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The Effect of Leaf Lungur Steeping (Lagerstroemia Indica) on The Quantity of Breast Milk in Postpartum Mothers

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Abstract
Introduction: *Mother's milk is the best food given to babies. Exclusive breastfeeding coverage at the Panjang Hubung Health Center is still below the target, this is due to insufficient milk production. Attempt by giving food to increase breast milk with steeping leaves of Little Bungur (Lagerstroemia Indica) which is an ingredient containing Lactagogum which can increase milk production.* ***Objective:*** *To find out the effect of giving little crepe leaves on the smoothness of breastfeeding in nursing mothers in the working area of the Long Hubung Health Center.* ***Method:*** *The type of research used in this research is experimental research. The research design is a quasi-experimental pre-test and post-test design with control using a comparison group.* ***Result and Discussion:*** *The average difference in the group intervention between the quality of breast milk before administration of little crepe leaf tea and after administration of little crepe leaf tea in the first week was 18.25 and the p-value was 0.017 <0.05, and in the first two weeks the mean difference was 4 .25 with a p-value of 0.034 <0.05. Meanwhile, in the measurements before and in the first week of the control group, a p-value of 0.039 <0.05 was obtained. While in the first week until the second week, the p-value is 0.131> 0.05,* ***Conclusion:*** *There is an effect of giving little crepe leaf tea on the smoothness of breast milk in nursing mothers.*

Keywords: Smooth Breastfeeding; Little Crested Leaf Tea; Quantity of Breast Milk;

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Introduction

The benefits of breast milk (ASI) are very large because breast milk has purity which in Islamic teachings is recommended to be given for 2 years (HS > Parningsih, 2020). Breast milk contains protective, protective, nutrients prevent illness and improve health (Clean & Polish, 2018). Breast milk provides protection for babies from infectious diseases. Breast milk contains colostrum which can increase immunity 10-17 times more than other types of milk (Novansyah, Zuraida, & Sutyarso, 2022).

WHO recommends breastfeeding for at least six months (WHO, 2020). Exclusive breastfeeding is breastfeeding by not giving the baby other food or drinks, including water, except medicines and vitamin or mineral drops, dairy milk is also allowed (Kemnekes, 2019).

Exclusive breastfeeding in the world is still low at 38%. Meanwhile, according to WHO, exclusive breastfeeding coverage in several ASEAN countries is also still quite low, including India (46%), the Philippines (34%), Vietnam (27%), Myanmar (24%), and Indonesia (54.3%) (Ministry of Health of the Republic of Indonesia, 2018).

The percentage of exclusive breastfeeding in Indonesia for infants 0-5 months is 54.0%, while infants up to 6 months of age is 29.5%. Referring to the 2020 strategic plan target of 42%, but nationally the coverage of exclusive breastfeeding is 80% (Depkes Ri, 2020). Seeing this, exclusive breastfeeding has not met the national target. In East Kalimantan, exclusive breastfeeding has reached the target of 46.8% of the 42% strategic plan target but has not met the national target (Dinkes Kalimantan Timur, 2021).

Babies who are breastfed will be more susceptible to disease due to low body resistance (Fadlliyyah, 2019). The importance of breast milk in the growth and development of children, especially in the age period of 0-24 months. However, there are still many obstacles in exclusive breastfeeding as the reason for the failure of exclusive breastfeeding (Novansyah et al., 2022; Petrika & Agusanty, 2020).

Uapaya in increasing breast milk with the use of galaktagogum compounds derived from plants is one of the efforts made in overcoming this (Husna, Panjaitan, Febriana, Ginting, & Purba, 2021). Bungur leaves or *Indica lagerstroemia* by increasing the production of breast milk which contains iron and carotene (Rochman, Siswoyo, & Ratnadewi, 2016; Widya Ekayanti, ., & Noer Wahyono, 2017).

Researchers Husna et al (2021) explained that bungur leaves boiled with water up to 150 ml then drunk 2 times a day in star fruit glass can bind breast milk production (Husna et al., 2021). Although effective, researchers tried to apply it in steeping form to make it more practical and postpartum mothers can brew immediately when they want to drink it.

Preliminary study in the Working area of the Long Liaison Health Center out of 95 deliveries between January-October 2022, no babies received exclusive breastfeeding for 6 months or exclusive breastfeeding coverage of 0%. The reason is because babies are always fussy if only given breast milk, mothers feel that their milk is not much and less for babies, mothers work so they cannot exclusively breastfeed, some even have given porridge because they feel breast milk is not enough.

When viewed from the character of people who use plants such as kaun katuk, mauve leaves in increasing the quantity of breast milk production into a pattern that is sought has not been a solution to overcome the quantity of breast milk in postpartum mothers (Setyowati, 2015). The number of small bungur plants or what is widely known to the public as KW sakura, is more often used as an ornamental plant and not many know its benefits in increasing the quantity of breast milk. So that makes researchers interested in analyzing the effect of steeping Small Bungur Leaves *(Lagerstroemia Indica)* on the quantity of breast milk for Nifas mothers in the working area of the Long Liaison Health Center, Mahakam Ulu Regency.

Method

This research was conducted in January-April 2023 at the Long Liaison Health Center, Mahakam Ulu Regency. This research is quntitative using *Quasy Experimental pre and Post design with Control Group*. The population of this study was postpartum mothers with a total sampling technique of 16 respondents in the Long Hubung Health Center area.

Data collection was carried out by measuring preintervention data using observation sheets in measuring the quantity of breast milk in units of CC or milliliters and the intervention was carried out by steeping small bungur leaves 2 times a day for 2 weeks. Furthermore, the quantity of breast milk is measured as intervention post data. The data that had been collected were then analyzed univariately and bivariately. Statistical tests used with the *Wilcoxon test.*

Result and Discussion

Result

Characteristics of Respondents

The characteristics of respondents were mostly mothers between the ages of 19-29 years amounting to 9 people (56.25%), almost part of the parity of 3 children amounted to 6 people (37.5%), some graduated from high school 8 people (50%), work as Housewife amounted to 13 people (81.25%) (Table 1).

Table 1
Frequency Distribution of Maternal Characteristics in the Working Area of the Long Hubung Health Center in 2023

No	Characteristics of Respondents	Group				Total	
		Intevensi		Control			
		N	%	n	%	n	%
1	Mother's Age						
	19-29 years	5	62.5	4	50	9	56.25
	30-39 years	3	37.5	4	50	7	43.75
2	Education						
	ES	1	12.5	0	0	1	6.25
	JHS	2	25	1	12.5	3	18.75
	SHS	3	37.5	5	62.5	8	50
	College	2	25	2	25	4	25
3	Work						
	Housewife	6	75	7	87.5	13	81.25
	Honorer	2	25	1	12.5	3	18.87
4	Paritas						
	1 child	2	25	2	25	4	25
	2 children	3	37.5	3	37.5	6	37.5
	3 children	2	25	1	12.5	3	18.75
	4 children	1	12.5	1	12.5	2	12.5
	5 children	0	0	1	12.5	1	6.25

Quantity of Breast Milk

The average quantity of breast milk before steeping small bungur leaves to breastfeeding mothers in the working area of the Long Hubung Health Center in the intervention group was 66.26 cc. While the smoothness of breast milk is average before steeping the leaves

The small bungur in the control group was 64.38 cc. This shows that the smoothness of breast milk before steeping small bungur leaves in breastfeeding mothers in the working area of the Long Hubung Health Center was higher in the intervention group than the control group (Table 2).

Table 2
Quantity of Breast Milk Before the Intervention and Control Group in Breastfeeding Mothers in the Working Area of the Long Hubung Health Center in 2023

Variable	Measurement	Group	Mean	SD	Min-mak	95%CI
Quantity of breast milk	For	Speakers	66.25	9.161	60-80	54.03-74.72
		Control	64.38	12.374	50-80	58.59-73.91

The average quantity of breast milk after steeping small bungur leaves in the first week in breastfeeding mothers in the working area of the Long Hubung Health Center in the intervention group was 90 cc. While the average quantity of breast milk after in the control group was 72.5. cc (Table 3)

Table 3

Quantity of Breast Milk After the Intervention and Control Group in Breastfeeding Mothers in the Working Area of the Long Hubung Health Center in 2023

Variable	Measurement	group	Mean	SD	Min-mak	95%CI
Quantity of breast milk	Pos	Speakers	90	9.258	80-100	81.77-95.73
		Control	72.5	11.783	60-90	64.52-84.23

The Effect of Steeping Small Bungur Leaves on the Quantity of Breast Milk of the Intervention and Control Group on Mothers in the Working Area of the Long Hubung Health Center

Before the bivariate test was carried out, a normality test was carried out where there was an abnormal variable, the quantity of breast milk pre-intervention group, which was < 0.05, so that the bivariate test using *the Wilcoxon rank test* (Table 3)

Table 4

Normality Test of the Amount of Breast Milk before and after Steeping Small Bungur Leaves at the Long Hubung Health Center in 2023

Variable	Measurement	Group	Mean	Median	95%CI	*p*	Ket
Quantity of breast milk	For	Control	64.38	60	54.03-74.72	0.106	Normal
		Speakers	66.25	60	58.59-73.91	0.002	Abnormal
Quantity of breast milk	Pos	Control	74.38	72.5	64.52-84.23	0.327	Normal
		Speakers	88.75	90	81.77-95.73	0.067	Normal

The difference in the mean of the intervention group between the quality of breast milk before steeping small leaves and after steeping bungur leaves was 23.75 cc and the *p-value of 0.010* < 0.05. This means that Ha is accepted, namely that there is an effect of steeping small bungur leaves on the quantity of breast milk in breastfeeding mothers in the work area of the Long Hubung Health Center. While in the control group pre-group measurement, a mean difference of 10 cc with *a p-value of* 0.027<0.05 was obtained, meaning that Ho was accepted, namely there was an educational influence on the quantity of breast milk in nursing mothers. However, the mean difference was higher in the intervention group, compared to the control group.

Table 5

The Effect of Steeping Small Bungur Leaves on the Quantity of Breast Milk in Breastfeeding Mothers in the Working Area of the Long Hubung Health Center in 2023

Variable	Group	Measurement	Mean±SD	Beda Mean	With	p
Quantity of breast milk	Speakers	For	66.25±9.161	23.75	-2.588	0,010
		Pos	90±9,258			
Quantity of breast milk	Speakers	For	64.38±12.374	10	-2.388	0,027
		Post	74.38±11.783			

Discussion

The quantity of breast milk before steeping Small Bungur Leaves to breastfeeding mothers in the working area of the Long Hubung Health Center

Before steeping small bungur leaves, it was found that the average amount of breast milk in the intervention group was 66.25 cc. While the average amount of breast milk in the control group (given health education) was 64.38 cc. This shows that the quality of breast milk before steeping small bungur leaves in breastfeeding mothers in the working area of the Long Hubung Health Center was higher in the control group than the intervention group.

According to researchers, most respondents of breast milk expenditure are less smooth before intervention because mothers who rarely breastfeed their children and child suction are reduced thereby reducing milk expenditure. In addition, mothers do not understand how to take care to be able to facilitate the production of milk that secretes. When viewed from the characteristics of the majority of mothers in the productivity category 19-29 years, high school education, housewives with a parity of 2 children. This means that aspects of time, breastfeeding experience and background do not affect milk production.

Postpartum women will release the production of breast milk (ASI) (Ambarwati, 2014). Breast milk production can be affected by hormones (prolactin and oxytocin). The process of sucking the mother's breast in the baby will stimulate neurohormonal stimulating the glands to produce milk. The hormone oxytocin stimulates the production of breast milk. Lack of production of these two hormones will cause difficulty in producing milk needed for breastfeeding in infants (Astutik, 2015).

According to Seodjiningsih (2012) stated that breastfeeding mothers often experience obstacles such as less milk production, mothers do not understand the correct lactation management. Efforts to increase milk production can be done by doing breast care early and routinely, improving breastfeeding techniques, or by consuming foods that can affect milk production (Soetjiningsih, 2012).

According to Haryono and Setianingsih (2014), several efforts to produce more breast milk and improve the quality of breast milk include increasing the consumption of nutritious foods. The mother's food intake is one of the factors that affect the composition and production of breast milk. Indonesia is one of the countries rich in various types of plants that are efficacious as medicinal plants. Some of them are efficacious as lactagogum such as papaya fruit. Lactagogum is a drug that can increase or facilitate the release of milk.

According to the researchers' assumptions, the mother's milk production before steeping steeping small bungur leaves is still in the category of less. Lack of milk production in mothers is because mothers do not understand how to strive for milk production in terms of quantity to be good, mother's understanding is lacking because mothers do not know food and good ways that can be done in increasing milk production.

The amount of breast milk after steeping Small Bungur Leaves to nursing mothers in the working area of the Long Hubung Health Center

Based on the results of research related to the quantity of breast milk after being given an average intervention of 90 cc. While the average smoothness of breast milk in the control group was 74.38 cc. This showed that there was a change in the quantity of breast milk more in the intervention group than in the control. From this it shows that there was a change in the amount of breast milk, but the amount was more in the intervention group than in the control group.

Breastfeeding by nursing mothers is the easiest way to lose weight the mother. By breastfeeding can burn extra calories as much as 200-250 per day. Breastfeeding can also help the uterus return to its normal size faster and prevent bleeding. Women who breastfeed have a lower incidence of osteoporosis and several types of cancer including breast cancer and ovarian cancer (Lestari, 2013).

According to Istiqomah (2015) stated that breastfeeding mothers often occur obstacles such as less milk production, while in infants there are often obstacles such as sick babies or infant abnormalities. Therefore, efforts to increase breast milk production can be done by doing breast care early and routinely, improving breastfeeding techniques, or by consuming foods that can affect breast milk production, one of which is papaya.

According to Idris (2019) bungur leaves Bungur (*Lagerstroemia speciosa*) is a medicinal plant in facilitating the production of breast milk because of the content of galactogen, vitamin C, vitamin B1, vitamin B12, beta carotene, niacin, carvakrol, calcium, fatty acids, oxalic acid, and fiber (Husna et al., 2021). Prolactin reflexes are hormonal to produce milk, when the baby sucks the nipple of the mother's breast, neorohormonal stimulation occurs in the mother's nipple and areola. These stimuli are passed on to the pituitary through the vagus nervos, then to the anterior lobe.

From this lobe will secrete the hormone prolactin, enter the blood circulation and arrive at the breastfeeding-making glands. These glands will stimulate to produce breast milk. The researchers' assumptions are related to the results of research where small bungur leaves contain mineral elements, vitamins and most importantly the content of galactogen which is allegedly a determinant of the quality and production of breast milk produced so that after steeping small bungur leaves show an increase in the quantity of breast milk produced.

The effect of steeping Small Bungur Leaves on the quantity of breast milk in breastfeeding mothers in the working area of the Long Hubung Health Center.

Based on the results of the study, a p-value of 0.010 *< 0.05 was obtained, which means that Ha is accepted,* namely there is an effect of steeping small Bungur leaves on the smoothness of breast milk in nursing mothers. While in the control obtained *a p-value of 0.027* < 0.05, which means that Ha is accepted, namely there is an effect of steeping small Bungur leaves on the smoothness of breast milk in nursing mothers. However, the mean difference was higher in the intervention group, compared to the control group.

In accordance with previous studies obtained *p-value* 0.000 < α = 0.05, this result means that there is a relationship between bungur leaves and breast milk production in postpartum mothers in Kelurahan Seribu Dolok in 2020 (Husna et al., 2021). It can be concluded that steeping small bungur leaves can increase the secretion and amount of milk production.

In line with the theory put forward by Fikawati (2015) that breast milk is the best food for babies in the first 6 months of life. All nutritional needs, namely protein, carbohydrate, fat, vitamins, and minerals are fulfilled from breast milk. Early breast milk contains immune substances from the mother that can protect the baby from diseases that cause infant death throughout the world such as diarrhea, ARI and pneumonia. In adulthood it is proven that breastfed babies have a lower risk of developing degenerative diseases, such as high blood pressure, type 2 diabetes and obesity. So that WHO since 2016 recommends that babies get exclusive breastfeeding until the age of 6 months.

The mechanism of action of lactagogum in helping to increase the rate of secretion and production of breast milk is by directly stimulating protoplasmic activity in the secretory cells of the mammary glands and secretory nerve endings in the mammary glands which results in increased milk secretion, or stimulating the hormone prolactin which is a lactagonic hormone against the mammary gland in alveolar epithelial cells which will stimulate lactation.

The process of breast milk production is also influenced by several factors including nutritional factors because in increasing milk production a mother must increase her nutritional needs by increasing the portion of food containing protein because the protein content serves to form new tissue for breast milk production (Kamariyah N, 2014).

According to researchers, breast milk production is the stage of success of mothers in providing nutrition to their children, if the mother experiences malnutrition and nutritional intake it can cause breast milk not to run smoothly, so the mother is said to be unsuccessful in providing adequate nutrition to the baby, in this study it was obtained that all respondents experienced breast milk less smoothly. The average milk production after steeping small bungur leaves in the working area of the Long Hubung Health Center for 8 breastfeeding mothers, with a mean difference of 23.73 cc. While the control group had a mean difference of 10 cc.

Small bungur leaves have excellent properties for health, the content of nutrients that are beneficial to the body is protein 12.05%, carbohydrates 34.83% and total fat 13.05%, minerals (especially phosphorus, calcium, and iron), as well as a number of vitamins A, B1 and C (Fattah & Hidayat, 2015). Small Bungur leaves have properties against increased milk secretion (*laktogogum*) have a working content of active ingredients such as *prolactin releasing hormon* (PRH), contains active ingredients of steroid compounds, contains efficacious active ingredients such as prolactin and contains efficacious active ingredients such as oxytocin.

The researchers' assumptions related to the effect of steeping small bungur leaves given for 2 weeks showed a difference in the increase in the quantity of breast milk produced by mothers with groups that were not given steeping small bungur leaves. This

means that steeping small bungur leaves is effective in improving the quality of breast milk produced by mothers in the working area of the Long Hubung Health Center

Conclusion

The average analysis before steeping small bungur leaves was 66.26 cc and the control group was 64.38 cc. The average smoothness of breast milk after steeping small bungur leaves in the first week was 84.50 and the control group was 71.25. The second week in the control group was 74.38 and the intervention group was 88.75.

The difference in the mean of the intervention group between the quality of breast milk before steeping small bungur leaves with after steeping small bungur leaves 23.73 and *p-value* 0.010 < 0.05, meaning that Ha is accepted, namely there is an effect of steeping small bungur leaves on the smoothness of breast milk. While in the first pre and week measurements of the control group, there was a 10 cc value and obtained *a p-value of* 0.027<0.05, which means that Ho was accepted, that is, there was no effect of steeping small bungur leaves on the smoothness of breast milk in nursing mothers. However, the mean difference was higher in the intervention group, compared to the control group.

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