IS TRUE AROMATHERAPY KASTURI OIL CAN RELIEVE CHILD BIRTH PAIN IN FIRST STAGE LABOR?

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ABSTRACT

Preliminary studies conducted in the east Lampung regency area found that as many as 10 women giving birth said they felt pain during labor. Complementary reduction in labor pain has not been well socialized and not all midwives know about it. The purpose of this study was to determine the effect of aromatherapy castor oil on labor pain in the first stage. The study design was a quasi experiment with one group pre-test and post-test approaches. The sampling technique used was cluster sampling with a total of 35 women giving birth. The analysis showed that the mean intensity of labor pain before Kasturi aromatherapy was 7.66 and after administration it was 4.94. with a p value from aromatherapy giving the group a distance of 0,000. There is an influence of aromatherapy castor oil on labor pain in the first stage.

Keyword : Kasturi Oil, First Stage Labor

I. INTRODUCTION

Childbirth is the process of physiology that accompanies the life of almost every woman who in general scary, because along with the pain and even sometimes give rise to conditions of physical and mental that threaten life. Painful childbirth itself is actually a pain due to contractions of the myometrium with the mechanism of changes in physiological and biochemical.¹ The pain of labor can lead to stress which causes the release of hormones that is excessive as catecholamines and steroids. Hormones this can lead to the occurrence of tension muscle pain and vasoconstriction of vessels blood. It this can lead to a decrease in contractions of the uterus, a decrease in circulation uteroplacental, a reduction in the flow of blood and oxygen to the uterus, as well as the onset of ischemia uterus making impulses of pain increased." Pain in childbirth can affect the condition of the mother in the form of fatigue, a sense of fear, worry and cause stress and anxiety which causes the release of hormones ketokelamin that could cause right acidosis fetus. As a result, emerging sense of anxiety, so most mothers pregnant choose to give birth with the help of an anesthetic epidural, because the influence of the people who are around them. Such actions are not able to drive away worries, fears, solitude, helplessness and various other emotions that will cause distress, dissatisfaction or even suffering from the mother.³

Various efforts made to decrease the pain in labor, either by pharmacological and non-pharmacological. Pharmacological pain management is more effective such as administering analgesic and sedative drugs compared to non-pharmacological methods through distraction, relaxation and stimulation of warm or cold compressed skin, breathing exercises in music, aromatherapy, guided imagination, hypnosis, relaxation. In general, the methods of pharmacology is more expensive, and potential to effects that are less well as the effects side of drugs and sometimes drugs do not have the force effects are expected , while the methods of non-pharmacological more inexpensive, simple, effective, and without the effects of the adverse, also can increase satisfaction during labor, because mothers can control their feelings and strength.⁴

Most large patients often assume management of pain with the administration of drugs is the only choice that is best, but the methods of non-pharmacological if applied also greatly help in eliminating the sense of pain, one of which is method of relieving pain using inhalation aromatherapy, because it does not give the effect of invasive but safe for both mother and baby. Aromatherapy is a method of treatment experienced by using oils essential that derived from extracts of plants, flowers and fruit with dilution particular. Midwives can provide direct or teach to the family mother maternity so it can decrease the intensity of pain in the process of childbirth.⁵ Aromatherapy is a therapy that uses essential oils or pure oil extracts with certain dilutions to help improve or

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maintain health, encourage spirits, refresh and calm the body and soul. Already more than 5000 years, aromatherapy is believed among the various cultures in the whole world as a healer naturally that can function gives the effect of anti- pain. Aromatherapy can be done in various ways, among others by using an oil burner or brazier heating, massage, inhalation, soak basting directly on the body or using a furnace (Java:anglo ) heating, evaporation occurs at the time of droplets of essential oil touching the water that is heated by means of heating earlier so that it fills the existing space with the desired aroma. Aroma is this which then cause various reactions to the feeling we like emotion and conditions of the physical.6

Aromatherapy or oils essential that used to contain flowers of jasmine, lavender, geranium, neroli, or ylang-ylang, rose, green tea, musk of fruit such as lemons, as well as incense and incense. Mixing oils essential that, believed capable of giving tranquility, lowering the pressure of the blood, lowering the pain, helping launch breathing, maintaining the strength of the womb when the mother gave birth as safe and effective for use in space maternity. Aromatherapy is very helpful in reducing the sense of pain in the phase of active latent and early, and may be used as a method supplementary to control the pain of labor without effect seriously.7 Oil musk is often referred to as the king of fragrances. The use of castor oil has long absorbed in the rules of medicine in China, Nepal, Pakistan, Siberia and Mongolia. In the treatment of traditional Chinese, musk believed able to restore awareness of a person who fainted, launch circulation of blood and menghi ledge sense of pain. Some research suggests the level of severity of pain in the group that received the aromatherapy are significantly more lower than in the group of control after treatment in any assessment of pain premises n value of p <0.05, sed balustrades research states that aromatherapy with oils musk has benefic effects as relief of pain, shortening the stages of labor.8

Based on the World Health Organization (WHO) Global Survey on Maternal and Peninatal Health 2007-2008 Asian states that 27.3% of 107 590 pregnancies do labor in SC and of the amount of the 1.9% of its conduct deliveries SC without indication. China is one of the countries with the highest incidence of SC in Asia, which is 46.2% and 11.7% of them deliver SC without indication.9 Based on the results of Research Basic Health National (Riskesdas) in 2017 said that the 9.8% mom pregnant do labor in SC. The high incidence of SC, one of which is caused by not giving birth to mothers unable to control the pain that arises. Mothers are anxious about labor and are unable to eliminate pain sensations.

According Elvoski, mostly women 7-14% maternity without a sense of pain, and almost 90% of its maternity with a sense of pain. Terdapat 186 432 people maternal maternity in Lampung, who experienced the pain as much as 55 873 people (29.9%),10 while in District East Lampung than 15,039 mothers maternity are experiencing pain as many as 235 people (1.5%). Studies preliminary that in doing research in the area District East Lampung obtained the data as much as 10 mothers maternity, 6 people (60%) of them said that when labor felt very painful in the opening 5 cm, and 4 (40%) more say at the time of childbirth feel mild pain.11

Total deliveries sectio caesarea (SC) in Indonesia is around 30- 80% of total deliveries. Figures incidence of SC in Indonesia, according to survey data nationwide in 2017 was 927,000 from 4.039 million labor. Based on the studies beginning from the Department of Health East Lampung obtained the data maternal maternity as much as in the year 2017, where 80.6% mom maternity normal and 19.4% mom maternity with measures operations/SC where most big for referral midwife. In this, the Ministry of Health was promoting treatment by combining the service of obstetrics conventional and treatment complementary, like akupresure, acupuncture, massage/massage, yoga, herbal remedies, aromatherapy, yoga and more. Upbringing obstetrics complementary in District East Lampung has not been socialized with good and not all midwives know and implement care complementary, for example, such as the provision of aromatherapy on a mother who will birth.4,6

The survey results of 2 people practice self- midwives are five mothers who face the process of childbirth and are at stage I phase active. The results of observation to five mothers maternity who feel pain severe when the contraction takes place, the expression of the face they look pale, sweaty and sometimes yelling and say very painful in the first stage of labor. Mothers often times feel anxious and afraid at the process of childbirth that causes the pain of labor is getting increased, especially in the first stage I. The purpose of the study is to determine the effect of aromatherapy oils musk against pain on maternal birth of the first stage in the practice of self- midwife District East Lampung in 2018.

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II. METHOD

Design studies are used in this research is quasi experiment with approaches pre test- Post test group design. The population in the study of this research is the whole maternal maternity first stage of normal in the practice of self- midwife region subdistrict Way Jepara, Sekampung, Batanghari, and Metro Kibang regency of east Lampung in January to May the year 2018 as many as 50 people. In the study this, the researchers used a formula sample of comparative numerical no pairs, with the formula. 

Information:

\[ n_1 : \text{Number of group subjects 1} \quad n_2 : \text{Number of group subjects 2} \]

\[ z_\alpha : \text{The default value of alpha, type I error rate is 5\%,} \quad \alpha = 0.05 \quad 95\% \text{ confidence level , so} \quad z_\alpha = 1.96 \]

\[ z_\beta : \text{The default value of beta, type II error rate is 10\%,} \quad \beta = 0.1 \quad \text{power 90\% , so} \quad z_\beta = 1.28 \]

\[ S : \text{Combined standard intersection , the value is sourced from the literature} \]

\[ x_1 - x_2 : \text{Difference in average minimum considered significant between group one and group two} \]

In many circumstances the research has been to anticipate the possibility of the subjects selected were drop outs, loss to flow up, or subjects who do not obey. If from the beginning it has been determined that the subject will not be analyzed, it is necessary to make corrections to the calculated sample size, by adding a number of subjects so that the sample size is still met. the results of calculation obtained 34, 3 then the result is rounded into a 35, which means the number of samples that are used in research this is numbered 35 people. Mechanical sample that used is cluster sampling (samples randomly by area). Considerations were made by researchers in the selection of the sample is to determine the criteria, where the criteria for the selection consists of criteria for inclusion and exclusion. Criteria for inclusion and exclusion of the research is as follows:

Inclusion criteria

1. Mothers give birth in a midwife independent practice area of East Lampung district
2. Mother maternity first stage of the phase of active
3. Mothers who are willing to be intervened
4. Do not use the therapy anything to reduce the pain of maternity during conducted research

Exclusion Criteria

1. Mrs. delivery of the first stage by screening and the risk of complications.
2. Mother giving birth with a state of fetal distress
3. Mothers with a history of ever possessed
4. Mother with the scale of pain severe with intensity scale of pain 9-10
5. Mother maternity are referred

The study was conducted in the independent practice of midwives in the east Lampung regency working area. due care complementary yet been performed or practiced midwifery as one of the efforts to reduce the pain of labor stage and previously has not been done research k h intestines on the provision of aromatherapy oil musk in childbirth. Time studies conducted on the month in July s/d November of 2018. The instruments used were check lists and questionnaires. Questionnaire data demographics are used to obtain information about the personal self and the response to pain that is felt by the respondents, while the check list which is used in the form of a numerical rating scale to measure the degree of pain that using a scale of 0-10 as a means of measuring the pain of labor. Data taken in this study are the result of interviews after two groups before and after the intervention and are collected using a check list. Chek list include some of the symptoms of painful labor that is experienced by mothers maternity. Analysis of univariate study is conducted to describe the characteristics of the respondents in each variable research to create a table of distribution frequency relative that shows the distribution of samples.
in each group with the degree of pain before and after the intervention. Analysis bivariate in research this is a test of different Wilcoxon Signed-Rank Test, because the data distribution was not normal.

### III. RESULTS

#### 1.1 Univariate Analysis

**a) Intensity of Childbirth Pain in Kasturi Aromatherapy Intervention Group**

<table>
<thead>
<tr>
<th>The degree of pain</th>
<th>Degree of Pain Before being given Aromatherapy Kasturi</th>
<th>Degree of Pain After being given Aromatherapy Kasturi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>8.59</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>11.42</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>14.3</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>5.71</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>8.59</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>34.28</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>17.11</td>
</tr>
<tr>
<td>Amount</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>Average</td>
<td>7.66</td>
<td>4.94</td>
</tr>
</tbody>
</table>

Based on Table 1, obtained degree of pain respondent before given aromatherapy musk most high is the degree of 10 as many as 6 people (17.11%) with a degree of pain on average as a whole is 7.66, and after a given aromatherapy musk found the degree of pain the most height is 8 as much as 2 (5.71%) with a degree of pain average price as a whole is 4.94.

<table>
<thead>
<tr>
<th>The degree of pain</th>
<th>Degree of Pain Before Being Given Kasturi Aromatherapy</th>
<th>Degree of Pain After Being Given Aromatherapy Kasturi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td>No Pain (0)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mild Pain (1-3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate Pain (4-6)</td>
<td>12</td>
<td>34.3</td>
</tr>
<tr>
<td>Severe pain</td>
<td>17</td>
<td>48.6</td>
</tr>
<tr>
<td>Very Severe Pain</td>
<td>6</td>
<td>17.1</td>
</tr>
</tbody>
</table>

Based on table 2, it is known that the degree of pain of the respondent before being given aromatherapy castor is with severe pain (7-9) which is 48.6% and after being given aromatherapy castor the degree of pain is reduced to moderate pain (4-6) which is equal to 42.9%.

#### 1.2 Bivariate Analysis

To determine the effect of giving an aromatherapy musk in lowering the intensity of the pain of labor can use statistical parametric dependent t-test with test Wilcoxon Signed-Rank Test for meng measuring the degree of pain before and after the intervention.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>The mean</th>
<th>Elementary school</th>
<th>SE</th>
<th>P value</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aromatherapy Kasturi</td>
<td>7.66</td>
<td>2014</td>
<td>0.340</td>
<td>0.000</td>
<td>35</td>
</tr>
</tbody>
</table>
Based on Table 3 unknown value $p$ value group giving aromatherapy musk is at 0.00. Can be seen that the $p$ value both groups $<\alpha$ (0:05), so it can be concluded that there is the influence of the degree of pain before and after performed intervention in the provision of aromatherapy musk and aromatherapy incense.

**Discussion Degrees of Pain Before And After Giving Aromatherapy Kasturi**

The degree of pain responder before given aromatherapy musk most high is the degree of 10 as many as 6 people (7.11%) with the degree of pain on average as a whole is 7.66, and after a given aromatherapy musk found the degree of pain the most high is 8 as much as 2 people (5.71%) with a degree of pain average price as a whole is 4.94. The mean difference between childbirth pain scales before and after the administration of the aromatherapy of kasturi is 7.66 with a standard division of 2014. The test results statistically get the value of $p <0.05$, which means that there is the effect of the significant price average scale of pain on the mother's birth when the first phase of the active before and after administration of aromatherapy musk.

In the study of this scale of pain that is felt by the mother maternity before given aromatherapy musk that most light is 4, and the most severe is 10. This is in accordance with the theory which says that the intensity of pain the average of the maternal birth of the first stage phase active depicted with a scale of 6-7, where a scale of 6-7 is a category of moderate to severe pain. A sense of pain that is experienced during childbirth is unique in every mother can be affected by several factors among others cultures, emotions, thoughts. Scale pain of labor were perceived mother before given aromatherapy musk showed that of the 35 people there were 23 (65.71%) of respondents had complaints of pain severe and 12 (34.9%) of people have pain lightly. The average scale of pain which is complained of respondents prior to do the intervention was 7.66 which illustrates that most large respondents complained of pain severe. Scale pain of labor respondents after performed intervention provision of aromatherapy musk showed a decrease in scale of the pain that is felt by the respondents with the most substantial show a decrease in scale of pain into light that is 26 people (74.3%). The average scale of pain which is complained of respondents as do the intervention was 4.94 which illustrates that most large respondents complained of pain lightly. It is shown that interventions giving aromatherapy musk this influence is positive towards reduction scale of pain on the mother birthing stage I.

Potter & Perry suggests that the pain that is felt on every individual in the labor may be different. Feeling ill at the time of his very subjectively, not only depends on the intensity of his but also depends on the state of mental mother at the time of facing labor. State mental mother would make the mother become stressful or otherwise. Stress in childbirth can cause pain over because stress triggers the release of hormones catecholamines and adrenaline. These catecholamines will be released in high concentrations during labor, if the mother feels anxiety and fear, causing various body responses. As a result of the response of the body that the uterus becomes increasingly tense so that the flow of blood and oxygen to the muscles of the uterus is reduced because the arteries narrowed and narrowed as a result is a sense of pain that is not inevitabl. It takes the intervention is more advanced in order not danger the mother and fetus.

Based on the results of the study found that the age of the mother maternity most major aged 20-35 years which amounted to 87.1%, which age very well affect on the response of the pain that arises. Emotional, companion throughout labor mothers showed a decrease in pain were significant in the use of relief of pain. Differences pain of labor between multiparous and primiparous also can be caused by the differences in the mechanism of the opening of the cervix. In the study found maternal pregnancy with multipara ie 55.7%. In primiparous os internumwill open up more in advance so that the cervix will be flat and thinned, whereas in multiparas os internum already slightly open os internumand eksternum as well as thinning and flattening of the cervix occurs in a time which is the same, so that the pain in multiparas tend to be lighter than the d ith primipara.

Sense of pain in childbirth of the first stage is caused by the emergence of contraction of the muscles of the uterus, hypoxia of the muscles are experiencing contraction, stretching the cervix at the time of opening, ischemia corpus uteri, and stretching segments under the uterus. During the first stage, uterine contractions cause cervical dilatation and uterine ischemia. Pain impulses during the first stage are transmitted by spinal nerve segments and thoracic accessories under sympathetic lumbar. This nerve originates from the uterus and cervix. Discomfort from changes in the cervix and ischemia of the uterus is when the pain of visceral which is located in the lower abdomen spread to the area lumbar back and thigh sections inside. Typically, women feel pain at the time of contraction alone and be bas of pain during relaxation. Pain is local as the sensation of cramps, sensation tearing, and the sensation of heat, caused by distention and lacerations of the cervix, vagina and tissues of the perineum during the phase of active, seviks increase dilated.

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Aromatherapy kasturi is a therapy that uses essential oils or pure oil extracts to help improve or maintain health, encourage spirits, refresh and soothe the body and soul. Aromatherapy This has the benefit that is very diverse, ranging from aid first to make sense of joy. Analgesics are usual used to treat a sense of pain has many effects beside the body. Pain is one of the conditions of the general who could overcome d ith aromatherapy musk. The expert biologists consider oil volatile as metabolites secondary which usually acts as a means of defense themselves in order to not be eaten by animals (pests) or as agents to compete with plants other (see residues) in maintaining the space of life. Although animals sometimes also emit odors (like musk from a few weasels or liquid that smelled stinging from a few ladybugs), substances that are not classified as oils essential. Based on research says that the research trials try to control as randomized in 104 patients who underwent labor and concluded that aromatherapy very helpful in reducing pain in a phase of active and without effects side that serious Research is also suggested that the pain of acute are serious in patients who undergo childbirth can feel a decrease in pain that is very relevant. Besides that, the use of aromatherapy moment is to reduce the use of opioid analgesics multimodal highly relevant in obstetrics.

Based on research says that the pain of labor normally be freed by using methods of non-pharmacological, one of which aromatherapy. Aromatherapy is considered as the techniques that activate the receptor sensory peripheral, obtained mother with a sense of pain severe to moderate at 55% and is not no effect badly on baby just born. The use of oils essential musk to eliminate anxiety and fear. Researchers assume that giving aromatherapy kasturi can be a safe alternative choice and there are no side effects in reducing the degree of labor pain in first-time mothers in labor.

It turns out that in addition to the position of labor and complementary care such as acupressure, aromatherapy is also able to help pregnant women in facilitating the delivery process as told by research, said that the technique akuprsure and with the position of standing very significant in reducing the degree of pain during the mother's maternity. Through oils essential that, believed capable of giving tranquility, lowering the pressure of the blood, helping launch breathing, and maintain the strength of the womb when the mother gave birth. Essential oils are safe and effective for use in the delivery room. The fragrance is more influential on relaxation. The severity of labor pain and the severity of anxiety are used as primary outcome measures. Characteristics of labor and delivery (including the number of contractions, duration of contraction in stage two, a score of Bishop, augmentation by oxytocin, a score Apgar, and the way of delivery), the characteristics of demography and information fertility is used as a measure the result of secondary. By right of research level of severity of pain in the group that received the aromatherapy are significantly more lower than in the group of control after treatment in any assessment of pain (dilation of the cervix 4-5, 6-7, and 8-10cm; P <0.05). The level of anxiety as well as significantly more lower in the group of treatment compared to the group control after treatment at each time of measurement (dilatation of the cervix 4-7 and 8-10 cm; P <0.05).

Kristanti explained that the molecules and particles musk when inhaled will enter through the nose, and then received by receptors of nerve as a signal that good and then interpreted as the smell of the fun, and finally sensory smell of the entrance as well as affect the system limbic as the center of emotions a person, so that the nerves and vessels the blood will feel more relaxed and eventually the pain decreases. Karlina et al also explained that the provision of aromatherapy musk proven to decrease the intensity of the pain of labor physiological stage of the fas e active. So also states that there is a difference significant at the intensity of the pain of labor normally when one, before and after given aromatherapy musk. It is proved that the effects of aromatherapy musk that gives a sense of calm and analgesic very influential on the decline in a sense of pain.

The scent of musk is believed to give the effect of relaxation and control system of the nervous sympathetic, namely the system nerves that are responsible for the response to stress of fight or flight (fight or run themselves) and symptoms of physical, such as hand sweating or heart that is beating fast. Because oil aromatherapy helps people to reduce stress, it is believed that aromatherapy also helped assist a person to sleep more soundly. A person with insomnia, anxiety, or restless leg syndrome and itching in the evening the day which often occurs can use aromatherapy to help her.

Based on the research done, the average respondent is very pleased to be given aromatherapy by means of a humidifier. At the time of the birth took place, the patient is more pleased aromatherapy turned on by means of a humidifier rather than inhaled directly. Even at the time of aromatherapy still turned on, there is of them even fall asleep, and still want the tool turned on even though already lasted for 15-20 minutes. The effect is because of serotonin and endorphins that exist in the castor oil. Aromateratapi musk have influence on the painful birth of the first stage in the mother's birth. Kasturi both contain serotonin and endorphins. Evidence has shown that
The weakness of this study is the respondent's inhomogeneity. Researchers take the primiparous, multiparous and grandmultipara, so the less reflected the degree of pain the most high of the respondents are not able to be controlled on a parity which. Shortcomings and limitations of researchers more is the scale of pain researchers only use one of the methods/ways to determine scale of the pain of respondents are with Numerical were then described (Verbal Descriptor Scale: VDS). In fact, in addition to how these, there are methods other that is by Visual Analogue Scale (VAS)\textsuperscript{12,26}

IV. CONCLUSIONS

Based on the results of research and discussion can be drawn the conclusion that there is the effect of aromatherapy oils musk against pain on maternal birth of the first stage in the practice of self- midwife District East Lampung. Based on the conclusions, expected this research can be beneficial to workers health, especially the practice of independent midwives can apply to minimize intervention by action or drugs, and more promote the program complementary to avoid the use of drugs pharmacologic.

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