



## **Efficacy of Lavender Aromatherapy in Increasing Breast Milk Consumption Among Postpartum Mothers at Kertajati Health Centre**

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**Abstract.** Breast milk production is a cumulative value based on what is seen and can be measured by the volume of milk a baby drinks for one day. The causes of decreased breast milk are consumption of drugs and hormonal disorders. To overcome the issue of decreased drain generation, lavender fragrance-based treatment can be done. The reason for this ponder was to decide the adequacy of giving lavender fragrance-based treatment to expand the sum of drain excretion in postpartum moms. This type of investigation is pre-experimental, with a number of pretest-posttest designs. Total sampling is a technique for sampling. The comes about appeared that the normal sum of breastfeeding time recently given fragrance-based treatment was 72.75. The minimum amount of breastfeeding in postpartum mothers is 60 cc and the maximum amount is 85 cc. After aromatherapy, the average amount of nursing in postpartum women is 100.25. Giving lavender aromatherapy is beneficial in raising milk production in postpartum moms, and it is anticipated that Kertajati Health Center in Majalengka Regency would be able to use this approach as a non-pharmacological treatment to improve milk production.

**Keywords:** Lavender Aromatherapy, Postpartum Mother's Milk Expulsion

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### **INTRODUCTION**

Breastfeeding infants is one of the efforts to prevent death and malnutrition problems in infants and young children. WHO (2010) recommends that infants be breastfed until six months of age without being given any other food or liquids, except vitamins, minerals, and drugs approved for medical reasons. According to the United Nations Children's Fund (2012), as many as 30,000 infant deaths in Indonesia and 10 million deaths of children under the age of 5 worldwide can be prevented each year through full breastfeeding.

Breast milk has benefits including preventing postpartum bleeding, anemia, and breast cancer (Nugroho, 2011 in Silvia, 2023). Other studies have shown the benefits of exclusive breastfeeding for mothers by delaying pregnancy and shrinking the uterus. The significant benefits of breastfeeding encourage governments around the world to support the practice of exclusive breastfeeding (Haryono, 2014 in Wati, Qoriaty, and Handayani, 2020). Breast milk also protects babies from infections from childhood diseases. Breast milk is an emulsion of

fats in a solution of protein, lactose, and inorganic salts secreted by the mother's mammary glands, which serve as food for the baby. Breast milk in sufficient quantities is the best food for your baby and can meet your baby's needs. Up to the first six months, breast milk is the first and main natural food that helps your baby achieve optimal growth and development (Wahyuningsih, 2018).

The Indonesian Ministry of Health (2021) states that the percentage of babies in Indonesia who receive exclusive breastfeeding is 68.74% of the national target of 80%. Meanwhile, the rate of exclusive breastfeeding in West Java province in 2020 was 90.79%. Although the target has been achieved, several districts/cities in West Java Province still have low coverage, including Majalengka Regency. (West Java Provincial Health Office, 2021). Based on data from the Kertajati Health Center report, in 2020-2021 the number of postpartum mothers who provide exclusive breastfeeding has decreased in percentage. In 2020, there were 65.0% of postpartum mothers provided exclusive breastfeeding and in 2021 it decreased to 62.0%.

This low rate of exclusive breastfeeding may be caused by several factors, especially mother, child, and behavioral factors. Maternal factors include maternal nutrition, medical history, psychology, type of delivery, and gestational age at birth, infant factors include breastfeeding, frequency of breastfeeding, and birth weight, while behavioral factors include breast care, sleeping habits, smoking, and moringa consumption. leaves affect breast milk production (Dewi and Sunarsih, 2018). Breast milk production is a cumulative value based on observations in the field and can be measured by the amount of milk the baby drinks in a day. Signs your baby is getting enough milk include breastfeeding every 2 to 3 hours or within 24 hours, breastfeeding at least 8 to 10 times in the first 2 to 3 weeks, and urinating (BAK). at least 6 to 8 times a day, the baby's weight increases by 125 grams per week, and the baby's weight does not lose more than 7% compared to birth weight (Suyanti, 2020).

Babies will experience growth and development disorders if not exclusively breastfed. According to research by Sinaga et al. (2018), the difference in disease incidence between exclusively breastfed children and non-exclusively breastfed children in the latter group is 3.8 times higher. To overcome the shortage of breast milk, the government issued regulations related to the implementation of exclusive breastfeeding, but monitoring and evaluation have not been automated because its implementation still depends on the implementation of breastfeeding by the government (Suhesti & Mayangsari, 2022).

Factors affecting breast milk production are divided into two categories, namely pharmacological and nonpharmacological factors. Pharmacological factors include the use of contraceptives and the influence of lactation pills. Nonpharmacological factors include diet, breast care, rest habits, infant breastfeeding factors and breastfeeding frequency, infant birth weight, gestational age, use of drugs, leaves and wine, aromatherapy, and breastfeeding hypnosis (Doko, 2019). Aromatherapy is a complementary medicine technique that employs natural ingredients and other fragrant compounds derived from plants to improve a person's state of mind or health (Riswanto, 2020). Various kinds of aromatherapy are fragrant root, lavender, cloves, roses, celery, ginger, jasmine, lime, ylang.

Lavender aromatherapy is efficacious to make people happier and improve the physical and psychological condition of babies. Aromatherapy works by transferring interactions at the molecular level from the limbic system of the human brain to the brain, which are then released through the limbic system, the part of the brain connected with emotions and memory. Linalyl acetate and linalool are the main components of lavender essential oil. These compounds will affect and can trigger physiological responses to nerves, pressure, respiratory system, brain wave activity, and some hormones in the body. Therefore, when relaxation occurs, both physically and psychologically, it will adversely affect the body's milk production after childbirth (Suhesti and Mayangsari, 2022).

When a person inhales lavender fragrance, the resulting scent exerts a relaxing effect on the central nervous system. The resulting relaxing effect on the central nervous system can help increase the production of the hormone oxytocin, one of the hormones that play a role in increasing milk production because the hypothalamus of the central nervous system must be active to produce breast milk. oxytocin (Hulu et al, 2023). The results showed that aromatherapy with lavender can increase breast milk production (Ohorella et al., 2021). Research by Suhesti and Mayangsari (2022) shows that the mixture of hypno-feeding with lavender aromatherapy has an effect on breast milk supply in postpartum moms (p-value 0.001). Tuti and Widayawati (2018) discovered that lavender aromatherapy could enhance milk production while also reducing anxiety in postpartum women and preventing postpartum depression.

## **LITERATURE**

Aromatherapy is a therapy using essential oils from plants that serve to help improve one's physical and psychological health. Essential oils are aromatic substances extracted

from various parts of plants such as flowers, leaves, bark, roots, or fruits. Essential oils can be used by inhaling the aroma, applying it to the skin, or adding it to bath water. The benefits of aromatherapy include improving mood and reducing stress (Graham et al., 2020), improving sleep quality and overcoming insomnia (Koulivand et al., 2013), reducing muscle and joint pain (Yip & Tse, 2006), boosting the immune system and fighting infections (Orchard & van Vuuren, 2017), improving cognitive function and memory (Moss et al., 2008), overcoming digestive problems and nausea (Hines et al., 2018), reducing symptoms of depression and anxiety (Perry et al., 2012).

According to Ochtaviany (2015), another benefit of aromatherapy is that it may assist calm tense nerves and muscles in addition to relieving physical and psychological disorders. Relaxation is a technique for reducing anxiety and tension by relaxing nerves and muscles. Relaxation can improve general health by speeding up the body's metabolism, reducing the level of aggression and bad behavior due to stress, increasing self-esteem and confidence, becoming more mature in the way of thinking, facilitating self-control, and reducing common symptoms. stress and improving health (Salsabila, 2020).

Ali et al. (2015) argue that *Lavandula officinalis* belongs to the Lamiaceae family, plants commonly used in aromatherapy. Camphor, terpinene-4-ol, linalool, linalyl acetate, beta-ocimene, and 1,8-cineole are all found in lavender. According to research on the advantages of lavender aromatherapy, linalool and linalyl acetate present in lavender can activate the parasympathetic nervous system. Furthermore, linalyl acetate is an anesthetic, and linalool is a sedative (Salsabila, 2020).

## **METHOD**

This research is experimental research with a single-group pretest design. Sampling in this study used a total sampling technique. This research was carried out for 3 months from May to June 2023 at the Kertajati Health Center, Majalengka Regency. The tools used in this study were a Visual Analog Scale Observation Sheet (VAS) and a Standard Operating Procedure (SOP) of lavender aromatherapy. The analysis carried out is the analysis of each variable and bivariate analysis to determine the relationship of the variables studied. The results of this research data were processed using the statistical test Paired Samples t-test.

## **DISCUSSION**

Based on data analysis, results were displayed in the distribution of postpartum maternal age frequency, parity frequency, distribution of breast milk expenditure before

aromatherapy, distribution of breast milk expenditure after aromatherapy, and the results of aromatherapy effectiveness tests in Table 1, Table 2, and Table 3.

Table 1 Frequency Distribution of Puerperal Characteristics

Characteristic	No	Category	F	%
Mother's Age	1	Non-High Risk	16	80
	2	High Risk	4	20
N			20	100
Frequency of Parity of Nifas Mothers	1	Primipara	5	25
	2	Multipara	15	75
N			20	100

Table 1 shows that based on the age of the majority of postpartum mothers, the non-high-risk age group is 16 people (80.0%), while the rest group is 4 people (20%). Young age tends to be associated with psychological conditions that are still labile which triggers anxiety that can affect the production of hormones that play a role in milk production so that milk production is reduced. Age is also used as a factor in determining milk production. Hutahaean (2016). The ideal age for childbirth is 20 to 35 years. This is the best time for pregnancy, childbirth, and breastfeeding. In a healthy reproductive period, the amount of milk produced will be fulfilled because the function of the reproductive organs can still function optimally. Mothers over the age of 35 years are considered dangerous because their reproductive organs and other organs have decreased so the risk of complications in pregnancy, childbirth, and breastfeeding is very high (Prawirohardjo, 2014).

Based on the frequency of parity of postpartum mothers, it is known that the primiparous group is 5 people (25%), and the multiparous group is 15 people (75%). Maternal parity is related to milk production indicated by variable child weight gain, while parity is not related to milk production indicated by changes in breast milk volume. Parity is associated with the onset of lactation. The time you start breastfeeding will determine the success of your next breastfeeding session (Leiwakabessy, 2020).

While Table 2 shows that the average amount of breast milk expenditure in postpartum mothers before giving Lavender aromatherapy is 72.75 cc, the median value is 75.00 cc with a standard deviation of 7.6 cc The amount of breast milk expenditure in postpartum mothers is at least 60 cc and the maximum amount of breast milk expenditure in postpartum mothers is 85 cc. After aromatherapy, the average value was 100.25 cc, the median value was 100 cc with a standard deviation of 12.4 cc, the minimum amount of breast milk expenditure in postpartum mothers was 80 cc and the maximum amount of breast milk expenditure in postpartum mothers was 120 cc.

Table 2 Distribution of the amount of breast milk expenditure in postpartum mothers before lavender aromatherapy

Variable	Mean	Median	Min-Max	SD
Total Breast Milk Expenditure in postpartum mothers before aromatherapy	72,75	75,00	60,00 – 85,00	7,6
Total Breast Milk Expenditure in Postpartum Mothers after Aromatherapy	100,25	100	80,00– 120,00	12,4

Mothers who give birth many times will produce more milk. Indeed, they have more knowledge and experience about the breastfeeding process so that lactation management is carried out well. The psychological preparation between newborns and babies is very different. First-time mothers are more likely to feel anxious, and unstable psychological states will affect the release of hormones that play a role in milk production (Leiwakabessy, 2020). The average amount of breast milk expenditure for postpartum mothers at the Kertajati Health Center before giving Lavender aromatherapy was 72.75. The minimum amount of breast milk expenditure on postpartum mothers is 60 cc and the maximum amount of breast milk expenditure on postpartum mothers is 85 cc. This is by the views of Asih and Risneni (2016) who suggest that mature breast milk is issued from day 10 onwards. Mature breast milk is white, the composition of mature breast milk includes foremilk and hindmilk. Powdered milk is thinner, has a lower fat content, and contains more lactose, sugar, protein, minerals, and water, while formula milk has more fat and nutrients, the formula feeding stage helps babies feel full quickly (Febriza, 2022).

The majority of Non-High-Risk age means that at the age of 20-35 years, the reproductive organs including the breasts are still in good condition compared to the rest age because reproductive function has decreased. This is by the views of Asih and Risneni (2016) who suggest that mature breast milk is issued from day 10 onwards. Mature breast milk is white, the composition of mature breast milk includes foremilk and hindmilk. Powdered milk is thinner, has a lower fat content, and contains more lactose, sugar, protein, minerals, and water, while formula milk has more fat and nutrients, the formula feeding stage helps babies feel full quickly. Proverawati (2010) argues that the number of births helps mothers gain experience in breastfeeding and know how to increase the amount of breast milk so that mothers can breastfeed without difficulty. First-time mothers and mothers who have given birth to more than two children often have difficulty breastfeeding (Khofiyah, 2019).

Lavender aromatherapy is efficacious to make people happier and improve the physical and psychological condition of babies. Aromatherapy works by transferring interactions at the molecular level from the limbic system of the human brain to the brain, which are then released through the limbic system, the part of the brain connected with emotions and memory. Linalyl acetate and linalool are the main components of lavender essential oil. These compounds will affect and activate physiological nervous responses, pressure, respiratory system, brain blood wave activity, and several hormones in the body. As a result, when there is relaxation, both physically and psychologically, it will have a positive impact on milk production in the postpartum body (Suhesti & Mayangsari, 2022).

When a person inhales the scent of lavender, the resulting scent exerts a relaxing effect on the central nervous system. The resulting relaxing effect on the central nervous system can help increase the production of the hormone oxytocin, one of the hormones that play a role in increasing milk production because the hypothalamus of the central nervous system must be active to produce breast milk. oxytocin hormone (Hulu et al, 2023). Lavender aromatherapy is an inhalation method that uses aromatherapy. The positive effects of lavender aromatherapy provide a relaxing effect of the central nervous system in the hypothalamus, helping to increase the production of the hormone oxytocin thereby increasing breast milk production (Ohorella, 2021).

Table 3 The effectiveness of lavender aromatherapy on the amount of breast milk expenditure in postpartum mothers

	Paired Differences			t	Sig. (2-tailed)
	Mean	95% Confidence Interval of the Difference			
		Lower	Upper		
Pre-Test ASI – Post-Test ASI	27,5	31,48	23,51	14,457	0,000

Based on Table 3 it can be seen that the result of the calculation of Paired Samples t-Test, the value of t obtained is 14.457 with p-value (Asymp. Sig 2 tailed) of 0.000 where the value is less than the critical limit of the study of 0.05 so the decision is that there is a difference in breast milk expenditure in postpartum mothers between before giving Lavender aromatherapy and after giving Lavender aromatherapy. In other words, breast milk expenditure in postpartum mothers increased after intervention through the administration of Lavender aromatherapy. This is by the results of research conducted by Ohorella et al. (2021) which showed that the results of univariate analysis showed that many respondents were over 25 years old (73%) and had just graduated from high school (67%). and no jobs

(57%). Bivariate analysis showed that interventional therapy of OM in postpartum mothers was more effective in the development of breast milk with a standard deviation of 6.60591 than LSA intervention (SD=9.74435), so it can be concluded that lavender aromatherapy can increase milk production.

The results of this study are also in line with the results of research conducted by Suhesti & Mayangsari (2022) stating that there is an effect of giving a combination of hypno-breastfeeding and Lavender aromatherapy on the milk production of postpartum mothers (p-value 0.001), this is evidenced in the milk production of postpartum mothers before and after being given Lavender aromatherapy and Hypno-breastfeeding. Furthermore, the results of a similar study also conducted by Tuti & Widyawati (2018) stated that respondents' breast milk production after oxytocin massage and lavender aromatherapy increased significantly. In addition, lavender aromatherapy can increase milk production and can also reduce anxiety in postpartum mothers, and prevent postpartum depression.

The results of research conducted by Pratiwi (2023) stated the significance value of giving Lavender essential oil to breast milk production in postpartum mothers with p-value results of  $0.000 < 0.05$ . This study shows there is a significant effect of giving lavender essential oil on breast milk production in puerperal mothers. The results of this study are also reinforced by the results of research by Mudyawati et al. (2021) which states that the results of univariate analysis show that many respondents are over 25 years old (73%) and almost reached that age. high school graduation. (sixty-seven). %), and unemployment (57%). Bivariate analysis shows that OM intervention therapy in postpartum mothers is more effective against breast milk development with a standard deviation of 6.60591 compared to LSA intervention (SD=9.74435) (Sika, 2023). It can be concluded that the relaxation of oxytocin massage and Lavender steam aromatherapy given for 4 days to postpartum mothers at the Makassar Health Center, South Sulawesi, both have a relaxing effect and help postpartum mothers launch breast milk.

## CONCLUSION

Based on the results of the research conducted, the  $p$  result obtained is  $0.000 < p = 0.05$  which means lavender aromatherapy is effective in increasing the amount of breast milk released by postpartum mothers at Kertajati Health Centre Majalengka Regency in 2023. Health workers can try to apply the technique of giving Lavender aromatherapy as an alternative medical treatment to overcome the problem of milk production in postpartum mothers.

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