

**Original Research Article**

## The Effectiveness of Deep Relaxation Techniques and Murotal Al-Qur'an Audio on Pain of Labor Pain in the Working Area of Health Center, Ingin Jaya District, Aceh Besar, Indonesia

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**Abstract:** Labor pain has an impact on the barriers to the delivery process due to the lack of self-control of the mother on labor pain so that the mother's physical condition can be weak. So the risk of cesarean delivery. One method of reducing pain is by non-pharmacological methods. Some non-morphological methods that can be used are deep breath relaxation, murotal Al-Qur'an and the aroma of lavender therapy. The purpose of this study was to determine the effectiveness of breath relaxation techniques and murottal quran audio on delivery pain first stage in ingin jaya health center, aceh besar regency. This study is a quasi-experimental study with a two-group pre-posttest design using a randomized controlled trial. The population of maternity mothers in the Working Area of the Ingin jaya Health Center, Ingin jaya District, Aceh Besar regency. The sample selection is purposive sampling with inclusion and exclusion criteria, the sample is 70 people. The results showed that there were significant differences between before and after treatment with P value  $0.00 < 0.05$ . Treatment with audio murotal and aromatherapy significantly reduced labor pain with P value  $0.00 < 0.05$ . Aromatherapy and Audio Murotal Al-Quran are effective in reducing pain in the first stage of labor in the work area of the Ingin jaya Public Health Center, Aceh Besar regency.

**Keywords:** Relaxation, Audio Murotal Al-Quran, Lavender Aroma Therapy for Labor Pain.

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### INTRODUKTION

In Indonesia, maternal mortality and neonatal mortality are still a big challenge and need attention in the COVID-19 disaster situation [1],[2]. The Indonesian government's COVID-19 pandemic situation has made a social policy of restrictions on all services, including maternal health services [3]. Labor is the process of expelling the products of conception from the uterus through the birth canal. The labor process begins with uterine contractions that cause cervical dilatation and thinning and uterine ischemia, causing a pain response [4]. Labor pain begins to arise in the first stage of the latent phase, which is the process of cervical dilatation to 3 cm, and the active phase, namely the process of opening the cervix. from 4 cm to 10 cm. In the active phase towards the opening, there is an increase in the intensity and frequency of contractions, causing pain [5].

Pain during labor is a physiological condition that is generally experienced by almost all maternity

mothers, labor pains begin to arise in the first stage of the latent phase and active phase, in the latent phase the cervix dilates up to 3 cm which can last for 8 hours. Pain is caused by uterine contractions and cervical dilatation. The intensity of pain during labor affects the psychological state of the mother, the smooth delivery process, and the condition of the fetus [6]. It was reported from the results of the study that of 300 women giving birth in the first active phase, 32% said severe pain, 57% moderate pain, and 11% mild pain [7]. 68.3% of women stated that labor pain was intense pain, and more than 86% of women wanted their pain to be overcome [8]. Labor pain is also associated with increased blood pressure, oxygen consumption, and catecholamine release, all of which affect uterine blood flow.

In addition, increased carbon dioxide, capillary vascular resistance, and increased consumption. Efforts to reduce pain in labor can be done both pharmacologically and non-pharmacologically, pharmacological pain management

is more effective compared to non-pharmacological methods. However, pharmacological methods are more expensive and have the potential for adverse side effects [9]. In contrast, non-pharmacological methods are cheaper, simple, effective, without adverse effects and can increase satisfaction during labor [10].

The mother's non-pharmacological methods can control her feelings and strength before the delivery process. Non-pharmacological methods that can be used to reduce pain include deep breathing relaxation, murotal Al-Qur'an, and lavender aromatherapy. In various studies, it is known that the provision of murotal therapy is effective in reducing the patient's anxiety level, the level of anxiety between receiving music therapy and murotal there is a significant difference, so the provision of murotal therapy is more effective in reducing the patient's anxiety level compared to music therapy [11], [12].

In the first stage of labor, breathing relaxation techniques can improve the abdominal muscles. Lavender aromatherapy is a therapy that uses essential oils which are considered to help reduce and even overcome psychological disorders and comfort disorders such as anxiety, stress, depression, and so on [13].

In short, the scent produced by lavender aromatherapy will stimulate the hypothalamus to produce enkephalins, which act as natural pain

relievers. Therefore, the purpose of this study was to determine the effectiveness of breathing relaxation techniques and audio murotal al-Qur'an on labor pain in the first stage at the Ingin Jaya Public Health Center, Aceh Besar regency.

## RESEARCH METHODS

This type of research is a quasi-experimental using a two group pretest and posttest design approach to determine the effectiveness of deep breathing relaxation techniques and lavender aromatherapy with audio murotal Al qur'an and lavender aromatherapy on labor pain.

The previous bivariate analysis used the Kolmogorof Smirnov test for normality, if the data were normally distributed, then assess the relationship before and after treatment using the Dependent T Test. If the data is abnormal, the Wicoxon Signed Ranks Effectiveness test between the two treatments is carried out with normal data, then the Independent T Test is used. If the data is abnormal, the test is carried out *Kruskal Wallis*.

### Normality Distribution Test Results

Data analysis was carried out using the Kolmogorof Smirnov test. The normality test of this study was carried out using the Kolmogorof Smirnov test. The test results are in the table below.

**Table 1.1: The results of the normality test for labor pain after deep breathing and murotal relaxation treatment**

| Group                               | P value | N  |
|-------------------------------------|---------|----|
| Deep breath relaxation and lavender | 0.000   | 35 |
| After treatment                     |         |    |
| Murotal and lavender                | 0.000   | 35 |
| After treatment                     |         |    |

Table 1.1 The results of the normality test showed a p-value of 0.000 < 0.05, meaning that the act of deep breathing and murotal relaxation on labor pain

in the treatment and control groups were not normally distributed.

**Table 1.2: The results of labor pain levels before and after deep breathing relaxation and lavender aromatherapy treatment**

| Pain level before treatment |        |       |
|-----------------------------|--------|-------|
| Pain Level                  | Amount | %     |
| Currently                   | 4      | 11.4  |
| Heavy                       | 31     | 88.6  |
| Total                       | 35     | 100.0 |
| Pain level after treatment  |        |       |
| Pain Level                  | Amount | %     |
| Light                       | 3      | 8.6   |
| Currently                   | 5      | 14.3  |
| Heavy                       | 27     | 77.1  |
| Total                       | 35     | 100.0 |

Table 1.2. The results showed that the level of labor pain before deep breathing relaxation treatment was the highest with severe pain, namely 31 (88.6%)

and after treatment the highest pain level was severe 27 (77.1%).

**Table 1.3: The results of labor pain levels before and after the audio treatment of Murotal al-qur'an and lavender aromatherapy**

| Before treatment |        |       |
|------------------|--------|-------|
| Pain Level       | Amount | %     |
| Currently        | 16     | 45.7  |
| Heavy            | 18     | 51.4  |
| Very heavy       | 1      | 2.9   |
| Total            | 35     | 100.0 |
| After treatment  |        |       |
| Pain Level       | Amount | %     |
| Light            | 7      | 20.0  |
| Currently        | 21     | 60.0  |
| Heavy            | 7      | 20.0  |
| Total            | 35     | 100.0 |

Table 1.3. The results showed that the level of labor pain before treatment with audio murotal Al-Qur'an and lavender aromatherapy was the highest with severe pain, namely 18 (51.4%) and after treatment the highest pain level was 21 (60%).

Analysis of the difference in labor pain between the control group for deep breathing relaxation and lavender aromatherapy and the murotal and lavender aromatherapy treatment group using the Kruskal Wallis test.

**Table 1.4: Differences in labor pain levels between treatment groups with deep breathing relaxation techniques and lavender aromatherapy with murotal audio and lavender aromatherapy**

| Treatment Group                                | Mean Difference |      | N  |
|--|-----------------|------|----|
| Deep Breath Relaxation Kelp and lavender scent | 45,10           | ,000 | 35 |
| Murotal audio kelp and lavender scent          | 25,90           |      | 35 |

Table 1.4 Differences in labor pain levels in the deep breathing group and lavender (control) and murotal and lavender (treatment) groups there were significant differences with p-value  $0.00 < 0.05$  with the difference in the mean with the lowest pain intensity in the treatment group (murotal) 25.90, meaning that the treatment group with murotal had a significant effect on reducing labor pain.

with deep breathing relaxation treatment experienced differences after treatment because it provided comfort and tranquility for a moment if the respondent was able to control and master deep breathing relaxation [16].

## DISCUSSION

Differences in labor pain before and after deep breath relaxation treatment and lavender aromatherapy. The results of the table analysis show that there is a difference in the level of labor pain before and after deep breathing relaxation with a p-value of  $0.00 < 0.05$ , meaning that there is a significant difference. One of labor pain management is the deep breathing relaxation technique [14]. The deep breathing relaxation technique is a pain reduction technique that provides the greatest input because relaxation techniques in labor can prevent excessive post-delivery errors. Relaxation of breathing during labor can maintain the components of the sympathetic nervous system (SSO) in a homeostatic state so that there is no increase in blood supply.

Deep breathing relaxation can maintain components of the sympathetic nervous system. In a state of self-defense, the blood supply does not increase, is not anxious, and is not afraid so it can adapt to pain during the delivery process. The results of pain intensity

The treatment of deep breathing techniques has a lot of effect on decreasing the level of pain after being treated for 30 minutes. There is a difference in the level of labor pain between before and after murotal relaxation with a p-value of  $0.00 < 0.05$ , meaning that it has a significant difference. Murotal being one of the types of music which were also studied can reduce the intensity of pain. his research reported a significant difference in the p-value of pain intensity from 0.074 before to 0.139 after and Endorphin levels from 0.596 before to 0.217 after being given murotal Al-Qur'an Surat Ar-Rahman for 25 minutes [17]. Change in the mean pain intensity in the experimental group from 7.47 to 6.40 ( $p = 0.000$ ) and in the control group from 7.07 to 7.40 ( $p = 0.055$ ) after giving murotal Al-Qur'an therapy through a headset for 15 minutes [18]. Then there is a difference in the level of labor pain in the deep breathing group (control) and the murotal group (treatment) there is a significant difference with a p-value of  $0.00 < 0.05$  with the lowest mean difference in pain intensity in the treatment group (murotal) which is 25, 90, meaning that the treatment group with murotal had a significant effect on reducing labor pain. Labor pain can cause stress which causes the release of catecholamine and steroid hormones in excess [19]. 05 with the lowest mean difference in pain intensity in the treatment group (murotal) which is 25.90, meaning that

the treatment group with murotal has a significant effect on reducing labor pain. Labor pain can cause stress which causes the release of catecholamine and steroid hormones in excess [19]. 05 with the lowest mean difference in pain intensity in the treatment group (murotal) which is 25.90, meaning that the treatment group with murotal has a significant effect on reducing labor pain. Labor pain can cause stress which causes the release of catecholamine and steroid hormones in excess [19].

This results in tension in smooth muscles and vasoconstriction of blood vessels, resulting in decreased uterine contractions and decreased uteroplacental circulation. Decreased circulation can ultimately result in reduced blood flow and increased uterine ischemia, thereby increasing uterine pain [20]. The act of deep breathing relaxation requires more focused concentration so it is difficult to do it. However, for the audio murotal action of surah Yusuf, it can calm the heart more easily because people are used to hearing the murotal so it is easier to concentrate on hearing it, except for mothers who rarely or don't usually hear the murotal of surah Yusuf.

## CONCLUSION

In this study, there was a significant difference in the level of labor pain in the deep breathing group and lavender (control) and murotal and lavender (treatment) groups with p-value  $0.00 < 0.05$  with the difference in the mean with the lowest pain intensity in the treatment group. (murotal) 25.90, meaning that the treatment group with murotal had a significant effect on reducing labor pain.

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