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THE EFFECT OF LEMON AROMATHERAPY ON SECTION CAESAREA SURGERY PAIN

Diah Lukmana Sari[1], Nurul Isnaini[2], Neneng Siti Lathifah[3], Anggraini[4]

[1,2,3,4]Health Sciences Faculty, Midwifery Study Program, Malahayati University
Correspondensi email: isnaininurul50@yahoo.co.id

ABSTRAK

Latar belakang: Operasi sectio caesarea (SC) adalah melahirkan janin melalui sayatan dinding perut dan dinding rahim. WHO menyatakan nilai ideal operasi SC adalah 10-15%, berdasarkan Riskesdas 2018 angka SC di Provinsi Lampung 13,6%. Nyeri akibat tindakan SC dapat diatasi dengan memberikan aromaterapi lemon, karena jika tidak segera ditangani dapat menyebabkan postpartum blues.

Tujuan: Mengetahui pengaruh aromaterapi lemon terhadap nyeri luka SC di ruang kebidanan RSUD Dr. H. Abdul Moeloek Bandar Lampung.

Metode: Jenis penelitian ini adalah kuantitatif, menggunakan pendekatan quasy eksperimen dengan rancangan one grup pretest-posttest design, dilaksanakan dari Januari sampai dengan Juni di RSUD Abdul Moeloek Bandar Lampung. Penelitian ini menggunakan data primer dan sekunder dengan jumlah sampel sebanyak 30 orang ibu bersalin dengan operasi SC. Instrumen penelitian mengunakan Numeric Rating Scale dan lembar observasi. Analisis data dengan cara analisis univariat dan bivariat menggunakan uji Wilcoxon.

Hasil: Didapatkan nilai rata-rata nyeri sebelum intervensi sebesar 6,13 dengan standar deviasi 1,137. Sedangkan nilai rata-rata nyeri sesudah intervensi sebesar 2,80 dengan standar deviasi 1,243. Analisis bivariat mendapatkan bahwa nilai perbedaan rata-rata nyeri sebelum dan sesudah intervensi sebesar 3,33 dengan Uji Wilcoxon mendapatkan p=0,000, yang berarti ada pengaruh aromaterapi lemon dalam menurunkan nyeri luka operasi SC.

Kesimpulan: Aromaterapi lemon terbukti menurunkan nyeri post sectio caesarea.

Saran: Dapat diberikan aromaterapi lemon pada pasien yang mengalami nyeri post sectio caesarea.

Kata Kunci : Aromaterapi lemon, Nyeri luka, Sectio caesarea.

ABSTRACT

Background: Sectio Caesarea (SC) surgery is giving birth to a fetus through an incision in the abdominal wall and uterine wall. WHO states that the ideal value for SC surgery is 10-15%, and based on the Basic Health Research 2018, the SC rate in Lampung Province is 13.6%. Pain due to the SC procedure can be overcome by giving lemon aromatherapy, because if it is not treated immediately it can cause postpartum blues.

Purpose: To determine the effect of lemon aromatherapy on SC wound pain in the obstetric room at RSUD Dr. H. Abdul Moeloek Bandar Lampung.

Methods: This type of research is quantitative, using a quasi-experimental approach with a one-group pretest-posttest design, it was carried out from January to June at RSUD Abdul Moeloek Bandar Lampung. This study used primary and secondary data with a total sample of 30 mothers who gave birth through SC surgery. The research instrument used the Numeric Rating Scale and observation sheets. Data analysis used univariate and bivariate analysis using the Wilcoxon test.

Result: The average pain value before the intervention was 6.13 with a standard deviation of 1.137. While the average value of pain after the intervention was 2.80 with a standard deviation of 1.243. The bivariate analysis found that the mean difference in pain before and after the intervention was 3.33 with The Wilcoxon test obtained p = 0.000, which means that lemon aromatherapy has an effect in reducing the pain of SC surgical wounds.

Conclusion: Lemon aromatherapy has an effect in reducing the pain of SC surgical wounds

Suggestion: They hope to use non-pharmacological therapies such as lemon aromatherapy to reduce SC surgical wound pain as a complement to pharmacological therapy.

Keywords: Lemon aromatherapy, Wound pain, Sectio caesarea

INTRODUCTION

There are several methods or models of delivery that can be done when a mother is ready to go through the labor process, namely vaginal delivery (natural delivery), and Sectio Caesarea (SC), which is giving birth to a fetus through an incision in the abdominal wall and uterine wall (Maryunani, 2015). This surgery is performed to remove a baby from the mother's womb. SC is usually done when there are indications of vaginal delivery that could endanger the safety of the mother or baby. World Health Organization (WHO, 2015) recommended that SC deliveries be carried out only based on medical indications (Pujiana et al., 2022). According to the WHO, the ideal number for SC surgery is around 10–15% of the birth rate (Boldy, M. 2018). WHO (2011) reported that 46.1% of all births were carried out through SC. Based on Riskesdas (2018) SC in Indonesia was 17.6%, and in Lampung was 13.2% (Kemenkes RI, 2019). Causes of pain in childbirth include afterbirth, episiotomy wounds, perineal lacerations, breast engorgement, and surgical incisions in post-SC patients. Pain can be felt at various levels, ranging from mild to moderate to severe. The intensity of pain felt by postpartum mothers depends on the number of causes of the pain itself, the patient's tolerance for pain, and psychological and environmental factors. The impact of pain for postpartum mothers, if it is not treated immediately, includes delays in early mobilization, delays in lactation, delays in the bonding attachment process, feelings of fatigue, anxiety, disappointment due to discomfort, disruption of sleep patterns, stress, which will increase fatigue, and if the pain is prolonged, it will increase the risk of postpartum blues (Lestari, Rini, & Dwi S. 2022).

Pain due to incision wounds in SC procedures can be overcome by pharmacological and non-pharmacological approaches to pain management. Pharmacological pain management is carried out by administering analgesics to treat pain. Meanwhile, non-pharmacological approaches can be carried out using massage, distraction, relaxation, music therapy, guided imagination, aromatherapy, and compresses (Nurfantri, 2022). Of the various non-pharmacological pain management methods that exist, the development of the use of aromatherapy is very rapid, especially in the field of health and medicine in the treatment of the body and healing diseases to the fullest, because aromatherapy uses simple methods that are relatively inexpensive, practical, and efficient, gives a pleasant effect, is quite safe for the body, and has proven to be quite effective and not inferior to other methods (Jaelani, 2009). Aromatherapy by accessing essential oils through the nose (nasal passage) or by inhalation is a much faster route than other methods of dealing with emotional problems such as stress and depression, including certain types of aches and pains, because the nose has direct contact with the part of the brain in charge of stimulating the formation of effects caused by essential oils (Konsoemardiyah, 2009).

Aromatherapy with the use of essential oils is used as an alternative or complementary health treatment that is beneficial in hospitals and home care because essential oils can promote relaxation, act as analgesics (pain relievers), sedatives, and antiemetics (to prevent vomiting and nausea), encourage healing, and help fight infection (Boldy, M. 2018). Aromatherapy is a therapeutic action using essential oils, which are useful for improving physical and psychological conditions. When essential oils are inhaled, the molecules will enter the nasal cavities and stimulate the limbic system in the brain. The limbic system is an area that influences emotion and memory and is directly related to the adrenals, pituitary gland, and hypothalamus, the parts of the body that regulate heart rate, blood pressure, stress, memory, hormone balance, and breathing (Lestari, Adela Dwi et al., 2022). One type of aromatherapy that can be used to treat pain is lemon aromatherapy. Lemon aromatherapy can reduce pain and anxiety. In lemon aromatherapy, its main ingredient is limeone, which inhibits the prostaglandin hormone system to reduce pain and produce a calming effect (Febriyanti et al., 2021).

Lakhan et al (2016), explained that a meta-analysis was conducted to determine the effect of aromatherapy on pain. There was a significant positive effect of aromatherapy (compared to placebo or usual control treatment) in reducing pain reported on a visual analog scale. Based on available research, aromatherapy was most effective in treating postoperative pain ($p< 0.0001$) and obstetric and gynecological pain ($p<0.000$. This study shows that aromatherapy is successful in treating pain when combined with conventional treatment. Rahmawati (2015), examined the effectiveness of lemon aromatherapy with lavender in sectio caesarian patients, concluding that lemon aromatherapy is more effective in treating post-section pain compared to lavender aromatherapy.

Based on the results of a pre-survey conducted in February 2023 at RSUD Abdul Moeloek Bandar Lampung, there were 60 mothers giving birth in January 2023, of which 33 people (55%) were SC, 16 people (26.7%) gave birth

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normally, and 11 people (18.3%) gave birth with complications. Meanwhile, from the results of interviews with 10 women giving birth with SC, as many as 7 people (70%) said they had pain after SC even though they had been given pharmacological treatment or given analgesics. According to several research journals, lemon aromatherapy is effective in reducing pain intensity. For this reason, researchers have innovated by providing non-pharmacological therapy in the form of lemon aromatherapy to reduce pain in post-SC wounds. Of the above, the researchers were interested in researching the effect of lemon aromatherapy on postoperative wound pain SC in the obstetric room at RSUD Abdul Moeloek Bandar Lampung 2023.

RESEARCH METHODS

This type of research is quantitative and seeks to determine the effect of inhaling lemon aromatherapy on the pain of SC surgical wounds in women giving birth in the obstetric room at RSUD Abdul Moeloek Bandar Lampung in 2023, from January 26, 2023, to June 18, 2023. This study used a quasi-experimental approach with a one-group pretest-posttest design. The population consists of all mothers giving birth with SC at RSUD Abdul Moeloek Hospital Bandar Lampung, with as many as 42 people. Researchers took a sample of at least 30 people using purposive sampling. The independent variable was inhaling the aroma of lemon therapy. The dependent variable in this study was postoperative wound pain in the SC. Researchers used a measuring instrument in the form of a pain scale measurement sheet (Numeric Rating Scale) and an observation sheet. Data processing includes editing, coding, tabulating, processing, and cleaning. Data analysis using univariate and bivariate methods using the Wilcoxon test.

RESEARCH RESULTS

Univariate analysis

Table 1
Pain of patient in RSUD Abdul Moeloek Bandar Lampung

Pain	Mean	Standard Deviation
Before	6,13	1,137
After	2,80	1,243

Pain scale before treatment it was found that an average value was 6.13, a standard deviation was 1.137 with the lowest pain scale being a scale of 4 and the highest pain scale being a scale of 8. In pain after treatment it was found that the average value was 2.80, the standard deviation was 1.243 with the lowest pain scale being the scale of 1 and the highest pain scale being the scale of 6.

Bivariate analysis

The p-value was obtained at 0.000, which means that there is an effect of lemon aromatherapy on SC surgical wound pain in the Midwifery Room of RSUD Abdul Moeloek Bandar Lampung in 2023. The average pain scale after treatment is lower than before treatment, meaning that the pain scale for sectio caesarea surgery tends to decrease after giving lemon aromatherapy at 3.33.

Table 2
The pain of patient in RSUD Abdul Moeloek

Pain	Mean	Standard Deviation	Mean Differences	p-value
Before	6,13	1,137	3,33	0,000
After	2,80	1,243		

DISCUSSION

In pain before treatment, it was found that the average value was 6.13 and the standard deviation was 1.137, with the lowest pain scale being a scale of 4 and the highest pain scale being a scale of 8. The results of the study found that pain before administration of lemon aromatherapy obtained a pain scale of 4 as many as 3 people (10.0%), a pain scale of 5 as many as 5 people (16.7%), a pain scale of 6 as many as 10 people (33.3%), a pain scale of 7 as many as 9 people (30.0%), and a pain scale of 8 as many as 3 people (10.0%). These results indicate that most of the respondents experienced pain before being given lemon aromatherapy, on a scale of 6 to 33.3%. According to the International Association for the Study of Pain (IASP), pain is an unpleasant sensory and emotional experience, usually associated with tissue damage or the potential to cause tissue damage. Pain is a condition that makes a person feel uncomfortable and can even continue to cause disturbances in their sense of security or threaten their lives. Pain is very individual; many factors influence it, giving rise to different perceptions between individuals (Rejeki, 2020).

The SC is a birth process that involves surgery on the stomach and uterus to remove the baby. The SC is generally performed when normal delivery through the vagina is not possible because of the risk of other medical complications. Pain in post-SC patients can be measured using a numerical rating scale or numerical rating scales. This scale is most effective for assessing pain intensity before and after therapeutic interventions. At the time of pain assessment before or after therapy, the patient selects a number on the observation sheet (values 0 to 10). The higher the number scale chosen, the higher the pain experienced (Purwoastuti et al., 2015). According to the theory, the causes of pain in mothers after childbirth include episiotomy wounds, perineal lacerations, breast enlargement, and surgical incisions in post-SC patients. Pain that is felt ranges from mild to moderate to severe depending on the cause of pain, tolerance to pain, psychological factors, and environmental factors. The effects of pain for postpartum mothers include delays in early mobilization, delays in lactation, delays in the bonding attachment process, feelings of tiredness, anxiety, disappointment, discomfort, disturbed sleep patterns, stress, fatigue, and an increased risk of postpartum blues (Lestari & Dwi, 2022). The results of this study are in line with the research of Wardani and Futriani (2021), who found that in the intervention group and the control group before being given treatment, most of them experienced moderate pain. Zaen (2020) showed that from the results of the pre-test, the majority of respondents experienced moderate pain, including as many as 13 respondents (46.4%). In this study, it was found that the average pain before being given aromatherapy was 6.13 with a maximum value of 8. This is in line with the research of Manurung (2018), where the results before giving lemon aromatherapy were an increase in pain by 30 people (100%) respondents. In the opinion of the researchers, the average pain scale felt by respondents on a scale of 6 was 33.3% because the sectio caesarea surgery undertaken by the respondents was mostly a sectio caesarea operation for the first child for as many as 14 people (46.7%), so the pain felt will be more severe compared to respondents who have experienced childbirth more than once. In addition, the factors related to the pain felt by the postoperative SC respondents were due to the loss of response to the anesthetic drugs that had been given, so they tended to experience pain on a larger scale.

For pain after treatment, it was found that the average value was 2.80 and the standard deviation was 1.243, with the lowest pain scale being the scale of 1 and the highest pain scale being the scale of 6. The results of the study found that pain after giving lemon aromatherapy was measured on a pain scale 1 for as many as 5 people (16.7%), a pain scale of 2 for as many as 7 people (23.3%), a pain scale of 3 for as many as 10 people (33.3%), a pain scale of 4 for as many as 6 people (20.0%), and a pain scale of 5 and a pain scale of 6 for as many as 1 people (3.3%). These results indicate that most of the respondents experienced pain after being given lemon aromatherapy, on a scale of 3 to 33.3%.ased on the theory, the aroma of lemon therapy given to post-SC mothers can reduce the intensity of the pain scale. This is because the content contained in the lemon aromatherapy extract is heated with an evaporating heating furnace so that it smells fragrant and fresh, which has a calming effect, relaxes the mind, refreshes, and reduces muscle tension in post-SC mothers. Lemon is an anti-depressant, so it can have a calming effect. The most effective method for reducing the intensity of post-SC pain is to give 5 minutes of lemon aromatherapy. Lemon essential oil aromatherapy is a method that can be used to reduce post-section cesarean pain. The content of limonene found in lemons is effective as an anesthetic, analgesic, and sedative. The active ingredient limonene works by preventing the activity of prostaglandin levels so that it can reduce pain (Sri and Hapsari, 2018). The aroma that comes from aromatherapy works to influence a person's emotions through the limbic system (through the olfactory system) and the emotional center of the brain. The smell that comes from aromatherapy is received by receptors in the nose and then sent to the spinal cord in the brain. In this case, it will increase alpha waves in the brain, and these alpha waves help relax post-SC mothers. Lemon aromatherapy affects reducing scar pain after SC surgery, according to research conducted on post-SC mothers (Rostinah, 2018). This research is in line with the research of Wardani and Futriani (2021), who found that after being given treatment, most of the intervention group experienced mild pain, while the control group experienced moderate pain, and some even experienced severe pain. Another study that is in line with the results of this study was that conducted by Zaen (2020), showing that from the results of the post-test, the majority of respondents experienced mild pain, as many as 12 respondents (42.9%).

In the opinion of the researchers, the average pain scale felt by respondents on a scale of 3 out of 33.3% was due to the effects of the given

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lemon aromatherapy. The pain scale, which mostly decreases, is a good influence of lemon aromatherapy, where lemon aromatherapy provides a calming and relaxing effect. Researchers also argue that a comfortable room when administering lemon aromatherapy also supports a decrease in the pain scale. Good communication from researchers also creates trust for patients, so it will be easier for them to comply with procedures for carrying out therapy to provide a more optimal effect. The group after the intervention experienced a decrease in pain levels after being given lemon aromatherapy for 5 minutes. This is because lemon aromatherapy can affect the activity of the work function of the brain through the nervous system, which can restore psychological conditions such as emotions, feelings, thoughts, and desires. In addition, lemon aromatherapy can also provide a relaxing effect on nerves and tense muscles. In pain before treatment, it was found that the average value was 6.13 with a standard deviation of 1.137. In pain after treatment, it was found that the average value was 2.80 with a standard deviation of 1.243. The p-value was obtained at 0.000, which means that there is an effect of lemon aromatherapy on SC surgical wound pain in the Midwifery Room of RSUD Abdul Moeloek Bandar Lampung in 2023. The average pain scale after treatment is lower than before treatment, meaning that the pain scale for sectio caesarea surgery tends to decrease after giving lemon aromatherapy at 3.33. Several factors that influence pain include age, gender, culture, understanding of pain, attention, anxiety, fatigue, past experiences, coping patterns, family, and social support (Murray & McKinney, 2017) (Rezeki, 2020).

From the results of the study, it was found that the characteristics of respondents based on age obtained an average value of 29.83 with a standard deviation of 6.341, where there were 8 people (26.67%) who had ages less than 18 years and more than 35 years (age at risk), while 22 people (73.33%) were aged 20 to 35 years. Furthermore, when examined with the characteristics of respondents based on age, it is known that the age of the respondents who are at risk are as many as 8 people where 3 people (37.5%) of them experience a decrease of less than 3.33, and in the age group 20-35 years, totaling 22 people 15 respondents (68.2%) experienced a decrease in pain scale of less than 3.33, this is not in line with the theory which states that age can affect pain, especially in children and late adults (elderly) (Potter & Perry, 2010), young children have difficulty understanding pain and treatment procedures that can cause pain, elderly patients often have more than one source of pain, as they get older the ability of one's five senses decreases (Muttaqin, 2008) (Rejeki, 2020). Age determines a mother's health; mothers are said to be at high risk if pregnant women are under 20 years old and above 35 years old (Afritayeni, 2017). Maternal age (20 years and >30 years) is a risk factor for labor complications. Women who become pregnant at a high-risk age can cause complications for both the mother and the baby. Age is related to the unpreparedness of the mother in reproduction; women under the age of 20 are still in the growth and development stage, so their reproductive organs are immature (Hariyani, Murti, & Wijayanti, 2019).

Furthermore, for the characteristics of respondents based on parity, the average value was 1.87 with a standard deviation of 1.008, where 14 people (46.67%) were primigravidas and 16 people (53.33%) were multigravidas. However, when reviewing the characteristics of respondents based on parity, it was found that out of 14 respondents who were mothers with first-born parity (primigravidas), there were 9 people (64.3%) who experienced a decrease of less than 3.33 and 5 people (35.7%) who experienced a decrease of more than 3.33. Whereas from 16 respondents with multigravida, there were 6 people (37.5%) who experienced a decrease in pain scale of less than 3.33 and 10 people (62.5%) experienced a decrease of more than 3.33. This is in line with the theory from Brunner et al. (2010), which stated that mothers who have more than one child will be better able to prepare themselves when facing labor based on previous pain experiences (Rejeki, 2020). A mother who has experienced childbirth will understand how the pain will be felt during labor. Meanwhile, mothers who have never given birth do not know how the pain will be felt for the first time during labor, especially in primiparas. The cervix in primiparas requires greater energy to stretch it, thus causing a greater intensity of contractions during the first stage of labor. Research states that most multiparas experience moderate pain levels, whereas primiparas tend to experience severe pain levels. However, in this study, more respondents experienced severe pain in multiparas; this is because the number of multiparas in this study was higher than in primiparas (Afritayeni, 2017).

While the characteristics of the respondents based on the treatment time after SC obtained an average value of 21.93 hours with a standard deviation of 7.697, 17 people (56.67%) were carried out in the first 24 hours after SC and 13 people (43.33%) performed after the second 24 hours. The

characteristics of respondents based on the distance between taking medication and intervention obtained an average value of 2.3 hours. This means that giving lemon aromatherapy is done 2–3 hours after the patient takes pain medicine. This research is in line with the research of Hadi and Hamid (2011), who gave lavender aromatherapy 3 hours after giving analgesics. Analgesics are given to post-cesarean-section patients to reduce postoperative pain because the main complaint for post-cesarean-section patients is the pain that arises after surgery. The analgesics given to post-cesarean section patients at Tanjung Pura General Hospital are non-opioid analgesics, namely mefenamic acid, Ibuprofen, Ketorolac inj, Paracetamol infusion, Paracetamol tablets, and Profenid supp. These are analgesics of the Non-Steroid Anti-Inflammatory (NSAID) group, but their anti-inflammatory properties are low. The use of non-opioid analgesics has the advantage that they are not addictive, although they have little or no anti-inflammatory effect (Harnis and Murdiani, 2019).

The method of giving aromatherapy to the sample was slightly different between the researcher and Hadi and Hamid (2011). Researchers used lemon aromatherapy to drip 3 drops of gauze and then gave it to post-SC mothers for 12 hours and inhaled for 5 minutes at a distance of 10 cm. A pain scale was measured (post-test), and after 5 minutes, aromatherapy was given by showing pictures of pain scales from 1 to 10 according to the observation sheet. Whereas Hadi and Hamid (2011) used lavender aromatherapy, which was dripped into an oxygen mask for 3 minutes after 3 hours of giving analgesics. Both the inhalation method with an oxygen mask and direct inhalation prove that aromatherapy can reduce post-SC pain. The discrepancy between the results of this study and previous studies could be caused by differences in the characteristics of pain that occurred in the sample, namely between mothers giving birth and mothers after SC. Prawirohardjo (2013) explains that labor pain is a physiological pain. This pain will arise at the beginning of the first stage, and its amplitude will continue to increase up to 60 mmHg at the end of the first stage. The frequency of his at the end of the first stage can reach four times in 10 minutes with a duration of 60–90 seconds. Labor pain is very necessary so that labor can take place normally. During His abdomen will feel hard and cause discomfort. Pain that is felt as back pain. In its development, it will become longer and stronger, resulting in an increase in the scale of pain that is felt. Meanwhile, post-SC pain is pain that arises from a knife wound during the operation.

The results of the study found that respondents who did not experience a decrease in pain were 1 person (3.3%), a decrease in 2 pain scales was 4 people (13.3%), a decrease in 3 pain scales was 13 people (43.3%), a decrease in 4 pain scales was 7 people (23.3%), and a decrease in 5 pain scales was 5 people (16.7%). So that most of the respondents experienced a decrease in the three pain scales by 43.3%. Based on these results, it can be seen that as many as 18 (60%) respondents had a pain reduction level less than the average pain reduction after and before treatment, namely 3.33. This is because the perception of pain in each person is different according to the definition of pain according to Melzack and Wall (1988), who defines pain as a personal, subjective experience that is influenced by culture, one's perception, attention, and other psychological variables that interfere with ongoing behavior and motivate everyone to try to stop the pain (McMahon et al, 2013). Pain is also an emotional experience and is associated with an unpleasant feeling associated with actual or potential tissue damage (Rejeki, 2020).

According to researchers, the success of lemon aromatherapy can create a relaxed state, namely the sympathetic nervous system, so that relaxation can reduce feelings of anxiety, tension, sleep disturbances, and pain. This therapy is an effort to focus the mind, attention, and focus of the patient so that it can play a role in reducing the pain of sectio caesarea labor. The mechanism of lemon aromatherapy is related to the relationship between the hypothalamic response and the response to sympathetic arousal. The effect of this therapy is to make the body produce endorphins, which are natural hormones produced by the body and have the function of natural pain relievers. Endorphins can be produced naturally by the body when it is in a relaxed state, such as through breathing exercises and meditation. Lemon aromatherapy can restore the body's calm and comfortable state. This therapy has the effect of increasing alpha waves to relax the mind. When alpha waves are in the mind in a calm state and focused on an object, it can build a sense of security and comfort against pain that is felt to decrease (Warsono et al., 2019; Yanti & Efi, 2018).

At postpartum with SC, usually the client complains that the pain is felt to increase if the patient moves a lot and feels reduced when the client rests. During postpartum with SC, the client usually complains of pain in the stitches, which are very sore, like in the slices, and pain is felt in the

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abdominal area, usually not spreading to other areas. The pain scale felt by the client and how much the disturbance is measured by a pain scale of 0–10. In postpartum clients with SC, the pain is usually felt intermittently with uncertain frequency depending on the activities performed (Chapman & Cathy, 2013). In the opinion of the researchers themselves, 60% of the respondents who experienced a decrease in pain scale of less than 3.33 were due to the age characteristics of the respondents from 20–35 years, totaling 22 of these people, of whom 13 people (59.1%) were primigravidas. At that age, it is considered safe to undergo pregnancy and childbirth because, at this age, the body's condition is still in prime condition. Age determines the readiness of the mother to make decisions and act so that she is ready to face childbirth. However, from the results of the study, it turned out that age alone is not enough; it needs to be looked at again from the perspective of the number of children and past experiences regarding previous labor pain. Mothers who have given birth before or someone who is used to feeling pain will be more prepared and easier to anticipate than individuals who have little experience with pain.

Likewise, 12 respondents (40%) experienced a decrease in the pain scale of more than 3.33 because the average respondent characteristic in this study was multigravida, with as many as 16 people (53.33%). So that they already have previous experience with pain in labor, either normally or by SC. Previous pain experiences will reduce anxiety, and it will also be easier to interpret the pain you feel so that you will be better prepared to take the necessary actions to avoid or overcome pain. Acute pain is pain that usually lasts no more than 6 months; initially, the symptoms are sudden, and usually the cause and location of the pain are known. Acute pain is an unpleasant sensory and emotional experience that arises as a result of actual or potential tissue damage or that is described as having a sudden or slow onset of damage of any intensity from mild to severe with an anticipated or predictable end. Acute pain in the post-SC section is felt after the operation is complete, the patient begins to wake up, and the anesthetic effect wears off, so the patient will feel pain in the part of the body that underwent surgery. Many mothers experience pain in the suture scars; these complaints are natural because the body is injured. Pain in the incision area that makes the patient disturbed and uncomfortable. Unpleasant sensations, both sensory and emotional, are associated with tissue damage, so that individuals feel tormented, which will eventually interfere with daily activities (Potter & Perry, 2005).

Furthermore, the results of this study still found that 1 person (3.3%) did not experience a decrease in pain. The age of the respondent who did not experience a decrease was 26 years with parity 1 and the time for conducting the research was 12 hours after SC. This is because when giving lemon aromatherapy, the patient looks uneasy and looks nervous, so lemon aromatherapy does not have an optimal effect on reducing pain. This is because the chemical effectiveness of essential oils can function optimally when done in a comfortable environment, quiet/not noisy and when conditions are relaxed, so that they can affect the functioning of the brain and lymph nodes to help produce prostaglandins which play an important role in regulating blood pressure, pain control and hormonal balance (Jaelani, 2009). Furthermore, when examined with one of the factors that influence pain, namely parity or the number of children, it was found that this respondent had just had his first child and therefore did not have previous pain experience, because it is based on the theory that birth mothers who have more than one child will be better able to prepare themselves when facing labor based on previous pain experiences (Brunner et al., 2010).

In this study, it was generally found that there was a difference in the mean pain scale before and after administration of lemon aromatherapy of 3.33 with a value of p=0.000 (Wilcoxon test), this is in line with the results obtained by Lakhan (2016), that aromatherapy is effective in reducing postoperative pain. Rahmawati (2016) found that lemon aromatherapy was more effective in treating post sectio caesarea pain with an average value of 4 greater than the average lavender aromatherapy, which was 2.15. Research by Wardani and Futriani (2021), found that there was a decrease in pain after being given aromatherapy treatment. Zaen (2020), showed that there was a decrease from moderate pain to mild pain.

Manurung's research (2018) found that there was an effect of lemon aromatherapy on reducing post-SC pain (p-value = 0.002) in Medan. Lestari (2022) found that there was an effect of the combination of lemon aromatherapy on reducing pain in post-SC (p-value = 0.000). By the theory that states that pain due to incision wounds in SC procedures can be overcome by pharmacological and non-pharmacological approaches to pain management, A non-pharmacological approach can be carried out by administering aromatherapy, one

of which is lemon aromatherapy (Nurfantri, 2022). Lemon aromatherapy can reduce pain and anxiety. In lemon aromatherapy, its main ingredient is limeone, which inhibits the prostaglandin hormone system to reduce pain and produce a calming effect (Febriyanti et al., 2021).

The use of aromatherapy in the field of health and medicine is because the method used is simple, relatively inexpensive, practical, and efficient, provides a calming effect, is quite safe for the body, and has been proven to be quite effective compared to other methods. The mechanism of action of aromatherapy treatment in the human body occurs through two physiological systems: the body's circulation and the olfactory system (Jaelani, 2009). Essential oils are widely used as analgesics because they have anti-inflammatory properties, eliminate toxins, and have sedative effects. Aromatherapy that is used by inhalation is a much faster route than other methods because the nose has direct contact with the parts of the brain whose job it is to stimulate the formation of the effects of essential oils such as regulating heart rate, blood pressure, stress, memory, hormone balance, and breathing (Lestari, 2022).

This study found that the average value of pain before being given lemon aromatherapy was 6.13, while the average pain after being given lemon aromatherapy was 2.80. These results show a very significant decrease of 3.33. This proves that lemon aromatherapy is proven to be effective in reducing post-SC (SC) pain in the Midwifery Room at RSUD Abdul Moeloek Bandar Lampung in 2023. According to researchers, there was a decrease in post-cesarean pain due to the content of lemon essential oil, which had a relaxing effect on post-cesarean mothers, so a decrease in the pain scale was obtained. In addition, the respondents compliance with the protocol while giving lemon aromatherapy also affected on the success of the therapy. Step by step, carried out correctly and regularly by the respondents to provide maximum results, Respondents also already have trust in researchers after the approach is taken, so they are calmer when undergoing therapy and getting optimal results. In addition, the decrease in 3 pain scales was 43.3% after giving lemon aromatherapy due to good pain management in patients. They were given lemon aromatherapy after taking anti-pain medication so that it could reduce the pain scale of postoperative SC patients.

CONCLUSION

Pain scale before the treatment, it was found that an average value of 6.13, a standard deviation of 1,137, with the lowest pain scale of 4 and the highest pain scale of 8, Pain after treatment was found to have an average value of 2.80 and a standard deviation of 1,243, with a lowest pain scale being scale 1 and the highest pain scale being scale 6. The average pain scale after treatment was lower than before treatment, meaning that the pain scale of the sectio caesarea wound tended to decrease after giving lemon aromatherapy by as much as 3.33.

SUGGESTION

It is hoped that post-SC mothers will be able to recognize various kinds of non-pharmacological therapies to treat pain, one of which is lemon aromatherapy. Post-SC mothers can use lemon aromatherapy as a substitute for pharmacological therapy to reduce pain because it is very easy, cheap, and has minimal side effects. The application of lemon aromatherapy can be given in the morning (07.00) or evening (17.00) in a quiet, comfortable room when the mother is relaxed. For hospitals, this research can be used as material for making policies regarding the management of post-sectional caesarean pain using lemon aromatherapy to minimize the side effects of chemical drugs. Aromatherapy can be given to post-SC mothers during hospitalization. Hospitals can socialize health workers in services to use aromatherapy to reduce post-SC pain. The use of aromatherapy in hospitals can be given as a complement. The method of administration is by inhaling aromatherapy lemon essential oil that has been dripped onto a tissue or gauze with as much as three drops, placing the tissue in front of the nose at a distance of 10 cm, and inhaling for 5 minutes. Aromatherapy will be more effective after the patient takes anti-pain medication.

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