



Effect of massage spine (slow stroke back massage) against the first stage of labor pain

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ABSTRACT

Background

Painful labor is recognized as an unpleasant emotional experience of the most painful and most severely felt as pain, acute experienced by women in the life cycle. Complex phenomena in terms of psychological, emotional, spiritual and physical. Arises because of the stimulus is delivered nerves in the cervix and lower uterine segment is derived from strong uterine contractions. Non-medical methods that can be used to reduce pain is back massage (Slow Stroke Back Massage)

Aim

Analyze the effect of back massage on labor pain Kala I.

Method

Quasi Experiment, stratified random sampling, pre-post control group design. The research subject maternal first stage, primiparous and without induction. 32 respondents were divided into two groups, intervention 16, controls 16. The hypothesis test Wilcoxon Rank and Mann Whitney U Test.

Research result

There are differences in the level of pain before and after the massage the back, VAS p value of 0.001, but no significant difference between the control and intervention group (p value 0.051)

Conclusion

Back massage is effective in reducing labor pain first stage.

Suggestion

Maternal, health workers can use a back massage method to reduce the first stage of labor pain

Keywords: Back massage, Pain pesalinan stage I.

PRELIMINARY

Labor pain is recognized as the most pain and acute pain experienced by a woman during its life cycle. Pressure on the nerve causes pain spread to the thighs and buttocks and in some cases of fetal

malposition (breech) the pain will worsen due to the diameter of the lowest portion fetus through the pelvis will grow so it can not pass through the pelvic floor. [1]

Labor pain is a complex phenomenon in terms of the psychological, emotional and physical.

Ongoing pain during labor can give harmful effects for mother and fetus. [2] Acute labor pain will fluctuate rapidly worsen a woman's mood. Primiparous have a more severe levels of pain that increased the incidence of caesaria operations (SC) of 22% when compared to the multiparous. [3]

Besides increasing the incidence of SC, also resulted in the uterine muscles are not coordinated well, thus triggering the occurrence of prolonged labor and serious side effects for the mother as infection intra partum, tearing of the uterus, injury to the pelvic floor muscles, retraction ring pathological and fetal cause the caput succedaneum and molasses fetal head. Pain also cause a loss of emotional control, causing mood disorders and cause fear.

Making Pregnancy Saver (MPS) is a program that has been announced by the health ministry in which one aspect of the implementation of the persalinan is an aspect of maternal affection, relieve pain very important thing to be considered by health personnel in attending births. [4] There are two methods of approach in dealing with pain in labor, in terms of medically (with drugs) and non-medical. In medical terms the provision of painkillers or analgesics in childbirth have side effects such as a decrease in cardiac output, bladder ditensi and extend pesalinan.

Enormous progress in research on complementary alternative medicine in recent decades pushing for some research on pregnancy and childbirth one of them is akupressur, massage, hipnoerapi, herbal diet and exercise aimed at improving the health and treatment of disease. [5]

Reduce labor pain with massage done. Massage is a traditional medicine as an alternative to overcome the pain of childbirth, safe for both mother and baby, easy, cheap and affordable. [6] The advantage of a relaxation massage techniques of childbearing age already didokumentasikan well in Persis, Egyptian and Roman civilizations.

Massage will affect stimuli on the skin surface gently, merangang muscles, tendons, ligaments and fascia systematically manually using the flushing mechanism endorphins. Gate control nerves and stimulates the sympathetic nervous system, creates a feeling of relaxation, fresh and energetic and comfortable during labor and inhibiting transmission and close the gate for the reception of pain to the brain.

Aim

To know is there any effect of giving a back massage (Slow Stroke Back Massage) to reduce labor pain Kala I.

RESEARCH METHODS

This type of research is an experimental type of Quasi Experiment with Pre Test and Post Test Non-Equivalent Control Group. Divided into 2 groups, each group of 16 respondents. The treatment group was given a back massage intervention to reduce the first stage of labor pain and the other group as a control group. Before being given a second intervention in the test group and after a given intervention in the retest. This study was conducted to analyze the decrease in the level of pain by VAS scale. [7]

DATA ANALYSIS

Data shown in the univariate analysis is the frequency distribution of the characteristics of the sample, the standard deviation, the average value, maximum value and minimum value of VAS.

Bivariate analysis was conducted to determine whether the intervention back massage after a decline in the rate of maternal pain when I. To test the hypothesis on the group in pairs either the intervention group or the control group using paired t-test if normally distributed, and using Wilcoxon if the data distribution is not normal.

RESULT

Univariate analysis

Table 1 Characteristics of Respondents

characteristics	Group						P value
	Control			Backs massage			
	N	%	Mean ± SD	N	%	Mean ± SD	
Age <20	0	0	21.31 ± 1.250	0	0	24.19 ± 2.949	0,001

21-25	16	100		11	68.75		
> 25	0	0		5	31.25		
Education							
SD	12	75.00	1.31 ± 0.602	3	18.75	2.44 ± 0.964	0,028
SMP	3	18.75		5	31.25		
High School	1	6.25		6	37.50		
D3				2	12.50		
Work							
Work	8	50.00	1.50 ± 0.516	2	12.50	1.56 ± 0.892	.128
Does not work	8	50.00		14	87.50		

Table 1.1 Showing results prekuensi distribution of age, education and occupation of respondents. The control group of 16 respondents (100%) aged between 20-25 years. Elementary education level of 12 respondents (75%), middle third of respondents (18.75%), SMA 1 respondent (6.25%). Mom worked 8 respondents (50%), do not work 8 respondents (50%) with. While the age group 20-25 years back massage as much as 11 respondents (67.75%), > 25 years 5 respondents (31.75%), elementary education 3 respondents (18.75%), SMP 5 respondents (31.75 %), SMA 6

respondents (37.50%), D3 2 respondents (12.50%), mother worked two respondents (12.50%), did not work 14 respondents (87.50%). P value 0.001 age (<0.05), p value 0,028 education (<0.05), p value 0.127 jobs (> 0.05). It can be concluded variants of data on age and education are not homogeneous or has a level difference with p value <0.05 and pekerjaan homogeneous with p value > 0.050. For homogeneity of the work p value 0.128 (p > 0.05), meaning that job has a variant homogeneous responde.

Univariate analysis

Table 2 Normality Kada Endorphins and VAS before and after intervention.

variables	Group			
	Control		Backs massage	
	pre	Post	pre	Post
VASE	0,000	0,002	0,000	0,008

Shapiro-Wilk

Table 2 shows the results of tests of normality normality test VAS value in the control group before the intervention to get the value of 0,000 and after the intervention to get the value of 0.002 means that the data is not distributed normally because the value of <0.05.

Whereas in the group back massage VAS value before the intervention and after the intervention 0,008 0,000 This means that before the intervention data distribution is not normal and after intervention data distribution is not normal with Palue p value <0.05.

Table 3. Levels by Using Scale Childbirth Pain VAS (Visual Analogue Scale)

variables	Control				massage Backs			
	pre		Post		pre		Post	
	N	%	N	%	N	%	N	%
not Pain (1-10mm)	0	0	0	0	0	0	0	0
Mild pain (> 10-30mm)	0	0	8	50.00	0	0	8	50.00
Moderate pain (> 30-70mm)	0	0	7	43.75	0	0	4	25.00
pain weight (> 70-90mm)	12	75.00	1	6.25	15	93.75	3	18.75

Pain Very Heavy (> 90-100mm)	4	25.00	0	0	1	6.25	1	6.25
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Table 3 shows prekuensi level of pain control group before the intervention there were 12 (75%) of respondents experiencing severe pain, 4 (25%) of respondents experiencing pain is severe and after controls include 8 (50%) of respondents experienced mild pain, 7 (43.75 %) experienced moderate pain, 1 (6.25%) severe pain. Back

massage group before intervention 15 (93.5%) of respondents experiencing severe pain, 1 (6.25%) respondents had very severe pain and after intervention 8 (50.00%) of respondents experienced mild, 4 (25%) experiencing moderate pain, 3 (18.75%) of respondents experienced severe pain and 1 (6.25%) respondents had very painful.

Table 4 Differences in Pain Level Respondents Before and After Intervention Guide On Control Group and Massage Squad

variables	Value	Control			massage Backs		
		pre	Post	<i>P value</i>	pre	Post	<i>P value</i>
VAS	N	16	16	0,001	16	16	
	mean	92	40		88.75	51.875	0,001
	SD	4.472	22.803		8.062	31.030	
	Min	90	20		60	20	
	Max	100	90		100	100	

Wilcoxon Rank

Table 4 shows the difference in VAS score in the control group before the intervention obtained an average 92,50mm, the lowest values of 90mm, 100mm highs after gaining on average intervention lowest value 20mm 40mm and 90mm high, the p value of 0.001 ($p < 0.05$), There is a significant difference before dans pain relief after treatment in the control group.

Whereas in the group back massage VAS value before the intervention 88,75mm average, the

lowest values of 90mm, 100mm highs after gaining intervention 51,875mm the average value of the lowest and highest 20mm to 100mm, p value of 0.001 ($p < 0.05$). From the final results using a statistical test checks levels of endorphins and assessment can be summed VAS scale back massage effective interventions to reduce maternal pain when I.

Table 5. The first stage of labor pains difference between the control group and a back massage

variables	N	mean	SD	Min	Max	<i>P value</i>
VASE	32	-44.687	28.737	-80	10	0,113

Mann-Whitney Test

Table 5 shows the differences in the effect of a decrease in the level of pain in the control group and massage the back of the stage labor pain relief I. P 0.133 ($P \text{ value} > 0.05$), this means there is no significant difference decreased levels of maternal tenderness of the first stage in the intervention group control with a back massage.

DISCUSSION

The results of the analysis of the characteristics respondents in this study all respondents are in the reproductive age between 20-35 years. The average

age of the control group was 24 years old, the youngest 20 years old and the oldest 24 years old. On a back massage group the average age of 24 years with the youngest 20 and the oldest 29 years old. Education of respondents in the control group 12 elementary education, three junior high schools, one high school whereas in the group back massage SD 3, SMP 5, SMA 6 and D3 2 Works of respondents in the group of control mothers work 8 (peasant), do not work 8 (IRT). In the group of working mothers back massage 2 (private), do not work 14 (IRT)

Age is one factor that affects a person's level of pain, especially mothers who give birth or are in the process of childbirth. The more mature age, the higher the level of tolerance, the ability to understand and control pain.

In accordance with that expressed by Andarmoyo, that the age of women who are very young and elderly mother would complain of labor pain level is higher. Therefore, the researchers chose the reproductive age group between 20-35 years old, healthy reproductive age where age now is the safest for the mother to get pregnant and give birth in a healthy, albeit at less than 20 years of age had been able to give birth but it is feared the mother not ready psychologically and mentally.

The young age of the mother's psychological condition is still fairly unstable triggering higher levels of anxiety so that ultimately the level of pain that dirasakanpun increases. Research conducted by Adam J Umboh (2015) states that there is a correlation between the level of pain the mother's age at birth. Very young mothers have pain sensors are more sensitive than mature age (20-35) years. According to Adam, the mother who first gave birth to the intensity of uterine contractions more than *pasa dikuat* mother who has had previous deliveries.

Another factor that also influences the level of pain a person is education / knowledge. Mothers who have a good knowledge of the more Understand the what will happen in labor that will be easier to tolerate the pain is going to happen.

A mother's job will also bring influence to a person's pain threshold. Work fatigue sometimes associated with a mother's level. Mothers who are tired feel pain intensity when compared to women who get enough rest. Working mothers often have less time to rest remedy, *ssehingga* mother will experience burnout before delivery. Effect of Massage Spine (Slow Stroke Back Massage) towards labor pain when I.

Calculation of the statistical test endorphin levels and VAS scale for measuring pain in women giving birth at a back massage group (Slow Stroke Back Massage) it can be concluded that back massage interventions effective in reducing pain. Prior to do a back massage 88,79mm (respondents experiencing severe pain), after the intervention of the average values obtained 51,875mm (respondents had moderate pain), p value of 0.001.

This means that we can conclude a back massage effective in reducing labor pain when I.

Massage is an old method advocated by Hippocrates and many practiced by the Romans, but have yet to be fully evaluated. Then in the modern era (late 1700s century BC) the re-popularize Swedish massage as a method of treatment that is much in demand. Massage technique consists of five basic elements, namely kneading, twisting, vibration, percussion and pressed by delivering the oil / lotion as a lubricant to reduce friction on the skin. In theory massage able to provide a stimulus that is able to interrupt the transmission of pain from the nerves to the brain, close the gate receipts pain. Massages are also capable of inducing *pelepasan* endorphins and increase levels of serotonin, inhibits dangerous nerve signal to the brain. [8]

Giving massages in the hip area in principle is less strain on the mother so that the mother feel comfortable and relaxed in the face of labor. Massage the back stimulating certain points along the spinal cord that is transmitted through large nerve fibers to the reticular formatis, the thalamus and the limbic system of your body releases endorphins. Increased levels of endorphins is due to the stimulation performed on the location of nerve impulses transmitting labor pain that originates in the uterus.

In the method of massage, the sense of touch is used to promote relaxation and relieve pain. Massage works as a form of stimulus by increasing the production of endorphins in the body. Endorphins reduce the transmission of signals between nerve cells and thereby decrease the perception of pain. In addition massage inconvenience act as a distraction, diverting attention to pain.

In addition to tactile stimulation (touch between *sipemijat* hand against the mother's skin), massage method also would be more advantageous in emotional support. Massaging requires that the mother and *sipemijat* should always adjacent. Massage performed by health workers will provide more proximity to health care and childbirth. If the massage performed by a husband or mother's family will feel more cared for and pampered by her husband and family so the fear, the anxiety of the mother was reduced.

In this study, the majority of respondents are getting back massage treatment was accompanied

by the NII husband, so the massage performed by a husband didampingan by researchers. Respondents felt more comfortable after getting a massage, more felt calm and happy as her husband stood by. Likewise the husband, feeling happier because they feel able to give help to reduce the pain suffered by his wife, the husband is more excited about the birth of her baby. Felt anxious at the beginning of labor decreased gradually replaced awe and happy right labors undertaken at this time.

As disclosed Judha (2012), anxiety and fear in the face of labor will increase the pain. Anxiety will increase the individual's response to pain, unpreparedness to face labor. Fear of the unknown, a bad experience childbirth ago, support and facilitation of labor was not good also will add to the anxiety resulting in an increase in excitatory nosiseftif at the level of the cerebral cortex and increased catecholamine secretion, and also increasing the excitatory nosiseftif the pelvis due to decreased blood flow and muscle tension. [9]

Jeelani (2018) in a study of 30 primigravida who are experiencing pain first stage of labor, said there was a decrease in the effect of massage on labor pain. still according to Nona, childbirth is a special and unique experience for every woman. Pain, fatigue and fear both physically and psychologically. Pain is a common experience that will be felt by women who give birth. Reduction of pain can be expected relaxation techniques can improve the tolerance of pain, anxiety reduction and a decrease in muscle tension. Relaxation can be increased through concentration on a particular pattern, the massage during contraction is the most successful cognitive activity as non-medical pain management strategy. [10]

Back massage is a non-medical method is considered effective in reducing labor pain, make more comfortable maternity because massage can make the muscles are relaxed. According to some researchers that everyone will feel comfortable massage, relaxation and will diminish the pain (focus to pain is reduced). It is also shared by the majority of respondents maternal, where the birth mothers have said the pain has subsided and the resulting sensation of a comfortable and quiet after a massage.¹⁰ This is because that when the body massage will enable the transmission of sensory nerve fibers A-Beta as neuro transmitters thereby reducing pain transmission and close the gate

conductor pain synapse. In addition, the endorphins can create uncomfortable feelings and tasty.

This study is also consistent with the theory of the Gate Control that bring pain fibers to the brain stimulation less pain and sensation traveling slower than the fibers touch wide. When the touch and pain are stimulated simultaneously, the sensation of touch to the brain and shut the gate in the brain resulting in the restriction of pain in the brain.

Suad Abdul, et al (2018) conducted a similar study. 80 birth mothers were interviewed in this study, were divided into 3 groups, massage, group and position changes in the control group. From the results of research he did, Suad revealed no significant difference before and after the massage. Massage can be concluded effective in reducing labor pain compared with the control group and the group change of position.

Meanwhile, according to Seda Urnamis Erdogan (2017) in a study of 62 mothers who experienced labor pain. Mothers were divided into 2 groups, massage groups 31 respondents, and control 31 respondents, measuring pain using the VAS scale, $p < 0.05$. In Erdogan's research, it was concluded that lower back massage had a significant effect on reducing labor pain and increasing satisfaction with birth. [11]

Some other studies also demonstrate the many benefits of this massage method. In addition to helping to reduce maternal pain, massage can also be used as an alternative method to reduce the duration of labor, cortisol levels and anxiety during labor. In premature infants do gentle massage can stimulate the weight gain, can reduce back pain during pregnancy, can reduce migraines or headaches, depression, and also reduces fatigue and can improve the body's immunity.

Differences in the effect of control and back massage (Slow Stroke Back Massage) on the first stage of labor pain relief,

Pregnancy and childbirth is a process that is full of happiness and hope, after a nine-month pregnant women, keep the safety of themselves and the fetus she is carrying, it's time women or mothers prepare for childbirth. but approaching childbirth various unpleasent be jumbled in the hearts of women who give birth. Besides not wait to see her baby born into the world, fear and anxiety for labor raged in mind. Childbirth and pain / tenderness is already a unity that can not be separated.

The shadow of pain during labor is often haunt the mother before delivery. Hint of dread and worry if the thought of going dialampada pain during childbirth. safe delivery does not mean that labor without the pain and hurt, because of pain in childbirth is a natural nature. Women are destined to survive in this sense. It takes a step special education for women, especially mothers to memiliki insight on the pain in labor and tell and teach a method or technique of alternative current that can be used by the mother to overcome or reduce labor pain will be felt, including control and back massage.

Based on the results of data that has researchers get during the study, no significant differences / significant between the control group with a back massage. This is evidenced by the p value on the VAS scale of 0,113 or $p > 0.05$. This may be because both methods were equally effective in reducing pain. Good technique in the control group or a back massage (Slow Stroke Back Massage effective) both significantly reduce labor pain when I.

The absence of a significant difference between the control group and massage the back, this is due to the different characteristics of the two groups. In the control group the average maternal education is lower than the back massage group, where in theory the level of education and knowledge will affect a person's pain threshold. Mothers with higher education will seek more information about pregnancy and childbirth. armed with the knowledge that he'd get the mother to be better prepared for childbirth, including pain will be felt.

As well as employment status, maternal control group onion farm laborers as much as 8 respondents (50%), back massage group 2 respondents (12.50%) were working. The possibility of working pregnant women will feel more tired than those who do not work. The level of fatigue of a mother who would labor will also affect the intensity of pain felt during childbirth.

The few respondents who experienced a decrease in pain was not too, they say panic because they hear and see the mothers who else had given birth and he has not, another mother awaited her husband and she did not, in this case the researchers conclude labor pain is also influenced by several factors namely anxiety, attention, and the mother has been no experience, in addition to environmental factors can affect a person's pain

tingkat, comfortable environment will make maternal becoming more relaxed and relaxed.

Good control or back massage, both were effective in reducing the pain, there is an excess of each of these techniques, low cost, easy to handle and does not cause harmful side effects.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on research that has been done, the researchers concluded:

1. Akupressur control interventions at the point LI4 and SP6 proven effective for reducing the first stage of labor pains, statistically significant.
2. Interventions back massage (Slow Stroke Back Massage) proved to be effective to reduce the first stage of labor pains, statistically significant.
3. There is no significant difference in the first stage of labor pain relief between the intervention group and the control group back massage.
4. Control and massage the back proved effective in reducing labor pain of the first stage, but on the average increase endorphin levels and VAS scale assessment of control is better than a back massage.

SUGGESTION

For Pregnant Women

For mothers can use the methods of control and a back massage as a method of non-medical alternatives to reduce labor pain because this method is very safe, cheap and easy. Can be done by the husband or family member who petrified / accompany childbirth

For health agencies

- a. Would be expected to carry out the socialization of a back massage method as non-medical alternative method to reduce labor pain
- b. The necessity of making discretion to the medical personnel to use this method as an alternative method of non-medical in reducing labor pain Kala I
- c. To midwives, nurses, other medical personnel also should be willing to implement a back massage method (Slow Stroke Back Massage) is a non-medical alternative method for lowering the first stage of labor pain

- d. For pain scale assessment in this regard is the scale VAS (Visual Analogue Scale) will probably be very different on each individual to provide an assessment, in assessing the need for common perception of pain is essential to uphold the level of pain a person's diagnosis.
 - c. The need for other teaching strategies, such as modules and other skills development programs to assess maternal knowledge of controls and a back massage therapy to relieve pain during childbirth.
 - d. A study is also needed to determine the cost effectiveness of controls and a back massage motode in mamfaatnya to reduce labor pain.
 - e. The results of this study can be used as a reference library for further research.
 - f. Future studies are able to develop these methods in order to better benefit, not only to reduce pain but it can be useful to others, are like possibly, the duration of labor, the baby DJJ, etc.
- a. Further research is needed to correct existing deficiencies in this study
 - b. Similar research is needed to do to find the differences in the level of knowledge and skills of nurses, midwives and other health workers in the wisdom of granting meode control and a back massage to reduce labor pain.

For further research

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