



Article

## The Difference Of Pain Labour Level With Counter Pressure And Abdominal Lifting On Primigravida In Active Phase Of First Stage Labor

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### A B S T R A C T

Nowadays many methods are offered to reduce pain in labor, both pharmacological (using drugs) and non pharmacological methods. If possible the choice of non-pharmacologic therapy for the management of pain in pregnancy and labor should be considered before using analgesic drugs. One of an effective non-pharmacological method to reduce pain is with massage. The basis of this theory is the gate control theory proposed by Melzak and Wall (Lliadou, 2009). This study aimed to analyze difference of pain relief on active phase of labour with Counter Pressure and abdominal Lifting. This was an experimental with pre test and post test design. The samples were 42 women on their active phase of labor, 21 women for counter Pressure technic and 21 women for Abdominal Lifting technic. Counter Pressure technic decreased pain of labor with a P-value 0.015 ( $p < 0.05$ ) and abdominal lifting technic significantly decreased pain of labour with a P-value 0.001. Abdominal lifting technic (P 0,001) more effective than counter pressure technic (P 0,015) for pain relief in active phase of labour.

### I. INTRODUCTION

Nowadays many methods are offered to reduce pain in labor, both pharmacological (using drugs) and non-pharmacological (traditional) methods. If possible the choice of non-pharmacologic therapy for the management of pain in pregnancy and labor should be considered before using analgesic drugs. Some of the management of labor pain is pharmacologically largely a medical

act. Meanwhile, non-pharmacologic pain management can be performed by most health care providers (doctors, nurses or midwives) who may also involve maternity families.

One of an effective non-pharmacological method to reduce pain is with massage. The basis of this theory is the gate control theory proposed by Melzak and Wall (Lliadou, 2009). The gate control theory states that

during labor, the impulse of pain labor travels from the uterus along the large nerve fibers toward the uterus to the gelatinous substance within the spinal column, the transmission cells project pain messages to the brain. The presence of stimulation (such as vibration, rubbing or massage) results in stronger, faster, and stronger opposite messages along small nerve fibers. This opposite message closes the gate on the substance of gelatinosa and blocks pain messages so the brain does not record the pain message (Mander, 2010).

This research has been done by Pratiwi Diah Angraeni, research result concluded that there is significant difference between abdominal-lifting technique and counter-pressure in overcoming pain labor in active phase of the first stage. From both technique, counter pressure technique is more effective to reduce labor pain with the mean intensity of the pain scale 43 less than the mean intensity of the pain scale of abdominal lifting technique of 46.58. However, this study did not conduct pain measurements prior to intervention so it is not known whether there was a decrease in pain labor levels before and after the intervention.

Based on the description above, the authors want to investigate are: How the results of measurement of differences in pain levels in labor by performing Counter-Pressure Techniques and Abdominal Techniques - Lifting on primiparous women in the first stage?

## II. METHODS

This study was an experimental with pretest- post test two group in two work area of health care, Nilam Sari health care ( BPM Rita) and Gulai Bancah Health Care (BPM Bunda) Bukittinggi city, started promat May to august 2016. The ethics and legality of this study were approved by the M.Jamil Hospital Ethics Committee.

Population of this study was all women during their active phase of labour in BPM rita and BPM Bunda. The subjects of this study were 38 women, 19 women for counter pressure pain relief and 19 women for abdominal lifting pain relief. The subjects were recruited by random block assignment. This study consist of Block A and Block B. Block A were the subject which given counter Pressure pain relief and block B were the subject which abdominal lifting pain relief.

This study cooperated with midwife in Nilam Sari and Gulai Bancah work area. Coordinator of midwife it nilam sari and gulai bancah health care took responsibility on inform consent. Experiment of this study (counter pressure and abdominal lifting) has been done by Tuti Oktriani as researcher. Researcher has attended for counter pressure and abdominal lifting training. The data on this study collected by checklist, pain scales and questionnaire

Statistical analysis was performed by using Chi-Square. The data of subject characteristics were analyzed using frequencies and percentages. Univariate analyzed

## III. RESULT

**Tabel 1. Pain level before and after counter pressure technique**

Group	Mean ± DS	p
Pain level before Counter - Pressure	3,90 ± 0,62	0,01
Pain level after Counter - Pressure	3,33 ± 0,85	

the comparison of pain level before and after counter pressure. There was significant difference between before and after counter pressure  $p = 0,01$  ( $p < 0,005$ ) (showed at table 1)

Group	Mean ± DS	P
Pain level before <i>Abdominal – Lifting</i>	4,14. ± 0,91	
Pain level after <i>Abdominal – Lifting</i>	3,19 ± ,92	0,00

the comparison of pain level before and after abdominal lifting. There was significant difference between before and after counter pressure  $p = 0,01$  ( $p < 0,00$ ). (showed at table 2)

This study showed that abdominal lifting ( $p=0,00$ ) more effective than counter pressure (0,001) on labour pain relief during active phase

#### IV. DISCUSSION

From the results of the study, it can be seen that there is a significant decrease in pain levels between before and after done Counter – Pressure intervention with a value of  $p < 0.05$ .

The results of this study are in line with research conducted by Pasongli, (2014) and Hastami (2011). They stated that Counter-Pressure is effective in reducing labor pain by  $p$  0.000. In this research the characteristics of respondents have been also attempted to homogenized, from the age of 20-35 years and the parity of primiparous women from the results of the study, it seen that there is a decrease in average pain score from score 9 down to score 4. It can be seen that Counter - Pressure technique effective in decrease the pain labor.

During labor a woman needs support both physically and emotionally to reduce pain labor. There are several methods in overcoming pain labor, one of them is by stimulation of skin by using of massage or polishing (Price, 2005)

Counter pressure techniques performed in the sacrum area with persistent pressure during contraction that can affect the large

#### Tabel 2. Pain level before and after abdominal lifting technique

diameter afferent fibers affecting the sweep and the pressure that also will affect the gelatinous substance in the spinal cord, thus inhibiting pain impulses to the brain called gate control theory (Hastami, 2011).

From the research results can be seen that there is a significant difference of pain level between before and after done Abdominal - Lifting with  $p$  value  $< 0,05$ .

This research is in line with research done by Farida (2013) from research result that there is significant difference before doing Abdominal - Lifting massage and after doing Abdominal - Lifting massage in overcome active labor pain on the first stage with  $p$  0.000. But the research subjects are not the same in this study researchers did not try to homogenized the sample, in this research the researchers conducted research with all maternity samples both primigravida and multigravida.

Abdominal - Lifting is a technique for reducing pain labor by giving stroke in opposite way to the top of the stomach without pressing inward (Simkin, 2007). This sweep can increase comfort because it can increase the circulation towards the abdomen so that the blood vessels around the abdomen dilated and this process can reduce pain. (Sulistiawati, 2012).

It can stimulate large nerve fibers to increase the mechanism of activity of gelatinosa substance resulting in closed gate or door mechanism so that T cell activity is inhibited so that pain will not be delivered to the cortex cerebral (Lally, 2014). From the results of research conducted by the authors during the Abdominal - Lifting the author also saw that almost all respondents feel comfortable when the authors make a swab from the waist to the top of the stomach, as well as doing Counter-Pressure authors also pay attention to comfort and complaints of the respondents. All respondents said that there was a perceived reduction in the pain of

labor, but there was also no response for pain reduction. This may also be caused by various factors including anxiety, labor companions, pain experience, fatigue and pain tolerance.

The results showed that Abdominal - Lifting was more significant ( $p = 0.000$ ) than Counter-Pressure ( $p = 0,001$ ) in overcoming labor pain.

The results of this study are not in line with research conducted by Faradilah (2014) which showed that the technique of breath relaxation is more meaningful than Abdominal - Lifting and Effleurage with  $p$  value 0,031.

Research conducted by Anggraini (2013) there is a significant difference between Abdominal - Lifting and Counter - Pressure techniques which Counter - Pressure technique is more meaningful than Abdominal - Lifting with  $p$  value 0,031. The difference of research caused by several factors, it was homogeneity of research subjects from two studies conducted by researchers did not take the subject of primigravida and multi gravida research and from the research design also different where the researchers did not measure the pain before the intervention only take measurements after the intervention.

However, this study is in line with the research conducted by Assagaf (2010) from abdominal lifting method conducted on the three respondents, there are two respondents who stated less pain after Massage. This can be seen on the facial expressions of respondents who feel comfortable with the actions given. Both respondents strongly agree if the action is given to those who are entering the stage of childbirth.

Counter - Pressure and Abdominal - Lifting is part of the massage and produces the same physiological effect with massage

on the area of the body that can reduce pain according to The Gating Theory.

Many factors that influence the success in reducing labor pain between Counter - Pressure and Abdominal - Lifting one of them is homogeneity between 2 groups of respondents from normality test results of the opening of the cervix obtained the result that the data is not normally distributed although researchers have chosen respondents according to the criteria in the set.

Other factors that affect a person's pain is tolerance to pain, pain tolerance refers to the length or intensity of pain that can still be held by the patient until explicitly the patient is looking for ways to reduce the pain felt. Pain tolerance differs in each individual; the patient's behavioral response to pain is influenced by personality, psychiatric status, pain experience, socio-cultural background, and perception of pain itself (Price 2005).

At the time of the research process the researchers also argued that Abdominal - Lifting is more effective in reducing pain than Counter - Pressure, the response is given faster when given abdominal - lifting because the position of respondents at the time of doing abdominal - lifting is semi fowler position where this position can be assisted with the husband as a place for the mother to lean so that respondents are relaxed in accepting intervention. One of the factors that affect pain labor is the support of the family and the closest person to accompany the mother when the childbirth provides a sense of calm, mother's psychic reassurance during uterine contractions, giving attention, feeling safe, comfortable, enthusiastic, calming the mother's heart, reducing tension so as to shorten labor process. Research conducted by Klaus, Kennerl (1993) stated that the labor companion will reduce the intensity of pain during childbirth.

Based on several theories and research results showed that abdominal – lifting method is more effective in reducing labor pain. In the first stage of labor monitoring using partograph, abdominal-lifting did not cause complications for both the mother and the fetus. In addition abdominal lifting also provides some benefits that reduce back pain, give gravity advantage, and make delivery faster (Simkin, 2007)

## V. CONCLUSION

Abdominal - Lifting is a technique for reducing pain labor by giving stroke in opposite way to the top of the stomach without pressing inward. This sweep can increase comfort because it can increase the circulation towards the abdomen so that the blood vessels around the abdomen dilated and this process can reduce pain. It is important for midwives to increase their knowledge about pain relief on labour, specially abdominal lifting.

## REFERENCES

- Anggrainiet al (2013).Efektifitas Teknik Abdominal Lifting Dan Counter Pressure Dalam Mengatasi Nyeri Persalinan Fase Aktif Kala I Di Rumah Sakit Umum Daerah Tidar Kota Magelang.*Jurnal Fakultas Ilmu Kesehatan Muhammadiyah Magelang*.(Hal:5, 57)
- Berman, A. Snyder, S. Kozier, B. Erb, G. (2011). *Kozier & Erb Buku Ajar Praktik Keperawatan Klinis (Kozier & Erb's Techniques In Clinical Nursing) Edisi V*. Jakarta : EGC. (Hal: 10,19, 20)
- Faradilah, DN. (2014). Efektifitas *Effleurage* Dan *Abdominal – Lifting* Dengan Relaksasi Nafas Terhadap Tingkat Nyeri Persalinan Kala I Di Klinik Kebidanan Indriani Semarang. *Fikkas Jurnal Keperawatan*.(Hal:57)
- Fraser, DM. Cooper, MA. Fletcher, G. (2009). *Myles Buku Ajar Bidan (Myles Textbook For Midwives)*. Jakarta : EGC. (Hal : 10, 24, 58)
- Farida,S. Zuliana, A. Metode Massage Abdominal – Lifting Sebagai Upaya Untuk Mengurangi Nyeri Persalinan Kala I. *Prosiding Nasional APIKES-AKBID Citra Medika Surakarta*.(Hal : 56)
- Hutajulu, P.2003.*Pemberian Valetamat Bromida Dibandingkan Hyoscine N Butil Bromida Untuk Mengurangi Nyeri Persalinan*Bagian Obstetri Dan Ginekologi Fakultas Kedokteran Universitas Sumatera Utara. USU Digital Library.(Hal:3)
- Hastami, RS. & Handayani, AR. (2011). Efektifitas Tekhnik Keading Dan Counter – Pressure Terhadap Penurunan Intensitas Nyeri Kala I Fase Aktif Persalinan Normal Di RSIA Bunda Arif Purwokerto Tahun 2011. *Purwokerto : Program Studi Fakultas Kesehatan Universitas Muhamadiyah Purwokerto*.(Hal : 54, 55)
- Hanjani, SM. Tourzani, ZM. & Shoghi, M. (2014). The Effect Of Foot Reflexology on Anxiety Pain, And Outcomes Of The Labor In Primigravida Women. *Acta Medica Rianica*.(55)
- Kusmini, S. Nurul, M. Sutarmi, MN. (2014). *Modul Touch Training Developing Mom, Baby Massage And Spa*. Indonesian Holistic Care Assiacion.(Hal:24)

- Lliadou, M. (2009). Labour Pain and Pharmacological Pain Relief Practice Points. *Health Science Journal*.(Hal: 1)
- Lally, JE. Thomson, RG. Phail, SM. Exly, C. (2014). Pain Relief In Labour : a Qualitative Study to Determine How To support Women To make Decisions About Pain Relief In Labour. *BMC Pregnancy and Childbirth*.(Hal: 56)
- Labor, S. & Maguire, S. (2008). The Pain Of Labour. *Review In Pain*.(Hal: 28, 54)
- Mander, R. (2004). *Nyeri Persalinan.(Pain In Childbearing and its Control)*. Jakarta: Buku Kedokteran EGC.(Hal: 10, 15, 21, 23, 25, 55)
- Murray, SS. & McKinney, ES. (2013). *Foundations of Maternal-Newborn and Women's Health Nursing*. Elsevier.(Hal: 20, 22, 25, 27)
- Pasongli, S. Rantung, M. Pesak, E. (2014). Efektifitas Counter – Pressure Terhadap Penurunan Intensitas Nyeri Kala I Fase Aktif Persalinan Normal Di Rumah Sakit Advent Manado. Manado : *Jurnal Ilmiah Bidan*.(Hal:28, 54)
- Simkin, P. (2007). *Comfort in Labor How You Can Help Yourself to a Normal Satisfying Childbirth*. Childbirth Connection.(Hal:28, 30, 59)
- Snell, RS. (2006). *Neuronatomi Klinik Untuk Mahasiswa Kedokteran*. Jakarta : EGC.(Hal:11, 29, 57)
- Smith, CA. Levett KM, Collins, CT. Jones, L.(2012). Massage, Reflexology and other manual methods for pain management in labour (Review). The Cochrane Collaboration John Wiley & Sons.(Hal: 29)
- Sulistiyawati, A. Nugraheny, E. (2010) *Asuhan Kebidanan Pada Ibu Bersalin*. Jakarta : Salemba Medika.(Hal:7,8,56)
- Salfariani, I.Nasution, SS. Faktor Pemilihan Persalinan Sectio Secarea tanpa Indikasi Medis Di Rumah Sakit Bunda Thamrin Medan (2012).(Hal:3)
- Woodruff, R. (2002). *Cancer Pain*. Asperula Pty Ltd.(Hal: 9)
- Kementrian Kesehatan. (2007). Dibalik Angka Kematian Maternal Dan Komplikasi Untuk Mendapatkan Kehamilan Yang Lebih Aman. (Hal : 1)

### **BIOGRAPHY**

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