

# Influence Of Consumption Of Katuk Leaves, Spinach And Cassava Against The Production Of Breast Milk In Nursing Mothers In The Working Area Of Puskesmas Ciligrang Year 2022

Iis Siti Nirmalayanti<sup>1\*</sup>, Wintarsih<sup>2</sup>

<sup>1,2</sup> Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara, Indonesia

\*Corresponding Author:

Email: [iisnirmala@yahoo.com](mailto:iisnirmala@yahoo.com)

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## **Abstract.**

*Based on the Global Breastfeeding Scorecard report which evaluates breastfeeding data from 194 countries, the percentage of infants under 6<sup>th</sup> month who are exclusively breastfed is only 40%. In addition, only 23 countries have exclusive breastfeeding rates above 60% (United Nations Children's Fund). However, at the Lebak district level, in 2019 there were 2553 babies and in 2020 there were 1.614 babies who were exclusively breastfed. This study aims to determine the Effect of Consumption of Katuk Leaves, Spinach and Cassava on the Production of Breastfeeding Mothers in the Work Area of the Ciligrang Health Center in 2022. This research method uses a Quasi Experiment research type with a pre and post test design without control. The population in this study were postpartum mothers and breastfeeding mothers in the period December 2021-August 2022 in the working area of the Ciligrang Health Center, a total of 433 people, 39 respondents as a sample, 13 for the katuk leaf consumption group, 13 for spinach leaf consumption and 13 respondents in the cassava leaf consumption group. Respondents will be taken by accidental sampling technique. Data were analyzed using univariate, bivariate and multivariate analysis. The results of this study showed that most of the respondents were aged 20-35 years (87.2%), more than half of the respondents had multipara/grandemultipara parity status (69.2%) and half of the respondents had secondary education (56.4%). In the katuk leaf group (pvalue 0.003), spinach leaf group (pvalue 0.003) and cassava leaf group (pvalue 0.001) where the pvalue of the three groups was > 0.05, it could be interpreted that these three groups had an effect on milk production in nursing mothers. It can be concluded that katuk, spinach and cassava leaves can help milk production in nursing mothers. It is hoped that this research can educate the public more with the aim of maintaining and increasing the rate of exclusive breastfeeding in the Working Area of the Ciligrang Health Center.*

**Keywords :** Age, Parity, Education and Breast Milk Production.

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## **I. INTRODUCTION**

Breast milk (ASI) is an ideal food in meeting the nutritional needs of newborns. Breast milk provides the energy and nutrients needed for the development and growth of the baby. UNICEF and WHO recommend exclusive breastfeeding until the baby is six months old, over the age of six months the baby should be given additional food both semi-solid and solid (Ministry of Health, 2017). One of the goals of national development is to build quality Human Resources (HR) to lead to prosperous, just and prosperous families. Reliable human resources can be realized by implementing various programs including the fulfillment of nutrition for newborns with breastfeeding programs up to the age of 2 years and exclusively for 6 months. In general a mother produces milk, which we call breast milk as a natural food provided to babies (Mufdlilah, 2017). Data obtained from UNICEF (2018) states that there was an increase in exclusive breastfeeding in the world by 36% in 2000 to 41% in 2018, 2 but this figure is still below the Sustainable Development Goals (SDGs) target of 50%. In general, the rate of breastfeeding in the world is quite low. Based on the Global Breastfeeding Scorecard report evaluating breastfeeding data from 194 countries, the percentage of babies under six months of age given exclusive breastfeeding is only 40%. In addition, only 23 countries have exclusive breastfeeding above 60% (United Nations Children's Fund (UNICEF, 2017) Rikesdas data (2018) shows that the prevalence of coverage of exclusive breastfeeding patterns in infants 0-6 months in Indonesia in 2018 has only reached 37.3% (Ministry of Health RI, 2018).

The Ministry of Health (Kemenkes) noted that the percentage of exclusive breastfeeding for babies aged 0-5 months was 71.58% in 2021. This figure shows an improvement from the previous year of 69.62%. Breastfeeding immediately after birth meaningfully increases the baby's chances of life. If the baby starts breastfeeding within 1 hour of birth, (22%) babies who die in the first 28 days (equivalent to about one million newborns every year in the world) can actually be prevented. If this breastfeeding process begins in the first day, then only (16%) babies can be saved (Nasrullah, 2018). The main causes of failure in the breastfeeding process are often caused by not having Early Breastfeeding Initiation (IMD) immediately after the baby is born, milk production is less (32%), problems with the nipples (28%), the influence of advertising on formula milk (6%), working mothers (5%), while the problems that often occur when breastfeeding are breast milk that is not smooth or the discharge is only a little (Ministry of Health, 2018). According to Dewi (2019), the impact of poor breastfeeding makes mothers think that their babies will not get enough nutrients so that mothers immediately make the decision to stop breastfeeding and replace it with formula milk, while babies who are not effectively breastfed, but are fed formula will be more at risk of allergies to food or air exposure, prone to diarrhea, suffer from asthma, easily obese, can suffer from diabetes, indigestion, disorders of the teeth and malocclusion, can suffer from iron deficiency anemia.

Efforts that can be made to increase breast milk production include consuming katuk vegetables, Siamese pumpkin, string beans, Moringa leaves and banana heart. Banana heart and Moringa leaves have the potential to stimulate the hormones oxytocin and prolactin which effectively increase and facilitate breast milk production, banana heart and Moringa leaves are easy to get so they are suitable to help increase breast milk (Manalu, 2020). However, at the district level itself, Lebak Regency experienced a decrease in 2019 by 2553 babies and in 2020 to 1614 babies who received exclusive breastfeeding (Banten Open Data, 2021). For the Puskesmas level in 2020 at the Cilograng Health Center which received exclusive breastfeeding as many as 560 babies and experienced a decrease in 2021 as many as 433 babies who received exclusive breastfeeding (Dinkes Lebak, 2022). Based on the initial survey that has been conducted, out of 10 mothers interviewed, all mothers believe that consuming green vegetables such as katuk, spinach leaves and cassava leaves can increase breast milk production. Therefore, the author is interested in conducting a study entitled "The Effect of Katuk Leaf Consumption, Spinach and Cassava on Breast milk Production in Breastfeeding Mothers in the Cilograng Puskesmas Working Area in 2022".

## II. METHODS

The research method uses quasi-experimental with a one-group pretest-posttest design. Data collection is carried out using primary data, namely data obtained from observations. The data collection instrument used is an observation sheet on all breastfeeding mothers in Cilograng Health Center Area. The sample was 39 people, the sampling technique is purposive sampling. The analysis methods used are univariate and bivariate analysis with anova.

## III. RESEARCH RESULTS

### Distribution of Respondents Before Consuming Katuk Leaves, Spinach and Cassava in the Cilograng Health Center Work Area

Year 2022

| Variable            | Consumption groups<br>Katuk Leaves (N=13) |     |      |       | Leaf consumption groups<br>Spinach Leaves (N=13) |     |      |       | Consumption groups<br>Cassava Leaves (N=13) |     |      |       |
|---------------------|---|-----|------|-------|--|-----|------|-------|---|-----|------|-------|
|                     | Min                                       | Max | Mean | SD    | Min  | Max | Mean | SD    | Min   | Max | Mean | SD    |
| Before Intervention | 270                                       | 450 | 344  | 66,45 | 200  | 500 | 350  | 88,60 | 200   | 450 | 293  | 79,74 |

Based on table 5.4, the results obtained from 13 respondents of the katuk leaf group, the average milk production before the intervention was 344 ml with a deviation standard of 66.45, the lowest milk production was 270 ml and the highest was 450 ml. In 13 respondents of the spinach leaf group, the average milk production before the intervention was 350 ml with a deviation standard of 88.60, the lowest milk pro-

duction was 200 ml and the highest was 500 ml. In cassava leaf grouping, 13 respondents averaged the lowest milk production of 200 ml with a deviation standard of 79.74, the lowest milk production was 293 ml and the highest was 293 ml.

**Table 5.5.** Distribution of Respondents After Consumption of Katuk Leaves, Spinach and Cassava In the Working Area of the Cilograng Health Center Year 2022

| Variable           | Consumption groups  |     |      |       | Leaf consumption groups |     |      |       | Consumption groups    |     |      |       |
|--------------------|---------------------|-----|------|-------|-------------------------|-----|------|-------|-----------------------|-----|------|-------|
|                    | Katuk Leaves (N=13) |     |      |       | Spinach Leaves (N=13)   |     |      |       | Cassava Leaves (N=13) |     |      |       |
|                    | Min                 | Max | Mean | SD    | Min                     | Max | Mean | SD    | Min                   | Max | Mean | SD    |
| After Intervention | 330                 | 620 | 457  | 77.95 | 300                     | 625 | 489  | 92,82 | 240                   | 535 | 407  | 86,40 |

From table 5.5 above, it can be seen the average milk production after intervention in the katuk leaf group with a mean value of 457 and a standard deviation of 77.95 with a minimum milk production of 330 ml and a maximum milk production of 620 ml. In the amaranth leaf group with a mean value of 489ml and a standard deviation of 92.82 with a minimum value of breast milk production of 300 ml and a maximum milk production of 625 ml. Meanwhile, in the cassava leaf group with a mean of 407 and a standard deviation of 86.40 with a minimum milk production of 240 ml and a maximum milk production of 535 ml.

### Bivariate Analysis

**Table 5.6.** Data Normality Test

| Variable       | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|----------------|---------------------------------|----|------|--------------|----|------|
|                | Statistic                       | Df | Sig. | Statistic    | Df | Sig. |
| Katuk Leaves   | .277                            | 13 | .207 | .904         | 13 | .151 |
| Spinach Leaves | .178                            | 13 | .200 | .919         | 13 | .242 |
| Cassava Leaves | .139                            | 13 | .200 | .903         | 13 | .203 |

Based on table 5.6 Normality Test the data above was obtained in the Leaf group Katuk  $p=0.151$ , spinach leaf group  $p=0.242$  and cassava leaf group  $p=0.203$  where  $p > 0.05$ , meaning that breast milk production data after normal distributed intervention were given.

**Table 5.7.** Homogeneity Test of Katuk Leaf, Spinach and Cassava Leaf Group

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .304             | 2   | 36  | .740 |

Based on table 5.7 of the homogeneity test results of the data above, it is known that the results of giving the consumption of katuk leaves, spinach and cassava to breastfeeding mothers are significant 0.740, so it can be concluded that the variants owned, namely the group of katuk leaves, spinach and cassava are greater than 0.05 which means that the variables come from homogeneous populations.

### Multivariate Analysis

Multivariate analysis aims to determine each of the most dominant variables associated with increasing breast milk production. The statistical test used is the ANOVA analysis.

**Table 5.8.** Effect of Katuk Leaf Consumption, Spinach, Cassava on Breast milk Production In the Working Area of the Cilograng Health Center Year 2022

| Source                    | Type III Sum Of Squares | df        | Mean Square | F       | Sig. |
|---------------------------|-------------------------|-----------|-------------|---------|------|
| <b>Katuk Leaf Group</b>   | 75.000                  | 1         | 17.500      | 112.500 | .003 |
| <b>Spinach Leaf Group</b> | 35.467                  | 1         | 18.400      | 41.571  | .003 |
| <b>Cassava Leaf Group</b> | 34.113                  | 1         | 16.996      | 58.567  | .001 |
| <b>Total</b>              | <b>144,58</b>           | <b>39</b> |             |         |      |

Based on table 5.8, the results were obtained that there was an influence of katuk leaf consumption on breast milk production with a p value of 0.003. There is an effect of spinach leaf consumption on breast milk consumption with a p value of 0.003 and the influence of katuk leaf consumption on breast milk production with a p value of 0.001.

#### IV. DISCUSSION

##### **The Effect of Katuk Leaf, Spinach and Cassava Consumption on Breast milk Production in Breastfeeding Mothers in the Cilograng Health Center Working Area in 2022**

###### **1. Katuk Leaf Group**

Based on the results of a study conducted by 39 respondents of breastfeeding mothers, the results were obtained that the katuk leaf group p value of 0.003 means that there is an influence of katuk leaves on increasing breast milk production in mneyusui mothers in the Cilograng Health Center work area. In accordance with the statement of Aliyanto et al (2019) that katuk leaves contain phytosterol compounds that function to increase and facilitate breast milk production (lactagogum effect). Compounds that have a lactagogum effect include sterols. Sterols are compounds of the steroid class. Prolactin reflex hormonally to produce breast milk, when the baby sucks the nipple of the mother's. From this lobe, it will secrete the hormone prolactin, enter the blood circulation and reach the glands that make breast milk. These glands will be aroused to produce breast milk. breast, neurohormonal stimulation of the mother's nipple and mother's areola occurs. These stimuli are passed to the pituitary through the nervous vagus, then to the anterior lobe.

According to Savitri (2016) that katuk leaves were already known by our ancestors as a vegetable for breast milk. One of the benefits of katuk leaves that are quite popular is their ability to facilitate and produce breast milk. To increase the adequacy of breast milk can be done by consuming katuk leaves in the form of decoction or clear vegetables or katuk leaf extract because it contains alkaloids and sterols that can improve the smoothness of breast milk. In accordance with research conducted by Juliastuti (2019) that regarding the adequacy of breast milk in breastfeeding mothers at the UPTD Puskesmas Tarogong, Garut Regency, it shows that the decoction of katuk leaves and katuk leaf extract are effective in meeting the adequacy of breast milk. In the results of Nasution's research (2019) it was produced that at the Lamepayung Health Center, Kuningan Regency, it showed that giving katuk leaves is effective for breast milk production in post-partum mothers.

###### **2. Groups of spinach leaves**

Based on the results of research in the spinach leaf group p value of 0.003, it means that there is an influence of spinach leaves on increasing breast milk production in breastfeeding mothers in the Cilograng Health Center work area. Based on research conducted by Dewi Kartika Sari et al (2018) that giving Moringa leaves and spinach leaves is a food that can facilitate the milk production of puerperal and lactating mothers. Spinach is a traditional food to increase the milk supply. Not only does it provide an adequate supply of nutrients but vegetables can be digested. Green vegetables such as spinach are a source of minerals and vitamins as well as phytoestrogens that are believed to increase lactation. Spinach is rich in B6 content, thiamin protein, folic acid, potassium and the required vitamins. Vitamin B6 will help in the preparation of breast milk production. In addition, spinach is a source of essential nutrients for nursing mothers. (Rachmawati, 2009)

###### **3. Cassava Leaf Kemlompok**

Based on the results of research in the cassava leaf group p value of 0.001, it means that there is an influence of cassava leaves on increasing breast milk production in breastfeeding mothers in the Cilograng Health Center work area. The first benefit of cassava leaf vegetable can increase breast milk production. With increased milk production, it also has a good impact on the baby. It can make babies receive more breast milk. Because such breast milk is very good for growth and increases potency in babies. So by regularly consuming the cassava leaves, it makes babies also feel extraordinary benefits. This is because the baby receives breast milk from a healthy mother. The mother became healthy because she often consumed vegetables that can increase breast milk production such as cassava leaves. Therefore, if there is a mother who is breastfeeding who does not like the cooking of cassava leaves, it is very unfortunate. Cassava leaves can be processed with a variety of dishes that you like. Not only can it be used as a complement like a dish.

## V. CONCLUSION

### Conclusions in the study :

1. In the variable katuk leaf group p value of 0.003, it means that there is an influence of katuk leaves on increasing breast milk production in mneyusui mothers in the Cilograng Health Center work area.
2. In the variable group of spinach leaves p value 0.003, it means that there is an influence of spinach leaves on increasing breast milk production in mneyusui mothers in the Cilograng Health Center work area.
3. In the cassava leaf variable p value of 0.001 means that there is an influence of cassava leaves on increasing breast milk production in breastfeeding mothers in the work area of the Cilograng Health Center.

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