



## The Effectiveness of Lavender Aromatherapy on Pain Scores for Post Sectio Caesarea in The Puskesmas Sukahaji Majalengka Regency

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**Abstract.** Sectio Caesarea (SC) deliveries have a higher risk because the surgery is performed by opening the abdominal wall and uterine wall or a trans-abdominal incision of the uterus. Patients with SC will feel pain. Therefore, pain management will be more effective when combined with non-pharmacological therapy. One of the non-pharmacological therapies that can be applied is aromatherapy. The purpose of this study was to determine the effectiveness of lavender aromatherapy on the pain score of post sc in the area of Puskesmas Sukahaji Kab Majalengka Tahun 2023. The design used is a quasi-experimental with one shoot only, the number of samples is 15 intervention groups and 15 control groups, the sampling technique uses purposive sampling. The results of data analysis obtained an average value in the intervention group of 2.60 and the control group of 7.33. The results of the Mann Whitney test. Research result obtained a value of  $p = 0.000$  or  $p < 0.05$  meaning that lavender aromatherapy is effective against post SC maternal pain scores. Lavender aromatherapy is effective for post SC maternal pain scores in the Sukahaji Health Center area in 2023. It is hoped that it can be used as a complementary therapy in pain management so that it becomes a holistic and comprehensive treatment therapy

**Keywords:** Post SC, Lavender aromatherapy, Pain

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### INTRODUCTION

Childbirth is a natural process that is very important for a mother where there is expulsion of the products of conception (fetus and placenta) that are aterm (37-42 weeks). Sectio Caesarea (SC) is an artificial birth process that is carried out surgically by making incisions in the abdominal wall and uterine wall of the mother (Tetti Solehati, 2015). SC delivery is a surgical process to deliver a fetus through an incision in the abdominal wall and uterine wall. Delivery with the SC method is carried out on the basis of medical indications from both the mother and the fetus, such as placenta previa, presentation or abnormal location of the fetus, as well as other indications that could endanger the lives of the mother and fetus (Cunningham, 2018). The World Health Organization (WHO) has set the average

standard for caesarean delivery in a country to be around 5-15 percent per 1000 births in the world. Presentation of SC deliveries in the Puskesmas Sukahaji area reached 37,68%.

Delivery with SC causes discomfort in the surgical area. Pain is an unpleasant sensory and emotional experience resulting from actual or potential tissue damage. Pain is the body's defense mechanism, arising when there is damaged tissue and this will cause the individual to react by moving the pain stimulus. Pain is a stressor that can cause stress and tension where individuals can respond biologically and perform behaviors that lead to physical and psychological responses. Physical responses include changes in general condition, face, pulse, respiration, body temperature, body posture, and if breathing becomes heavier it can cause cardiovascular collapse and shock, while psychological responses due to pain can stimulate a stress response which can reduce the immune system and inhibit healing process. Psychologically it creates fear and anxiety about pain after the analgesic wears off, Post-surgical pain will cause physical and psychological reactions in postpartum mothers such as impaired mobilization, lazy activities, difficulty sleeping, no appetite, not wanting to care for the baby so there is a need for ways to control pain so that they can adapt to post-sectio caesarea pain and speed up the puerperium.

Pharmacological pain management is carried out by administering narcotic and non-narcotic analgesics. Some analgesics have negative effects such as nausea, vomiting, respiratory deficits, sedation, and dependence (Pakseresht et al., 2020). Seeing some of the side effects of these drugs, non-pharmacological techniques are needed for the management of post SC pain to help patients adapt to the pain they experience. Non-pharmacological pain management can reduce the emotional effects of pain (Pakseresht et al., 2020). Aromatherapy is a complementary therapy in nursing practice and uses essential oils from fragrant plants to reduce health problems and improve quality of life (Bagheri.Nesami, 2014). Pain management will be more effective if combined with non-pharmacological therapy. One of the non-pharmacological therapies that can be applied is aromatherapy. One of the oils with great application in aromatherapy as a complementary medicine is the oil extracted from Lavender.

## **LITERATURE**

Delivery by SC has an impact on the mother and baby, pain that goes away due to surgery on the abdominal wall and uterine wall that does not go away in just one day has impacts such as limited mobilization, bonding attachment (bonds of affection) is

disturbed/not fulfilled, Activity of Daily Living (ADL) is disrupted in the mother and as a result the baby's nutrition is reduced due to delays in breastfeeding from the start, besides that it also affects Early Breastfeeding Initiation (EBI) which will affect the immune system of babies born by sectio caesaria (Tirtawati., 2020).

SC will require a longer healing time for the uterine wound than a normal delivery, as long as the wound has not completely healed, pain may arise in the wound (Anjelia, 2021). SC delivery has higher pain around 27.3% compared to normal delivery which is only about 9%. (Haniyah & Setiyawati, 2018). Aromatherapy is the use of plant essential oil extracts to improve the mood and health of the user (Pandawati,2011). The aroma released in aromatherapy stimulates the olfactory receptors and sends olfactory messages to the limbic system (Sussana.Stea, 2014). This neurotransmitter is an endogenous substance commonly called an opioid peptide which inhibits the transmission of pain messages through receptors associated with these peptides in the brainstem (Ashraf. Ghiasi, 2019).

In general, the emergence of pain associated with the presence of stimuli and receptors in the body. The stimulus in question can be thermal, electrical, mechanical or chemical stimulation. Stimulation of pain by chemicals can be in the form of histamine, bradykinin, prostaglandins, various acids such as increased stomach acid or other stimulation that is released due to tissue damage. These stimulant will activate pain receptors, namely nociceptors, which are free nerve endings that are spread on the surface of the skin and in deeper body structures such as tendons, fascia and other internal organs (Anggraini, 2022).

Lavender aromatherapy is determined to be effective in reducing preoperative anxiety, pain, and stress in patients undergoing surgical procedures in outpatient and inpatient settings (Varvara Dimitriou, 2017). Lavender essential oil or aromatherapy that is inhaled will increase alpha waves in the brain and it is these waves that help us feel calm. This happens because aromatherapy or essential oils are able to provide a sensation that calms oneself and the brain, as well as the stress that is felt (Mutia Anwar, Titi Astuti, 2018). Reported therapeutic properties of lavender oil include sedative, anxiolytic, antibacterial, antifungal, anti-flatulence, antispasmodic, anti-inflammatory and anti-histamine. Linalool and Linalyl acetate contained in this plant can stimulate the parasympathetic system, with linalyl acetate having narcotic properties and linalool acting as a sedative (Qoyyimah et al., 2021).

Aromatherapy of lavender flowers is used as a treatment to treat labor pain, reduce pain after caesarean section, reduce depression and anxiety in postpartum mothers and

reduce pain (Batool Rahmati a b, Mohsen Khalili a b, Mehrdad Roghani a b, 2013). The analgesic properties of Lavender extract are associated with its effect on inflammatory processes. Aromas and compounds in essential oils enter the bloodstream and cause psychological and physiological reactions so that they directly interact with tryptophan and help the relaxation response (Amidimazaheri, 2015). In line with the research results of Roghayeh Zardosht et al (2021) 128 primiparous women who underwent caesarean sections were given inhalation of lavender aromatherapy for 15-20 minutes with a distance of 5cm from the nose showing that primiparous women who underwent caesarean sections could reduce pain and also the need for analgesics.

## **METHOD**

The research method that will be carried out by the author uses a quasi-experimental one shoot only design with a control group. According to Sugiyono (2018), quasi-experimental is experimental research carried out in one group only without a comparison group and the sample is not randomly selected. This research was conducted in the Puskesmas Sukahaji Health by means of home visits. This research will be conducted from May to June 2023. There are 150 populations that will be used for research. The sampling technique in this study used a purposive sampling technique, namely sampling was not carried out randomly and which had criteria that had been determined in this study.

The number of samples in this study were 30 post SC, selected and divided into 2 groups. The first group was the group that was given the lavender aromatherapy intervention consisting of 15 mothers and the second group as the control consisting of 15 mothers. The sample in this study were mothers after sectio caesarea surgery with inclusion criteria in this study who are willing to be respondents, primiparous, multiparous, and grandemultiparous mothers, post SC mother, have not taken analgesic medication or have last taken analgesics at least 8 hours before. Exclusion criteria in this study are Post SC with comorbidities, namely: asthma, hypertension, diabetes mellitus, heart disease, HIV.

The instruments used in this study were observation sheets and SOP. To measure the scale of postoperative SC pain in this study using a pain scale observation sheet with the Visual Analog Scale (VAS) method. One end represents no pain, while the other end represents the worst possible pain (Perry, 2018). For lavender aromatherapy, measurements were not carried out, only supported by lavender aromatherapy SOP. The data obtained in this study are data on post-SC postpartum women who experience mild-moderate pain and

after 8 hours of administration of analgesics. Treatment of the sample was to reduce confounding factors, treatment the study sample was asked not to take pain relievers (analgesic).

Post SC who have met the inclusion criteria and are willing to become respondents after being explained about the purpose and benefits of the research to be carried out by filling out and signing the informed consent sheet and participation sheet become research respondents. After the respondent filled out the informed consent sheet and the participation sheet to become a research respondent, the respondent was asked to fill out the pain score research observation sheet. Then the respondent was given an intervention in the form of giving Lavender Essential Oil using a diffuser as much as 5 drops and then giving it to the respondent for 30 minutes. After 5 minutes of administering Lavender Essential Oil the researcher observed and asked the respondent to return to fill out the observation sheet for pain score research using Visual Analog Scales (VAS).

How aromatherapy works with Lavender essential oil using a diffuser as follows (Salsabilla, 2020): 1) Condition the room and position the client to sit comfortably; 2) Prepare tools and materials, namely electric diffuser, mineral water and lavender essential oil; 3) Open the diffuser head or cover by rotating it until you can see the container for water and essential oil, After that, fill the container with 100 ml of water, then drop 5 drops of the Lavender essential oil variant. After everything is in order, close the head or cover of the diffuser again; 4) Turn on the diffuser by pressing the power button (on), then the diffuser will work by emitting lavender essential oil smoke; 5) After the steam comes out of the diffuser head, then inhale it for 30 minutes. Tabulating data the researcher poured the research data in the form of pretest and posttest data, namely the pain scale of each respondent into the master table. Processing, enter the data in the master table into the computer program to be analyzed with the Statistical Package for Social Sciences (SPSS) version 25.0 for windows.

## **DISCUSSION**

In this group it was only measured using pain observation sheets and conveying information about lavender aromatherapy using leaflet media. Delivery with SC causes discomfort in the surgical area and from several studies on delivery via SC surgery it shows that SC will require a longer uterine wound healing time than normal delivery, as long as the wound has not completely healed, pain may arise in the wound (Anjelia, 2021).

Based on the results of the analysis of the treatment group, the pain score was lighter when compared to the control group. Giving Lavender Aromatherapy in this study was carried out to a treatment group of 15 Post SC mothers in the Puskesmas Sukahaji Regency Majalengka. Based on table 1 it is known that 15 respondents who did not receive lavender aromatherapy experienced severe pain. Based on table 2 it is known that 100% of respondents (one of them is Mrs. Erna 30 years) in the treatment group experienced mild pain. Based on the Table 3, results of the analysis, it can be seen that the group category given lavender aromatherapy has an average pain score of 2.60 with a standard deviation of 0.507 whereas in the group category that was not given lavender aromatherapy, it had an average pain score of 7.33 with a standard deviation of 0.488 The average pain score indicates that giving lavender aromatherapy to the treatment group can reduce pain compared to the control group which is not given lavender aromatherapy. From the results of the Mann Whitney test, a significance value of 0.000 was obtained, which was less than 0.05. The results of the study in the control group had an average pain score of 7.33.

**Tabel 1. Control Group Distribution Based on Pain Score**

Skor Nyeri	Kelompok	
	Kontrol	
	F	%
Nyeri Ringan	0	0%
Nyeri Sedang	0	0%
Nyeri Berat	15	100%
Sangat Berat	0	0%
Total	15	100%

**Tabel 2. Distribution of Treatment Groups Based on Pain Score**

Skor Nyeri	Kelompok	
	Perlakuan	
	F	%
Nyeri Ringan	15	100%
Nyeri Sedang	0	0%
Nyeri Berat	0	0%
Sangat Berat	0	0%
Total	15	100%

**Tabel 3. The Effectiveness of Lavender Aromatherapy on Pain Scores for Post SC**

Kategori	N	Mean	SD	p-value
Perlakuan	15	2,60	0,507	0,000
Kontrol	15	7,33	0,488	
Kategori	N	Mean	SD	p-value

The mechanism of action of aromatherapy stimulates the olfactory receptors and sends olfactory messages to the limbic system (Sussana.Stea, 2014).

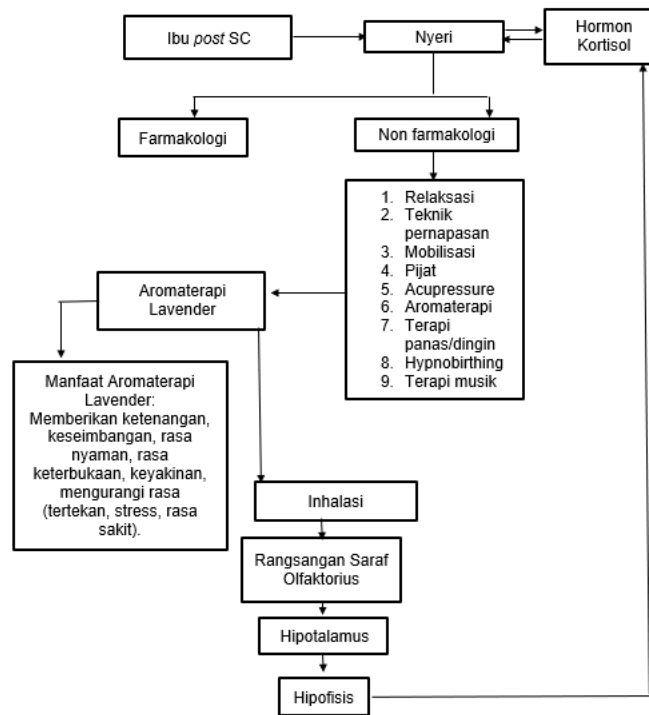


Figure 1. Thinking frame

## CONCLUSION

The post SC pain score in the control group averaged 7.33 (severe pain). From the results of the study, it was obtained from 15 respondents a post SC pain score in the intervention group after administration of aromatherapy with an average value of 2.60 (mild pain). Lavender aromatherapy is effective on post SC pain scores in the Puskesmas Sukahaji Health area with a p value of 0.000 <0.05. Oleh karena itu, lavender aromatherapy dapat dilakukan kepada pasien post SC di fasilitas pelayanan kesehatan.

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