



Comparison of Counter-pressure Effectiveness with Pelvic Rocking and Counter-pressure Against the Decrease of Intensity of Labour Pain Phase I

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Painful labor overload can cause birth becomes long, and it needed a way to overcome the perceived labor pain Capital to prevent prolonged labor. IDHS showed MMR in Indonesia in 2012 that is equal to 359 per 100,000 live births. World Health Organization (WHO) predicts that the global cause of maternal mortality by 8% due to prolonged labor. Prolonged labor can be caused by anxiety, fatigue, and anxiety due to the pain experienced Mother during labor. Some methods can be done to reduce the pain of childbirth, the pharmacological, and non-pharmacological methods. Non-pharmacological methods that can be used to minimize labor pain that emphasis is stable in the lumbar region (counter-pressure) and pelvic wiggle movement to the front side, rear, left and right sides (Pelvic rocking). Therefore, the goal of this research to compare the effectiveness of counter-pressure with Pelvic Rocking and counter-pressure against standard labor pain relief in the active phase of the first stage. The study design approach pre-test and post-test design group. Sample making use of nonprobability sampling technique with the accidental sampling method. The size of the counter-pressure sample was 30 respondents grouped in odd sequences and counter-pressure with Pelvic rocking as many as 30 respondents grouped in even order. Data analysis using T-Test test analysis. The study showed counter-pressure with Pelvic Rocking more effective than counter-pressure in decreasing labor pain intensity normally active phase of the initial stage. Health workers, especially midwives, provide more comprehensive care and enhance the quality of health services. One of which offers to counsel and vigorously promote pelvic rocking on how to reduce the



pain of a normal birth of the initial stage of the active phase using non-pharmacological. It will be even better when initiated into the early trimester to three because it helps keep the muscles that support the spine.

Key words: *Pelvic Rocking, Counter-pressure, Phase I Stage of Labor Pain Active.*

Introduction

Delivery of a physiological the process occurred at the end of pregnancy; usually, Mom feels pain during childbirth takes place. Labor pain is a physiological provision, is regular among practically all birth mothers. The pain is a manifestation of the uterine muscle contraction. Contraction is the thing that causes torment in the midsection, stomach territory, spreading towards the thigh. These contractions provoke the cervix opening (Khoirunnisa' et al., 2017), Labor pain overload can cause birth becomes old, it needed a way to overcome labor pain, as stated by Indrayani & Djami (2016) introduced in standard delivery through methods of suppression and leisure (e.g., music, meditation, caress, and steaming showers) in overcoming labor pain (Sumawati & Mastiningsih, 2019),

IDHS shows the maternal mortality rate in Indonesia in 2012, which is equal to 359 per 100,000 live births. Data SUPAS 2015 decline in MMR to 305 per 100,000 live births. One source of maternal mortality is prolonged labor (Prawirohardjo, 2012). WHO estimates the global maternal mortality by 8% due to prolonged labor (World Health Organization, 2015). Indonesia as much as 1.8% in 2013, in the province of Lampung as much as 0.63% (1 out of 158 cases of maternal mortality) (Dinas Kesehatan Lampung, 2014).

Anxiety, fatigue, anxiety mother can cause prolonged labor due to the pain felt during labor. Some methods can be done to reduce the pain of childbirth, the pharmacological, and non-pharmacological techniques (Indrayani; Djami, 2016). Non-pharmacological ways of using touch and massage can relieve pain during labor (Baston; Hall, 2011). Besides, non-pharmacological methods to reduce labor pain that emphasis is stable in the lumbar region (counter-pressure) and movement by shaking pelvis to the front, rear, left and right sides (Pelvic rocking) (Pambudi & Supriyanti, 2017). In research Leila Bikum (2015), the sense of caress on the level of pain in the first phase of labor during active labor at PMB Ellok Ekaria Safitri Gedongkiwo Yogyakarta mention that there is a decreased pain in the experimental group was given a massage counter-pressure with pre-test value of severe pain as much as 93.3% with average pain of 7.6, and a post-

test experience medium pain as much as 73.3% with an average pain of 6.3. So get a difference between the average value before and after the counter-pressure of 1.3.

Methods

The study design approach pre-test and post-test design group. This draft was no comparison group (control), but at least it made the first observation (pre-test), making it possible to test the changes - changes that occurred after the treatment. The study design was formed two groups of counter-pressure with Pelvic rocking and counter-pressure . Then conducted a pre-test on each group to assess pain before treatment and continued giving therapy according to each group. After that, do post-test in both groups to see the difference in intensity pain before and after treatment and to compare which one is more effective in decreasing labor pain, the test analysis was conducted by T-test (Pratiknya 2010; Notoatmodjo, 2012; Sugiyono, 2016; Aziz, 2009).

Results

In light of the outcome of data processing, the following test results analysis univariate and bivariate T-test:

1) Univariate analysis

a) Before Childbirth Pain intensity in giving intervention

After observation of the 60 respondents were divided into two groups, each group of 30 respondents. The result in the group counter-pressure by counter-pressure Pelvic rocking or showed each group Mother's birthing experience labor pain to moderate pain intensity by 70% (21 people) and severe pain by 30% (9). It is shown in Table 1.

Table 1. Frequency Distribution of Labor Pain Scale Medium and Heavy before Intervention In counter-pressure group with Pelvic rocking and counter-pressure

No.	Pain intensity	Intervention			
		<i>counter-pressure with Pelvic rocking</i>		<i>counter-pressure</i>	
		N	%	N	%
1.	Moderate Pain (4-6)	21	70%	21	70%
2.	Pain Weight (7-9)	9	30%	9	30%
Amount		30	100%	30	100%

b) Differences in average intensity of labor pain before and after given counterpressure with Pelvic rocking

Overall, 30 respondents before the intervention (counter-pressure with Pelvic rocking) average pain intensity of 5.60 (moderate pain) with a standard deviation of 1,101 after the intervention of labor pain intensity of 4.10 (medium pain) with a standard deviation of 1.213. Visible differences between the mean values before and after intervention with Pelvic rocking, counter-pressure is 1.5 with a standard deviation of 0.21. Statistical test result p-value of 0.000 implies there is a significant difference decreased levels of normal labor pain of the active phase of the initial stage before and after counter-pressure with Pelvic rocking. It is shown in Table 2.

Table 2. Distribution of Average Pain Intensity Scale Medium and Heavy Before and After Intervention counter-pressure with Pelvic rocking

No.	<i>counter-pressure with Pelvic rocking</i>	<i>mean</i>	<i>Std. deviation</i>	<i>Std. Error</i>	<i>P value</i>
1	Before	5.60	1,101	.201	0,000
2	After	4.10	1,213	.222	

c) Difference The average intensity of labor pain before and after given counter-pressure

Overall observations results on 30 respondents before the intervention counter-pressure average pain intensity of 5.6 (moderate pain) with a standard deviation of 1.124 after the intervention of labor pain intensity counter-pressure 5.30 (medium pain) with a standard deviation of 1.466. Visible differences between the mean values before and after the intervention counter-pressure is 0.37 with a standard deviation of 0.63. Statistical test results obtained a value of 0.025, which means there is a significant difference in decreased levels of normal labor pain of the active phase of the initial phase before and after counter-pressure. It is shown in Table 3.

Table 3. Distribution of Average Pain Intensity Scale Medium and Heavy Before and After Intervention counter-pressure on Mother Maternity

No.	<i>counter-pressure</i>	<i>mean</i>	<i>Std. deviation</i>	<i>Std. Error</i>	<i>P-value</i>	N
1	Before	5.67	1,124	.205	0,025	30
2	After	5.30	1,466	.268		

2) Bivariate analysis

In the group of Pelvic rocking counter-pressure with an average reduction in pain intensity difference is 1.50, and counter-pressure group average reduction in pain intensity difference is 0.37. There is an average difference of 1,133 decreases in pain between the two groups. The results of T-test statistical test procured p-value of 0.000 means counter-pressure with Pelvic rocking more effectively against the reduction in pain intensity normal delivery of the initial stage of the active phase as compared with counter-pressure. It is shown in Table 4.

Table 4. Comparative Effectiveness counter-pressure with Pelvic rocking and counter-pressure against Labor Pain Intensity Decrease Maternal Maternity

variables	N	mean rank	P-value
<i>Counter-pressure with Pelvic rocking</i>	30	1.50	0,000
<i>counter-pressure</i>	30	0.37	

Discussion

1) The proportion of Pain Intensity On Mother Maternity Maternity Normal

Based on the analysis of labor pain on the mother maternity regular in the study of 30 respondents before counter-pressure and 30 respondents before counter-pressure with Pelvic rocking obtained from the data is each - each observation on the Mother giving birth experience labor pain with pain intensity was 70% (21 people) and severe pain by 30% (9 people).

The same percentage was found even though it was differentiated when taking samples, which was an odd number for counter-pressure and counter-pressure treatment with Pelvic rocking. It is possible because the respondents by the criteria that the research sample of respondents with moderate and severe levels of pain, but it is usually my Mother came to the clinic already on the active phase of labor so that the perceived level of anxiety is relatively the same respondents (Reeder et al., 2012).

Pain labor, according to Potter and Perry (2005), is a physiological condition. Labor pain is an obnoxious feeling that occurs during childbirth. In the physiology of labor, pain starts during the initial stage of labor is the latent phase and active phase, the active phase of dilatation ranging from 3-10 cm. In the early stage of labor can primigravidas last \pm 20 hours, in multigravida lasts \pm 14 hours. Pain caused by uterine contractions and cervical dilation. The more drawn out the pain that will be felt more grounded, top agony happens in the active phase, until the complete opening.



The intensity of pain during labor influences the psychological condition of the mother, the delivery process, and fetal well-being (Judha et al., 2012).

According to Manuaba et al. (2010), Along with the advanced delivery, distance, and duration of uterine contractions also increases. Also, the cervix dilated, and the pelvic floor and vaginal stretched along with the decline in the fetal presenting part of the birth canal. This process produces a variety of painful stimuli that are transmitted by nerve thoracic, lumbar, and sacral. In addition to the balance of hormones such as adrenaline, oxytocin, and beta-endorphins will also have an impact on pain experienced by a Mother (Baston, 2011). Therefore it is usually Pregnant women new to the aid delivery when it believes labor will begin.

2) Differences in average intensity of labor pain before and after given counter-pressure with Pelvic rocking

Based on data from the overall results observed on 30 respondents before intervention with Pelvic rocking counter-pressure average pain intensity of 5.60 (moderate pain) with a standard deviation of 1.101, after intervention 4.10 counter-pressure labor pain intensity (medium pain) with a standard deviation 1,213. Seen the average value of the difference between before and after intervention with Pelvic rocking counter-pressure is 1.5 with a standard deviation of 0.21. The results of statistical test procured a value of 0.000, which implies p-value <0.05, then H_a accepted and H_0 rejected, which implies there is a significant difference in decreased levels of normal labor pain of the active phase of the initial stage before and after counter-pressure with Pelvic rocking. It is shown in Table 2.

A decrease in levels of pain after Pelvic rocking also found in the study Sahtria (2015), about the decline in labor pain, is the initial stage of the active phase before and after pelvic rocking with a birthing ball on Mother's maternity in RB Rahayu Ungaran. That of 15 respondents before pelvic rocking with the birthing ball had an average scale of labor pain is 5.07 with the scale value is at least three and a maximum of 7 and after given pelvic rocking with birthing ball an average scale of labor pain was 2.60 with an amount of minimum level is one and maximum 4, to obtain the difference in value average before and after counter-pressure with Pelvic rocking is 2.47.

The outcome of this study demonstrates the implementation of the rocking Pelvic pain intensity was able to reduce the intensity of pain because of the actions Pelvic rocking able to expedite the delivery process. Especially in the first stage, this is an exercise for Pelvic Rocking the pelvis moving direction of rotation during contractions. Swinging and shaking the pelvis towards the front and back, left and right side wrap-around feel more relaxed to reduce the intensity of the pain (Zakiyah, 2015).



Pelvic rocking can help her in an upright position, remain upright when in the delivery process, will allow the uterus to work as efficiently as possible to make the field wider pelvis and open. In other words, it can stimulate dilation and widens the pelvic outlet. Sitting straight on the ball, then the Earth's gravity will help the fetus or the lowest part of the fetus's right down to the pelvis (Aprilia, 2011).

Furthermore, if the pain too much can be assisted with counter-pressure, because pain is the one that, when done block by counter-pressure to reduce the intensity of pain. It happens due to the time of delivery of the first stage, dilation of the cervix and extend of the lower uterine segment (SBR), this is a stimulus mechanic for pain receptors. Still, it is a chemically happening stimulus with increased prostaglandin hormone and endorphins anyway. Therefore, to apply pressure counter-pressure can ease the tension on the ligaments sacroiliac and assist women in reducing labor pain during first stage labor (Angraeni et al., 2013).

According to the assumptions of researchers, the reduction of pain when the delivery not only influenced by touch and massage. The usual family to reduce the perception of pain in Mothers who give birth but should Mothers and families are taught how to reduce the intensity of pain with counter-pressure and Pelvic rocking. It because with wiggle pelvis when pelvic rocking and counter-pressure can be recommended as one of the significant modalities to enhance labor progress, manage pain, improve the convenience of delivery and achieve a more satisfying birth experience.

3) Differences in average intensity of labor pain before and after given counter-pressure

Data from the overall observed on 30 respondents before the intervention counter-pressure average pain intensity of 5.67 (moderate pain) with a standard deviation of 1.124. After a counter-pressure intervention, the power of labor pain is 5.30 (medium pain), with a standard deviation of 1.466. Seen the mean value of the difference between before and after intervention counter-pressure is 0.37, with a standard deviation of 0.63. Statistical test results obtained a value of 0.025, which means p -value < 0.05 , then H_a accepted and H_0 rejected, which implies there is a significant difference decreased levels of normal labor pain of the active phase of the first stage before and after counter-pressure. Data distribution of average pain intensity with moderate and severe scale before and after the intervention Mother counter-pressure on maternity shown in Table 3.

A decrease in levels of pain after doing counter-pressure also found in research Leila Bikum (2015) on the effect of massage counter-pressure on the level of pain Mother birth of the initial stage of the active phase in PMB Ellok Ekaria Safitri Gedongkiwo Yogyakarta mention that there is a decreased pain in the experimental group were given a massage counter-pressure with the pre-



test severe pain as much as 93.3% with an average of 7.6 pain and post-test experience moderate pain as much as 73.3% with an average pain of 6.3, to obtain the difference between the average value before and after counter-pressure of 1.3.

A decrease in pain after counter-pressure for counter-pressure (Pressure Massage) by Penny Simkin (2005), can relieve strain on the sacroiliac ligaments and assist women in reducing labor pain during first stage labor (Lailiyana et al., 2011). Counter-pressure techniques performed in the lumbar region where the sensory nerves of the uterus and the cervix of the uterus walk along the sympathetic nerves entering the spinal cord through the thoracic nerve impulses 10-11-12 until lumbar 1. This pain can be blocked by giving pressure, and stimulation to the nerves in diameter major causes the control gate will be closed, and no pain stimuli can be passed on to the cerebral cortex (Pasongli et al., 2014).

Above cause, labor pain is transmitted by afferent sensory neurons, or visceral, visceral pain due to injure or irritation of the viscera. Visceral neurons pass to the sympathetic and parasympathetic autonomic fibers. Pain fibers of the skin and viscera run close together in the spinothalamic tract; thus, the pain from internal organs, e.g. the uterus, can be felt as though it came from the area of skin supplied by the same part of the spinal cord. The pain of the uterus may be felt in the back or labia; if this happens, pain is called referred pain (Mander, 2015).

According to Fraser (2009), during the initial stage of labor occurs cervical dilation and stretching of the lower uterine segment (SBR), which is the stimulus mechanic for pain receptors. Still, it chemically happens stimulus with increased prostaglandin hormone and endorphins anyway. At the same time, in the second stage, the cervix is dilated maximum, but SBR remains stretched than that when the head down occurs distention of the vagina and perineum that cause pain (Indrayani, 2016). Furthermore, this pain was the reply when done block by counter-pressure to reduce the intensity of pain.

According to the assumptions of researchers average intensity of labor pain before and after counter-pressure shows that the scale of pain intensity moderate and severe pain to the range of the intensity of light, medium pain and severe pain that is expected to reduce the bad perception of mother maternity against labor pain and to make her feel more comfortable. The challenge for researchers is to provide adequate and appropriate care for mother maternity, as well as the accompanying Mother and provide comfort during labor by involving the family, especially doing for counter-pressure action because the adult family can do this action.

4) Comparative effectiveness and counter-pressure by counter-pressure rocking Pelvic Pain Intensity Against Decline Stage of Labor Active Phase 1

Comparison of the efficacy of pelvic rocking and counter-pressure by counter-pressure against the reduction in pain intensity active phase of the initial stage of labor can be seen in the results of counter-pressure group average reduction in pain intensity difference is 0.37, whereas in the group with Pelvic rocking counter-pressure average reduction in pain intensity difference is 1,50. There is a difference in the average pain reduction of 1,133. The results of statistical test paired-samples T-test procured a p-value of 0.000, which means counter-pressure with Pelvic rocking more effectively against the decrease in pain intensity normal delivery of the initial stage of the active phase as compared with counter-pressure.

Any significant difference in the reduction of pain of normal labor active phase of the initial stage is also found in Ririn Harini's research (2017) with the test analysis test, t-test with a significance level of $p < 0.05$ p-value = 0.002 < 0.05. It implies that there is a difference Decrease Pain Phase I Stage of Labor Active significant primigravida performed after counter-pressure techniques.

Furthermore, the group Pelvic rocking decline in the level of normal labor pain of the active phase of the first stage was significantly found in studies Sahtria et al. (2015), about the initial stage of labor pain relief active phase before and after pelvic rocking with a birthing ball on maternity RB Capital Rahayu Ungaran. The results obtained by the p-value 0.000 < 0.05 means there is a decrease in the initial stage of labor pain before the active phase do pelvic rocking with a birthing ball and after pelvic rocking with a birthing ball on maternity mother.

In light of the analysis above was from these two techniques that more effectively reduce pain is a counter-pressure technique with Pelvic rocking compared to counter-pressure techniques. It is because the counter pressure reduces pain directly on the spot because of the emphasis on the area of pain. While counter-pressure with Pelvic rocking through the process of loosening the lower back muscles and relaxation, in addition to reducing the pain directly on the spot because of the emphasis on the area of pain so the technique counter-pressure with pelvic rocking more benefits especially in reducing labor pain and speed up the process of the first stage of labor (Solehati, 2015).

In light of the results of this study, a midwife is expected to choose the most appropriate for their clients so that morbidity from reduced labor and Mom have positive thoughts towards labor. It is because pain is also individualized, not fun, and never-ending, meaning the pain is an uncomfortable subjective feeling, and only those who suffer from it can explain it. Therefore, even though the painful stimulus caused by the same thing that uterine contractions but the reactions



produced by each individual is different. It is also because the pain is a complex experience-and invisible phenomenon that is affected by the synergy between the factors behavioral , affective (emotional), sensory, and cognitive psychology.

As described in Specificity theory, "suggest" states that pain is a specific sensory which arises because of the injury and this information goes through the peripheral and central nervous system through nerve pain receptors in the outer and particular pain in the spinal cord. Theory gate control explained that the substance of gelatinous (SG), which is located at the nerve endings dorsal nerve fibers of the spinal cord has a role as a gateway. The mechanism of the gate this control can modify and alter the sensation of pain that came before the pain sensation reaches the cerebral cortex and cause pain. One way to change and modify the sensation of pain is done by counter-pressure with Pelvic rocking (Stillerman, 2008).

In addition to its good when the care that midwives provided more comprehensive one of them when his client was pregnancy entering the third trimester of pregnancy early, at seven to nine months, the uterus enlarges so urgent to the pelvic region. Consequently, it stimulates pregnant women to urinate often. The size of an enlarged rose began to make pregnant women lumbago or back. Then do pelvic rocking exercises, can be used to relieve back pain when the third trimester of pregnancy, doing pelvic rocking with a birthing ball, can keep the muscles that support the spine.

Conclusion

In light of the results of this research achieved that the counter-pressure with Pelvic rocking could be used as a non-pharmacological method that is simple, safe, practical, and cost in reducing labor pain, thereby reducing the use of pharmacological methods in reducing labor pain. We recommend that midwives provide counseling and vigorously promoted on the discomfort that occurs when the birth and how to minimize labor pain by way of non-pharmacological like counter-pressure with Pelvic rocking. So that she will birth can choose engineering counter-pressure with Pelvic rocking as one of the alternatives that can be selected Mother when maternity in reducing labor pain in addition to psychologically prepare Mother since pregnancy.



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