nervous system, improving the transmission of nerve impulses, and ultimately stimulating the production of hormones necessary for breastfeeding. This massage has a muscle-relaxing effect that can increase maternal comfort during breastfeeding. The hormone oxytocin, produced by the posterior pituitary gland, plays a crucial role in the milk letdown process and is influenced by the mother's level of relaxation. Mechanical stimulation of the nipples during breastfeeding will induce

the release of oxytocin from the neurohypophysis (Wahyuningtyas, *et al*., 2020).

CONCLUSION

Conclusion from study This show that action massage back own significant influence to improvement level oxytocin in the mother breast-feed with normal delivery at TPMB Istri Utami, Yogyakarta. Before done massage back (*pretest*), level oxytocin increased in 8 people (26.7%) while 22 people (73.3%) did not experience improvement. After done massage back (*posttest*), level oxytocin increased in 19 people (63.3%) and only 11 people (36.7%) did not increased. Analysis statistics using regression test logistics produce mark significance of 0.004 in the F test and 0.005 in the t test, both more small of 0.05, which indicates results significant. The Exp (B)/OR value of 8.750 indicates that massage back own influence eight times more big to improvement level oxytocin. With Thus, research This give proof scientific that massage back can help increase level oxytocin plays a role important in expedite breast milk production.

Massage back can implemented as one of the method non-



pharmacological For increase level oxytocin and facilitates breast milk production in mothers breastfeeding. Information This expected can become knowledge addition for Mother breastfeeding, especially those who experience decline breast milk production, so that can use method This as effective and economical alternative compared to with use drug breast milk stimulant. In addition, for researchers Next, it is recommended For explore method massage back with more samples big or in situation different clinical For expand generalization findings This. Research can also developed more carry on with consider other factors such as duration and intensity massage back For understand its influence in a way more deep.

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