

## The Effect Of The Combination Of Benson Relaxation Technique And Lemon Aromatherapy On Labor Pain During The Active Phase At The Regional General Hospital Subulussalam City

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### ABSTRACT

All labor processes can cause a discomfort response in the form of pain. A non-pharmacological way that can help reduce pain is to provide a combination of benson relaxation and lemon aromatherapy. The problem of this study is whether there is an effect of a combination of benson relaxation techniques and lemon aromatherapy on labor pain in the first phase of active labor. The purpose of the study was to analyze the effect of a combination of benson relaxation techniques and lemon aromatherapy on labor pain in the first phase of active labor. This research is a quasi experiment with pre test and posttest design with control group design. The study population was 150 people and a sample of 15 people in the control group and 15 people in the intervention group. Samples were taken with systematic random sampling technique. The research location was in the delivery room of Subulussalam City Hospital. The control group was intervened according to the hospital SOP and the intervention group was given a combination of benson relaxation and lemon aromatherapy. Data analysis using t test with the results there was no difference in mean pain intensity before (7.72) and after (7.40) treatment in the control group with a p value = 0.0317 > 0.05. In the intervention group, there was a significant difference in average pain intensity before (7.20) with after (5.87) given a combination of benson relaxation and lemon aroma therapy with a p value of 0.05. The combination technique of benson relaxation and lemon aromatherapy is a nonpharmacological therapy that can improve the response to adaptation of labor pain in the active phase I so that pain can be reduced.

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### 1. INTRODUCTION

Labor is a tense and emotionally arousing time for mothers and their families and can even be a painful and frightening time for mothers. Pain during labor generally feels intense, and only 2-4% of mothers experience mild pain during labor, pain and fear cause stress [1]. All labor processes can cause a discomfort response in the form of pain. Pain is a subjective condition where a person shows discomfort verbally or non-verbally. In addition, pain is an experience of unpleasant sensations and emotions due to tissue damage. A person's pain experience is a combination of physiological and psychological and is not a permanent tissue damage. Pain will make someone seek health care assistance [2].

Pain in labor is uterine contractions that result in increased sympathetic nerve activity, changes in blood pressure, heart rate, respiration and if not addressed immediately it will increase worry, tension, fear, and stress. Labor pain can affect uterine contractions through the secretion of increased catecholamine and cortisol levels and consequently affect the duration of labor. Pain can also cause uncoordinated uterine activity which will result in prolonged labor. Severe and prolonged labor pain can affect circulation and metabolism which must be addressed immediately because it can cause fetal death [3].

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So far, many ways have been developed to overcome the problem of pain in patients experiencing normal labor, both with pharmacological and non-pharmacological approaches. Some non-pharmacological ways that can help reduce pain intensity in normal labor patients and are under the authority of midwives are such as: relaxation techniques, distraction techniques, guided imagery, messages, aroma therapy and others. One suitable way to reduce pain intensity in these patients is to train patients to relax and provide aromatherapy [3]. Relaxation aims to overcome or reduce anxiety, reduce muscle and bone tension, and can indirectly reduce pain [3]. The advantages of relaxation are that it can overcome high blood pressure and heart rate irregularities, reduce headaches, back pain and other pains and overcome sleep disorders. headache, back pain and other pain and overcome sleep disorders [4]. There are several studies that have shown that relaxation is effective in reducing pain in first-time laboring women, namely Widiyanto's research [5] which found that deep breath relaxation techniques can help reduce pain intensity in first-time laboring women using a scale description of pain, so that health workers can educate and train mothers to use deep breath relaxation techniques in order to reduce first-time labor pain.

One technique that is simple, easy to implement and does not require large costs is the Benson relaxation technique. Benson's relaxation is a combination of relaxation response techniques with individual belief systems (faith factor). The focus of this relaxation is on certain phrases that are spoken repeatedly with a regular rhythm accompanied by an attitude of surrender. The phrases used can be the names of God or words that have a calming meaning for the patient himself [4]. In addition to relaxation, aromatherapy can also be used as one of the non-pharmacological therapies. One of them is by giving lemon aromatherapy. Based on Suwanti, et.al [7] it is known that lemon contains 66-80 geranyl acetate, nerol, terpine 6-14%,  $\alpha$  pinene 1-4%, linalyl acetate and Limonene. Limonene is the main component in citrus chemical compounds that can inhibit the prostaglandin work system so that it can be an effective anesthetic in reducing anxiety during labor.

From the results of preliminary studies conducted by researchers in the obstetrics delivery room of the Subulussalam City Hospital, researchers saw that the delivery room had a capacity of 4 beds and 2 of the 4 beds were always filled with patients who were in the process of giving birth. The number of midwives available The number of midwives in the room is only 3 people in 1 shift, so that care, especially non-pharmacological pain reduction such as deep breathing cannot be done optimally and there is no provision of aromatherapy. Researchers also took data from Hj. Nina's independent practice midwife around the Subulussalam City Hospital and found that of the 10 patients who gave birth, all patients said they felt tremendous pain and there was a sense of wanting to give up because they could not stand the pain they felt. Then the researcher gave the direction of breath relaxation to the 10 patients and 8 patients said they were greatly helped by the relaxation techniques taught. Relaxation that is done repeatedly when contractions arise can reduce the pain felt and the patient is calmer in facing the labor process.

## 2. METHOD

The design used is pre-test and posttest with control group design, where this design measures the difference between before and after the intervention using a control group. The difference between before and after the intervention is assumed to be the effect of the intervention. This is in accordance with the purpose of the study, which is to determine the effect of the combination of Benson relaxation and lemon aromatherapy on the pain intensity of patients in partu kala I active phase after the intervention compared to the control group who were not given this intervention.

The group given the intervention of a combination of Benson relaxation and lemon aromatherapy is called the intervention group; while the group not given the intervention is called the control group. The control group did not receive the combined intervention of Benson relaxation and lemon aromatherapy but received treatment as daily done in the hospital room hospital. The sample of this study was all mothers who were in partu at Subulussalam City Hospital. The sampling method used was "consecutive sampling" which is a way of taking samples that meet the criteria until a certain period of time until the number of samples is met. At This study researchers will take a sample of 30 respondents. 15 people as intervention group and 15 people control group.

### 3. RESULTS AND DISCUSSION

#### Results

##### a. Respondent Characteristics

**Table 1. Frequency Distribution Of Respondent Characteristics**

Variable	Control (n=15)		Interventions (n=15)		Totally	
	n	%	n	%	n	%
<b>Age</b>						
≤ 35 years old	14	93.3	14	93.3	28	93.3
> 35 years old	1	6.7	1	6.7	2	6.7
<b>Education</b>						
SD s/d SMP	4	26.7	5	33.3	9	30
SMA	8	53.3	7	46.7	15	50
PT	3	20	3	20	6	20
<b>Jobs</b>						
Housewives	10	66.7	12	80	22	73.3
Work	5	33.3	3	20	8	26.7
<b>Parity</b>						
Primigravida	4	26.7	2	13.3	6	20
Skundigravida	6	40	4	26.7	10	33.3
Multigravida	5	33.3	9	60	14	46.7

Based on table 1. the majority of respondents in both the control group 14 people (93.3%) and the intervention group 14 people (93.3%) were ≤ 35 years old, the majority of respondents' education both in the control group 8 people (53.3%) and the intervention group 7 people (46.7%) were high school. The majority of respondents did not work, namely 10 people (66.7%) in the control group and 12 people (80%) in the intervention group. In parity, the majority of respondents in the control group were skundigravida 6 people (40%) and the intervention group was multigravida 9 people (60%).

##### b. Average Difference In Respondents' Pain Intensity Before And After Intervention In The Control Group

**Table 2. Mean Difference In Pain Intensity Before And After Intervention In The Control Group**

Variable	Mean	SD	95%CI	Difference	<i>p</i>
<b>Control</b>					
Pre	7.27	0.704	6.88-7.66	- 0.13	0.317
Post	7.40	0.828	6.94-7.86		

Wilcoxon's test

Table 2. above shows that there is no significant difference in mean pain intensity before and after treatment in the control group with a  $p$  value =  $0.0317 > 0.05$ .

##### c. Average Difference In Respondents' Pain Intensity Before And After Intervention In The Intervention Group

**Table 3. Mean Difference In Pain Intensity Before And After Intervention In The Intervention Group**

Variable	Mean	SD	95%CI	Difference	<i>p</i>
<b>Intervention</b>					
Pre	7.20	0.775	6.77-7.63	1.33	0.001
Post	5.87	0.743	5.46-6.28		

Wilcoxon's test

Table 3. shows the results that there is a significant difference in the average pain intensity before and after the intervention in the intervention group, namely with a p value of  $0.001 < 0.05$ , where the average pain intensity before the intervention is 7.20 (very severe) and after the intervention the average pain intensity becomes 5.87 (severe), decreasing by 1.33, thus it can be said that the combination technique of benson relaxation and lemon aroma therapy is effective in reducing labor pain in the active phase of labor.

**d. Average Difference In Pain Intensity Between Control Group Respondents And Intervention Group Before Intervention**

**Table 4. Mean Difference In Pain Intensity Between The Control Group And The Intervention Group Before The Intervention.**

Groups	Before Intervention			
	Mean	SD	Difference	p
Control	7,27	0,704	0,07	0,840
Intervention	7,20	0,775		

Mann-Whitney Test

Table 4. above shows the average pain intensity of the control group and intervention group before the intervention. There was no significant difference in pain intensity between the two groups with  $p = 0.840$  ( $p > 0.05$ ) before the intervention. This means that before the intervention, the control group (mean = 7.27 (very severe)) and the intervention group (mean = 7.20 (very severe)) had the same average pain intensity or in other words the condition of the pain intensity of the patients in the intervention group and the control group was the same.

**e. Average Difference In Pain Intensity Of Control Group Respondents With Intervention Group After Given The Intervention**

**Table 5. Mean Difference In Pain Intensity Between The Control Group And The Intervention Group After The Intervention**

Groups	After Intervention			
	Mean	SD	Difference	p
Control	7,40	0,828	1,53	0,001
Intervention	5,87	0,743		

Mann-Whitney Test

Table 5 above shows the average pain intensity of the control group and the intervention group after the intervention. After the treatment/intervention, there was a significant difference in mean pain intensity with a value of  $p = 0.001$  ( $p < 0.05$ ) between the two groups with the mean pain intensity of the control group being 7.40 (very severe) and the intervention group 5.87 (severe). The intervention group showed a decrease in pain intensity after being treated with a mean difference of 1.53. In other words, the combination of benson relaxation with lemon aromatherapy is effective in reducing pain intensity inpartu kala I active phase.

**DISCUSSION**

**Pain Intensity Of Active Phase I Patients Before Intervention Between Control Group And Intervention Group**

The comparison test between the two groups showed that there was no significant difference in pain intensity before the intervention between the control group and the intervention group with  $p = 0.840$  ( $p > 0.05$ ), the control group (mean = 7.27) and the intervention group (mean = 7.20) had the same average pain intensity before treatment. Labor is a sign to tell the mother that the mother has entered the stage of the labor process. Where pain in labor has different intensities. Judging from the observation that pain is subjective, each mother will feel, experience and describe her own pain. Some

mothers said the pain felt was in the lower back area, and then spread to the lower abdomen including the legs.

In addition, the pain felt like being stabbed until it reached a peak and then disappeared on its own. Many mothers who experience labor pain feel fear, anxiety, unprepared, tired, not strong, thus causing severe labor pain. Mothers who experience severe labor pain, mothers will cry, whimper, scream, refuse help, or move without direction when experiencing labor pain, and few mothers tolerate their labor pain. In accordance with the theory Maryunani, [8] that mothers who will give birth respond to pain in different ways. Many factors affect labor pain. Researchers assume that there is no difference in the average labor pain before the intervention of the two groups because all respondents are in the same labor process, namely in the first phase of the active phase.

### **Pain Intensity Of Active Phase I Patients After Intervention Between Control Group And Intervention Group**

After the treatment/intervention, there was a significant difference in the mean pain intensity between the two groups with a value of  $p = 0.001$  ( $p < 0.05$ ) with the mean pain intensity of the control group being 7.40 and the pain of the intervention group being 5.87. The intervention group showed a decreased pain intensity before and after being treated with. This means that, the combination of benson relaxation with lemon aromatherapy effectively reduces pain intensity inpartu kala I active phase.

This study is in line with research conducted by Wilfa on the effectiveness of deep breath relaxation and message counterpressure on the response to pain adaptation in laboring mothers during the active phase I which found that the average pain intensity before the deep breath relaxation technique was 6.63 while after the intervention the pain became 4.07 with a  $p$  value  $< 0.001$  [9]. Sonya Soraya in her research entitled the effect of giving Lemon Citrus aromatherapy inhalation on reducing labor pain during the active phase I found the results that there was an effect of giving lemon citrus aromatherapy inhalation on reducing labor pain during the active phase I with a  $p$  value of 0.009 [10].

Morita in his research is also in line with the results of this study, namely there are changes in pain in respondents after being given benson relaxation [11]. Benson relaxation is one way to reduce pain by shifting attention to relaxation so that the client's awareness of pain can be reduced, this relaxation is done by combining deep breath relaxation with the client's beliefs. Individuals who experience tension and anxiety that work are the sympathetic nervous system, while at the time of relaxation the parasympathetic nervous system works, thus relaxation can suppress tension, anxiety, insomnia and pain [11]. Some interventions can be done to reduce pain intensity in patients inpartu kala I active phase is the provision of nonpharmacological therapy [9]. One of the nonpharmacological therapies that can be used to treat patient pain due to the ongoing labor process is the use of relaxation techniques and the administration of lemon aromatherapy.

According to the researcher, what causes a decrease in pain in respondents after being given a combined intervention of benson relaxation and lemon aromatherapy is a shift in the focus of pain that makes individuals feel comfortable and relaxed and also as a result of using gratitude sentences according to their religious teachings and the presence of lemon aromatherapy given which makes respondents closer to God and their hearts become calm. This can be seen from the responses and expressions of respondents who said that after doing relaxation and receiving lemon aroma therapy they felt calm and relaxed.

Respondents who did a combination of benson relaxation and lemon aromatherapy experienced a decrease in pain but did not eliminate the pain due to the labor process that each runs until the baby is born. This assumption is reinforced by some respondents telling before the researcher teaches benson relaxation and gives lemon aroma therapy, the respondent has done istighfar first, making it easier for researchers to tell how or guidelines for doing benson relaxation and giving lemon aroma therapy according to the researcher's guidelines.

### **Pain Intensity Of Active Phase I Patients Before And After Intervention In The Intervention Group**

The treatment of a combination of benson relaxation with lemon aromatherapy has a lot of influence on the pain adaptation response after being carried out for 15 minutes. This can be proven by the results that have been obtained during the study, namely: there is a significant difference in average pain intensity in the intervention group with a p value of  $0.001 < 0.05$ . The results of this study are in line with research conducted by Widiyanto with the title of the effectiveness of deep breath relaxation techniques in laboring mothers at stage I, getting the results that deep breath relaxation techniques are effective in reducing pain intensity in laboring mothers at stage I, so that it can be included in nursing interventions in the nursing diagnosis of comfortable pain disorders [12].

Septiani in her research also obtained the same results, namely that there was an effect of providing deep breath relaxation techniques on reducing labor pain during the active phase I [13]. Herawati in her article entitled evaluation of the most effective relaxation techniques in the management of labor pain in phase I on the success of normal labor concluded that of all relaxation techniques, respiratory relaxation is the most effective in reducing labor pain in phase I, namely 40% of the number of respondents [14]. Morita in his research is also in line with the results of this study, namely that there is a meaningful and significant difference in average pain in the intervention group and control group. When relaxation distracts the mind, the thalamus will mediate selective attention to the prefrontal cortex to change the sound of pain stimuli so as to inhibit pain impulses. Then the brain as an impulse inhibitor closes the transmission door on noxious impulses so that pain impulses cannot be felt or inhibited and the flow of descending nerve fibers releases endogenous opioids such as endorphins and dimorphins as natural pain inhibitors derived from the body. This neuromodular according to the defense mechanism by inhibiting the release of substance P [11].

Permatasari in her research is also in line with this study and found that after the intervention in the form of benson relaxation, it was found that there was a decrease in the pain scale in femur fracture patients from a pain scale of 10 to a pain scale of 4 [15]. Benson relaxation makes patients more relaxed and comfortable and patients are able to do benson relaxation independently. The results of previous research conducted by Sulastri, Wahyuningsih, Hapsari in 2018 [16]. With the research title "The Effect of Giving Citrus Aromatherapy on Post-Cesarean Pain Intensity" with the results of a significant difference in the decrease in pain intensity between before and after giving citrus aromatherapy. Next in Laurena's research entitled the effectiveness of lemon aromatherapy on reducing labor pain, duration of labor in stage II and fetal outcome, it was found that there was an effectiveness of lemon aromatherapy in reducing labor pain with a p value  $< 0.05$  [17] [18]. This study also explained that lemon aromatherapy is more effective in reducing pain because lemon aromatherapy contains essential oils that are useful as anti-stress. It is also conveyed that lemon essential oil has the ability to calm, which can reduce pain, eliminate mental fatigue, dizziness, anxiety, nervousness and nervous tension.

Based on the research that has been done, the researcher assumes that the combination of benson relaxation with lemon aromatherapy can reduce the intensity of pain in laboring mothers during the latent phase I because the respondent feels calm and feels close to God when doing benson relaxation and the presence of lemon aromatherapy adds relaxation to the respondent's muscles so that the respondent is more confident and enjoys every labor process until the baby is born.

#### **4. CONCLUSION**

The majority of respondents were  $\leq 35$  years old (93.3%), had a high school education (53.3%), were unemployed or housewives (80%) and multigravida parity (60%). There is no difference in the average pain intensity of patients in partu kala I active phase before intervention between the control group and the intervention group with a value of  $p = 0.840$  ( $p > 0.05$ ). There is a difference in the average pain intensity of patients in partu kala I active phase after intervention between the control group (7.40) and the intervention group (5.87) with a value of  $p = 0.001$  ( $p < 0.05$ ). There is no significant difference in average pain intensity in the control group before and after the intervention with a p value of  $0.317 > 0.05$ . There is a significant difference in average pain intensity in the

intervention group before and after being given a combination of benson relaxation with lemon aroma therapy with a p value of  $0.001 < 0.05$ .

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