# EFFECTIVENESS OF WARM COMPRESS IN REDUCING PAIN CONTRACTION ON FIRST STAGE OF LABOR

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## ABSTRACT

**Introduction:** Childbirth is a physiological process that occurs with pain due to contraction during especially in stage I and II. Response maternal to pain is very different, even still found mothers who can't adapt to the pain, can't control her emossion and will cause other complications during childbirth. A warm compress is one of nonfarmakologi techniques in pain management but for pregnancy and childbirth are not yet widely used. This research aims to analyze the effectiveness of a warm compress in decreasing pain in childbirth contractions of first stage of labor. **Method:** Design of this research is the pre-ekperimental with the design of One-group pre-post test design. The population used in this research is the mother birthing physiological in BPM Kusmawati Surabaya. A large sample was 20 maternity mother, taken with quota sampling. The independent variable is a warm compress and the dependent is a scale of pain. The instrument is the observation sheet and SOP a warm compress. The data were analyzed using paired samples t test statistical test with a significant α level of 0.05. **Result:** Results paired t test (Paired samples t test) p value = 0.01. **Discuccion:** From this result can be concluded that warm compresses is effective in reducing the pain of contractions in the first stage of labor active phase. Based on this it is advisable for birth attendants to be able to implement measures to reduce pain during labor, including by way of warm compresses. This method is effective in addition, it is also very easy and can be done by the family or labor companion.

*Keywords: Warm Compress, Contraction Pain Scale, First stage of labor*

## INTRODUCTION

Childbirth is a physiological process that occurs with pain due to contraction during especially in stage I and II. Response maternal to pain is very different, even still found mothers who can not adapt to the pain, especially in primigravida, or the mother who can not control his emotions and was too tired, so this will cause other problems during childbirth (Anik, 2010).

The first stage of labor is too long, especially in primigravida which is about 1-14 hours, the length of this first stage of labor causes pain experienced too much longer so that it can lead to maternal fatigue that result in emotional responses such as anxiety and tension. Long labor pains lead to hyperventilation, which impact on the level of PaCO2 on Mother then a fetus so that the fetal heart rate slows down. The response to this pain also stimulates increased catecholamines that cause interference on uterine contractions are contractions become irregular/ inadequate called inersia uteri which is a cause of prolonged labor. (Bobak, 2011). Results of research conducted by Cheng, et al (2010) found that prolonged labor increases the risk of postpartum hemorrhage, chorioamnionitis and complications in neonates/newborns.

Efforts to reduce pain can be done by pharmacological and nonpharmacological. Controlling pain with pharmacological among others, by the provision of analgesia inhalation, analgesia apioid, and regional anesthesia, whereas pain control nonfarmakologi include relaxation, breathing techniques, position changes, masage, hydrotherapy, acupuncture, akupressur, hypnobirthing, intradermal water blocks, music, TENS (Transcutaneos, elektrical Nerve Stimulation) and warm compresses (Anik, 2010).

Pharmacological methods have a higher effectiveness in reducing pain than non-pharmacological methods, but pharmacological methods can cause side effects that are not expected, while the non-pharmacological method has no side effects at all. To cope with

labor pain in BPM Kusmawati Surabaya, using methods of relaxation, Massase and left lateral position. However, to reduce pain with warm compresses yet done. A warm compress is the maintenance of body temperature method using liquid and tools that can lead to warmer parts of your body requires. Warm compresses on certain parts will improve the circulation of the section, followed by increasing the metabolic activity throughout the body, sweating and relaxation of the network so that the heat is channeled through a warm compress can relieve pain. (Hidayat, 2008).

Warm compresses on the body can be in the form of dry and wet. Dry warm compress can be used locally to heat conduction by using a hot water bottle or electric heating. While the wet warm compresses can be administered via conduction using gauze compresses, packaged heating and bathing / shower. The physiological impact of a warm compress is softening the fibrous tissue, making the body more relaxed muscles, decrease or eliminate pain, and facilitate the supply of blood flow. Warm compresses are made in the lower abdomen, waist, groin and perinium can be very soothing mother (Aprillia, 2014).

The onset of contraction as the source of pain is an important factor in the smooth progress of labor, so the selection of an effort to decrease the pain must observe the intensity of the contractions so that not all methods can be used safely and effectively at the time of delivery. Impact on the intensity of the contraction in this case it will cause complications during labor. Maternal Mortality Rate (MMR) Indonesia at 2012 amounting to 359 per 100,000 live births, while the infant mortality rate (IMR) is 40 per 1,000 live births. MMR in Indonesia cause of maternal deaths are haemorrhage (42%), eclampsia (13%), complications of abortion (11%), infection (10%), and prolonged labor (9%) (Ministry of Health, 2012).

## METHODE OF RESEARCH

This study design using pre-experimental design with One-group pre-post test design that seeks to reveal a causal relationship with this kind of Probability Sampling with Quota Sampling techniques, which is to determine a sample of the population that have certain characteristics to the amount of quota to be desired. The population in this study were all birth mothers physiologically active phase of the first stage in Surabaya, 40 BPM Kusmawati birth mothers. Samples are partly physiological birth mothers of the first stage in BPM Kusmawati Surabaya.

Independent variables in this study were warm compresses and the dependent variable is the pain scale. The collection of data through interviews and observations. Researchers measuring the pain scale before applying warm compresses to the contraction peak time after entering the active phase of the first stage, by the way respondents were asked to point number scale of the pain felt at the peak of the contraction.

Researchers give a warm compress to the respondent for 20 minutes with a duration of 5 minutes compress, after five minutes dip a washcloth back into the warm water, then do a warm compress back for five minutes until the total time in the overall warm compress of 20 minutes.

Measurement of pain scale after the intervention at the peaks direct contraction in contraction period after being given a warm compress. Researchers fill the measurement results on the pain scale observation sheets and check the completeness and then do analysis.

Analysis of data using statistical test Paired samples t test at significance level <0.05.

## RESULT

Measurement results can be seen that the pain scale of 20 respondents obtained a mean value of the difference between the level of pain before and after was 2.85 with a standard deviation of 0.29. Statistical test results paired sample t test (Paired samples t test) p value = 0.01 to p $<\alpha$ (0.05), and thus Ho is rejected, which means there is the effect of a warm compress to the first stage of labor pain relief in BPM Kusmawati Surabaya.

The data collected characteristics of respondents by age and paritas can be seen in the following table.

Table 1. Distribution of respondents by age of respondents.

| Age (years) | Frequency | Percentage (%) |
|---|---|---|
| < 20 | 3 | 15 |
| 21 – 35 | 14 | 70 |
| > 35 | 3 | 15 |
| total | 20 | 100 |

Table 2 Distribution of respondents by parity of respondents in BPM Kusmawati Surabaya, 2014.

| Paritas | Frequency | Percentage (%) |
|---|---|---|
| Primigravida | 6 | 30 |
| Multigravida | 11 | 55 |
| Grandemultigravida | 3 | 15 |
| Total | 20 | 100 |

Table 1 shows that the majority of the 20 respondents (70%) aged 21-35 years and majority are multigravida.

The level of pain before (pre) do a warm compress on the first stage active phase of maternity physiologically is as follows.

Table 3 characteristics of the level of pain before (pre) do a warm compress on BPM Kusmawati Surabaya

| Variable | level of pain before (pre) do a warm compress |
|---|---|
| N | 20 |
| Mean | 7,70 |
| Median | 8,00 |
| SD | 1,89 |
| SE | 0,423 |
| Min-Max | 3-10 |

In table 3 above, shows that of the 20 respondent obtained average value level of pain before the warm compress in 7,70 with standart deviation 1,89. And the lowest score is 3 and the highest score is 10.

The level of pain before (pre) do a warm compress on maternity physiologically active phase of the first stage is as follows.

Table 4 characteristics of the level of pain before (pre) do a warm compress on BPM Kusmawati Surabaya

| Variabel | level of pain after (post) do a warm compress |
|---|---|
| N | 20 |
| Mean | 4,85 |
| Median | 5,00 |
| SD | 2,18 |
| SE | 0,488 |
| Min-Max | 1-10 |

In Table 4 above shows that of the 20 respondents obtained average value level of pain after (post) a warm compress is 4.85 with a standard deviation of 2.18.

The results of the analysis of differences in the level of pain before and after warm compresses using the SPSS statistical test can show in the table below:

| Variabel | N | Mean | SD | P Value (*Uji Paired samples t test*) |
|---|---|---|---|---|
| level of pain : before (pre) – after(post) do a warm compress | 20 | 2,85 | 0,29 | 0,01 |

Based on table 5.6 above show that from 20 respondents obtained a mean value of the difference between the level of pain before and after was 2.85 with a standard deviation of 0.29. Statistical test results paired sample t test (Paired samples t test) p value = 0.01 < α = 0.05, then Ho rejected, which means there is the effect of a warm compress to decrease the pain of contractions in the first stage of labor

**DISCUSSION**
The level of pain prior to applying warm compresses to the table 5.4 shows that of the 20 maternity experiencing labor pain when I obtained the value of the average rate of 7.70 pain is severe pain, with a standard deviation of 1.89, and the lowest score was 3 (mild pain), the highest score is 10 (very severe pain). Pain is a personal experience, subjective differ from one to the other person and may also differ in the same person at different times (Reeder, 2011). According to Prasetyo (2010), at the opening of 4-6 cm, felt a little stab of pain. At the opening of 7-10 cm, stabbing pain is felt to be more rigid, the pain is influenced by several factors, factors that affect labor pain are age and parity, culture, coping mechanisms, anxiety and fear, fatigue, duration of labor, fetal position/head, childbirth, past experience.

Labor pain is also associated with behavioral responses that can be observed, for example vocalizations, facial expressions, and body movements. Many ways can be done maternity to divert attention to pain that is experienced, for example, some pregnant women have to walk or move to overcome the pain while the other mothers who feel not withstand the pain experienced and just lay in bed alone. Some are moving their hips as a response to pain during contractions. Such behavior is a sign that depends on the individual response to pain

experienced mothers.

Age is one of the factors that affect labor pain. Based on Table 5.1 shows that of the 20 maternity obtained the majority (70%) aged between 21-35 years. Age is a long time since they were born alive (Sarwono, 2005). Age is an important variable in influencing pain in individuals, a young age tend to be associated with psychological conditions are still unstable, triggering worries that the pain felt becomes more severe. Age is also used as one factor in determining pain. With age and understanding of the pain and anxiety levels in response to reduced pain.

Parity is also one factor mothers who have labor pain seen in Table 5.2 shows that out of 20 maternity obtained the majority (55%) multigravida. Women who had given birth to 2 times or more. In multigravida mother has had previous experience as the previous delivery which will help relieve the pain, because her mother had coping with pain. Primigravida and multigravida likely to respond differently to pain despite facing the same conditions, namely labor. This is due to multigravida mother has had previous experience in labor.

Pain after doing a warm compress on Table 5.5 shows that of the 20 maternity experiencing labor pain when I obtained the value of the average pain level of 4.85 (moderate pain), with a standard deviation of 2.18. Previously, for reducing pain of contraction, mother only allowed to take a deep breath, but there are other ways which can also decrease the labor pain is a technique warm compresses. With this technique warm compress maternity can redirect the pain, the mother is less focused on the pain she experienced contractions, and a warm compress does not reduce contractions. After the birth mothers do a warm compress on the waist will decrease the level of pain, the majority (75%) decrease pain scale of 2-4 and were on the criteria of moderate pain scale, and only the mothers who did not experience a decrease in pain after doing a warm compress which is still in very severe pain scale. Mother's condition when the pain is very influential on the comfort and maternal anxiety in undergoing the process of childbirth, so that pain management in maternity is necessary because it can affect the length of labor and delivery (Aprillia, 2014).

Warm compresses technique is a form of midwifery care, which in this case maternal midwife taught how to do a warm compress, which prepare warm water and a washcloth, then put washcloth into the warm water and then place a warm washcloth on the lumbar region. Techniques warm compresses can also give comfort to the women giving birth in running labor.

The test results using paired samples t test (Paired t test) with a significance value ($\alpha$ = 0.05), and then analyzed with the aid of computer calculation SPSS 16.0 for Windows, p value = 0,01 < $\alpha$ = 0.05, statistical hypothesis H0 rejected, which means there is influence of a warm compress to the first stage of labor. In table 5.6 above can be seen that out of 20 women giving birth before warm compresses obtained average value is 7.70, the level of pain (severe pain) with a standard deviation of 1.89, while warm compresses obtained after doing the average value level pain was 4.85 (pain rsedang) with a standard deviation of 2.18.

This shows the before and after warm compresses very influential in controlling or diverting pain. Which at the time gives a warm compress treatment must be supported with a quiet environment, try to keep your mind calm and relaxed, comfortable position, and maternal desire to do a warm compress. With this warm compresses mother can redirect the pain by reducing the sensation of pain and to control the intensity of the reaction to pain. When emotional pain is reduced, the effect of which can worsen anxiety seemed diminished by doing warm compresses. A warm compress is an effective method, especially in patients with chronic pain. Warm compress technique can eliminate the sensation of pain and reduce stiffness. (Anik, 2010)

## CONCLUSION AND RECOMMENDATION

Results of research has been done on maternal on first stage of labor in get that pain scale before a warm compress on average 7.70 (severe pain) with a standard deviation of 1.89. Meanwhile, after a warm compress average pain scale was 4.85 (moderate pain) with a standard deviation of 2.18. Warm compresses can be concluded effective in reducing the pain of contractions in the first stage of labor active phase.

Based on this it is advisable for birth attendants to be able to implement measures to reduce pain during labor, including by way of warm compresses. This method is effective in addition, it is also very easy and can be done by the family or labor companion.

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