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The Effect of Katuk Leaves on Breast Milk Production in Postpartum Mothers at Wanayasa Health Center, Purwakarta Regency, Indonesia

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A B S T R A C T

The low coverage of exclusive breastfeeding is a challenge for midwives to be more active in promoting health about the importance of exclusive breastfeeding for baby growth. This low coverage of exclusive breastfeeding can have an impact on the quality of life of the nation's future generations and also on the national economy. One effort to increase the rate of secretion and production of breast milk is through giving katuk leaves. This study aimed to determine the effectiveness of katuk leaves on breast milk production in postpartum mothers. This study is an experimental research with a pre-post-test approach with control group design. A total of 30 research subjects were included in this study, where the research subjects were given an intervention with 200 mg katuk leaf extract given 1x200 mg for 7 days, where the assessment of breast milk production was carried out before and after the intervention. This study shows that the intervention of giving katuk leaf extract is effective in increasing breast milk production. There was an increase in breast milk production after giving katuk leaf extract and it was stated to be statistically different, $p<0.05$. In conclusion, there is an effect of giving katuk leaves on breast milk production for postpartum mothers at the Wanayasa Health Center, Purwakarta Regency, Indonesia.

1. Introduction

Breast milk does have a very important role in providing the nutrition needed by newborn babies. Breast milk contains all the nutrients needed by babies, including protein, fat, carbohydrates, vitamins, and minerals. This complete nutritional content supports healthy growth and development. Breast milk contains antibodies and other immune substances that help babies fight infections and diseases. This provides additional protection during the early period of a baby's life when they are still susceptible to infection. Breastfeeding also allows for a strong emotional bond between mother and baby. The breastfeeding process provides an opportunity for mother and baby to interact with each other, creating a deep bond. Apart from providing benefits for the baby, breastfeeding also has a positive effect on the mother's health. Breastfeeding also has health benefits for the mother. The process of breastfeeding helps the uterus to recover more quickly after delivery and can reduce the risk of postpartum bleeding. Apart from that, breastfeeding also helps mothers to recover more quickly from childbirth.[1-3]

Breast milk production in postpartum mothers can be influenced by various factors, and some mothers may experience disruption in their breast milk production. Breast milk production is greatly influenced by stimulation from the breastfeeding baby. If the baby rarely breastfeeds or does not get enough breastfeeding time, this can inhibit breast milk production. Some maternal health conditions, such as thyroid problems, diabetes, or polycystic ovary

syndrome (PCOS), can affect breast milk production. High emotional or physical stress can interfere with breast milk production. Stress can disrupt the hormonal balance needed for breast milk production. A mother's unbalanced diet or lack of certain nutrients can affect breast milk production. Intake of calories, protein, and certain vitamins is very important. Some physical problems with the breasts, such as breast infections or blocked milk ducts, can inhibit milk flow and production. Hormonal balance in the mother's body plays a key role in breast milk production. Sometimes, certain hormonal problems can affect breast milk production.[4-6]

Katuk leaves (*Sauropus androgynus*) have been the subject of research because of their potential to increase breast milk production in postpartum mothers. Katuk leaves are rich in nutrients, including vitamin A, vitamin C, calcium, iron, folic acid, and fiber. This nutrient is important for the health of mother and baby and can support good breast milk production. Several studies have shown that katuk leaves contain phytochemical compounds that can stimulate breast milk production. One compound that is often mentioned is a compound that mimics the action of the hormone prolactin, which plays a role in stimulating breast milk production. Katuk leaves have been used in various cultures as a fertility tonic and to increase breast milk production for centuries. This is an early indication of its potential to increase breast milk production.[7-9] This study aimed to determine the potential of katuk leaves in increasing breast milk production for postpartum mothers at the Wanayasa Health Center, Purwakarta Regency, Indonesia.

2. Methods

This study is an experimental research with a pre-post test approach with a control group design. A total of 30 research subjects were included in this study, where the research subjects were given an intervention with 200 mg katuk leaf extract given 1x200 mg for 7 days, and the assessment of breast milk production was carried out before and after the intervention. The katuk leaf extract preparation used in this study is a product that has received permission from the Food and Drug Monitoring Agency (BPOM).

Assessment of breast milk production is carried out by measuring breast milk production for 24 hours before and after the intervention. Research subjects were asked to store breast milk for 24 hours in breast milk storage bottles. Data analysis was carried out using SPSS version 25 software to assess differences in breast milk production before and after the intervention. Univariate analysis was carried out to present the frequency distribution of data for each test variable, and bivariate analysis was carried out to determine differences in breast milk production between groups, $p<0.05$.

3. Results and Discussion

Table 1 presents the effectiveness of the pre and post-test interventions. This study shows that the intervention of giving katuk leaf extract is effective in increasing breast milk production. There was an increase in breast milk production after giving katuk leaf extract, and it was stated to be statistically different, $p<0.05$.

Table 1. Comparison of breast milk production before and after intervention.

Variable	Pre-test	Post-test	P-value*
Breast milk production (mL)	443±22,34	654±32,23	0,001

*T-test dependent, p<0,05.

Flavonoids are phytochemical compounds that have antioxidant and anti-inflammatory properties. Several types of flavonoids, such as quercetin, which is found in katuk leaves, have been linked to increasing breast milk production. Quercetin can affect breast milk production by stimulating the

pituitary gland in the brain to increase the release of the hormone prolactin. Quercetin has several properties that may be beneficial in increasing breast milk production, primarily through its effect on the hormone prolactin. Several studies in experimental animals have shown that quercetin can increase the release of the hormone prolactin by the pituitary gland in the brain. Prolactin is a hormone that is important in the regulation of breast milk production. By stimulating the release of prolactin, quercetin can help increase breast milk production. Quercetin's anti-inflammatory properties may also be beneficial in the context of breastfeeding. Because inflammation can interfere with breast milk flow, reducing inflammation can help ensure better milk flow. The antioxidant properties of quercetin may help protect the mammary glands from oxidative damage that can interfere with breast milk production. By maintaining healthy mammary glands, quercetin can contribute to better breast milk production.[10-12]

Tannin is a compound found in katuk leaves and various other foods and drinks. Tannins can affect the hormonal system and help increase breast milk production by stimulating the release of prolactin. The influence of tannins on breast milk production is mainly related to their properties as astringent compounds. Astringent is a drying sensation that occurs when compounds such as tannins interact with proteins in the body. This can affect breast tissue and trigger the release of prolactin from the pituitary gland in the brain. Saponins are compounds that have various health benefits, including the potential to increase breast milk production. The saponins in katuk leaves can influence breast milk production by modulating the activity of the hormone prolactin. Prolactin is a hormone produced by the pituitary gland in the brain and has a major role in stimulating the mammary glands to produce breast milk. Therefore, if the compounds in katuk leaves can affect prolactin, this could contribute to increased breast milk production.[13-15]

4. Conclusion

There is an effect of giving katuk leaves on breast milk production for postpartum mothers at the Wanayasa Health Center, Purwakarta Regency, Indonesia.

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