

# The Effect Of Giving Sweet Potatoes Leaves (*Ipomoea Batatas L.*) On Breast Milk Production

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## ABSTRACT

Exclusive breastfeeding contributes to reducing mortality due to infection in infants less than 3 months old, sick children, preventing LBW, stunting, reducing the risk of obesity and chronic diseases. Physiologically a mother is able to produce sufficient breast milk. But sometimes in breastfeeding there are often problems, one of which is the mother's milk production that is not smooth and comes out a little. Based on research, one of the efforts to help increase breast milk production is to consume sweet potato leaves (*Ipomoea Batatas L.*) contains phytosterols. Phytosterols form laktogogum which can increase milk production. The purpose of the study was to determine the effect of sweet potato leaves (*Ipomoea Batatas L.*) on breast milk production in post partum mothers. This type of research is *Pre experimental with one group pretest posttest designs*. The time of the research was carried out in January – April 2022. The location of the research was in Karya Indah Village, Tapung District, Kampar Regency. The sample in this study were 20 respondents with *total sampling technique*. The research instrument used an observation sheet for breast milk production. Univariate and bivariate data analysis. Univariate results showed that the average milk production before being given sweet potato leaves was less with a percentage of 75% and after being given sweet potato leaves the average milk production increased to enough with a percentage of 90%. Bivariate results using the *Wilcoxon Rank Test* showed that the average milk production before being given sweet potato leaves was 4.13 mL and there was an increase in breast milk production after being given sweet potato leaves, the mean value was 35.9 mL. with a mean difference of 31.7. The results of the *Wilcoxon Rank Test* obtained a p value of 0.000 (p <0.05). So it can be concluded that there is an effect of sweet potato leaves on breast milk production in post partum mothers in Karya Indah Village, Tapung District, Kampar Regency. It is hoped that in the future the consumption of sweet potato leaves will be introduced in the community as an alternative food to increase breast milk production.

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## 1. Introduction

Lactation is an entire process of breastfeeding, from the production of breast milk to the process of the baby sucking and swallowing breast milk. Breast milk contains all the nutrients a

baby needs. According to the *World Health Organization* (WHO), exclusive breastfeeding is breastfeeding alone without the addition of other fluids, either formula milk, water, orange juice or other additional foods before reaching the age of six months. Exclusive breastfeeding is useful for preventing low birth weight, stunting, reducing the risk of obesity and chronic disease. Breastfeeding contributes to reducing mortality due to infection in infants less than 3 months old, sick children (Zakiyah et al., 2019). Exclusively breastfed babies have good nutritional status, are normal and have no history of infectious diseases, while formula-fed babies have poor nutritional status, are tall and thin and have suffered from infections (Aminah et al., 2014)

The average rate of exclusive breastfeeding in the world in 2017 was only 38%, WHO targets that by 2025 the rate of exclusive breastfeeding in the first 6 months of birth will increase by at least 50%. (Ministry of Health of the Republic of Indonesia, 2021) reports that 96% of women in Indonesia breastfeed their children, but only 42% give exclusive breastfeeding. In 2018, 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%. Data (Rikesdas Team, 2019) reports that in Indonesia the proportion of breastfeeding for infants and children aged 0 to 5 months is 37.3%. The percentage of exclusive breastfeeding in Riau Province in 2019 was 67%, an increase compared to 2018 of 47%, while in Kampar district the achievement was 72% (Riau Provincial Health Office, 2019).

Exclusive breastfeeding is still far from the target, Some mothers may have difficulty releasing breast milk because they are more influenced by myths and people's words so that mothers are not sure they can give breast milk to their babies. This anxiety will cause a decrease in the hormone oxytocin so that breast milk does not come out immediately after giving birth and finally decide to give formula milk (Astutik dalam Lestari et al., 2021).

The government's effort to protect, support and promote exclusive breastfeeding is Government Regulation No. 33 of 2012 concerning exclusive breastfeeding. One of the efforts to ensure the exclusive breastfeeding program is to maintain milk production by improving the diet of breastfeeding mothers plus other supplements. Food ingredients or vegetables that have been scientifically proven and proven to increase the quality and quantity of breast milk, such as katuk leaves (*Sauropus Androgynus*), Moringa leaves (*Moringa oleifera*), blustru leaves (*Luffa Cylindrica Roem*), Torbangun leaves (*Coleus amboinicus*lour) and sweet potato leaves. (*Ipomoea batatas*).

Sweet potato leaves (*Ipomoea batatas*), have very low fat and cholesterol content, are also a good source of protein, calcium, niacin and iron. In addition, sweet potato leaves are rich in dietary fiber, provitamin A, Vitamin C, Thiamin, Ribloflamin, Vitamin B6, Folate, magnesium, phosphorus, potassium, and manganese. Sweet potato leaves can also increase milk production because in the sweet potato leaves there are laktagogum substances that can increase milk production so that they can meet the nutritional needs of babies through breast milk (Suwanti & Kuswati, 2016).

A preliminary study conducted in Karya Indah Village, Tapung District, which was conducted on 10 postpartum mothers, 70% of whom said their breast milk came out a little in the first week after giving birth and 30% of postpartum mothers who said their milk just came out a lot on the second and third day after delivery. give birth to. Based on the information obtained by the postpartum/postpartum mother, she said that she consumed vegetables to facilitate her breast milk but had not increased milk production. The purpose of this research is to prove that there is an effect of boiled water from sweet potato leaves on postpartum mothers on breast milk production.

## 2. Methods

This type of research is quantitative research, with the research design using the *Pre Experimental*, namely providing treatment or intervention to the research subject, then the effect of the treatment is measured and analyzed. The research design used was *one-group pre-test post-test designs* (measurement in front or *pretest* before treatment and after that another measurement or *posttest*). The variables in this study consisted of independent/independent variables (consumption of sweet potato leaves (*Ipomoea Batatas L.*) and dependent/dependent variables (milk production). The assessment of the increase in breast milk production using an observation sheet consisted of 6 aspects that were assessed based on the mother's condition regarding the condition of the mother. breast milk production and the condition of babies who have been breastfed (Subagio, 2019).

This research was conducted from January to April 2022. This research was carried out in Karya Indah Village, Tapung District, Kampar Regency. The study was conducted on postpartum mothers.

### 3. Result, Analysis and Discussion

#### 3.1 Table

Table 1.  
Frequency distribution of postpartum mothers based on the age of respondents

Age	Frequency (f)	Percentage (%)
Young reproduction (15-19 years)	2	10
Healthy reproduction (20-35 years)	13	65
Old reproduction (36-45 years)	5	25
Total	20	100

In the table above, it is known that the majority of respondents are in healthy reproductive age/productive age (20-35 years) as many as 13 people (65%)

Table 2.  
Distribution of Postpartum Mothers Frequency by Education

Education	Frekuensi (f)	Persentase (%)
Low	3	15
Medium	11	55
High	6	30
Total	20	100

In the table above, it is known that education of the majority of respondents is intermediate as many as 11 people (55%).

Table 3.  
Breastmilk Production Before being given Sweet Potato Leaves

Breastmilk Production	Frekuensi (f)	Persentase (%)
Less	15	75
Enough	5	25
Total	20	100

In the table above it is known that the majority of breast milk production is less as many as 15 people (75%),

Table 4  
Breastmilk Production After being given Sweet Potato Leaves

Breastmilk Production	Frekuensi (f)	Persentase (%)
Less	2	10
Enough	18	90
Total	20	100

In the table above it is known that the majority of breast milk production is sufficient for 18 people (90%),

Table 5  
Average Milk Production of Postpartum Mothers Before and After Giving Sweet Potato Leaves

Intervention	Mean	Std Dev	Std Error Mean	p-value
Pre Test	4.13	0.83	0.18	0.000
Posttest	35.9	5.84	1.30	

Based on the table above, it shows that the milk production before the intervention (giving sweet potato leaves) showed the average value (mean) was 4.13 ml with a standard deviation of

0.83 and after being given sweet potato leaves, the average result (mean) was obtained. 35.9 ml with a standard deviation of 1.30 with an increase in breast milk volume of 31.77 ml.

### 3.2 Discussion

The assessment of the increase in breast milk production using an observation sheet consists of 6 aspects that are assessed, namely based on the condition of the mother regarding the condition of breast milk production and the condition of the baby who has been breastfed. With the following provisions: 1) the condition of the mother's breasts is tense before breastfeeding is assessed by palpation of the breast area to determine the condition of the mammary glands that are full of milk, 2) it is seen that milk is seeping from the nipple, done by looking directly or by squeezing the mother's nipple., 3) the frequency of breastfeeding the baby at least 6 times a day, this can be asked to the mother, 4) the baby urinates more often about 60-8 times a day. This can be asked to the mother how many times to change diapers in a day, 5) the condition of the baby after being breastfed will fall asleep or calm down for 2-3 hours. This condition can be asked directly to the mother. 6) Passage of meconium in the first 24 hours. with a value of 1 if you answered yes and a value of 0 if you answered no for all questions.

Breast milk can only be given to babies for the first six months of their lives if they are exclusively breastfed. Colostrum is the first fluid that the newborn receives after the mother gives birth. More protein, minerals, and antibodies are found in colostrum than in mature breast milk. Breast milk begins to form about the third or fourth day after the baby is born. Around 15 days after the infant is born, colostrum transforms into mature milk, which includes 10-17 times more immunological components than mature milk (Mangkuji et al dalam Irianti, 2021).

According to Kent (2007), as quoted by (Pollard, 2015) the average amount of milk they give to babies during breastfeeding is when the baby is born, milk production reaches 5 ml at the first feeding and in 24 hours it reaches 7-123 ml with 3 -8 feedings and found that infants emptied their breasts only once or twice per day and that on average only 67 percent of the available milk was consumed with an average volume of 76 ml at each feeding.

Based on the results of research on 20 respondents, it was known that before giving sweet potato leaves the majority of breast milk production was less as many as 15 respondents with a percentage of 75%, while after giving sweet potato leaves the majority of breast milk production was enough for 18 respondents with a percentage of 90%. The average milk production before being given sweet potato leaves was 4.13 ml, after giving sweet potato leaves for 7 days then milk production increased to 35.9 ml, there was an average increase in milk production of 31.77 ml. The *Wilcoxon Rank Test* obtained  $p$  value = 0.000 or  $p$  value <0.05, meaning that there is an effect of giving sweet potato leaves to increasing breast milk production in Karya Indah Village, Tapung District, Kampar Regency.

Purple sweet potato leaves (*Ipomoea batatas var Ayamurasaki*) contain Fe, High provitamin A and protein, carotenoids and iron as well as oxytocin / prolactin which can support the success of breastfeeding and accelerate the process of uterine involution (Truong (2010) in Malikha & Priskusanti, 2019). Sweet potato leaves are believed to be very efficacious used as herbal medicines. This is because sweet potato leaves contain various kinds of substances that the body needs such as vitamin A, vitamin B, vitamin B6 vitamin C. Sweet potato leaves also contain almost 7% protein, 15% crude fiber. These leaves are rich in vitamin A, in addition to provitamin A (beta carotene), B and C, iron, calcium, phosphorus and fat. Breast milk supply is very important in the lactation/breastfeeding process. The more adequate the supply of breast milk for the baby, the more successful the breastfeeding process will be and vice versa. Adequacy of infant milk is obtained by consuming boiled sweet potato leaves on a regular basis, i.e. every 2x/day for 7 days, with a dose of 100 grams of sweet potato leaves every day during the breastfeeding process, maximum results will be obtained (Raifa (2008) in Malikha & Priskusanti, 2019).

In line with research conducted by Priskusanti et al., (2017) Mother's knowledge is obtained both formally and informally. Mothers who have a higher level of education are generally open to accepting changes or things to maintain their health. The safe age for pregnancy, childbirth and breastfeeding is the age of 20-35 years. Because at the healthy reproductive age there are changes in the breasts. This is to prepare the breasts so that in time they can give milk. After parturition, the suppressive effect of estrogen and progesterone disappears and the effect of the hormone prolactin appears which can affect milk production. Therefore, a healthy reproductive period is very good and very supportive in exclusive breastfeeding.

This research is in line with research conducted by (Subagio, 2019) with the title "Increasing the Adequacy of Breast Milk Production in Postpartum Mothers using Sweet Potato Leaf Decoction (*Ipomoea Batatas.L*)" where there is an increase in breast milk production after 7 days of consumption. This research is also in line with research conducted by (Purnani, 2017) with the title "The Effect of Giving Decoction of Sweet Potato Leaves (*Ipomoea Batatas L.*) on Adequacy of Breastfeeding in Breastfeeding Mothers in the Work Area of the Campurejo Health Center, Kediri City". sweet potato leaf decoction on the adequacy of breast milk in nursing mothers. The study is in line with that conducted by (Malikha & Priskusanti, 2019) where there is an effect of giving purple sweet potato leaves on uterine involution in postpartum mothers and the adequacy of breast milk in infants 0-6 months ( $p$  value = 0.000). According to the researcher's assumption, sweet potato leaf decoction is very effective in increasing breast milk production. Sweet potato leaves are also easy to obtain and have economic value. Consuming boiled sweet potato leaves as much as 100-200 grams consumed for 7 days is proven to increase breast milk production in postpartum mothers.

#### 4. Conclusion

Based on the results of research on 20 respondents, it can be concluded that: The frequency of breast milk production before being given sweet potato leaves less milk production as many as 15 respondents (75%). The frequency of breast milk production after being given sweet potato leaves was 18 respondents (90%). There is an effect of giving sweet potato leaves to increase breast milk production in postpartum mothers with  $p$  value = 0.000.

#### References

- [1] Aminah, T. C., Ratnawati, L. Y., & Sulistiyani, S. (2014). Perbedaan Status Gizi dan Status Infeksi Bayi (6-11 Bulan) yang Diberi ASI Eksklusif dengan yang Diberi Susu Formula (Studi di Wilayah Kerja Puskesmas Arjasa Kabupaten Jember) [The Differences of Nutritional Status and Infection Status between Exclusive B. *Jurnal Pustaka Kesehatan*, 2(2), 293-299.
- [2] Dinas Kesehatan Provinsi Riau. (2019). *Profil Kesehatan Provinsi Riau Tahun 2019* (A. dkk Jajuli (ed.)). Dinas Kesehatan Provinsi Riau.
- [3] Kementerian Kesehatan RI. (2021). Profil Kesehatan Indonesia 2020. In B. Hardhana, F. Sibuea, & W. Widiyanti (Eds.), *Kementerian Kesehatan Republik Indonesia*. Kementerian Kesehatan Republik Indonesia. <https://doi.org/10.1524/itit.2006.48.1.6>
- [4] Malikha, N. Z., & Priskusanti, R. D. (2019). NIFAS DAN KECUKUPAN ASI ( AIR SUSU IBU ) PADA BAYI 0-6 BULAN. *Kendedes Midwifery Journal*, 2(4).
- [5] Pollard, M. (2015). *ASI : Asuhan Berbasis Bukti*. EGC, Jakarta.
- [6] Priskusanti, R. D., Ekawati, M. D., & Herawati, S. (2017). Pengaruh Pemberian Daun Ubi Jalar Ungu Pada Ibu Nifas Terhadap Kecukupan Asi Pada Bayi 0-6 Bulan. *Jurnal Ilkes (Jurnal Ilmu Kesehatan)*, 8(2), 226-235.
- [7] Purnani, W. T. (2017). PENGARUH PEMBERIAN REBUSAN DAUN UBI JALAR TERHADAP KECUKUPAN ASI PADA IBU MENYUSUI DI WILAYAH KERJA PUSKESMAS CAMPUREJO KOTA KEDIRI. *Jurnal Ilmu Kesehatan MAKIA*, 4(1), 29-33.
- [8] Subagio, S. U. (2019). Peningkatan kecukupan produksi asi pada ibu postpartum menggunakan rebusan daun ubi di wilayah kerja puskesmas kesesi i pekalongan. *Jurnal Kebidanan*, 8(2), 137-142.
- [9] Suwanti, E., & Kuswati. (2016). Hubungan Konsumsi Ekstrak Daun Kentang Manis Dengan Produksi ASI Di Laktasi Ibu Di Kabupaten Klaten. *Jurnal Kebidanan Dan Kesehatan Tradisional*, 1(2), 136-139. <https://doi.org/10.37341/jkkt.v1i2.72>
- [10] Tim Riskesdas. (2019). LAPORAN PROVINSI RIAU RISKESDAS 2018. In *Badan Penelitian dan Pengembangan Kesehatan*.
- [11] Irianti, B. (2021). Effectiveness of Torbangun Leaf Soup in Increasing Breast Milk Production in Breastfeeding Women in Dince Safrina Pratama Clinic , Pekanbaru City. *J of Midwifery and Nursing*, 3(2), 72-75.
- [12] Zakiyah, Hayati, F. U., & Fujiana, F. (2019). Pengalaman ibu yang tidak berhasil memberikan ASI eksklusif di wilayah UPK puskesmas parit haji husein 2. *ProNers*, 4(1), 12.
- [13] Lestari, N., Irianti, B., & Fuadah, D. Z. (2021). *Pijat Oksitosin Meningkatkan Produksi ASI & Kadar Hormon Oksitosin* (D. Kumala (ed.)). CV. Mitra Mandiri Persada.