ICASH-A59

THE INFLUENCE OF DEEP BREATHING RELAXATION TECHNIQUES TO DECREASE PAIN LEVELS IN THE MOTHERS INPARTU ACTIVE PHASE OF THE FIRST STAGE AT KERTHA USADA HOSPITAL SINGARAJA

Putu Irma Pratiwi[1,2,*] , Dina Sulviana Damayanti[1],Grace Petricka[1,3]

[1]*Universitas Aisyiyah Yogyakarta, Yogyakarta, Indonesia (55292)*
[2]*Sekolah Tinggi Ilmu Kesehatan Buleleng, Buleleng, Bali, Indonesia (81152)*
[3]*Akademi Kebidanan Bentang Asih Raya, Palangkaraya, Central Kalimantan, Indonesia (73111)*

*Corresponding author's email: putuirma227@gmail.com

ABSTRACT

Background: *Pain is the body's defense mechanism which is unpleasant. Deep breathing relaxation technique is one of the non-pharmacological methods to relieve the pain felt by the mother during labor.*

Aims: *The purpose of this study was to determine the effect of deep breathing relaxation techniques to decrease the level of pain in the first stage the mother inpartu active phase.*

Methodology: *Pre Experimental Research. The design of this study used one-group pre-test-posttest design. The measurement of pain is done twice: before the experiment and after the experiment. The sampling technique in this research is total sampling method. The instrument used to measure the level of pain is a Visual Analog Scale (VAS). Giving intervention such as deep breathing relaxation techniques during the active phase of the first stage of contraction repeatedly from the start to the end of the contraction contractions performed during 10 cycles of contraction.*

Results: *the results of measuring the degree of pain the mother inpartu active phase of the first stage before being given a breath relaxation techniques in 30 respondents are located mainly in the category of severe pain as many as 19 people (63.30%).*

Conclusion: *deep breathing relaxation technique is one of the non-pharmacological techniques are most useful to treat pain by regulating the breath, with attention to respiratory expected conditions to be relaxed so that the mother can reduce pain.*

Keywords: *Breath Relaxation Technique, Pain Level, Visual Analog Scale (VAS)*

INTRODUCTION

The maternal mortality rate (MMR), neonatal mortality rate (NMR), the infant mortality rate (IMR) and under-five mortality (UFM) are some health status indicators of this societies. Today MMR and IMR in Indonesia is still high compared to other ASEAN countries. According to data from Indonesia DemoFigureic Health Survey (IDHS) in 2007, MMR in Indonesia amounted to 228 per 100,000 live births, IMR of 34 per 1,000 live births, NMR at 19 per 1,000 live births. UFM at 44 per 1,000 live births [1]. These indicators can be influenced by general health status, education and services during pregnancy and childbirth. Sensitivity MMR towards improvement of health services making it an indicator of success of health development [2].

Buleleng is one of regencies in Bali Province which has the largest area compared to other regencies. Regardless area of Buleleng Regency also ranks first in terms of maternal mortality rate

(MMR). Between the years 2009-2013, there were 51 mothers die in Buleleng [3]. The main causes of maternal death in Buleleng mothers are bleeding, heart, amniotic fluid embolism, infection/ sepsis/ shock perception, pre-eclampsia/ eclampsia, as well as pneumonia/bronchopneumonia.When viewed by age, maternal age distribution of maternal death is less than 20 years is 5.33%, 20-35 years old maternal mortality by 70.67% and maternal mortality in persons older than 35 years was 24.0% [3].

Childbirth is a series of events that ended with the expenditure-term infants followed by expulsion of the placenta and fetal membranes from the mother's body [4]. A mother who is facing the labor tend to feel afraid, but when a mother was very afraid then automatically the brain organizes and prepares the body to feel pain, so pain during labor may be more pronounced [5]. The fear of childbirth can cause the mother to experience stress. Body automatically issue of stress hormones those are adrenaline and *ketokolamin* .Mothers who cannot let go of anxiety and fear before giving birth will be releasing hormone *ketekolamin* in high concentrations. Physiologically can cause uterine contractions and so feel more aches and pains [6].

Currently, various methods are used to relieve labor pain. The way it is by the method of pharmacological and non pharmacological methods. Pharmacological pain management is the use of analgesics, epidural injections, Intractheal Labor Analgesia (ILA), and others. This method is very effective however, pain management, almost all have side effects on the mother and fetus [7]. Maternal side effects are nausea and dizziness, as well as the mother cannot rely on his stomach muscles and push when the contractions of the uterus, so that labor becomes longer [8]. Non-pharmacological methods can also improve satisfaction during labor because the mother can control the feelings and strength. Wherein the method can inhibit the brain to release the sensation of pain and increase the comfort of the mother during labor and to have effective influence on the experience of childbirth [9].

Breathing relaxation is one of the most useful skill to overcome the pain of labor. Breathing relaxation skills to cope with pain during labor can be used to resolve a labor well or did not panic when faced with a series of contractions. Mothers who use deep breathing relaxation technique do not feel pain than women who did not use deep breathing relaxation techniques [10]. Mastering the techniques of breathing properly can lead to a sense of relaxation so that labor can be lived quietly without pain. Mastering the techniques of breathing is also important because it is through good breathing, oxygen can enter the body optimally. Oxygen is the most important fuel for muscle performance - the muscles of the uterus and to the fetus [11].

Based on the preliminary study on 20-22 March 2015 in Kertha Usada Hospital data obtained in 2014, the overall numbers of mothers giving birth were 909 people. With the details, the numbers of primi gravida mothers giving birth during the year were 305 people and multi gravida mother 604 people. And the numbers of maternal physiologically were 396 people, with the number 128 primi gravida and the multi gravida 200 people [3]. Based on data from direct observation at 12 maternity, during the birth process known 4 people (33.3%) experienced severe pain, 4 (33.3%) had moderate pain, 2 (16.7%) experienced mild pain and 2 (16.7%) did not experience pain. But after being given a breath relaxation techniques at the time of contraction in the active phase of the first stage repeatedly from the start to the end of the contraction contractions performed during 10 cycles of contraction, a decline in the level of maternal pain, where one person (8.3%) continue to have severe pain, 3 (25%) experienced a decrease in pain from severe pain became moderate pain, 4 (33.3%) decreased from moderate pain becomes mild pain, 1 (8.3%) continue to experience mild pain, 1 people (8.3%) experienced a decrease in pain of mild pain becomes painful.

Maternal experience pain during inpartu active phase of the first stage and the large number of inpartu patients in Kertha Usada Hospital lead midwife cannot accompany the mother during the active phase of the first stage inpartu to teach mothers deep breathing relaxation technique to reduce the pain. The pain caused panic and screaming mothers and straining uncontrollably. Where the event of pain in childbirth midwife's role to provide breath relaxation techniques to birth mothers are needed as a non-pharmacological method to cope with labor pain. The purpose of this study was to determine the effect of deep breathing relaxation techniques to decrease pain levels in the mother inpartu active phase of the first stage in Kertha Usada Hospital Singaraja.

METHODS

This type of research used in this study is a pre experimental. The design of this research study by using one-group pre-test-posttest design. In this design the measurement of pain is done twice: before the experiment and after the experiment. The population in this study was the mothers' inpartu active phase of the first stage in the Kertha Usada Hospital. The sampling technique in this research was total sampling method. The sample in this study was that patient's inpartu active phase of the first stage (opening 4-10cm) on May 20-June 20 in Kertha Usada Hospital Buleleng regency as many as 30 people.

Characteristics of the subjects in this study was based on age and parity. To measure the level of pain, pain response was observed by using Visual Analog Scale (VAS) [15]. This score represents the level of intensity of pain reported by clients where if no pain (score 0), mild pain (1-3), moderate pain (4-6), severe pain (score 7-9), the pain is very severe (score 10) [16]. The intervention such as deep breathing relaxation techniques during the active phase of the first stage of contraction repeatedly from the start to the end of the contraction contractions performed during 10 cycles of contraction.

Preparation of data collection started after getting permission from a research site for data retrieval. The next step researcher seeks approval from survey respondents by informed consent.The intervention wasthe first step is to take the respondents in the sample based on inclusion criteria as the data source. The criteria for inclusion were women inpartu normal active phase of the first stage which can be proved by partograph sheet and pain, not having a chronic disease, uncomplicated and willing to become respondents. The second step is to Pre test is measurement of pain is done at the end of each contraction or the beginning of relaxation using observation sheet.The third step is to provide intervention doing deep breathing relaxation technique during the active phase of the first stage of contraction repeatedly from the start to the end of the contraction contractions performed during 10 cycles of contraction. The final step is to conduct a post test is measurement of pain is done at the end of each contraction or relaxation after the beginning of a given patient's breath relaxation technique in contraction for 10 times using observation sheet. Once the data was obtained prior to analysis statistical test then these data were tested for normality of data using the Skweness and Kurtosis [17]. This test is done by a computer program SPSS. If the data are normally distributed, the analysis used Paired t test and If the data are not normally distributed, the analysis used Wilcoxon Sign Rank Test [18].

RESULTS AND DISCUSSION

The characteristics of the respondents in this study are divided by age and parity can be seen in Table 1:

Table 1. Characteristics of Respondents

Characteristic of Age	Frequency(f)	Percentage (%)
<20 year	1	3,30
20-35 year	23	76,70
>35 year	6	20,00
Amount	30	100
Paritas		
Primipara	10	33,30
Multipara	20	66,70
Grande Multipara	-	-
Amount	30	100

Based on Table 1 shown at most respondents were in the age 20-35 years as many as 23 people (76.70%). Meanwhile, based on parity, most respondents in the category Multipara as many as 20 people (66.70%).

The Level of mother inpartu pain in the active phase of the first stage before awarded deep breathing relaxation techniques

Table 2. The Level of Mother Inpartu Pain in the Active Phase of the First Stage Before Awarded Deep Breathing Relaxation Techniques

Pain levels	Frequency(f)	Percentage (%)
Painless	-	-
Mild Pain	2	6,70
Moderate Pain	9	30,00
Severe Pain	19	63,30
Very Heavy Pain	-	-
Amount	30	100

Based on Table 2 above, the results of measuring the degree of pain the mother inpartu active phase of the first stage before being given a breath relaxation techniques in 30 respondents are located mainly in the category of severe pain as many as 19 people (63.30%).

The fear of childbirth can cause the mother to experience stress. Body automatically issue of stress hormones and adrenaline that is *ketokolamin*. Mother who cannot let go of anxiety and fear before giving birth will be releasing hormone *ketekolamin* in high concentrations. Physiologically can cause uterine contractions and so feel more aches and [12].

The level of mother inpartu pain in the active phase of the first stage after awarded deep breathing relaxation techniques

Table 3. The Level of Mother Inpartu Pain in the Active Phase of the First Stage After Awarded Deep Breathing Relaxation Techniques

Pain Levels	Frequency(f)	Percentage (%)
Painless	2	6,70
Mild Pain	11	36,60
Moderate Pain	15	50,00
Severe Pain	2	6,70

Very Heavy Pain	-	0
Amount	30	100

Based on Table 3 above, shows that the level of pain in the mother inpartu active phase of the first stage after being given a breath relaxation technique in the vast majority are in the category of moderate pain as many as 15 respondents (50.00%).

Relaxation breathing is one of the most useful skills to overcome the pain of labor. Breathing relaxation skills to cope with pain during labor can be used to resolve a labor well or did not panic when faced with a series of contractions. Mothers who use deep breathing relaxation technique do not feel pain than women who did not use deep breathing relaxation techniques [13].

Test results of normality data test in this study was not distributed normally, then using a nonparametric test. The truth of the hypothesis of the research is done by using the Wilcoxon Sign Rank Test. The analysis shows that the average pain level pre-test that is 3.57 while the average pain level post tests that is 2.57. Standard deviation scores at pre-test are 0.625 while the standard deviation in the post test was 0.728. The minimum value of the pre-test is 2 while the minimum value of the post test is 1. Results Wilcoxon Sign Rank Test using SPSS 16 for windows can be seen in Table 4 below.

Table 4. Results of Wilcoxon Sign Rank Test on the influence of deep breathing relaxation techniques to decrease pain levels in the mothers inpartu active phase of the first stage

Pain levels	Wilcoxon Sign Rank Test		
	Mean Rank	Z	Sig.
Pain before given a deep breath relaxation technique			
	14.50	5.135	.001
Pain after given a deep breath relaxation technique			

The data in Table 4 above shows the results of Wilcoxon Sign Rank Test where the significant value of 0.001. The significance value 0.001 <0.05, so Ho which states that deep breathing relaxation techniques are not effective in reducing the pain of the mother inpartu active phase of the first stage was rejected, and Ha stating Award deep breathing relaxation technique is effective to reduce the level of pain in the mother inpartu the active phase of the first stage, be accepted.

DISCUSSION

Deep breathing relaxation techniques can reduce pain during the first stage of labor. From these two tests performed before and after the test is given in the breath of relaxation techniques was assessed by using a Visual Analogue Scale (VAS), showed that the level of pain of severe pain and fell to moderate pain of moderate pain fell to pain mild pain. Deep breathing relaxation technique can work reduce pain and provide tranquility to the mother so that the supply of oxygen to the baby can be fulfilled properly.

Based on the results of this study indicate that deep breathing relaxation technique is one of the non-pharmacological techniques are most useful to treat pain by regulating the breath, with attention to respiratory expected conditions to be relaxed so that the mother can reduce pain. Deep

breathing relaxation techniques began in the time of entering the active phase of the first stage of labor. How the deep breathing relaxation technique do was the beginning of a contraction in the first stage of labor to do with a deep breath through your nose, then exhale slowly through the mouth. This technique is done repeatedly from the start contraction until the end of the contraction. Mothers who do not use deep breathing relaxation techniques during labor may be more pain than mothers who use deep breathing relaxation techniques.

The level of pain on the mother inpartu active phase of the first stage before being given deep breath relaxation techniques are located mainly in the category of severe pain (63.30%). The level of pain on the mother inpartu active phase of the first stage after being given a breath relaxation technique in most or the majority are in the category of moderate pain (50.00%). Where in the category of severe pain is a significant decline from the prior (pre-test) in the category of severe pain (63.30%) and after (post-test) which uncategorized severe pain becomes (6.70%). Wilcoxon Sign Rank Test Based on the obtained results in which the value of significance value of (0,001). Significance value (0.001) <(0.05), so Ho stating that granting relaxation techniques deep breathing is not effective in reducing the pain of the mother inpartu the first stage of the active phase is rejected, so it can be concluded relaxation techniques deep breathing is effective to reduce the level of pain mother inpartu active phase of the first stage.

CONCLUSION AND RECOMMENDATIONS

The conclusions of this study include deep breathing relaxation techniques can be applied to all pregnant women who entered the first stage in labor. Deep breathing relaxation techniques can be done starting from the opening until the complete opening of labor. How the deep breathing relaxation technique do was the beginning of a contraction in the first stage of labor to do with a deep breath through your nose, then exhale slowly through the mouth. Is repeated until the contractions decreased and the pain is no longer felt. How to measure the level of pain felt by the mother in childbirth is by using a Visual Analog Scale pain scale (VAS). For further research is expected to continue her research on the effect of deep breathing relaxation techniques to decrease pain with variable involves more complex and more representative respondents and to develop experimental research design.

REFERENCES

[1] Kementrian Kesehatan Republik Indonesia Kemenkes. Status Kesehatan Masyarakat. Jakarta : Direktorat Jendral Pelayanan Medik; 2010.
[2] Dinas Kesehatan Provinsi Bali. Profil Dinas Kesehatan Provinsi Bali. Bali; 2013.
[3] Dinas Kesehatan Kabupaten Buleleng. Profil Dinas Kesehatan Kabupaten Buleleng. Buleleng; 2013.
[4] Yanti. Buku Ajar Asuhan Kebidanan Persalinan. Yogyakarta: Pustaka Rihama; 2010.
[5] Kuswandi, Lanny. Keajaiban Hypnobirthing. Jakarta: Pustaka Bunda; 2011.
[6] Andrews, Gilly.Buku Ajar Kesehatan Reproduksi Wanita. Jakarta: EGC; 2009.
[7] Hartanto, Huriawati. Kamu Saku Mosby Kedokteran, Keperawatah dan Kesehatan Edisi 4. Jakarta: EGC; 2008.
[8] Wendy, Rose-Neil. Perawatan Kehamilan.Jakarta: Dian Rakyat; 2008.
[9] Priharjo. Perawatan Nyeri Pemenuhan Aktifitas Istirahat Pasien. Jakarta: EGC; 2007.
[10] Maryunani, A. Nyeri Dalam Persalinan. Jakarta: Trans Info Media; 2010.
[11] Hendringsih.Pengaruh Teknik Relaksasi Nafas Terhadap Nyeri Persalinan Kala II Pada Wanita Primipara di RS Bersalin Ibu dan Anak: Yogyakarta; 2009.
[12] Priharjo. Perawatan Nyeri Pemenuhan Aktifitas Istirahat Pasien. Jakarta: EGC; 2007.
[13] Winkjosastro, Hanifa. Ilmu Kandungan. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo; 2010.
[14] Andrews, Gilly.Buku Ajar Kesehatan Reproduksi Wanita. Jakarta: EGC; 2009.
[15] Hidayat, Alimul, A, Aziz. Metode Penelitian Keperawatan dan Teknik Analisa Data. Jakarta: Salemba Medika; 2007.
[16] Notoadmojo, Soekidjo. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta; 2010.
[17] Sugiyono. Metode Penelitian Pendidikan. Bandung: CV Alfabeta; 2008.
[18] Nursalam. Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan. Jakarta: Salemba Medika; 2011.