

UTILIZATION OF KATUK LEAF EXTRACT IN THE PRODUCTION OF BREAST MILK FOR SUCCESSFUL BREASTFEEDING

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ABSTRAK PEMANFAATAN EKSTRAK DAUN KATUK DALAM PRODUKSI AIR SUSU IBU UNTUK KEBERHASILAN MENYUSUI

Latar Belakang : Produksi ASI yang tidak mencukupi merupakan keluhan yang sering diutarakan oleh ibu terutama minggu pertama nifas dan mengenai sekitar 50-80% wanita hamil. Banyak sekali obat-obatan yang ditawarkan kepada mereka untuk mengurangi keluhan tersebut, Salah satu cara yang dapat meningkatkan kuantitas ASI adalah dengan mengkonsumsi makanan laktogenik yang mempunyai efek laktagogum, yang salah satunya adalah daun Katuk, yang diduga dapat menambah produksi ASI. Namun masalah yang masih di temukan di masyarakat, terutama pada ibu menyusui adalah adanya keluhan ibu menyusui bahwa volume ASI yang keluar saat menyusui tidak banyak. Oleh karena itu peneliti tertarik untuk meneliti daun Katuk sebagai solusi untuk memperbanyak volume ASI.

Tujuan penelitian ini adalah menganalisa pengaruh manfaat pemberian ekstrak daun Katuk terhadap produksi ASI dalam keberhasilan menyusui pada ibu postpartum di Klinik Rosni tahun 2019. Metode yang digunakan dalam penelitian ini menggunakan metode quasy experimental design, dengan menggunakan jenis Posttest-Only Control Design yaitu terdapat dua kelompok yang masing-masing dipilih secara random (R). Kelompok pertama diberi perlakuan (X) dan kelompok yang lain tidak. Kelompok yang diberi perlakuan disebut kelompok eksperimen dan kelompok yang tidak diberi perlakuan disebut kelompok kontrol. Dalam penelitian ini, pengaruh perlakuan dianalisis dengan uji beda, memakai statistik t-test.

Hasil sebagian besar atau 57,14 % pada kelompok kontrol pengeluaran ASI 3 hari setelah persalinan, dan sebagian besar atau 71,4 % pada kelompok perlakuan pengeluaran ASI pada hari ke 2. Dari uji statistik t- test diperoleh hasil tidak terdapat pengaruh yang signifikan dalam pemberian ekstrak daun Katuk terhadap kelancaran ASI pada ibu nifas dengan nilai $p = 0,93$ ($p > 0,05$).

Kesimpulan tidak terdapat pengaruh yang signifikan dalam pemberian ekstrak daun Katuk terhadap kelancaran ASI pada ibu nifas

Saran pada ibu nifas agar sering mengkonsumsi makanan yang bergizi dan mengandung laktogenum serta tablet ferum untuk membantu memperlancar pengeluaran ASI pada ibu nifas.

Kata Kunci Ekstrak Daun Katuk, Keberhasilan Menyusui, Produksi ASI

ABSTRACT

Background: Insufficient breast milk production is a complaint that is often expressed by mothers, especially during the first week of postpartum and it affects about 50-80% of pregnant women. Many medicines are offered to them to reduce these complaints. One way to increase the quantity of breast milk is by consuming lactogenic foods that have a laktagogum effect, one of which is Katuk leaf, which is thought to increase milk production. However, the problem that is still found in the community, especially for breastfeeding mothers, is that there are complaints from breastfeeding mothers that the volume of milk that comes out when breastfeeding is not significant. Therefore, researchers are interested in examining Katuk leaf as a solution to increase the volume of breast milk.

The study aimed to analyze the effect of giving Katuk leaf extract on breast milk production to succeed the breastfeeding in post-partum mothers at the Rosni Clinic in 2019. The method used in this study was a quasi-experimental design method, using the Posttest-Only Control Design namely, two groups were selected randomly (R). The first group was given treatment (X), and the other group was not. The group that was given the treatment was called the experimental group, and the group that was not treated was called the control group. In this study, the effect of treatment was analyzed by differential tests, using a statistical t-test.

This study showed that most of the respondents (57.14%) in the control group had breast milk production 3 days after delivery, and most of the respondents (71.4%) in the treatment group had breast milk production on day 2. From the statistical test, t-test, there was no significant effect in giving Katuk leaf extract to smooth breast milk production in postpartum mothers with p value = 0.93 ($p > 0.05$).

The conclusion of this study is that there is no significant effect of giving Katuk leaf extract on the smoothness of breast milk in postpartum mothers.

The suggestion is that postpartum mothers often consume nutritious foods containing lactogenum and ferum tablets to help facilitate breast milk production in postpartum mothers.

Keywords: Breast Milk Production, Breastfeeding, Katuk Leaf Extract

INTRODUCTION

Breast milk (ASI) is the best food for babies because it is a natural food that is perfect and easily digested by babies and contains nutrients that meet the baby's needs for growth and immunity, preventing various diseases and babies' intelligence. Cleanliness is guaranteed because it is directly given to babies to avoid digestive disorders such as diarrhea and vomiting. (Gunanegara RF, Suryawan A, Sastrawinata US, Surachman T, 2008)

Exclusive breastfeeding is provided merely to infants up to 6 months, abstaining from other food. Exclusive breastfeeding can be common among children (medication for several baby diseases), such as diarrhea and pneumonia. Furthermore, it speeds up the recovery when the babies are sick and ranges the births infrequently. Another benefit that is not less important than exclusive breastfeeding is that it can protect babies from SIDS (Sudden Infant Death Syndrome). The first breastfeeding day is not always easy because many mothers have difficulties doing so. The problem on the first day of breastfeeding is the difficulty of breast milk to come out. It causes mothers to think that their babies will not receive enough milk. Thus, most mothers often prefer to stop breastfeeding and replace it with formula milk. In addition, some mothers feel afraid and avoid breastfeeding, resulting in clogging or stasis of breast milk. (Hossain K, Raheem D, Cormier S, 2018)

It is estimated that 85% of mothers in the world do not commit to breastfeeding optimally. In 2010 the coverage of exclusive breastfeeding in India reached 40%, Philippine 34%, Vietnam 27%, and Myanmar 24%. UNICEF research from 2005 to 2011 found that 32% of infants in Indonesia received exclusive breastfeeding and 43% in Bangladesh (Zakarija-Grković I, Burmaz T, 2010). Insufficient breast milk Production leads to a complaint frequently expressed by mothers, especially during the first week of postpartum, and it affects about 50 to 80% of

pregnant women. Many medicines are offered to them to settle down these complaints. The way to increase the quantity of breast milk is by consuming lactogenic foods with a laktagogum effect, one of which is Katuk leaf, which is supposed to increase milk production.

A study proves that the substance contained in Katuk leaf is very plentiful and helpful for the supply of breast milk in breastfeeding mothers, and the support makes the quality of breast milk better. Katuk leaf (*Sauropus androgynus* (L) Merr) is one of the plants confirmed to increase breast milk production due to the presence of polyphenols and steroids. They play a role in the prolactin reflex to produce breast milk and stimulate the hormone oxytocin to spur the production and flow of breast milk. Katuk leaf (*Sauropus Androgynus*) has long been proven to facilitate breast milk, supposed to the hormonal effects of the estrogenic chemical substance of sterol. Based on research, Katuk leaf contains ephedrine. In addition, according to research, 100 g of Katuk leave contains energy 59 cal, protein 6.4 g, fat 1.0 g, hydrate charcoal 9.9 g, fiber 1.5 g, ash 1.7 g, calcium 233 mg, phosphorus 98 mg, iron 3.5 mg, carotene 10020 mcg (vitamin A), B, and C 164 mg, and water 81 g. Since the 2000s, Katuk leaf has been produced as phytoarmaka stock to facilitate breast milk, currently distributed in Indonesia. (Rusli HU, 2008). This study aims to analyze the effect of giving Katuk leaf extract on breast milk production to succeed the breastfeeding in postpartum mothers.

RESEARCH METHODOLOGY

The design of this study is quasi-experimental, using the Posttest-Only Control Design type; namely, there are two types of the group selected randomly (R). The first group was

given treatment (X), and the other was not. The group that was given the treatment was called the experimental group, and the group that was not treated was called the control group. In this study, the treatment effect was analyzed by differential test using a statistical t-test.

The research was conducted at Rosni Clinic, located at Cemara Gang Keadilan Street No. 2 Medan. The population in this study were all postpartum mothers who gave birth at the Rosni Clinic in January 2019, 28 people in total, and all of them were employed as research samples.

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The data method in this study used primary data, which was obtained directly through observation using a list of observation checklists prepared in advance. Secondary and tertiary data to obtain additional data obtained from the documentation results by other parties from published manuscripts, such as WHO and IDHS (Indonesia Demographic and Health Survey). RISKESDAS.

The analysis was initiated with Normality Test to assess the distribution of data in a group of data or variables that are normally distributed or not. In this study, the statistical normality test used Shapiro Wilk. After the normality test was conducted, an independent t-test was completed on a parametric sample.

RESEARCH RESULT

Normality test results

Based on the normality test results conducted on respondents at the Rosni Clinic in 2019, the comparison value of sig 0.000 < 0.05 was obtained, so the data was not normally distributed.

Non-Parametric Sample Independent T-Test Results (man Whitney U)

The independent T-test results of the sample obtained asymp sig 2 tailed 0.001 < 0.05. To conclude, there was a difference in the results of giving Katuk leaf extract with the control group.

Table 1

Distribution of Control Group Respondents Based on the Age of the Postpartum Mother

Age	Frequency	Percentage (%)
< 20 years	2	14,3

20-30 years	14	85,7
>30 years	0	0

Based on Table 1, it is known that 85.7% of postpartum mothers in the control group were 20-30 years old, included in the healthy reproductive category, and 14.3% were 20 years old, included in the young reproductive category.

Table 2

Distribution of Treatment Group respondents Based on the Age of the Postpartum Mother

Age	Frequency	Percentage (%)
< 20 years	4	28,6
20-30 years	10	71,4
> years	0	0

Table 2 shows that 71.4% of postpartum mothers in the treatment group were 20-30 years old, included in the healthy reproductive category, and 28.6% were <20 years old, included in the young reproductive category.

Table 3

Distribution of Control Group Respondents Based on the Education of the Postpartum Mother

Age	Frequency	Percentage (%)
Undergraduate (Bachelor)	1	7,1
Secondary school (SMU)	11	78,6
Primary school (SD/SMP)	2	14,3

Table 3 shows that the control group of postpartum mothers in the secondary education category, included in the secondary education (SMU) category with 78.6%, and 7.1% had higher education or undergraduate.

Table 4

Distribution of Treatment Group Respondents Based on the Education of the Postpartum Mother

Age	Frequency	Percentage (%)
Undergraduate (Bachelor)	1	7,1
Secondary school (SMU)	9	64,3
Primary school (SD/SMP)	4	28,6

Table 4 shows that the respondents, postpartum mothers, in the treatment group were 64.3%, included in the secondary education (SMU), and 7.1% had higher education or undergraduate.

Table 5
Distribution of Control Group Respondents
Based on the Primiparous Parity of the
Postpartum Mother

Parity	Frequency	Percentage (%)
(1 Child)	2	14,3
Mutipara (2-4 Children)	12	85,7
Grande multipara (Children >4 Children)	0	0

Based on Table 5, almost the respondents in the control group (85.7%) had primiparous parity or 2-4 children, and only 14.3% had a child or primiparous parity.

Table 6
Distribution of Treatment Group Respondents
Based on the Primiparous Parity of the
Postpartum Mother

Parity	Frequency	Percentage (%)
(1 Child)	3	21,4
Mutipara (2-4 Children)	11	78,6
Grande multipara (Children >4 Children)	0	0

Table 6 shows that the postpartum mothers in the treatment group were 78.6% with multiparity parity, or the respondents had 2-4 children, and only 21.4% had 1 child or primiparous parity.

Table 7
Distribution of Control Group Respondents

Based on the Breast Milk Production Moment of the Postpartum Mother

Parity	Frequency	Percentage (%)
Soon after Delivery (Day 0)	2	14,3
1 Day after Delivery	2	7,1
2 Days after Delivery	2	7,1
3 Days after Delivery	8	57,1
>3 Days after Delivery	2	14,3

Based on Table 7, in the control group of postpartum mothers, there were 57.1% with breastfeeding 3 days after delivery and 7.1% breastfed on day 1 and day 2 after delivery.

Table 8
Distribution of Treatment Group Respondents
Based on the Breast Milk Production Moment of the Postpartum Mother

Parity	Frequency	Percentage (%)
Soon after Delivery (Day 0)	0	0
1 Day after Delivery	0	0
2 Days after Delivery	10	71,43
3 Days after Delivery	3	21,43
>3 Days after Delivery	1	7,14

In Table 8, the respondents of postpartum mothers in the treatment group were 10 people (71.43%) breastfeeding on day 2, and there was 1 person (7.1%) spending the breast milk >3 days after delivery.

Based on Table 9, the respondents of postpartum mothers in the control group reported 64.3% with non-smooth breast milk production and 35.7% with smooth breast milk production.

Table 9
Distribution of Control Group Respondents
Based on the Breast Milk Production Moment of the Postpartum Mother

Breast Milk Production	Frequency	Percentage (%)
Smooth	5	35,7
Non-smooth	9	64,3

Table 10
Distribution of Treatment Group Respondents Based on the Breast Milk Production Moment of the Postpartum Mother

Breast Milk Production	Frequency	Percentage (%)
Smooth	11	78,6
Non-smooth	3	21,4

Based on Table 10 above, the respondents of postpartum mothers in the treatment group (78.6%) had smooth breast milk production, and 21.4% had not.

Table 11
Comparison of Providing Katuk Leaf Extract to Smooth Breast Milk in Postpartum Mothers

GROUP	Breast Milk Production						P value
	Smooth		Non-smooth		Total		
	f	%	f	%	f	%	
Control	5	35,7	9	64,3	14	100	0.001
Treatment	11	78.6	3	21.4	14	100	

Based on Table 11, in giving Katuk leaf extract, there was a difference between the treatment group and the control group. The results obtained $p = 0.001 < 0.05$, where 64.3% of postpartum mothers in the control group had non-smooth breast milk production and 35.7% had smooth breast milk production. Meanwhile, almost all of the respondents in the postpartum treatment group (78.6%) had smooth breast milk production, and 21.4% had not.

DISCUSSION

Table 9 shows that most of the respondents of postpartum mothers (64.3%) had non-smooth breast milk production in the control group. More than half of the mothers had non-smooth breast milk production. Regarding this situation, midwives must persist in struggling to guide mothers to continue breastfeeding their children. Thus, postpartum mothers do not prefer to use formula milk. The condition happened because the control group did not consume Katuk leaf extract to smooth breast milk production, even though the mothers had taken vitamin B Complex. Table 7 shows that 57.14% of respondents of postpartum mothers in

the control group breastfeed 3 days after delivery. However, breast milk production is influenced by breast care factors and many other factors that affect breast milk production, such as maternal nutrition, psychological state, and many others. According to Entin (2002), a mother who is giving birth consumes a lot of Katuk leaf due to increased production of breast milk (ASI). Katuk leaf is absolutely suitable for breastfeeding mothers because the leaf contains various substances, including protein, fat, calcium, phosphorus, iron, vitamins (A, B, and C), pyrrolidinone, and methyl pyroglutamate. Table 1 shows that 85.7% of respondents in the control group were postpartum mothers aged 20-30 years, included in the healthy reproductive group. The more mature the mother, the more mature a person's thinking and working. It is expected that people will be able to solve the problems with stable emotion, especially during pregnancy, childbirth, postpartum, and caring for the baby. Table 3 shows that in the control group, almost all or 78.6% of respondents of postpartum mothers, had a secondary education (SMU), and 7.1% had a Diploma. According to Notoatmodjo, education is the way to influence other people deliberately, including individuals, groups and communities; therefore, they do what is expected by educators. People who lack knowledge will be easily influenced by others and the environment. (Notoatmodjo S, 2015)

The breast milk production in the treatment group provided with Katuk leaf extract

Table 8 shows the respondents of postpartum mothers in the treatment group, 71.4% of current breast milk production. It is because the treatment group was offered to drink Katuk leaf extract. According to Ahmad (2012), Katuk leaf is a plant widely planted throughout the tropics that has the substance for smoothing a breast milk Production. 100 g of Katuk leaf contained: 59 cal energy, 6.4 g protein, 1.0 g fat, 9.9 g carbohydrate, 1.5 g fiber, 1.7 g ash, 233 mg calcium, 98 mg phosphorus, iron 3.5 mg, carotene 10020 mcg (vitamin A), B, and C 164 mg, and water 81 g. Katuk plant can increase breast milk production based on the hormonal effect of the chemical content of sterols estrogenic. In previous studies, Katuk leaf contains ephedrine (Baequny A, Hidayati S, 2016). Table 4 shows that 64.3% of respondents of postpartum mothers in the treatment group were in the secondary education (SMU) category. Knowledge is fundamental in forming an attitude, both positive and

negative attitude. Regarding exclusive breastfeeding, if the mother's knowledge about exclusive breastfeeding is adequate, it is expected that a positive attitude toward exclusive breastfeeding will be created. Furthermore, they can give breastfeeding to their children. Table 8 shows that most of the respondents (71.4%) of postpartum mothers in the treatment group had breast milk production 2 days after delivery. According to Notoatmodjo's statement, attitudes are influenced by connection and experience obtained from other people, learning autodidact from others. Mothers who have given birth for the first time may still be afraid and awkward in doing breast care. Furthermore, the researcher assumed that the mother's milk was not flowing smoothly due to the lack of breastfeeding frequency and the mother's absence of breast care. In addition, anxiety can also affect breast milk production, which can be seen in the treatment group. Three postpartum mothers had non-smooth breast milk production due to the mother's physical condition, and they did not yet accept the presence of their child (Baby Blues). In addition, most postpartum mothers have no appetite; consequently, the nutrition is not enough.

Comparison of Providing Katuk Leaf Extract to Smooth Breast Milk in Postpartum Mothers

Comparison of Giving Katuk Leaf Extract to Smooth Breast Milk in Postpartum Mothers, based on statistical tests using the Independent T-Test of Non-Parametric Samples (man Whitney U) on SPSS with version 17, the results were $p = 0.001$ and $p < 0.05$. It indicated a difference in the composition of breast milk in the control group and the treatment group. In the treatment group, 78.6% of respondents of postpartum mothers had smooth breast milk; namely, breast milk came out on day 2 with clean breasts. It follows the opinion of Kusumaningrum, stating that breast milk production with Katuk leaf extract will spur breast milk production because Katuk leaf is used as an appetite supplement. A mother who gives birth consumes a lot of Katuk leaf due to increased breast milk production (ASI). (Kusumaningrum ID, 2017) Katuk leaf is perfect for breastfeeding mothers because Katuk leaf contains various substances, including vitamins A, B1, calories, protein, fat, carbohydrate, calcium, phosphorus, iron and water. In addition, papaya leaf also contains papain enzymes and potassium. The function of enzymes is to break down the protein, while potassium is helpful to meet the needs of potassium during lactation. If there is a lack of potassium, the body will be tired, and

a lack of potassium also causes mood swings leading to depression. Meanwhile, breastfeeding mothers must think positively and be pleased. (Katuk MD, 2009) Katuk leaf is also rich in hormones for breast tightening and vitamin A to stimulate the release of female hormones and stimulate the ovaries to produce female hormones. The mammary glands will be smooth due to these hormones, and the breast shape will be ideal. Exclusive breastfeeding is enough. It is expected that a positive attitude toward exclusive breastfeeding will be formed and followed by committing to exclusive breastfeeding. Table 4.8 shows that the majority or 71.4% of respondents of postpartum mothers in the treatment group had breast milk production on day 2. According to Notoatmodjo's statement, attitudes are influenced by connection and experience obtained from other people, learning autodidact from others. Mothers who give birth for the first time may still be afraid and awkward in doing breast care. Three postpartum mothers in the treatment group had non-smooth breast milk production due to the mother's physical condition, and they did not yet accept the presence of their child (Baby Blues). In addition, most postpartum mothers have no appetite; consequently, nutrition need is insufficient. (Notoatmodjo S, 2012). According to Damayanti, breastfeeding mothers need help to succeed the breastfeeding. One of which is by consuming foods that can stimulate breast milk production and contain lots of iron. (Damayanti D, 2013)

CONCLUSION

There was no significant effect of giving Katuk leaf extract to smooth breast milk production in postpartum mothers in the treatment group. At the same time, those not given treatment also had problems in their breast milk production.

SUGGESTION

It is recommended for postpartum mothers to frequently consume nutritious foods containing lactogenum and ferum tablets to smooth breast milk production in postpartum mothers.

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