International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Deep Back Massage Effect on the Reduction of Active Phase 1 Labor Pain at the Curup Public Hospital Indonesia

Elly Wahyuni[a*], Reka Lagora Marsofely[b], Chyntamie Wulandari[c]

[a,b,c]*Midwifery Program of Poltekkes Kemenkes (Health Polytechnic of Health Ministry) Bengkulu*
St.Indra Giri No. 3 Padang Harapan, Bengkulu
[a]*Email: elly_bid@yahoo.com*

Abstract

Labor pain is pain that arises because contraction of muscles of the uterus, hypoxia of the muscle contraction, stretching of the cervix at the time of dilation, and stretching of the lower uterine segment. One way to reduce the non-pharmalogical management of labor pain is Deep back massage. This study aimed to determine the effect of Deep back massage at the active phase of the first stage of labor of delivering mothers. The research used Pre Experimental Design with one group pretest-posttest. The samples included 32 respondents with accidental sampling technique. The collection of data was observation paper. Analysis of data used univariate and bivariate by t-dependent test. The result showed score of labor pain before and after Deep back massage is p value 0,00 which it is smaller than $\alpha \leq 0,05$. This showed Deep back massage had an influence on labor pain of the active phase. The hospital is expected to give Deep back massage in reducing the labor pain to provide the maternal health service comprehensively.

Keywords: Labor Pain; Deep Back massage.

1. Introduction

Childbirth is an effort carried out by the uterus when the baby will be born. During labor, the uterus contracts and pushes the baby down to the cervix.

---

* Corresponding author.

This urge opens the cervix. After the cervix reaches a complete opening, the contractions and impulses of the mother will move the baby down and out in a few days [3].Long labor pain causes hyperventilation with a respiratory frequency of 60-70 times per minute which decreases maternal PaCO2 levels and increases pH. If the mother's PaCO2 level is low, the fetal PaCO2 level is also low, causing slow deceleration of the fetal heart rate, pain also causes uncoordinated uterine activity which will result in prolonged labor, which can ultimately threaten the life of the fetus and mother [4].

The current phenomenon found that some mothers who experience labor during the active phase 1 complain of pain and contractions that are very strong. If the pain is not quickly resolved, it can cause death in the mother and baby, because pain causes breathing and the mother's heart rate will increase which causing blood flow and oxygen to the placenta disrupted. Handling and monitoring labor pain, especially at the time of the active phase 1 is very important because this is a determinant of whether the mother can undergo a normal delivery or end with an action due to complications caused by very severe pain [11].

Efforts are made to reduce pain in labor, both pharmacologically and non-pharmacologically. Pharmacological methods consist of analgesia and regional anesthesia, while non-pharmacological methods consist of relaxation, hypnotherapy, imagination, Deep back massage, music, acupuncture, transcutaneous electrical nerve stimulation (TENS), hydrotherapy, and position, posture and ambulation. In accordance with the results of a study conducted by [4] that maternal participation before Deep back massage intervention was at moderate pain intensity 4 people (30.8%) and severe pain controlled 9 people (69.2%). After Deep back massage was performed There were mild pain in 2 people (15.4%), moderate pain 3 people (23.1%) and severe pain controlled by 8 people and using Wilcoxon match pairs test with a confidence level of 0.050 with the results of z count were -2.179. The results showed a significance value of 0.029 < 0.050. This shows that there is an influence of Deep back massage on active phase 1 labor pain.

Based on the health profile of Bengkulu (one of the provinces in Indonesia) in 2016, the number of deliveries assisted by health workers was 33,854 people, the number of deliveries in Rejang Lebong (one of Regency in Bengkulu) was the second highest with 4513 people. Based on the data obtained from the Curup General Hospital in 2015 and 2016 there was an increase in the number of deliveries with actions from 1035 people to 1214 people, with the percentage of cesarean section in 2015 as many as 49% while in 2016 there was an increase of 51%, delivery assistance with extraction forceps and vacuum increased from 1.1%, increasing to 7.67%. Based on a preliminary study on 29 December 2017 conducted by researchers at Curup Public Hospital, 4 people from 7 maternal mothers complained of very severe pain and were afraid to undergo labor again. During the first period almost all mothers are unable to resist the urge to push during contractions and scream every time they appear.

The Data showed an increase in labor with actions namely cesarean section from 49% to 51%, and vacuum extraction and forceps from 1.1% to 7.67%. This condition can be caused indirectly by severe pain during labor that is not controlled by the mother. Most cesarean sections are performed at the mother's desire because they assume that cesarean surgery will not experience pain as during normal labor. According to a survey conducted by the writer at Curup Hospital, there has never been a technique to reduce labor pain by Deep back massage,

therefore it is necessary to reduce labor pain during the active phase. Based on the description above, the authors are interested in examining the influence of Deep back massage on the reduction of labor pain during the first active phase in Curup Hospital, Rejang Lebong district, Indonesia. In conducting this research, the researcher made a limitation of the research, namely to make efforts to reduce labor pain in the first phase of labor in the maternity with non-pharmacological methods Deep back massage.

2. Materials and Methods

The research design used in this study was Pre Experimental Designs with One Group Pretest-Posttest Design. In this model, before the treatment started the respondents were given an initial test to measure the initial condition. The population in this study was all spontaneous delivery mothers in Curup Hospital as many as 452 people found in the 2016 register book. The samples in this study were determined using non probability sampling with accidental sampling technique. Slovin formula was used to take the Sampling and it was obtained 32 respondents.

The instrument in this study was a behavioral observation sheet. The totaling scores used a numerical rate scale pain (NRS) scale and the scale of pain before and after Deep back massage intervention was assessed using primary data. The inclusion criteria in this study were *inpartu multipara mothers*, having no experience sacral skin disorders, no heart abnormality, fetal weight interpretation of not more than 4000 grams, not taking painkillers or other pain reduction techniques and were willing to become respondents. Data processing was done with Editing, Coding, Data Entry, scoring steps and then analyzed univariate and bivariate (dependent T test).

3. Finding

3.1. Univariate Analysis

a. Respondent Characteristics

Table 1: The distribution of Characteristic Frequency based on age, parity and occupation of respondents on labor pain during the active phase 1 in Curup Hospital, 2017

Variable	Category	Frequency (n=32)	Percentage (100%)
Age	20 - 35 years,	27	84.4
	<20 - >35 tahun	5	15.6
Parity	2	19	59.4
		8	25.0
	3	5	15.6
	4		
Work	Employee	22	68.8
	Unemployed	10	31.3

b. The average pain level of respondents before and after being given a Deep back massage at Curup Hospital in 2017

Table 2: Average pain level of respondents before being given a Deep back massage at Curup Hospital in 2017

Variable	N	*Mean*	*Median*	SD	Min	Max
The pain before *Deep back massage* given	32	7,19	7	1,575	2	10
The pain after *Deep back massage* given.	32	4,78	5,00	1,070	2	8

3.2. Bivariate Analysis

Table 3: Comparison of mean values of pre-test and post-test labor pain before and after being given Deep back massage in Curup Hospital in 2017

Pain Value	N	Mean	SD	T	p value	CI 95 %	
						Lower	Upper
pre test pain	32	7,19	1,292	10,538	0,000	1.941	2.872
post test pain	32	4,78					
Pain Comparison of *pre-post test*		2,41					

4. Discussion

The results of univariate analysis show that the average pain level of the respondents is 7.18 on the severe pain scale before Deep back massage with a standard deviation on1.575 and the average pain level of the respondents after back massage on 4.78 in moderate pain scale with a standard deviation 1.070 . The results of bivariate analysis show that the different mean values of the mean scores of work pain pre-test and post-test. Labor pain before and after being given a Deep back massage with a value of p 0,000 is smaller than $\alpha \leq 0,05$. The results of this study indicate that there is a significant effect of Deep back massage on the level of labor pain when in the active phase.

The results of this study are in line with the research conducted by [11] regarding labor during the first active phase who received back massage in showing the average pain intensity obtained 6.6. Differences in pain scale before intervention 6.6 and after intervention 4.7, it can be concluded that there is a significant decrease before and after the Deep back massage method. The results show a significant decrease in pain scale before and after the Deep back massage method was given, based on the p test statistic: 0.004 ($p < 0.05$).

The results of this study are in line with the research conducted by [4]. He found that the number of mothers in

the control group before Deep back massage intervention was at moderate pain intensity 4 people (30.8%) and controlled severe pain 9 people (69.2%). After doing Deep Back Massage, there were mild pain of 2 people (15.4%), moderate pain 3 people (23.1%) and severe pain controlled by 8 people and using Wilcoxon match pairs test with a confidence level of 0.050, the results of z count were -2.179. The results showed a significance value of 0.029 <0.050. This shows that there is an influence of Deep back massage on labor pain during the active phase 1.

The results of this study are supported by the theory suggested by [5], who says the provision of Deep back massage causes a decrease in the average level of pain during the active phase 1. Each movement produces pressure, direction, speed, position of the hand and different movements to produce the desired effect on the tissue.

The results of the study are supported by the opinions expressed by [1] which states that seen from a simple descriptive pain intensity scale after being given the Deep back massage method most of the mothers giving birth during the active phase 1 experience a decrease in pain from severe controlled pain to moderate pain.

According to [6], pain of labor is an uncomfortable feeling due to adversity on special nerve endings caused by contractions and cervical dilatation. The intensity of pain felt by the mother is subjective, meaning that the pain felt by the mother giving birth to each person is different from one mother to another, most women feel pain during this phase, most mothers feel great pain because the uterine activity is more active, contractions are getting stronger and more frequent. Stress or physiological anxiety can cause uterine contractions to become more painful.

Factors causing labor pain are uterine muscle contractions that cause dilatation and thinning of the cervix and uterine ischemia due to contraction of the myometrial artery, pain felt in the lower back and sacrum. Usually the mother only experiences this pain during contractions and free of pain in the interval between contractions This strain of pelvic floor muscle type of pain arises when approaching the second stage. Unlike visceral pain, this pain is localized in the vaginal area, rectum and perineum, around the anus [6].

Deep Back massage is an emphasis on the sacrum which can reduce tension in the sacroiliac from the posterior occiput position of the fetus. During contractions, an emphasis can be placed on the sacrum which starts at the beginning of the contraction and ends after the contraction stops. If the client uses a fetal monitor, the contraction lines can be seen and end the emphasis. Emphasis can be made with clenched hands like a tennis ball on the sacrum 2,3,4. Emphasis during contraction is the same as the method of reducing pain using the drug 50–100 mg meperidine. With emphasis on stimulating the cutaneous, so that it can inhibit pain impulses not reaching the thalamus [10].

According to the theory suggested by [15], massage can calm and relax the tension that arises during pregnancy and childbirth. Massage on the neck, shoulders, back, legs and hands can make it comfortable. Gently rubbing on the stomach will also feel comfortable when contracting. Plans for using the preferred massage or touch during labor can be chosen as follows: touch softly with rhythmic beats, hard swabs, massage to relax stiff

muscles, and hard massage or rubbing on the back. The results of this study are supported by the theory put forward by [14] who argues that stimulation on the skin can reduce pain, because it causes the release of endorphins so that the client has a sense of control over pain. Deep Back Massage gives a warm sensation that can reduce pain and provide healing. Based on the research conducted, it can be seen that Deep back massage is an effort to treat labor pain in a non-pharmacological manner.

5. Conclusion

There is an effect of Deep back massage on the decreasing of active phase 1 labor pain with p value 0,000

6. Suggestion

Other researchers are expected to use this present study as reference and to conduct further study with other method of pain management techniques such as Deep breathing, acupuncture, relaxation techniques and others. It is also suggested to the health services especially curup regional public hospitals, public health center and independent midwives to provide Deep Back Massage in the management of labor pain in order to provide comprehensive maternal health services.

References

[1} S. Andarmoyo, Persalinan tanpa nyeri berlebihan Jogjakarta: Ar-Ruzz Media. 2013.

[2] L. Arifin, Teknik Akupressur pada persalinan., dari http://keperawatan .maternitas.blogspot.comDiunduh6 Desember 2017.

[3] Y. Vita AP, Fitrianingsih, Perbedaan Metode Deep Back Massage dan Metode Endhorpin Massage Terhadap Intensitas Nyeri Persalinan Kala I Fase Aktif di Puskesmas Poned Plered Kabupaten Cirebon Tahun 2017 Jawa Barat:Poltekkes Kemenkes Tasikmalaya. 2017.

[4] AB, Gaidaka,. Pengaruh Deep Back Massage Terhadap Nyeri Persalinan Kala I Fase Aktif Ibu Inpartu Primigravida di BPS Endang Adji,Amd.Keb. 2012.

[5] C. Henderson, Buku Ajar Konsep Kebidanan (Essential Midwifery), Jakarta : EGC. 2010.

[6] Judha, M, Afroh,Sudarti, Teori Pengukuran Nyeri & Nyeri Persalinan. Yogyakarta : Nuha Medika. 2012.

[7] Laporan tahunan Dinas Kesehatan Kabupaten Rejang Lebong. Profil Kesehatan Kabupaten Rejang Lebong. Bengkulu : Dinas Kesehatan Kabupaten Rejang Lebong. 2016.

[8] Laporan tahunan Ruang VK Kebidanan Rejang Lebong. Tindakan obstetri: Rumah Sakit Umum Daerah Curup Kabupaten Rejang Lebong. 2015.

[9] Tindakan obstetri: Rumah Sakit Umum Daerah Curup Kabupaten Rejang Lebong. 2016.

[10] Lestari, Indah, Agus Abadi dan Windhu Purnomo, Pengaruh Deep Back Massage Terhadap Penurunan Nyeri Persalinan Kala I Fase Aktif dan Kecepatan Pembukaan Pada Ibu bersalin Primigravida. The Indonesian Journal of Public Health 9 37-50, 2012.

[11] L., Maita, Pengaruh Deep Back Massage Terhadap Penurunan Rasa Nyeri Persalinan. Jurnal Ilmiah Kesehatan, 9 186-190. 2016.

[12] A. Magfuroh,. Faktor-Faktor yang Berhubungan Dengan Nyeri Persalinan Kala I Fase Aktif. Sarjana Keperawatan; UIN Syarif Hidayatullah :Jakarta. 2012.

[13] Mohamed A Marwa, Adel F. El Bigawy. Effect of Deep Back Massage and Relaxation Training on The Act of Labor: A Randomized Controlled Clinical Trial. International Journal of ChemTech Research, 10 243-252. 2017.

[14] Potter, Perry. Fundamental Keperawatan buku 3 Edisi 7. Jakarta : Salemba medika. 2010.

[15]Simkin,P., Whalley,J. & Keppler,A. Panduan Lengkap Kehamilan, Melahirkan, & Perawatan Bayi.Jakarta:Arcan. 2008.

[16]Smeltzer, Suzanne C. dan Bare, Brenda G. Buku Ajar Keperawatan Medikal Bedah Brunner dan Suddarth (Ed.8, Vol. 1,2), Alih bahasa oleh Agung Waluyu (dkk), EGC, Jakarta. 2002.

[17] WHO 2012. Maternal health di unduh http://www.who.int/gho/maternal_health/en/ tanggal 5 Desember 2017

[18] Yuliasari, D. Eva Santriani, Hubungan Counterpressure dengan nyeri persalinan pada ibu bersalin kala I fase aktif ibu primipara di BPS Hj.Sulastri Pekalongan Lampung timur tahun 2013 Jurnal Kebidanan 1 9-12. 2015.