



## Effect of Morinaga Leaves (*Moringa Oleifera*) on Breast Milk Production in Post Partum Mothers

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**Abstract** - Fulfillment of the nutritional needs of infants 0-6 months is absolutely obtained through breast milk for infants with exclusive breastfeeding. Based on this, efforts to improve nutrition for infants 0-6 months are carried out through improving maternal nutrition before and during exclusive breastfeeding. However, exclusive breastfeeding always fails this is caused by less milk production. One of the plants that can increase breast milk production is Moringa leaves. Moringa leaves contain laktogogum which can stimulate the hormones oxytocin and prolactin. This study aims to determine the effect of Moringa Leaves (*Moringa Oleifera*) on breast milk production in post partum mothers in Nelly's Independent Midwife Practice (PMB) Working Area of Tapung II Public Health Center, Kec. Tapung. The study was conducted from January to April 2021 by giving Moringa leaves to post partum mothers. This type of research is pre experimental with one group pretest posttest designs. The number of samples in this study was 13 post partum mothers with total sampling technique. Statistical test Paired sample T-test obtained p value of 0.000. The results of statistical tests showed that before being given Moringa leaf steeping the mean value was 32.15 times and there was an increase in breast milk production after being given Moringa leaf steeping, the mean value was 71.23 times. So it can be concluded that there is an effect of Moringa leaves on breast milk production in post partum mothers with a mean difference of 39.08. It is hoped that Moringa leaves can be an alternative physiological therapy to increase breast milk production in postpartum mothers.

**Keywords:** Breast milk production, Moringa leaves

### 1. Introduction

The World Health Organization (WHO) and the Ministry of Health recommend that infants be breastfed immediately after birth and are not given any food other than breast milk for the first 6 months of life, not given water or other food, only breast milk. From 6 months to at least 2 years, breast milk should still be given along with safe and nutritious complementary foods. However in Indonesia, although a large number of women 96% breastfeed their children in their lifetime, only 42% of infants under 6 months of age are exclusively breastfed. By the time children approach their second birthday, only 55% are still breastfed (WHO, 2014).

The Ministry of Health (2020) reports that 96% of women in Indonesia breastfeed their children, but only 42% give exclusive breastfeeding. Accordingly, the 2015 Strategic Plan target is 39%. In 2019, the results of the Indonesian Demographic and Health Survey (IDHS) reported that the percentage of exclusive breastfeeding coverage for infants aged 0 to 6 months was 35.73%. Riskesdas (2020) reports that in Indonesia the proportion of breastfeeding for infants and children aged 0 to 5 months is 37.3%. The government's efforts to protect, support and promote exclusive breastfeeding are Government Regulation No. 33 of 2012 concerning exclusive breastfeeding. This regulation implements the provisions of Article 129 paragraph (2) of Law Number 36 Year 2009 concerning Health.

Rahayu's research (2017) states that food factors have a significant effect on breast milk production in addition to psychological factors and baby sucking. Moringa plant (*Moringa oleifera*) is a local food ingredient that has the potential to be developed in the diet of nursing mothers, because it contains phytosterol compounds that function to increase and facilitate breast milk production. In addition, all



nutritional elements consisting of protein, carbohydrates, fats, vitamins, and minerals, are contained in the Moringa leaves. Therefore, it is not an exaggeration to say that Moringa leaves are plants that are able to meet almost all human nutritional needs.

The advantages of Moringa leaves are efficacious to overcome various complaints caused by vitamin and mineral deficiencies, such as vitamin A deficiency (visual impairment), choline deficiency (fat accumulation in the liver), vitamin B1 deficiency (beri-beri), vitamin B2 deficiency (dry skin and chapped), vitamin B3 deficiency (dermatitis), vitamin C deficiency (bleeding gums), calcium deficiency (osteoporosis), iron deficiency (anemia), and protein deficiency (chapped hair and growth disorders in children). Moringa leaves Phytosterol compounds will have a laktogogum effect, including sterols. Lactogogum has the potential to stimulate the hormones oxytocin and prolactin which are useful in increasing breast milk production (Kriswandi, 2015).

Based on a preliminary study conducted by researchers in the independent practice of midwives (PMB) Nelly, it was found that from 10 postpartum mothers, 7 of them did not breastfeed exclusively. This is because the mother complains that there is little breast milk so the mother gives formula milk to her baby

## 2. Tables

The research was conducted in January-April 2021 at Nelly's Independent Midwife Practice (PMB) Working Area of Tapung II Health Center, Tapung District. The population in this study were postpartum mothers at Nelly's Independent Midwife Practice (PMB). The sample in this study used total sampling.

Data analysis in this study was processed by univariate and bivariate. Univariate analysis to see the frequency distribution of breast milk production before being given Moringa leaves and to see the frequency distribution of breast milk production after being given Moringa leaves. Bivariate analysis using Paired sample T-test statistical test to see the average milk production.

### 2.1 Univariate Analysis Results

**Table 1**

Distribution of Milk Production Frequency Before Moringa leaves are given to Post Partum Mothers

No.	Breast milk production	Frequency (F)	Percentage (%)
1	Less	9	69,2
2	Enough	4	30,8
	<b>Total</b>	<b>13</b>	<b>100</b>

In table 1 it can be seen that before being given Moringa leaves the majority of breast milk production was less as many as 9 respondents with a percentage of 69.2%, while breast milk production was sufficient as many as 4 respondents with a percentage of 30.8%.

**Table 2**

Distribution of Breast Milk Production Frequency After being given Moringa leaves to Post Partum Mothers

No.	Breast milk production	Frequency (F)	Percentage (%)
1	Less	2	15,4
2	Enough	11	84,6
	<b>Total</b>	<b>13</b>	<b>100</b>

In table 2 it can be seen that after being given Moringa leaf steeping, the majority of breast milk production was sufficient as many as 11 respondents with a percentage of 84.6%, while breast milk production was less than 2 respondents with a percentage of 15.4%.

### 2.2 Bivariate Analysis Results

**Table 3**

The Effect of Moringa Leaves on Breast Milk Production in Post Partum Mothers

Breast milk production	N	Mean	Standar Devisiasi (SD)	Difference Mean	Sig. (2-tailed)
Amount of Pretest Breastmilk	13	32,15	8,999		
Posttest Breastmilk Amount	13	71,23	9,926	39,08	0,000

Based on table 3 above, it can be seen that there is a high difference in the amount of breast milk between before and after the intervention with a p-value of 0.000.

### 3. Analysis

Based on the results of research on 13 respondents, it was known that before giving Moringa leaves, 9 respondents had less milk production with a percentage of 69.2%, while the least amount of breast milk production was sufficient as many as 4 respondents with a percentage of 30.8%. After giving Moringa leaf steeping, breast milk production was sufficient for 11 respondents with a percentage of 84.6%, while at least 2 respondents had less milk production with a percentage of 15.4%.

The results of the dependent T-test Paired sample T-test showed that the average milk production before being given Moringa leaves was 32.15 times (SD=8.999) after steeping Moringa oleifera leaves for 3 days then breast milk production increased to 71.23 times (SD=9.926), there was an increase in the average milk production of 39.08 times. Statistical test results obtained p value = 0.000 or p value <0.05, meaning that there is an effect of Moringa Leaf Effect on Increasing Breast Milk Production in Post Partum Mothers in Nelly's Independent Midwife Practice (PMB) in the Work Area of the Tapung II Health Center, Kec. Tapung.

The advantages of Moringa leaves are efficacious to overcome various complaints caused by vitamin and mineral deficiencies, such as vitamin A deficiency (visual impairment), choline deficiency (fat accumulation in the liver), vitamin B1 deficiency (beri-beri), vitamin B2 deficiency (dry skin and chapped), vitamin B3 deficiency (dermatitis), vitamin C deficiency (bleeding gums), calcium deficiency (osteoporosis), iron deficiency (anemia), and protein deficiency (chapped hair and growth disorders in children). Moringa leaves Phytosterol compounds will have a laktogogum effect, including sterols. Lactogogum has the potential to stimulate the hormones oxytocin and prolactin which are useful in increasing breast milk production (Kriswandi, 2015).

This research is in line with research conducted by Purnanto (2020). With the title "The Effect of Moringa Leaf Tea Consumption on Increasing Breast Milk Production in Grobogan". Research results The results showed that the average of breast milk in the pre-test stage was 152.00 and increased to 158.50 at the post-test stage. There is a difference in the amount of breast milk with a p-value of 0.002 with a correlation value of 0.934. The conclusion of the research is that there is a significant effect on the consumption of Moringa leaf tea for breast milk production

The results of this study are also in line with research conducted by Trismiyana (2020) with the title "The Effect of Steeping Moringa Leaves on the Quantity of Mother's Milk in Breastfeeding Mothers of 0-6 Months Infants in the Work Area of the Sumur Batu Health Center, Bandar Lampung City". The results of the study The average quantity of breast milk in mothers breastfeeding infants 0-6 months before being given Moringa leaf steeping in the Sumur Batu Health Center Work Area, with a mean of 72.50 standard deviations 25.317 standard errors of 4.622, after being given Moringa leaf steeping the mean 97.17 standard deviation 17.601 standard error 3,214. The results of the t-test p-value 0.000 (<0.05).

According to the researcher's assumption, Moringa leaves contain phytosterol compounds, these compounds have a laktogogum effect including sterols. Lactogogum has the potential to stimulate the hormones oxytocin and prolactin which are useful in increasing and facilitating milk production. There are 2 hormones that play a role in the production of breast milk, namely oxytocin and prolactin. Where the workings of the oxytocin hormone obtained from the sucking of the baby while breastfeeding will be forwarded to the hypothalamus, then oxytocin will trigger the smooth muscles around the alveoli to contract and secrete milk. While the workings of the hormone prolactin when the baby is breastfeeding, sensory stimulation from the nipple will be sent to the brain in response to the hormone prolactin which goes to the breast through the bloodstream, stimulating other cells to produce milk.

### 4. Conclusion

Based on the results of research on 13 respondents, the results of statistical tests using the dependent T-test Paired sample T-test obtained p value = 0.000 or p value <0.05, meaning that there is an effect of Moringa Leaf Effect on Increasing Breast Milk Production in Post Partum Mothers in Independent Practice Midwife Nelly Working Area of Tapung II Health Center, Tapung District.

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