

Effectiveness of Endorphin Massage and Breast Milk Supplements on Lactation Success

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ABSTRACT

Background: The mother's psychological preparation before breastfeeding, stress, excessive worry, unhappiness, all play a major role in the success of exclusive breastfeeding. Endorphin Massage is a light touch and massage that can increase the release of endorphins and oxytocin hormones. If endorphin massage is given to postpartum mothers, it will provide a sense of calm and comfort during lactation so as to increase the response of the posterior pituitary to produce the hormone oxytocin to increase the let down reflex. The purpose of this study was to find out whether there are differences in endorphin massage and breast milk enhancing supplements for lactation success.

Methods: This study used a Quasi-Experimental Design method with Pre-test and Posttest with control group design. This research was conducted in Aceh Besar District in 2021. The population in this study were postpartum mothers up to the 3rd day postpartum with a total sample of 51 people. Data analysis used the Anova test and the Post Hoc Test.

Results: The results of the ANOVA test showed that there was a difference in LATCH scores between the three groups with a significance value of $0.000 < 0.05$, and based on the results of the Post Hoc Test it showed that the most significant difference was between the control group with the endorphin massage group and the ASI supplement group with the Sig. $0.000 (< 0.005)$.

Conclusion: Endorphin massage is very influential on the success of lactation

Keyword : Endorphin massage; Breastfeeding supplements; Lactation success.

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Background. Breast milk contains the nutrients needed for the growth and development of the baby, including for the intelligence of the baby. In addition, for the psychology of breastfeeding mothers, it gives a feeling of satisfaction, pride and happiness when they successfully breastfeed their babies and strengthens the bond between mother and child (Marmi, 2014).

The problem of expending breast milk on the first day of a baby's life in the mother's factor is due to the reduced stimulation of the hormone oxytocin which can affect the lactation process. The facts show that the workings of the hormone oxytocin are influenced by psychological conditions. Psychological preparation of the mother before breastfeeding, stress, excessive worry,

unhappiness in the mother play an important role in the success of exclusive breastfeeding and colostrum breastfeeding (Widayanti, 2014). Lack of stimulation of the hormones prolactin and oxytocin causes a decrease in milk production and expenditure in the first days after delivery which affects the smoothness and production of breast milk. One solution to overcome the delay in milk production is by massaging the cervical spine, back or along the spine (vertebrae) up to the fifth to sixth ribs (Suherni, et al., 2009).

Endorphin Massage is a light touch and massage for mothers in labour, which can increase the release of endorphins and oxytocin hormones. If endorphin massage is given to postpartum mothers, it can provide a sense of calm and comfort during lactation,

thereby increasing the response of the posterior pituitary to produce the hormone oxytocin to increase the let down reflex (Aprillia, Y. 2010). The endorphin massage method is used as an alternative way to provide comfort for labor pain. Endorphins are known as substances that have many benefits. Endorphin massage can stimulate the release of endorphins and can stimulate the emergence of prolactin and oxytocin reflexes thereby increasing the volume and production of breast milk (Mongan, M. 2009).

Data from the World Health Organization (WHO) for 2016 still shows that the average rate of exclusive breastfeeding in the new world is around 38 percent. In Indonesia, although a large number of women (96%) breastfeed their children in their lifetime, only 42% of babies under 6 months are exclusively breastfed. By the time children approach their second birthday, only 55% are still being breastfed (IBI, 2018). Globally, the rate of exclusive breastfeeding is only 41% of infants under six months of age. The collective target for the global rate by 2030 is 70%. The rate of exclusive breastfeeding is relatively high in East and South Africa (55%), South Asia (54%) and lower in the Middle East (30%) and North Africa (29%). Moreover, the prevalence of exclusive breastfeeding in South Asia such as India 54.9%, China 1.4%, Nepal 65.2%, in Pakistan 37.7%, and in Sri Lanka 82.3% (Hasan et al., 2021).

The 2019 Indonesia Health Profile Report, nationally the coverage of infants receiving exclusive breastfeeding was 67.74%, this coverage decreased compared to 2018 of 68.74%. This figure has exceeded the 2019 Strategic Plan target of 50%. The lowest percentage of exclusive breastfeeding was in West Papua Province (41.12%) and Aceh was the ninth lowest province with the number of babies receiving exclusive breastfeeding of 55.24% (Kemenkes, 2021). The results of the initial assessment in the Ingin Jaya sub-district which is one of the areas within the Aceh Besar district, the achievement rate of exclusive breastfeeding has reached 52%.

In the Aceh region, there are still many mothers who carry out postpartum care based on culture or customs which can influence the culture of healthy living behavior, for example; there are still postpartum mothers who perform *madeung/sale* (burning) treatments, *toet batee* (stone burning), abstain from eating, drinking herbs with the aim of making the skin beautiful, clean and the body becomes slim. All of these things certainly have an influence on the mother's health condition which will ultimately affect the nutrition of babies who are breastfeeding, namely the need for breast milk. This is based on the results of research in Tanah Jambo Aye District, North Aceh Regency from August to September 2016 with a qualitative study to describe the experience of mothers after giving birth, the benefits of postpartum care and customs (Rahayu et al., 2017). Based on the data obtained from the Health profile of Aceh Province in 2020 the number of babies who get exclusive breastfeeding is 59%, this coverage has slightly increased compared to 2019 which was 55.24%. The lowest coverage of exclusive breastfeeding is in Aceh Jaya and Sabang districts. This low coverage is heavily influenced by the culture of giving food and drink too early to newborns. Besides that, many mothers cannot give breast milk to their babies because breast milk is not smooth (Aceh, 2020).

The purpose of this study was to determine the effectiveness of Endorphin Massage and Breast Milk Enhancing Supplements for Lactation Success in the Working Area of the Ingin Jaya Health Center, Aceh Besar District in 2021.

Methods. This study used the Quasy-Experimental Design method with Pre-test and Posttest with control group design, a research design that aims to determine the effect of giving treatment to an experimental group. The tools and materials used included observation sheets, LATCH assessment instruments, hand washing soap, gloves, towels, tissue, olive oil, small plates.

The sample in this study were postpartum mothers who were in the Working Area of the Public health center Ingin Jaya, Aceh Besar District in 2021. The sampling technique in this study used purposive sampling, namely by taking samples that matched the research criteria, namely postpartum mothers who were in the Working Area of the Public health center Ingin Jaya, in each group there were 17 people, so the total sample was 51 postpartum mothers.

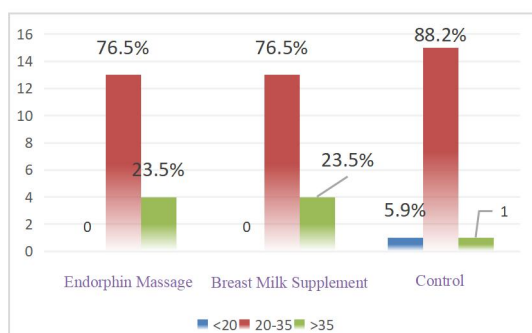
Research data analysis includes univariate analysis and bivariate analysis. The test used is the Analysis of Variance (Anova) to see differences in more than two intervention groups. In this study, what we wanted to see was the difference in lactation success between the group that received Endorphin Massage, the group that was given breast milk supplements and the control group. As well as looking at groups that have more significant differences with the post hoc test.

Result and Discussion. This study was conducted on 51 postpartum 0-3 days consisting of 17 mothers for each group, namely the endorphin massage intervention group, the intervention group taking breast milk enhancing vitamins and the control group according to the inclusion and exclusion criteria.

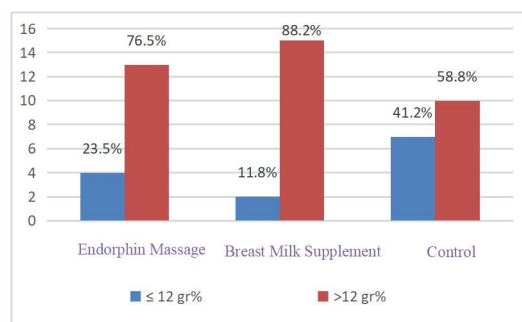
Characteristics of Respondents

a. Age of Respondents

The graph below shows that the average age of respondents from the three groups is in the 20-35 year category, meaning they are in the reproductively healthy age category.

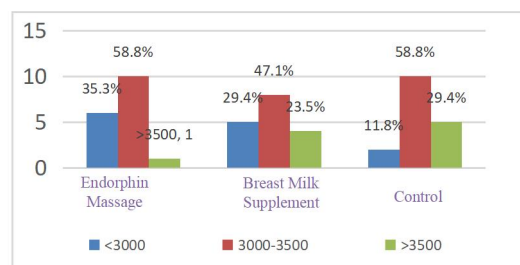


b. Hemoglobin Levels



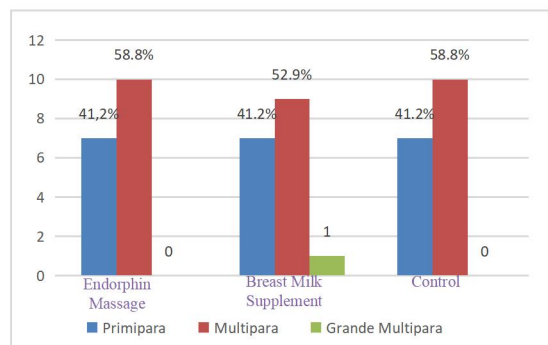
All respondents selected in this study had the same characteristics, namely they were not anemic, and most of the samples had Hb levels of more than 12 gram %, this can be seen from the graph above.

c. Baby's Weight



The graph above illustrates that the weight of the babies born to the respondents who were selected were babies in good health, with weights ranging from 2500-400 grams, and most of the average weight of babies born was around 3000-3500 grams.

d. Parity



The Effectiveness of Endorphin Massage, and Breast Milk Supplement on the success of lactation and the control group.

a. The difference in the average LATCH value after the intervention was carried out in each group.

Tabel 1. The results of the ANOVA test to see the average LATCH value in the endorphin massage group, the ASI supplement group and the control group

Group	N	Mean	SD	Sign
Endorphin Massage	17	4.35	1.057	.000
Breast Milk Supplement	17	3.18	.883	
Control	17	1.82	.809	

The test results in the table above show that statistically there is a significant difference in the average LATCH value in the endorphin massage intervention group, the breastfeeding supplement group and the control group with a significance value of $\alpha < 0.000 < 0.05$. The ANOVA test above shows that the average LATCH values in the 3 groups differ significantly, but these differences are overall. To find out significant differences or not, a Post Hoc Test was carried out in the following table:

b. Significant difference in mean LATCH values (Tukey)

Table 2. Follow-up test results (post hoc) for the Endorphin Massage Group, the Breastfeeding Supplement Group and the Control Group

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Endorphin Massage	Breast Milk Supplement	1.176*	.316	.001
	Control	2.529*	.316	.000
Breast Milk Supplement	Endorphin Massage	-1.176	.316	.001
	Control	1.353	.316	.000
Control	Endorphin Massage	-2.529*	.316	.000
	Breast Milk Supplement	-1.353	.316	.000

The further test results in the table above show that the most significant difference in the average LATCH value is between the control group with the endorphin massage group and

the ASI supplement group with a Sig. 0.000 (< 0.005) while the difference in the mean LATCH value between the endorphin massage group and the breastfeeding supplement group was 0.001 (< 0.005)

The LATCH score measurement is used as an indicator in assessing lactation success representing one characteristic: (Pambudi, 2010) dan (Abbas & Hasan, 2015)

L (LATCH-on), this assessment refers to the quality of the baby's attachment to the mother's chest during breastfeeding.

A (Audible Swallowing), refers to the number of swallowing sounds heard while feeding the baby.

T (Type or shape of Nipple), evaluates the type or shape of the mother's nipple.

C (Comfort level), refers to the comfort level of the mother in relation to the breast and nipples when breastfeeding.

H (Hold positioning), refers to whether the mother needs help in positioning the baby.

Abbas research, IM. and Rajaa Tareq Hasan on "Assessment of LATCH Tool Regarding Initiation of Breastfeeding among Women after Childbirth" aims to assess LATCH scores among breastfeeding mothers, identify problems related to breastfeeding, and find out the relationship between LATCH scores and several variables in their research. Mothers who breastfed at 6 weeks postpartum had higher LATCH scores (mean \pm SD = 9.3 ± 0.9) than those who were weaned (mean \pm SD = 8.7 ± 1.0) this was related to breast or nipple discomfort. Mothers who weaned their babies before 6 weeks postpartum reported lower breast/nipple comfort (1.5 ± 0.5) compared to those who were still breastfeeding at 6 weeks (1.7 ± 0.5) with a $P < 0.05$. This means that the Lact score is positively correlated with the duration of breastfeeding with $p: 0.003$. The LATCH tool is useful for identifying follow-up needs with breastfeeding mothers who are at risk of early weaning because of sore nipples. Successful breastfeeding depends on proper attachment of the baby to the breast, with the nipple and most of the areola well drawn into the baby's mouth (Abbas & Hasan, 2015).

A mother's beliefs or beliefs at the start of breastfeeding are related to the LATCH score. This factor can affect the effectiveness of the mother in maintaining exclusive breastfeeding for a longer time (Annisa, 2019). One effort that can be done to provide comfort to postpartum mothers is by touching and lightly massaging so that it can reduce anxiety in breastfeeding mothers and will help expedite milk production. Endorphin is a chemical that can be produced naturally by the body and plays a role in reducing pain. Endorphins are produced by the pituitary gland and the human central nervous system. Pratimi's research shows that the comfort that is obtained after being given an endorphin massage can help increase the release of endorphin hormones which are able to provide a sense of comfort and calm and increase the production of the hormone oxytocin, so that if postpartum mothers are given endorphin massage it will provide a feeling of comfort and calm during the lactation period thereby increasing responsiveness. posterior pituitary to produce the hormone oxytocin which can increase the let down reflex (Pratimi et al., 2020).

Breastfeeding mothers must be in a relaxed state, indirectly psychological conditions greatly affect the lactation process. Research conducted > 80% of failure in breastfeeding in the early stages is due to psychological conditions. Mother's thoughts are a lot of pressure, excessive worry will stimulate at the same time. The research findings revealed that there was a significant difference between lactation success in the intervention group and the control group. The success of lactation in a mother can be influenced by various factors, including nutritional intake that supports milk production, breast massage and psychological factors for breastfeeding mothers (Ulfa & Setyaningsih, 2020).

The results of this study showed that there was a significant difference in the LATCH value between the endorphin massage intervention group and the control

group. This indicates that the endorphin massage group had an average LATCH value higher than the control group. Mothers who get endorphin massage will feel more relaxed and comfortable, because endorphin massage will stimulate the body to release endorphins which are natural pain relievers. When the mother feels comfortable there will be an increase in oxytocin production. Oxytocin is a hormone that stimulates milk production. This condition is caused when massage is done, the back nerves will stimulate the release of endorphins. When given a back massage, the back nerves will send signals to the brain to release oxytocin, which will cause contractions in the myoepithelial cells so that it will encourage milk release. The smooth expulsion of breast milk is also related to the increase in blood circulation in the breast area after being given a back massage.

Conclusion and Suggestions.

Endorphin massage is very influential on the success of lactation. The results of the ANOVA test showed that there was a difference in LATCH scores between the three groups with a significance value of 0.000 < 0.05, and based on the results of the Post Hoc Test it showed that the most significant difference was between the control group with the endorphin massage group and the ASI supplement group with the Sig. 0.000 (< 0.005).

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