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The Effect of Warm Water Compress and Back Massage On Labor Pain at Active Phase At Kartini Hospital In 2020

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ABSTRACT
Severe pain condition during the first stage of labor allows mothers to choose the easiest and fastest way to relieve pain. The increasing number of women who want to give birth with a labor process that takes place without pain, causing various ways to reduce pain in labor, both with pharmacological and non-pharmacological techniques. Pharmacological pain management is more effective than non-pharmacological methods, but pharmacological methods are more expensive, and potentially have unfavorable effects. Meanwhile, non-pharmacological methods are cheap, simple, effective, and does not have any adverse effects. This research was done to examine the effect of warm compress and back massage on labor pain of active phase in Kartini Hospital in 2020. This research was carried out through a quasi-experimental study involing two groups, in which pre-test and post-test design were used. There were 30 respondents obtained through a total sampling technique. Results revealed that the mean value of labor pain during the first stage of active phase before warm water compresses was given was 8.40 with a standard deviation of 0.632 and after giving warm water compress, the mean value of labor pain was 4.40 with a standard deviation of 2.131. Whereas, in the back massage, the mean labor pain scale before back massage was given was 8.33 with a standard deviation of 0.979 and after giving back massage the average labor pain became 3.73 with a standard deviation of 1.981. It can be summed up that there was an effect of giving warm water compress and back massage on labor pain during the active phase, but neither method was superior in reducing labor pain seen from p value 0.382> 0.05. It is expected that midwives can better educate and apply non-pharmacological methods in reducing labor pain.

Keywords: Warm Water Compress, Back Massage, Labor Pain of Active Phase 1

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BACKGROUND

Labor is the process of releasing conception product (fetus or Uri) which has reached sufficient age (37 - 42 weeks) to live outside the womb or through the birth canal, with the assistance or without assistance of head back presentation that lasts within 18 hours, without complications either on mother or fetus (Nurhayati Eka, 2019). Data issued by 2018 showed that more than 140 million women give birth every year. Birth is actually not a dangerous event but becomes a time full of pain, fear, suffering, and even cause death. This has led to a large number of requests for sectio caesaria (SC) (Trirestuti, 2018)

The international healthcare community has considered the ideal rate for cesarean section of 10-15%. Since then, caesarean section has become increasingly common in both developed and developing countries. WHO published their statement in 2015 that as the cesarean section rate rises to 10% across the population, the number of maternal and newborn deaths decreases. When this rate is above 10%, there is no evidence that the mortality rate improves. Among the community, the effect of cesarean section rate on maternal and newborn outcomes such as stillbirth or morbidity including birth asphyxia remains unknown. Therefore, WHO recommends that a caesarean section should only be performed if it is medically necessary. Therefore, as midwives, we must make efforts to reduce labor pain so that the incidence of SC without indication can be reduced.

Several previous research projects revealed that in primitive societies, labor lasts longer and causes more pain, whereas in advanced societies, 7-14% of labor is painless, while the majority (90%) of labor is still painful. The high perception of pain felt by mothers in labor causes them to not focus on the birth of their babies, instead they focused more on the labor pain they felt (Handayani et al, 2016)

The severe pain condition during the first stage of labor allows mothers to have the tendency to choose the easiest and fastest way to relieve pain. There is more women who want to give birth through a painless labor process, causing various ways to reduce the labor pain, both with pharmacological and non-pharmacological techniques. Pharmacological pain management is more effective than non-pharmacological methods, but pharmacological methods are more expensive, and potentially have adverse effects. Meanwhile, non-pharmacological methods are cheap, simple, effective, and without any adverse effects. Non-pharmacological methods can also increase satisfaction during labor because the patient can control her feelings and strength. Relaxation, breathing techniques, movement and position changes, massage, hydrotherapy, hot/cold therapy, auditory (murottal), guidedimagery, acupressure, and aromatherapy are some non-pharmacological techniques that can increase patient comfort during labor and have an effective effect on the experience of labor (Handerson in Handayani et al, 2016).

Labor is commonly felt intense and only 2-4% experienced mild pain during labor. Labor pain scored 30-40 of total 50 scores set (Wall and Mellzack). This score is higher than clinical pain syndromes such as chronic back pain, cancer pain, leg pain and others (Fraser, et al, 2009). Prolonged labor pain causes hyperventilation so that the respiratory rate can reach 60-70 times per minute, reducing maternal PaCO2 levels and increasing their pH. If the maternal PaCO2 level is low, the fetal PaCO2 level is also low, causing a deceleration of the fetal heart rate (Fraser et al., 2009).

Based on the results of research conducted by previous researchers at Puri Astuti Maternity Hospital, Bekasi in 2017, the results of the t-test showed that there was a significant effect, which is a reduction between before being given a warm compress and after being given a warm compress with a t-paired calculation obtained P-value of 0.00 ($p \leq$

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0.05). Therefore it can be summed up that there is an effect on the application of warm compress on labor pain during the active phase of labor.

Researchers have conducted preliminary survey on May 30, 2020 at Kartini Hospital by interviewing inpartum mothers, obtaining that most of the inpartum mothers had never known that massage and warm water compress can reduce labor pain. Based on their experience, they felt pain during contractions and the actions that the mother took to deal with the pain were by regulating their breathing.

METHODS

This research was an experimental study using a pretest-posttest two group design involving all populations that met the inclusion and exclusion criteria. The research was conducted at Kartini Hospital Jakarta involving 30 maternal mothers consisting of 15 mothers in control group and 15 mothers in intervention group. These samples were selected through total sampling. The research instrument consisted of an analog scale observation sheet and a numerical scale. the data obtained were then analyzed using Paired test and Independent Sample T Test. The independent variables in this study were warm water compress and back massage, while the dependent variablewas the active phase of labor pain. The data obtained from the research results were processed and analyzed. Univariate analysis was carried out to obtain an overview of the frequency distribution or the proportion based on the variables studied. It was then presented in table or graph form to find out the proportion of each variable. Bivariate analysis was performed to examine the effect of the independent variable on the dependent variable. This test was used to determine the effect of warm water compress and back massage on active phase I labor pain. The analysis technique used was the Independent Sample T Test.

RESULT

Univariate Analysis

Table 4.1 Average of labor pain scale at active phase before and after warm water compress

Control Group	N	Mean	St Error	St. Devisiation	Min	Max
Pretest	15	8.13	0.307	1.187	5	9
Posttest	15	4.40	0.550	2.131	1	8

Table 4.1 shows that among 15 respondents, the average scale of labor pain before warm water compress was given was 8.13 with St. Deviation of 1.187 with the highest pain scale was 9 and the lowest was 5. After giving warm water compress, the average result of labor pain scale were 4.40 with St. Deviation 2.131 with the highest pain scale was 8 and the lowest was 1.

Table 4.2
Average of labor pain scale at active phase before and after back massage

Intervention Group	N	Mean	St Error	St. Deviation	Min	Max
Pretest	15	8.33	0.307	0.976	6	10
Posttest	15	3.73	0.550	1.981	1	7

Table 4.2 above indicates that among 15 respondents involved, the average scale of labor pain before back massage was given was 8.33 with St. Deviation was 0.976 with the

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highest pain scale of 10 and the lowest was 6. After back massage was given, the average result of the labor pain scale was 3.73 with St. Deviation of 1.981 with the highest pain scale was 7 and the lowest was 1.

Bivariate Analysis

Post-Test Differences in the Average of Labor Pain between Control Group and Intervention Group

Intervention Group	Mean	N	St.Devitiation	St Error	P *value*
Post-test of Control	4.40	15	2.131	0.550	0.382
Post-test of Intervention	3.73	15	1.981	0.511	

Table above presents results obtained from the total 15 respondents and control group post-test, the labor pain mean score was 4.40 with a standard deviation of 2.131, while for the post-test intervention group obtained the mean score of labor pain of 3.73 with a standard deviation of 1.981. The independent sample test results obtained p value of 0.382> 0.05, which means that Ho is accepted and Ha is rejected, so that there is no effect on the pain scale in the control group and the intervention group, which means that there was no significant effect between giving warm water compress and back massage on labor pain during active phase.

DISCUSSION

Univariate Analysis

Labor Pain at Active Phase Before and After Giving Warm Water Compress in Control Group

The univariate analysis obtained results that the average scale of labor pain during active phase before the warm water compress was 8.13 with a minimum value of 5, a maximum value of 9 and a standard deviation of 1.187. As many as 13 respondents (86.6%) from the control group felt labor pain at the range of severe pain - uncontrolled before applying warm water compress. It can be seen in the results of this study, that there was a decrease in the pain scale score after applying a warm water compress.

This is supported by the results of the previous research conducted by Ina Intriana (2016) regarding the provision of warm compress to mothers who gave birth during active phase, in which it decreased their labor pain at the Cimahi Sehat Clinic with an average value before the intervention reached 8.40% and after the intervention the average value decreased to 4.75%. The results of this study showed that there was a significant effect of giving warm water compress on the reduction of pain in the active phase of labor with a p value = 0.000, p value <0.05 and stated that the group that was given warm water compress was more comfortable than those who did not compress water warm.

According to the researchers' assumption, warm compress cause the mothers who experience labor pains during the active phase feel relax and comfortable so that the pain is reduced.

Labor Pain Scale during the Active Phase Before and After Giving Back Massage

The average intensity of the labor pain scale in the intervention group before getting back massage was 8.33 with a minimum value of 6, a maximum value of 10, and a standard deviation of 0.979. The highest frequency of labor pain scale before getting back massage was severe pain - uncontrolled by 14 respondents (93.3%). Meanwhile, after getting the back massage was 3.73, with the minimum value was 1, the maximum value was 7, and the

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standard deviation was 1.981. The highest frequency of labor pain scale after getting back massage was mild to moderate pain by13 respondents (86.6%). Based on the results of this study, it was seen that there was a decrease in the level of pain experienced by the respondents.

This is in line with the previous research conducted by Dinni Randayani Lubis (2020) entitled "The Effectiveness of Back Massage in reducing the labor pain during the active phase in primigravidas and multigravidas." in which the back massage decreased the labor pain by 0.25%, in which the p-value was 0.046, while in multigravida mothers, the back massage can reduce the intensity of labor pain by 0.35% with a p value of 0.001.

Researchers assumed that back massage is one way to reduce labor pain during the active phase without any cost. This can be seen from the results of the research that has been done that there was a reduction in labor pain during the active phase before and after back massage which makes respondents feel more comfortable and less painful.

Bivariate Analysis

The statistical tests was conducted through independent t-test obtaining that the sig. (2-tailed) was 0.382. The mean score in the control group was 4.40, while the mean score in the intervention group was 3.73. Thus, it can be concluded that there was no difference in the pain scale with the application of warm water compress and back massage because there is no significant difference as evidenced by sig. (2-tailed) 0.382 > 0.05.

This study shows that warm water compress and back massage equally affect the labor pain scale and neither is superior between the two.

This is in line with the research conducted by Nurul Ikawati (2018) entitled "The Difference of Warm Water Compress and Massage to Reduce Labor Pain during the Active Phase at Makassar City Hospital" with the results obtained that the warm water compress group experienced a reduction of pain by 4.50 and the back massage group also experienced a reduction by 4.50 so there was no significant difference between the warm water compress group and the massage group in reducing the pain of labor during the active phase.

Current researchers assumed that based on the results of this study, between the warm water compress and the back massage in the active phase of labor, none of them is superior. Both methods can decrease labor pain during the active phase but cannot remove the whole pain. Even so, mothers giving birth can be more comfortable, relaxed, and families can learn how to decrease the labor pain without having to spend money, in addition to that these methods are easier to learn.

CONCLUSION

There was no significant effect between warm water compress and back massage on active phase labor pain with a p-value of 0.382. Both warm water compress and back massage can reduce labor pain, but neither of them is better in reducing pain during the active phase of labor.

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