THE EFFECTIVENESS OF GIVING LEMON INHALATION ON REDUCING LABOR PAIN

EFFEKTIVITAS PEMBERIAN INHALASI LEMON TERHADAP PENURUNAN NYERI PERSALINAN

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ABSTRACT

Pain in labor results in the release of adrenaline which will cause the blood vessels to constrict so that it will reduce the flow of blood that carries oxygen to the uterus and result in a decrease in uterine contractions which will prolong labor time. Lemon contains 66-80 gerany acetate, neutral, 6-14% terpine, 1-4% α pinene and mrcyne and Limonen. Limonen is known as a pain reliever which can be an effective anesthetic in reducing anxiety during labor, where anxiety results in a long labor process that can be fatal to the fetus (fetal outcome). This study aims to determine the effect of giving lemon inhalation to labor pain. This study used quantitative research techniques. This type of research used a pre-experimental procedure with a one-group pretest-post design. This study used only one intervention group and no comparison (control) group. With a sample of 17 respondents, the technique of taking the total population. The tool in this study used a questionnaire containing a checklist of the NRS (Numeric Rating Scale) to measure labor pain. The study was conducted from June to October 2022. The statistical test results obtained p value = 0.009, this indicates that there is an effect of giving lemon inhalation to reducing labor pain in the active phase of the first stage, so Ho is rejected, indicating reduced contractions from conditions before and after lemon inhalation is given.

Keywords: lemon inhalation; labor pain; pregnant woman

ABSTRAK

Rasa nyeri pada persalinan mengakibatkan pengeluaran adrenalin yang akan mengakibatkan pembuluh darah berkontraksi sehingga akan mengurangi aliran darah yang membawa oksigen ke uterus dan mengakibatkan penurunan kontraksi uterus yang akan memperpanjang waktu persalinan). Lemon memiliki kandungan 66-80 geranil asetat, netrol, terpine 6-14%, α pinene 1-4% dan mrcyne dan Limonen. Limonen adalah dikenal sebagai pengurang nyeri yang dapat menjadi anastesi yang efektif dalam pengurangan kecemasan selama proses persalinan, dimana kecemasan berakibat pada proses persalinan lama sehingga berakibat fatal pada janin (fetal outcome). Penelitian ini bertujuan untuk mengetahui pengaruh pemberian inhalasi lemon terhadap nyeri persalinan. Penelitian ini menggunakan teknik penelitian kuantitatif. Jenis penelitian ini menggunakan prosedur pra-eksperimen dengan desain pretest-post satu kelompok. Penelitian ini hanya menggunakan satu kelompok intervensi dan tidak ada kelompok pembanding (kontrol). Dengan jumlah sampel 17 responden, dengan teknik pengambilan total populasi. Alat dalam penelitian ini menggunakan kuesioner yang berisi daftar titik NRS (Numeric Rating Scale) untuk mengukur nyeri persalinan. Penelitian dilakukan pada bulan Juni hingga Oktober 2022. Hasil uji statistik diperoleh nilai p = 0,009, hal ini menunjukkan bahwa ada pengaruh pemberian inhalasi lemon terhadap penurunan nyeri persalinan kala I fase aktif maka Ho ditolak, menunjukkan kontraksi berkurang dari kondisi sebelum dan sesudah inhalasi lemon diberkasikan.

Kata Kunci: Inhalasi lemon; nyeri persalinan; ibu bersalin

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INTRODUCTION
Labor pain is an uncomfortable, complex condition and a highly individual phenomenon with sensory and emotional components. Pregnant women are usually concerned about the pain they will experience during labor and how they will react and manage it. It means that the perception of pain is different. Labor pains lead to the release of adrenaline, which constricts blood vessels and reduces the blood flow that carries oxygen to the uterus, resulting in less uterine contractions and a longer labor period (Indrayani & Djami, 2016). Labor time is affected by the hormone cortisol, and when this hormone decreases, the synthesis of HSPs (heat shock proteins) increases, which can lead to increased contractions of the uterine muscles. A good contraction of the uterine muscles helps labor progress and shortens the duration of labor. The course of the first stage of labor and the duration of the second stage of labor influence fetal outcome. Pain relief during the first active period has a significant impact on fetal outcomes, as assessed by assessing infant fitness.

In a study by Sulatri et al. In 2015, limonene, found in lemons, is effective as an anesthetic, analgesic, and a sedative by preventing prostaglandin activity and relieving pain. As stated, it has adverse effects. Dolatian, et al (2011) found that excessive pain during labor causes fear and anxiety. This stimulates the sympathetic nervous system to produce more catecholamines and also raises blood levels of hormones such as epinephrine, which can cause more pain and prolong labor. This prolonged labor process is associated with complications of fetal condition, including reduced oxygen supply to the fetus, leading to fetal death. Measuring pain intensity is an important part of initial and ongoing pain assessment. Validated pain scales help measure pain. One of the scales used is the Numeric Rating Scale (NRS), which measures pain intensity on a scale of 0 to 10. A score of 0 indicates no pain and a score of 10 means the most pain felt on the pain rating tool. Therefore, researchers are actively studying the use of lemon aromatherapy to reduce pain, labor time, and fetal outcomes. This study was aimed to determine the effect of giving lemon inhalation to reducing labor pain.

METHOD
This study uses quantitative research techniques. This type of study employs a pre-experimental procedure with a one-group pretest-post design. This study used only one intervention group and no comparison group (control). The sample for this study were mothers giving birth during the first active stage of physiological labor area of the PMB Dewi Elliana. A total of 17. The technique of taking the total population. Respondents received Lemon Inhalation by placing 3 drops of lemon essential oil on a cotton swab and taking 3 deep breaths for approximately 30 minutes in one day. The tools in this study used a questionnaire containing the NRS (Numerical Rating Scale) checklist to measure the pain of labor. The research was conducted from June to October 2022.
In bivariate analysis, T-dependent tests (paired-sample t-tests) are used when they are normally distributed.

**RESULT**

Some of the following tables are the results of studies conducted by researchers on the effects of lemon inhalation study were mothers giving birth during the first active stage of physiological labor in the PMB Dewi Elliana.

Table 1 shows that there was a change in pain intensity after being given lemon inhalation, namely the previous severe pain from 12 respondents (70.6%) became 9 respondents (52.9%) and mild pain 3 respondents (17.6%) increased to 6 respondents (35.3%).

<table>
<thead>
<tr>
<th>Respondents' Pain Intensity</th>
<th>Before</th>
<th>After</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Severe</td>
<td>2</td>
<td>2</td>
<td>11.8</td>
</tr>
<tr>
<td>Severe</td>
<td>12</td>
<td>9</td>
<td>70.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>6</td>
<td>17.6</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>17</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 2, it can be seen that there was a decrease in pain scores after being given lemon inhalation, namely 6 scores.

Table 2. Respondents Pain Intensity Before and After Lemon Inhalation

<table>
<thead>
<tr>
<th>Score</th>
<th>Before</th>
<th>After</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>135</td>
<td>129</td>
<td>6</td>
</tr>
<tr>
<td>Mean</td>
<td>7.94</td>
<td>7.59</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

Table 1 shows that there was a change in pain intensity after being given lemon inhalation, namely the previous severe pain from 12 respondents (70.6%) became 9 respondents (52.9%) and mild pain 3 respondents (17.6%) increased to 6 respondents (35.3%). Severe pain occurred due to changes in the cervix and uterine ischemia in the first stage of labor. The lowest region of the fetus occurs during active and transitional phases (Erawati, 2011).

This study is supported by Soetrisno et al. (2016) support the analgesic effect of aromatherapy compared to those who did not receive aromatherapy. A study by Suwanti (2018) found that limonene in lemons, which is the main component in oranges, inhibits prostaglandins that relieve pain. Based on the above explanation, researchers hypothesize that the pain and discomfort felt by a person is due to the response of the pain center to stimuli, such as the contraction of the uterine wall during dysmenorrhea, which produces abdominal
muscle tone. When the focus of attention is on the pain itself and not on other people, the patient perceives the pain more intensely.

The pain felt by everyone is also not the same, there is mild pain, moderate pain to severe pain. The difference in the level of pain that a person feels depends on age, the type of trauma experienced, and how to divert pain and treat it.

This study showed that based on table 2, it can be seen that there was a decrease in pain scores after being given lemon inhalation, namely 6 scores and the results of the statistical test obtained a value of $p = 0.009$, this indicates that there is an effect of giving lemon inhalation to reducing labor pain in the active phase of the first stage then Ho was rejected, indicating that contractions before and after lemon inhalation were reduced.

Research Findings In a study by Sulastri et.al (2015), limonene in lemons has efficacy as an anesthetic, analgesic, and sedative by blocking prostaglandins and reducing pain. Consistent with the study by Lakhan et al. (2016), aromatherapy can relieve pain. Childbirth is a physiological process, and mothers feel pain during the process of childbirth. Physical compound labor pain due to contraction of the myometrium with elongation of the uterine protuberance is mixed with the psychological state of the mother during labor (Indrayani & Moudy, 2016).

CONCLUSION
Labor pain experienced by mothers at PMB Dewi experienced moderate and severe. It is effective in reducing labor pain in pregnant women who experienced moderate and severe pain at PMB Dewi. The pain scale is from moderate to severe and lemon inhalation is effective in reducing labor pains. Health care professionals and the general public are encouraged to try non-pharmacological remedies that found in the area first, including lemon.

REFERENCE
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