

## EFFECTIVENESS OF THE COMBINATION OF SMOOTH SPINACH CONSUMPTION AND OKETANI MASSAGE ON INCREASING BREAST MILK PRODUCTION IN POSTPARTUM MOTHERS

Sitti Atimah <sup>1</sup>, Resi Galaupa <sup>2</sup>

<sup>1,2</sup> Midwifery Study Program, Abdi Nusantara College of Health Sciences, Jakarta

Email : [sitiatimahamkeb84@gmail.com](mailto:sitiatimahamkeb84@gmail.com)

### Abstract

**Background :** *The period of breastfeeding in children aged 0-6 months is one part of the first 1,000 days of life (golden period). Exclusive breastfeeding aims to guarantee the right to exclusive breastfeeding up to the age of 6 months by taking into account the growth and development of the baby. Some mothers find it difficult to express breast milk because more and more mothers are influenced by myths. When a mother is concerned about her baby's ability to breastfeed, the hormone oxytocin decreases, causing her to stop producing and eventually breastfeed soon after birth. One way to stimulate the mother's prolactin and oxytocin hormones after giving birth is breastfeeding massage.*

**Writing purpose :** *To determine the effectiveness of the combination of consumption of smoothy spinach and oketani massage to increase the amount of milk production in postpartum mothers in the UPT area dcomparison of giving snakehead fish extract and smoothy spinach to increasing hemoglobin levels in pregnant women in the UPT Puskesmas Kalri Karawang area in 2023.*

**Research methods :** *This type of research used is quantitative research. This research method is experimental with the type of Quasy Experimental (pseudo-experimental) with a post test only design approach. This research was conducted in the UPT Kalri Health Center, Karawang December 2022 to January 2023. The population in this study were all postpartum mothers at the Mukoyurli Buol Hospital with a total of 63 people. Samples were taken using non-probability sampling method with purposive sampling technique. The number of samples in this study were 32 research samples.*

**Research result :** *The results of the independent statistical test sample T test obtained a value of  $p = 0.000$  ( $p < 0.05$ ), which means that the combination of smoothy spinach and massage oketani has a significant effect on milk production.*

**Conclusion :** *There is a significant relationship between the combination of smoothy spinach and oketani massage on milk production. It is hoped that health workers (doctors, midwives, nurses) can assist postpartum mothers in communicating providing information and education about the benefits of a combination of smoothy spinach and oketani massage in helping patient families to provide oxytocin reflex massage to postpartum mothers.*

**Keywords:** *Breast milk production, Spinach Smoothy, Oketani Massage*

## INTRODUCTION

Breastfeeding is a physiological thing that increases the mother's nutritional needs to produce enough breast milk so that she is prone to malnutrition. Lack of micro and macro nutrients consumed by breastfeeding mothers will affect the ability to provide breast milk with sufficient nutritional content for the growth and development of the baby.

Based on data from the World Health Organization (WHO) (2021b) 2 out of 3 babies are not exclusively breastfed for 6 months. Meanwhile in Indonesia Based on coverage The 2018 Riskesdas results reported that the coverage of ASI and IMD increased from 34.5% (2013) to 58.2% (2018) while the prevalence of exclusive breastfeeding in 2018 was only 37.3%. 50% and 80% for exclusive breastfeeding and IMD coverage. In fact, the gap between IMD coverage and exclusive breastfeeding is getting higher. The impact of the low coverage of IMD will continue to the low coverage of exclusive breastfeeding and increase the incidence of diarrhea, respiratory tract infections (ARI) as well as growth disorders accompanied by malnutrition during infancy and under-five mortality. (Kemenkes, 2021). Based on a preliminary study of the RSU profile Mukoyurli Buolobtained by postpartum mothers in 2020 were 1,033 postpartum mothers, and in 2021 there were 946 postpartum mothers.

Several studies have proven that breastfeeding provides positive benefits for both the physiological and psychological health of mothers and babies. Exclusive breastfeeding for 6 months can protect babies from gastrointestinal infections, protect newborns from infections, and reduce the risk of newborn death. (WHO, 2021b). Children who are given ASI will also have better intelligence, prevent the risk of obesity and prevent diabetes in the future (World Health Organization, 2021a). In addition, it can also avoid hypertension, cardiovascular disease, hyperlipidemia, and also better socio-emotional children (Binns & Lee, 2016; Krol, 2018).

The period of breastfeeding in children aged 0-6 months is one part of the first 1,000 days of life (golden period). If during the golden period there is a disturbance, it can have an impact on the child's growth and development which is permanent, long-term and difficult to repair. Thus, the phase when mothers breastfeed from 0 to 6 months is important (Sudargo et al., 2018).

Breastfeeding is the process of providing food in the form of breast milk to babies which is given directly from the mother's breast. Breastfeeding is an optimal way that can provide nutrition to babies and functions to protect babies from various diseases and infections as well as being economical compared to formula milk (Sarih, Sirajuddin, et al., 2020). Breastfeeding has demonstrated benefits on a child's neurodevelopment. Breast milk promotes child development through its nutrition, especially through fatty acids (Long-chain polyunsaturated fatty acids-LCPUFAs). (Hasanah et al., 2017).

Exclusive breastfeeding aims to guarantee the right to exclusive breastfeeding up to the age of 6 months by taking into account the growth and development of the baby. Some mothers find it difficult to express breast milk because more and more mothers are influenced by myths. When a mother is worried about her baby's ability to breastfeed, the hormone oxytocin decreases, causing her to stop producing and end up breastfeeding soon after birth. One way to stimulate the mother's prolactin and oxytocin hormones after giving birth is breastfeeding massage (Alderman & Headey, 2018).

Early breastfeeding is highly recommended because it provides health benefits for both mother and baby. During this period, mother and baby learn to breastfeed, in the first hour the baby will learn to breastfeed or get used to sucking on nipples and prepares the mother to produce colostrum milk (Campos et al., 2021).

However, in 2020 until now nutritional problems are still the main factor in the occurrence of stunting and wasting, especially during this pandemic, the prevalence has increased to a higher level in almost all areas where confirmed cases of Covid-19 have been reported. (Syahril et al., 2020). The causal factors that underlie the occurrence of these nutritional problems are the decrease in food availability at the community level and household level as well as economic factors, in which people have difficulty obtaining food. This situation certainly has an impact on public health conditions, especially for vulnerable groups such as mothers and children. During the Covid-19 pandemic, nutrition services were prioritized for vulnerable groups, especially toddlers, pregnant women and breastfeeding mothers (Sarih, Sirajuddin, et al., 2020).

Several methods can increase milk production by activating the chemicals prolactin and oschitosine in post-pregnancy mothers by utilizing non-pharmacological strategies and pressure point massage. Spinach leaves are also proven to increase breast milk production. The results of the research conducted showed that it was able to increase milk secretion and alveolar diameter of the udder glands of mice (*Mus musculus*). Research conducted by Kuswaningrum et al (2017) showed that giving spinach leaf extract capsules (*Amaranthus spinous L.*) 1400 mg per day (morning, afternoon and evening) was able to increase prolactin levels and milk production in postpartum mothers. The increase in milk production is due to turi and spinach leaves containing phenol compounds. Polyphenols play a role in increasing prolactin levels. High prolactin increases milk production

A preliminary survey conducted at the Klari Karawang Health Center, obtained data in 2022 as many as 886 babies and 649 babies (73.2%) who gave exclusive breastfeeding, so researchers were interested in knowing Effectiveness Combination of Consumption of Smoothy Spinach and Massage Oketani on Increasing the Amount of Breast Milk Production in Postpartum Mothersin the Kalri Karawarang Health Center UPT Area in 2023.

## **RESEARCH METHODS**

This type of research used is quantitative research. This research method is experimental with the type of Quasy Experimental (pseudo-experimental) with a post test only design approach. This research was conducted in the UPT Kalri Health Center, Karawarang December 2022 to January 2023. The population in this study were all postpartum mothers at the Mukoyurli Buol Hospital with a total of 63 people. Samples were taken using non-probability sampling method with purposive sampling technique. The number of samples in this study were 32 research samples.

**RESEARCH RESULT**

**A. Characteristics of Respondents**

1. Age

**Table 5.1**  
**Distribution of Age Frequency of Respondents in UPT Puskesmas Areas Kalri Karawarang Year 2023**

Age	Amount (n)	Percent (%)
<20	2	6,25
20-30	26	81.25
>30	4	12.5
<b>Amount</b>	<b>32</b>	<b>100</b>

Source: Primary Data, 2023

Based on table 5.1 it shows that the age of most respondents is between 20-30 years, namely 26 respondents (81.25%), aged <20 years by 2 respondents (6.25%) and age >30 years by 4 respondents (12.5%) ).

2. Parity

**Table 5.2**  
**Frequency Distribution of Respondent Parity in the UPT Puskesmas Kalri Karawarang in 2023**

Parity	Amount (n)	Percent (%)
Primipara	20	62.5
Multipara	12	37.5
<b>Amount</b>	<b>32</b>	<b>100</b>

Source: Primary Data, 2023

Based on table 5.2, it shows that the most parity of respondents is primipara, namely 20 respondents (62.5%) and multiparas as many as 12 respondents (37.5%).

## B. Univariate analysis

### 1. No intervention

**Table 5.3**  
**Frequency Distribution of the Control Group in the UPT Puskesmas Kalri Karawarang in 2023**

Control	Amount (n)	Percent (%)
Fluent	4	25
Not smooth	12	75
<b>Amount</b>	<b>16</b>	<b>100</b>

Source: primary data, 2023

Based on table 5.3 it shows that the group that was not given a combination of smoothy spinach and oketani massage (the control group) experienced non-fluent breastfeeding, namely 12 respondents (75%) and experienced smooth breastfeeding, namely 4 respondents (5%).

### 2. What is done is a combination of smoothy spinach and oketani massage

**Table 5.4**  
**Frequency Distribution of Intervention Groups in the UPT Puskesmas Kalri Karawarang Region in 2023**

Intervention	Amount (n)	Percent (%)
Fluent	13	81.2
Not smooth	3	18,8
<b>Amount</b>	<b>16</b>	<b>100</b>

Source: primary data, 2023

Based on table 5.4, it shows that after giving the combination of smoothy spinach and oketani massage, 13 respondents (81.2%) experienced smooth breastfeeding in the intervention group and 3 respondents (18.8%) experienced non-fluent breastfeeding.

C. Bivariate Analysis

**Table 5.5**  
**Analysis of the Effect of the Combination of Giving Spinach Smoothy and Oketani Massage on Increasing Breast Milk Production in the UPT Puskesmas Kalri Karawarang Area in 2023**

Variable	Treatment	N	Means	SD	p-values
Production	Control	16	1.20	0.414	0.000
ASI	Intervention	16	1.80	0.414	

Source: Primary Data, 2023

Based on table 5.5 using the independent simple t test, a p-value of 0.000 is obtained. It can be seen that the p-value is  $0.000 < \alpha (0.05)$ , then  $H_0$  is rejected. The conclusion is that there is a significant effect on milk production given a combination of smoothy spinach and oketani massage in the Kalri Karawarang Health Center UPT Area in 2023.

**DISCUSSION**

**A. Breast milk production given a combination of Smoothy Spinach and Oketani Massage**

The results of the analysis of giving a combination of smoothy spinach and oketani ASI massage from 32 respondents were divided into 2 groups, namely 16 control groups and 16 intervention groups. The intervention group consisted of 13 respondents (81.2%) whose breastfeeding was smooth and as many as 3 respondents (18.8%) whose breastfeeding was not smooth. The independent statistical test results for the Independent T test sample obtained a value of  $p=0.000$  ( $p<0.05$ ), which means that the combination of giving spinach smoothy and oketani massage has a significant effect on breast milk production.

Lactation involves the process of producing and releasing breast milk which has started since pregnancy, and milk production is still inhibited during pregnancy. As soon as the baby and placenta are born, estrogen and progesterone drop drastically so that the work of prolactin and oxtocin will be maximized so that the release and release of breast milk will be smooth. The non-existence of breast milk is not only because there is no or insufficient milk production, but often enough milk production is inhibited due to inhibition of oxytocin secretion. (Princess Permata Sari, Irna Nursanti, 2020).

Spinach plants can be cultivated and have a high nutritional content. Data from the Ministry of Agriculture Director General of Horticulture in 2015 stated that Spinach production in 2014 reached 134,159 tons per year. This sizeable number can be maximized by utilizing spinach into a variety of useful products, one of which is a phytopharmaca product. Besides spinach, breadfruit (*Artocarpus altilis*) is also a versatile plantation product, to be used as a source of nutrition/nutrients, rich in carbohydrates, calcium, phosphorus and iron (Fe) needed by pregnant and lactating women (Sari, 2017).

According to (Mutika et al., 2018) also states that massage can significantly affect the peripheral nervous system, increase stimulation and conduction of nerve impulses, weaken and stop pain and increase blood flow to tissues and organs. Besides that, it makes muscles flexible and provides a therapeutic and relaxing effect so that you feel comfortable and relaxed .

In addition, smooth breastfeeding can also be supported by improving nutrition, early initiation of breastfeeding, frequency of breastfeeding from mother to baby, maternal psychology, physical factors of the mother, physical factors and the health of the baby, mother's occupation, knowledge of the mother about the importance and benefits of breastfeeding and its benefits. The same is true of research conducted by (P. Wulandari et al., 2018) This shows that nutritional status will affect milk production. If the food that the mother eats is sufficient in terms of nutrition and a regular diet, breast milk production will run as smoothly as spinach.

Based on the researchers' assumption that the hormone oxytocin is the hormone of love, so that if the mother's condition is calm, happy and comfortable, the production of oxytocin in postpartum mothers is very beneficial for the baby and mother. In addition, the mother's nutrition also needs to be maintained so that when the time comes, milk production is sufficient for the breastfeeding process. Where we know that breast milk is very beneficial for babies, as an antibody substance and as a baby's immunity during life when the baby is an adult plus giving green vegetables such as spinach can increase body immunity and affect milk production.

## **B. Production of breast milk that is not given intervention**

Based on table 5.3, it shows that the group that did not receive oxytocin massage (the control group) experienced non-fluent breastfeeding, namely 12 respondents (75%) and experienced smooth breastfeeding, namely 4 respondents (5%).

Mothers who have just gone through the process of giving birth often feel exhausted and stressed due to the pain they experienced during their labour, as well as muscle tension. For this reason, support from various parties, both husbands, family or health workers is needed because the unstable psychological condition of the mother can reduce the stimulation of the hormone oxytocin. (Masning, firda fibrilla, 2017). The impact that occurs is the release of ASI to be late. In addition to emotional support, physical support by giving massages as well as nutrition and adequate rest will make the mother's body relax and comfortable (Gustirini, 2021).

Based on the assumptions of the researchers, the mother experienced a feeling of discomfort immediately after entering labor. If the mother cannot relax in labor it can cause anxiety and an endocrine response and this can cause sodium retention, potassium excretion and a decrease in glucose.

## CONCLUSION

- a. The results of the independent statistical test sample T test obtained a value of  $p = 0.000$  ( $p < 0.05$ ), which means that the combination of smoothy spinach and massage oketani has a significant effect on milk production.
- b. The group that was not given a combination of smoothy spinach and oketani massage (the control group) experienced non-fluent breastfeeding, namely 12 respondents (75%) and experienced smooth breastfeeding, namely 4 respondents (5%).

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