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The Effect of Katuk Leaf (*Sauropus androgynus*) on Increased Milk Production in Breastfeeding Mothers

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ABSTRACT

Babies need breast milk (mother's milk) mother's milk). Sufficient breast milk is essential for the development of the baby. Consumption of consumption of foods such as katuk leaves is very good for increasing breast milk. Literature review on the benefits of katuk leaves for increasing breast milk production was conducted in this this study. This review was based on a systematic search study on PICO database in 9 research journals: Integrated Health Journal, Naska Poltekkes Kemenkes Semarang publication, Majority Journal, and Saintika Journal. Results The results showed that alkaloids and sterols contained in katuk leaf can increase breast milk production in breastfeeding mothers. Nine articles found through Google search, Researchgate, and Pubmed/Medline showed that any preparation of katuk leaves can increase breast milk production to meet the the needs of breastfeeding mothers. The Health Office of the Republic of Indonesia recommends this intervention as it has been proven effective. Wealthy Indonesians who are already accustomed to consuming jamu will also not hesitate to try it.

Keywords: Tap leaf, breast milk, breastfeeding mothers

I. INTRODUCTION

The health of mothers who giving birth and caring for their children will determine a healthy generation, intelligent, and quality generation of a nation. Therefore, maternal health should be the top priority for every country, including Indonesia, because there are still many problems that must be overcome, starting from pregnancy, childbirth, postpartum period, to newborns (Galistya, 2020). Babies who are born really need nutritious food, namely breast milk (ASI). As long as the baby is six months old, breast milk meets the needs of carbohydrates, fats, proteins, vitamins, and antibodies that are not met by formula milk. which are not met by any brand of formula.

According to the World Health Organization (WHO), exclusive breastfeeding is giving only breast milk to babies from birth to six months of age, except for medicine and vitamins. However, this does not mean that breast milk is no longer given to babies after they turn two years old. During the breastfeeding period, the nutritional needs of the mother must be considered because the mother must not only meet her own needs but also produce breast milk for her baby. Provitamin A, vitamin C, iron, and phosphorus are essential for breastfeeding mothers' nutrition (Yolivia Aruan et al., 2023). In addition, other phytochemical contents, such as polyphenols and steroids, serve to stimulate the prolactin reflex or stimulate the alveoli to produce breast milk. In addition, the hormone oxytocin

stimulates the production and flow of breast milk, and lactogogum is a substance that can increase or facilitate the release of milk (Ramayulis, 2015).

Breastfeeding is not as easy as one might think, but it is not as difficult as one might think. According to Friska Armynia Subratha (2020), breastfeeding not only requires adequate nutrition and good health, but also requires determination and confidence that the mother will succeed in providing the best food for her baby. Improving the quality of food, such as green vegetables like katuk leaves, which have a direct impact on milk production, is one way to increase breastmilk production. The theory that katuk leaves contain polyphenols and steroids that contribute to reflex prolactin or stimulating the alveoli to produce milk, as well as stimulating the hormone oxytocin to increase milk ejection and flow, makes this theory possibly true. In addition, katuk leaves contain several aliphatic compounds. The hormonal effects of sterol compounds that are estrogenic in nature are thought to be the reason for the efficacy of katuk leaves as a breast milk production enhancer.

Research conducted by Rosdianah and Irnawati (2021) found that katuk leaf extract has an effect on the smoothness of breastfeeding in mothers who have babies aged 0-6 months. This means that katuk leaf extract can help breastfeeding mothers get breast milk more easily and increase the consumption of adequate nutrition, the frequency of breastfeeding, and the amount of breast milk produced.

II. METHODS

This study is a literature review on the benefits of katuk leaves to increase breast milk production. The source for this literature review was a computerized database systematic search study with the PICO format (population, intervention, comparison, and outcome): P: Breastfeeding mothers, I: Avocado leaf extract, C: None, O: Increased breast milk production. The sources for this literature review were 9 journals (Integrated Health Journal, Naska Publik, and Integrated Health Journal).

III. RESULTS AND DISCUSSION

Every 100 grams of katuk leaves contains about 220.2 milligrams of chlorophyll. Apart from chlorophyll, there are also isoflavonoids, which function as esterogens and can slow down the decline in bone mass. Its sterol content has the potential to improve glucose metabolism for lactose synthesis, which in turn results in increased milk production. In addition, it contains polyphenols and steroids. These steroids stimulate the alveoli to produce breast milk and trigger the hormone oxytocin to increase milk ejection and flow (Ramayulis, 2015). Katuk leaves are also a source of vitamin C. In 100 grams of katuk leaves, there are 59 calories, 5.8 grams of protein, 1.0 gram of fat, 11.0 grams of carbohydrates, 204 milligrams of calcium, 83 milligrams of phosphorus, 2.7 milligrams of iron, 0.1 milligrams of vitamin B1, and 239 milligrams of vitamin C (Ramayulis, 2015).

Katuk leaves have been used as a green vegetable by Indonesians to increase breast milk production in nursing mothers, which means more milk for the baby. This is because this plant has many nutrients, such as protein, calories, and carbohydrates, comparable to cassava leaves and papaya leaves. On the other hand, it has a higher iron content than other leaves. In addition, katuk contains a lot of vitamin A, vitamin C, vitamin B1, thiamin, minerals, fats, tannins, flavonoids, saponins, and papaverine alkaloids. This plant is widely used as a traditional medicinal plant because of its content.

Many people believe that katuk has many benefits, including helping to promote breastfeeding. In their studies, Suwanti (2020) and Kuwati (2016) divided participants into two groups and gave them katuk leaf extract twice a day, two capsules, for one month. On the other hand, Basaria & Safriana's (2023) study gave katuk leaf simplisia taken twice a day, two capsules, for fifteen days. This is different from previous studies, Juliastuti (2019) and

Seriati & Anita (2019) who gave a decoction of katuk leaves. 3 times a day dose of katuk leaf extract was given to mothers giving birth and breastfeeding. To boil katuk leaves, mix 300 grams of katuk leaves with 1.5 liters of water. Boil for 15 minutes or until the katuk leaves are cooked and soft, then strain. The mother will drink the boiled water three times a day, 150 milliliters each. Therefore, the research conducted by Ibrahim (2021) and Baequny (2016) only asked participants or respondents who had consumed katuk leaves and those who had not. In addition, Lestari & Prasetyorini (2020) gave katuk leaf juice to participants to be consumed twice every day, totaling 300 milliliters.

According to Suwanti (2020) and Kuswati (2016), the results showed that the intervention group was given katu leaf extract for thirty days in a twice daily dose of one capsule. In the control group (without treatment), respondents only produced 6.7% of breast milk that exceeded the baby's needs, and the control group only produced 20.7% of breast milk. During the administration of katu leaf extract to the intervention group respondents, they were monitored once every week to identify any side effects or maternal complaints. No mothers experienced symptoms such as food poisoning or dizziness. After analysis with statistical tests using the Chi-Square test, it was found that mothers who consumed katu leaf extract produced more breast milk than mothers who did not ($\rho = 0.000$). According to research conducted by Baequny et al. (2016), the ρ (Asymptotic Sign 2-sided) value was 0.001 (<0.05), which means that Ha is accepted and Ho is rejected. This indicates that there is an effect of the habit of drinking herbal medicine in postpartum women on production. Postpartum mothers who usually drink jamu have a four times greater chance of smooth breast milk production than postpartum mothers who do not drink jamu, based on the relative risk (RR) value of 4.025. According to Bayhatun in Baequny et al. (2016), the signs of a baby who gets enough breast milk are as follows: 1) Infants who are adequately breastfed micturate 6-8 times every day; 2) Increase body weight by an average of 500 grams per month; 3) Frequent breastfeeding, which is every 2-3 hours or 8-12 times per day; and 4) The baby looks healthy, has good skin color and turgor, and is quite active.

Research conducted by Rahmanisa & Aulianova (2023) found that alkaloids and sterols contained in katuk leaves can increase breast milk production. The results of research conducted by Seriati & Anita (2019) found that in the intervention group, consisting of 14 mothers, and the control group, consisting of 7 mothers, breast milk production was adequate; however, in the intervention group, consisting of 2 mothers, and the control group, consisting of 9. The World Health Organization (WHO) considers this achievement as a significant achievement in achieving the goals of the Sustainable Development Goals (SGD's) part 3 target 2, which is to prevent infant and under-five mortality by 2030, with all countries striving to reduce neonatal mortality rates to at least 12 per 1000 live births.

IV. CONCLUSION

According to research found from 9 articles found through Google searches (Google Scholar and Repository), Researchgate, and Pubmed/Medline, any type of processed katuk leaves can increase breast milk production of breastfeeding mothers to meet breast milk needs. The Indonesian Department of Health recommends this as its efficacy has been proven. Wealthy Indonesians who are accustomed to consuming jamu will also not hesitate to try it.

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