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Combination of Warm Compress and Effleurage Massage on the Intensity of Labor Pain in the First Stage of the Active Phase in Maternal Patients at Dr. Hospital. Abdul Rivai, Berau Regency

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ABSTRACT

This study aimed to determine the effect of a combination of warm compresses and effleurage massage on the intensity of labor pain during the first active phase in maternal patients. This was a pre-experimental study with a one-group pretest and posttest design. The population was all primiparous normal mothers giving birth at dr. Abdul Rivai Hospital Berau, from January to September 2023, numbered 385 people, with an average of 43 people per month, based on the Lameshow formula, which included a sample of 38 people. The instrument used the VAS scale and standard operating procedure (SOP) for a combination of warm compresses and effleurage massage. Data analysis used the paired sample test. The intensity of labor pain during the first active phase before being given a combination of warm compress and effleurage massage had an average value of 7.47. The intensity of labor pain during the first active phase after being given a combination of warm compress and effleurage massage had an average value of 6.26. It showed an effect of the combination of warm compresses and effleurage massage on the intensity of labor pain during the first active phase (p-value = 0.000 < α: 0.05). This indicates that the combination of warm compresses and effleurage massage affects reducing the intensity of labor pain during the first active phase. It hopes that hospitals can adopt a policy of issuing the standard operating procedure (SOP) for the combination of warm compresses and effleurage massage.

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1. Introduction

Childbirth is a process of expelling viable products of conception (fetus and uri) into the world outside the womb through the birth canal or other means (Ayu & Supliyani, 2019). Normal labor and birth is the process of expelling the fetus that occurs at term pregnancy (37-42 weeks) with uterine contractions in the mother. The scientific procedure for the birth of the baby and placenta from the uterus is through a

process that begins with uterine contractions which cause cervical dilatation or widening of the cervix accompanied by labor pain (Eprila et al., 2022).

Labor pain is a subjective experience of physical sensations associated with uterine contractions, cervical dilation and effacement, and fetal descent during labor. Physiological responses to pain include increasing blood pressure, pulse, breathing, sweat, pupil diameter, and muscle tension (Sari et al., 2018).

Data on labor pain in Iran from a study reported that 37% of women chose caesarean section because they felt anxious and afraid of labor pain(Tanjung & Antoni, 2019). Finnish data shows that 80% of women describe labor pain as very intense and unbearable. Research in Australia reports that the level of labor pain in women will differ based on each opening, at 0-3 cm opening the pain is moderate, 4-7 cm opening is severe pain and opening > 8 cm is unbearable (Sari et al., 2018). Research in the UK shows that 93.5% of women described the pain as unbearable. Most (90%) labor is accompanied by pain. The incidence of pain in 2,700 women giving birth, 15% experienced mild pain, 35% with moderate pain, 30% with severe pain and 20% of labor was accompanied by very severe pain (Rahmawati et al., 2023).

Indonesian Demographic and Health Survey (IDHS) in 2017, 53.5% experienced labor accompanied by anxiety or severe pain (Hariyanti & Astuti, 2021). Data from research conducted by (Maryati & Nursitiyaroh, 2023), of 100% of mothers who gave birth, only 30% were able to overcome the pain during childbirth. The rest are unable to endure the pain and the pain management is wrong. Statistically, 2 out of 3 mothers in labor cannot tolerate pain. Data from hospital associations throughout Indonesia explains that 15% of mothers in Indonesia experienced birth complications and 21% stated that the labor they experienced was a painful labor, while 63% did not receive information about the preparations that must be made to reduce pain during labor (Maryati & Nursitiyaroh, 2023). Some mothers are even traumatized by getting pregnant and giving birth again because they are afraid they will experience the same pain. Severe pain during the birthing process causes mothers to experience psychological disorders, 87% post partum, blues that occurs from 2 weeks to 1 year, 10% depression, and 3% with psychosis (Siti & Eli, 2015).

Labor pain data based on research results at a clinic in East Kalimantan Province shows that 80% of respondents said they experienced severe pain (consisting of 60% primiparas and 20% multigravidas) (Pasiriani & Juniawati, 2020). Likewise for further researchpain intensity in the first stage of labor in the active phase in primiparous mothers with an average score of 7.92 (severe pain) (Hatini, 2019).

The intensity of the pain felt depends on several factors, such as the intensity and duration of uterine contractions, the size of the opening of the cervix, the stretch of the lower birth canal, age, parity and number of children who have been born, the size of the fetus and the psychological condition of the mother. In addition, obstructed labor due to a large fetus or narrow birth canal can cause the patient to experience more pain than normal delivery. This includes fatigue and lack of sleep which can affect the mother's tolerance in dealing with pain (Suyani, 2020).

Labor pain can cause hyperventilation so that the need for oxygen increases, blood pressure increases and reduced intestinal and urinary bladder motility, this situation will stimulate catecholamines which can cause interference with the strength of uterine contractions resulting in uterine inertia. If labor pain is not managed with good pain management, it will cause prolonged labor and cause bleeding in the mother and in turn will impact the baby with afexia and can cause death in the mother and baby (Hamidah, 2019). Apart from that, it is necessary to make pain management efforts to reduce pain so that the incidence of caesarean section without indication can be reduced (Nufra & Azimar, 2019).

One technique that can be used to reduce the pain of labor during the first active phase in a simple, practical way and can be used by midwives as a safe intervention for first-time patients is usingcombinationwarm compresses and effleurage massage (Pasaribu et al., 2022). Warm compress therapy on the mother's lower back sacrum area can reduce labor pain and can maintain the components of the vascular system in a state of vasodilation so that blood circulation to the pelvic muscles becomes homeostatic and can reduce anxiety and fear and adapt to pain during the labor process (Hamidah, 2019). Applying a warm compress to an area of the body will send a signal to the hypothalamus via the spinal cord (Modoor et al., 2021).

Apart from that, massage therapy has the principle of reducing tension so that the mother feels relaxed and comfortable when facing childbirth. This method can increase stamina and does not cause respiratory depression in babies (Ersila et al., 2019). There are 2 techniques to reduce pain during labor, namely massage effleurage (light massage) and massage counterpressure (pressure) (Furlan et al., 2002).

Based on previous research conducted by (Pasaribu et al., 2022), there is an effect of giving warm compresses and effleurage massage on reducing pain in mothers giving birth during the first active phase with a sample of 30 respondents (Pasaribu et al., 2022). Likewise, (Karlinah & Hakameri, 2022) research shows thatThere is an effect of effleurage massage on the level of pain in the first stage of labor in the active phase. (Kholisoh et al., 2022) shows that there is an influence of warm compresses on the intensity of labor pain in the active phase of the first stage.

Based on this phenomenon, this research aims to conduct an analysis of the effect of a combination of warm compresses and effleurage massage on the intensity of labor pain during the active phase in maternal patients. This study proposes a combination technique of warm compress and effleurage massage as a safe and effective pain management alternative during the active phase of labor. By providing a wider range of options in pain management, this study may help in improving the quality of labor care and patient experience.

2. Research Methods

This research is experimental research by conducting experiments aimed at determining the effects that arise (Notoatmodjo, 2018). The design of this research is pre-experimental, with a one group pretest posttest design, namely conducting a pretest (01), then carrying out an intervention (X), after that a posttest (02) is carried out on that group. The population in this study were all primiparous normal mothers giving birth at RSUD dr. Abdul Rivai Berau in January-September 2023 numbered 385 and the sample size was 35. Data analysis included univariate analysis, normality test and bivariate analysis.

3. Results and Discussions

3.1 Univariate Analysis

a. The intensity of labor pain during the first active phase before being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency.

Identify the intensity of labor pain in the first active phase before giving a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency, can be seen in the following table:

Table 1. Intensity of labor pain during the first active phase before being given a combination of warm compresses and effleurage massage to maternal patients at RSUD dr. Abdul Rivai, Berau Regency

Score	f	Median	Mean	Minimal	Maximum
Pre-test	38	7.5	7.47	5	10

Source: Primary Data, 2024

b. The intensity of labor pain during the first active phase after being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency.

Identify the intensity of labor pain during the first active phase after being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency, can be seen in the following table:

Table 2. Intensity of labor pain during the first active phase after being given a combination of warm compresses and effleurage massage to maternal patients at RSUD dr. Abdul Rivai, Berau Regency

Score	f	Median	Mean	Minimal	Maximum
Post test	38	6	6.26	3	9

Source: Primary Data, 2024

3.2 Bivariate Analysis

Analysisanalyzed the effect of a combination of warm compresses and effleurage massage on the intensity of labor pain during the first stage of active phase in maternal patients at RSUD dr. Abdul Rivai, Berau Regency,based onThe parametric bivariate analysis used is the paired sample test, can be seen in the table below:

Table 3. The effect of the combination of warm compresses and effleurage massage on the intensity of labor pain in the active phase of first stage in maternal patients at RSUD dr. Abdul Rivai, Berau Regency

Variable	N	t	p value
Pretest - Posttest	38	15,740	0,000

Source: Primary Data, 2024

3.3 Discussion

a. The intensity of labor pain during the first active phase before being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency.

Based on the research results, it is known that the intensity of labor pain in the first stage of the active phase before being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regencywith a mean value of 7.47, a median value of 7.5, a minimum value of 5 and a maximum value of 10. Based on the mean value, namely 7.47, which is a very heavy criterion. This is according to theory the perception of pain scale on a visual analog scale is 0 = no pain, 1-2 = mild pain, 3-4 = moderate pain, 5-6 = severe pain, 7-8 = very severe pain and 9-10 = bad pain until it becomes unbearable (Yudiyanta, Khoirunnisa, & Novitasari, 2020).

The results of this study are in accordance with research (Pasaribu et al., 2022) shows thatBefore the intervention was carried out, warm compresses and effleurage massage were given based on the intensity of pain experienced by the respondents, namely that most of the 15 respondents experienced severe pain. The results of this previous study are in accordance with this study, where the majority of respondents experienced very severe or very painful pain. Likewise, research by Irawati et al (2019) shows thatlabor pain score in the 1st stage of the active phase withThe mean value before the warm compress was applied was 7.6which includes very severe pain (Irawati et al., 2019). The results of this previous study are in accordance with this study, where the majority of respondents experienced very severe pain

Childbirth is the process of opening and thinning the cervix so that the fetus can descend into the birth canal. Normal labor and birth is the process of expelling the fetus that occurs at term pregnancy (37-42 weeks) with uterine contractions in the mother. The scientific procedure for the birth of the baby and placenta from the uterus is through a process that begins with uterine contractions which cause cervical dilatation or widening of the cervix accompanied by labor pain (Eprila et al., 2022).

Researchers assume thatintensity of labor pain in the first stage of active phase before being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regencywith a mean value of 7.47 which includes very heavy criteria. This is according to theoryThe perception of pain scale on a visual analog scale is 0 = no pain, 1-2 = mild pain, 3-4 = moderate pain, 5-6 = severe pain, 7-8 = very severe pain and 9-10 = bad pain until it becomes unbearable (Yudiyanta, Khoirunnisa, & Novitasari, 2020). This is becausescientific procedure for the birth of the baby and placenta from the uterus through a process that begins with uterine contractions which cause cervical dilatation or widening of the cervix, where a lack of knowledge in pain management makes

respondents unable to control pain, resulting in respondents being anxious, restless and panicked during the process labor.

b. The intensity of labor pain during the first active phase after being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency.

Based on the research results, it is known that the intensity of labor pain in the first active phase after being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regencywith a mean value of 6.26, a median value of 6, a minimum value of 3 and a maximum value of 9.

The results of this study are in accordance with research (Pasaribu et al., 2022) shows thatAfter the intervention of warm compress therapy and effleurage massage, 14 respondents experienced slight pain. The results of this previous study were different from this study in that the majority of respondents experienced severe pain after the intervention. This is because the combination of warm compresses and effleurage massage in women giving birth was given only one treatment, whereas in previous research up to three treatments were given.

Likewise, Soeparno's (2020) research shows thatAfter giving a warm compress for 15-20 minutes, the average pain intensity of women in labor becomes mild-moderate (Soeparno et al., 2020). The results of this previous study were different from this study in that the majority of respondents experienced severe pain after the intervention. This is because the combination of warm compresses and effleurage massage in women giving birth was given only one treatment, whereas in previous research up to three treatments were given.

In addition, the only slight reduction in pain in this study could be due to the emotions felt by the respondents.Research conducted by (Chaterine, 2020) states that there is a relationship between fear of childbirth during pregnancy and the experience of pain during the active phase of labor. In theory, the labor phase will further increase the mother's anxiety and the mother's anxious condition in facing labor will indirectly increase the intensity of labor pain. The phenomenon of anxiety and labor pain is a relationship that is positively correlated and forms a spiral-like pattern. The condition of the mother who has experienced anxiety since pregnancy, if it is not handled, this will worsen the pain condition experienced by the mother.

Fitria Research Research (2022) shows thatThe respondent's active phase labor pain scale in the 1st stage after effleurage massage was 7.13, classified as very severe pain (Fitria & Herawati, 2022). The results of this previous study are different from this research, in that this research is better than previous research because in this study after the intervention the pain decreased to severe pain which was initially very severe pain, whereas in previous research after the intervention the pain was still very severe. This is because a combination of warm compresses and effleurage massage is given to maternal patients, whereas in previous studies it only provided*massage effleurage*.

Researchers assume that there is a declineThe intensity of labor pain in the first stage of the active phase after being given a combination of warm compresses and effleurage massage to women giving birth at RSUD Dr. Abdul Rivai, Berau Regency. This is because giving a warm compress will send a signal to the hypothalamus via the spinal cord. When heat-sensitive receptors in the hypothalamus are stimulated, the effector system releases signals that initiate sweating and peripheral vasodilation. Changes in the size of blood vessels will facilitate circulation, preventing oxygenation and muscle spasms, providing a feeling of warmth, making the body's muscles more relaxed, and reducing pain. Plus effleurage massage reduces tension so that the mother feels relaxed and comfortable when facing childbirth.

c. The effect of the combination of warm compresses and effleurage massage on the intensity of labor pain during the active phase of first stage in maternal patients at RSUD dr. Abdul Rivai, Berau Regency.

Based on the research results, it is known thatThe effect of the combination of warm compresses and effleurage massage on the intensity of labor pain during the active phase of first stage in maternal patients at RSUD Dr. Abdul Rivai, Berau Regencyobtained t count of 15.740 with a p value of 0.000 < 0.05 so that Ha is accepted, namely aThere is an effect of the combination of warm compresses and effleurage massage on the intensity of labor pain during the active phase of first stage in maternal patients at RSUD Dr. Abdul Rivai, Berau Regency.

The results of this research are in accordance with research by (Pasaribu et al., 2022) which shows that before the intervention was carried out, warm compresses and effleurage massage were carried out based on the intensity of pain experienced by the respondents, namely that the majority of 15 respondents experienced a lot of pain and after the therapy intervention was carried out, 14 respondents experienced a little pain. After analyzing using the Wilcoxon test, the Zcount was -5.069 and Ztabel was 1.69 with a significance level of 5% so that Zcount ≤ Ztabel and the sig value was obtained. p value 0.000 with a significance level of 5% and it can be concluded that sig. p value ≤ 0.05 means that there is an effect of giving warm compresses and effleurage massage on reducing labor pain during the first active phase. The results of previous research are in accordance with this research because they have a p value of 0.000, but the score decreases more in previous research than in this study because in previous research the intervention was carried out 3 times, whereasThis research is only done once.

Fitria's research (2022) shows thatThe pain scale of respondents in the group before being given effleurage massage was 9.47 with a standard deviation of 0.51. And after the effleurage massage was 7.13 with a standard deviation of 0.74 (Fitria & Herawati, 2022). The next data results showed statistically significant results of p 0.000; a=0.05. Conclusion: Effleurage massage has an effect on reducing labor pain in mothers giving birth at PMB Midwife Lilis, Tangerang City.The results of previous studies are in accordance with this study because they have a p value of 0.000, but the score decreases more in this study than in this study because the previous study carried out an intervention.*massage effleurage*only, while this study was a combination of warm compresses and effleurage massage.

The reduction in pain can also be due to the presence of accompanying family.Having support in the form of encouragement and care during labor can help meet the mother's needs and help control pain during labor (Trisetyaningsih and Lutfiyati, 2020). In theory, the presence of people who are considered important during labor will reduce feelings of loneliness and fear so that the mother feels more comfortable. Apart from that, if during the pregnancy process the mother has had high support from the family, then this will make the mother comfortable and can reduce feelings of fear and anxiety when facing childbirth because the mother can always ask for help from those closest to her.

According to (Crystallography, 2019), the first stage of labor begins from uterine contractions and opening of the cervix until it reaches complete dilation (10 cm). The active phase (cervix dilatation 4-10 cm), lasts 6 hours. As forLabor pain occurs when the smooth muscles of the uterus contract in an effort to open the birth canal and push the baby's head towards the pelvis (Yuandira, et al, 2021). Another opinion put forward by Perry & Bopak, labor pain is an early sign of uterine contractions, these contractions cause pain in the waist area, stomach spreading towards the thighs. Contractions also cause the cervix to open, with the birth canal opening, labor can occur (Andarmoyo, 2013).

Researchers assume that there isThe effect of the combination of warm compresses and effleurage massage on the intensity of labor pain during the active phase of first stage in maternal patients at RSUD Dr. Abdul Rivai, Berau Regency. This is because the combination of warm compresses and effleurage massage during the birth process can maintain the components of the vascular system in a state of vasodilation so that blood circulation to the pelvic muscles becomes homeostatic and can reduce anxiety and fear and adapt to pain during the birth process.

4. Conclusion

The results of the research and discussion regarding the effect of a combination of warm compresses and effleurage massage on the intensity of labor pain during the first stage of the active phase in maternal patients at RSUD dr. Abdul Rivai, Berau Regency, concluded that: the intensity of labor pain in the active phase of the first stage before being given a combination of warm compresses and effleurage massage to women giving birth at RSUD dr. Abdul Rivai, Berau Regency, namely very intense, the intensity of labor pain during the first active phase after being given a combination of warm compresses and effleurage massage to maternal patients at RSUD dr. Abdul Rivai, Berau Regency, namely intense, most recently, the combination of warm compresses and effleurage massage had an effect in reducing the intensity of labor pain during the first active phase in maternal patients at RSUD dr. Abdul Rivai, Berau Regency.

This research uses heterogeneous ages of < 20 years, 20-35 years and > 35 years, does not examine factors related to pain such as cultural factors of childbirth in Berau Regency, a small sample of 38 so that it cannot be generalized, the criteria for respondents on a pain scale ≥ 4 cause there are respondents with moderate pain, severe pain and severe pain so that it is not homogeneous and his was only measured before the intervention, but after the intervention did not measure his so that it was not known the respondent's his after the intervention. for further research, it can use a larger sample, consider measuring his before and after the intervention, expand the age criteria and consider cultural factors.

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