

The Effectiveness Of Deep Breathing Relaxation Technique and 4-7-8 Method against Intensity Pain during First Active Phase of Normal Delivery at Maternity Clinics in North Sulawesi

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Abstract

One way to reduce maternal death in Indonesia is with delivery attended by trained health worker and to do delivery at health facility with a concern on pain or delivery pain. An intense and prolonged delivery pain can affect the circulation or metabolism, it has to immediately overcome because it can cause fetal death (Handerson, 2005). Deep breathing relaxation technique or 4-7-8 methods are a technique to reduce pain that can give benefit because it can prevent more mistakes after the delivery. It needs an effort on how we do a method that can help reduce pain. There was a fact that health service facility hasn't effectively implemented this deep breathing relaxation technique and 4-7-8 method as intervention to handle delivery pain.

This study aims to ascertain effectiveness of deep breathing relaxation technique and 4-7-8 method regarding pain intensity on first stage active phase of normal delivery from primigravida mother at maternity clinic, in North Sulawesi.

This is an analytic study with *Quasi-experiment* design. Sample was 90 cases divided into 4 maternal clinics in North Sulawesi, taken with accidental sampling. Deep breathing relaxation technique and 4-7-8 method are the independent variable and intensity of delivery pain is the dependent variable. Data were analyzed using *Wilcoxon test* and *Chi-Square* test, there is a difference between pain intensity before and after the treatment of Relax deep breathing technique ($p\text{-value}= 0,000$) among 45 respondents in pain intensity before and after the treatment, there is also a difference between pain intensity before and after the treatment of 4-7-8 method ($p\text{-value}= 0,000$) among 45 respondents, **there is no association** of pain intensity between deep breathing technique and 4-7-8 method of breathing technique ($p\text{-value}=0,449$). We suggest to do deep breathing relax technique or 4-7-8 method to all delivery process.

Keyword: deep breathingrelaxation, 4-7-8 method, delivery pain

INTRODUCTION

The World Health Organization estimates that 800 women die every day from pregnancy complications and the birth process, about % of all maternal deaths occur in developing countries, 80% of maternal deaths are the result of increased complications during pregnancy, labor and after childbirth. Maternal Mortality Rate (MMR) in the world according to WHO

report 2014 was 289.000 people. United States 9,300 lives, north Africa 179,000 and Southeast Asia 16,000 people.

The maternal mortality rate in Indonesia (AKI) in 2013 reached 5,109 people this figure was higher than the year 2012 which was 4,985 people, due to lackness of provision of balanced nutrition for mothers and babies and the mother's knowledge of the dangers of childbirth is

still minimal (Sindonews, 2014) . Infant Mortality Rate (IMR) in Indonesia over the past 20 years has declined according to Save the Children report in 2013 of deaths in Indonesia declined from 390 per 100,000 children and in 2014 to 228 per 100,000. One of the causes of the decline of infant mortality rate in Indonesia is with the presence of health workers who have reached 73% in Indonesia, in addition to the present midwife so as to encourage reduction in infant mortality (Kompasiana, 2015)

Millennium Development Goals (MDGs), which are improving maternal and infant health status, the Ministry of Health (RI) targets to reduce infant mortality (IMR) by 32 per 100 live births by 2015 and the next target to reduce Mortality Rate (MMR) 102 per 100,000 live births in year 2015.

One way to reduce maternal mortality in Indonesia is to be assisted by trained health personnel and to deliver at health care facilities considering the pain or pain in labor. The deep breathing relaxation technique is a pain reliever technique that provides the greatest benefit because relaxation techniques in labor can prevent excessive postpartum errors. The breathing relaxation during labor can maintain the components of the sympathetic nervous system in the homeostatic state so that there is no increase in blood supply, reducing anxiety and fear so that the mother can adapt to pain during labor (Mander, 2003). The advantages of this technique is easy to do and does not require tools, relaxation involves the muscle system and respiration and does not require the tool, so easy to do at anytime.

Results of research on Differences of Deep Breath Relaxation Technique and Effleurage Massage regarding Intensity of Pain in Stage 1 Labor at Sifra Maternity Clinic, in Langowan of Minahasa Regency i.e. there are significant differences before and after giving breath relaxation technique in both blood pressure, pulse, and VAS. As for massage effleurage there is no significant difference before and after effleurage massage technique done on blood pressure and pulse (Syuul, Syenny&Fredrika 2015).

Preliminary study conducted in March 2016 at the Maternity Clinic Lydia, the average number of deliveries each month was 14 mothers, Yuli Clinic 20 maternal mother Sifra Clinic 30 maternal mother and Sutra Maternity Clinic 20 maternal mother. Observations made not all mothers in doing deep breathing techniques.

In accordance with the suggestion when presenting the results of research that should be done further research for comparison at some maternity service places so that the authors are interested in continuing research with the title "Effectiveness of deep breathing relaxation techniques and methods 4-7-8 against the intensity of pain during first active phase of normal labor at maternity clinics across North Sulawesi Province.

OBJECTIVE

To know the effectiveness of breathing relaxation techniques and method 4-7-8 against intensity pain during the first active phase of normal delivery at maternity clinics across North Sulawesi Province.

METHOD

The research design used was quasi experimental. It aims to reveal causality or influence by involving 2 groups (group A) given intervention with deep breathing relaxation technique and in group B was given method 4-7-8 at Provincial Clinics ind North Sulawesi with 85 pregnant women consisting of Sifra Clinic Langowan 30

people, Lydia Clinic Tondano 15 people, Clinic Yuli Tondano 20 and Tompasso Baru Clinic 30 people.

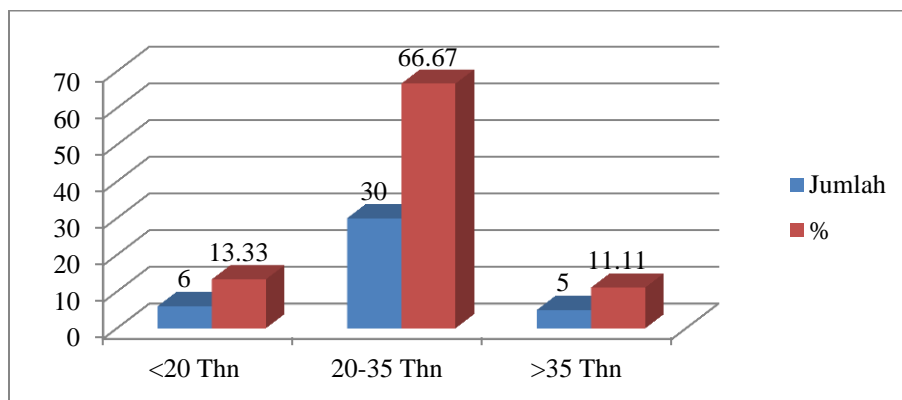
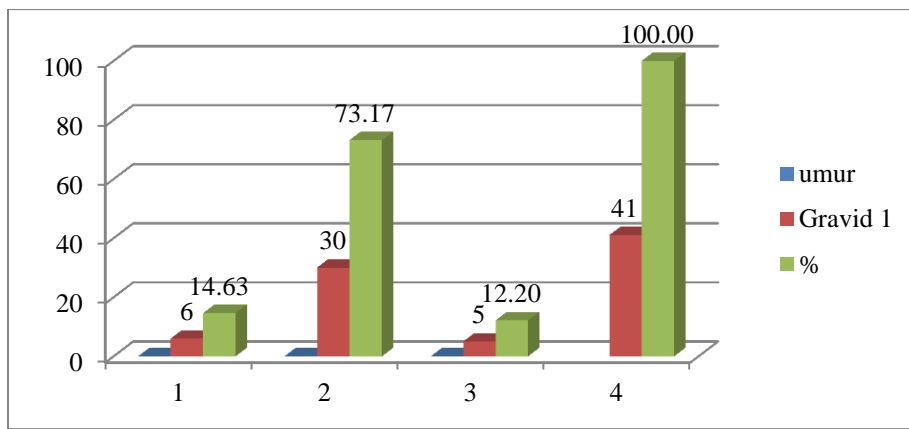
This research used non-probability sampling by using "accidental sampling" that is sample taken from respondent or case which happened to exist at the time of research.

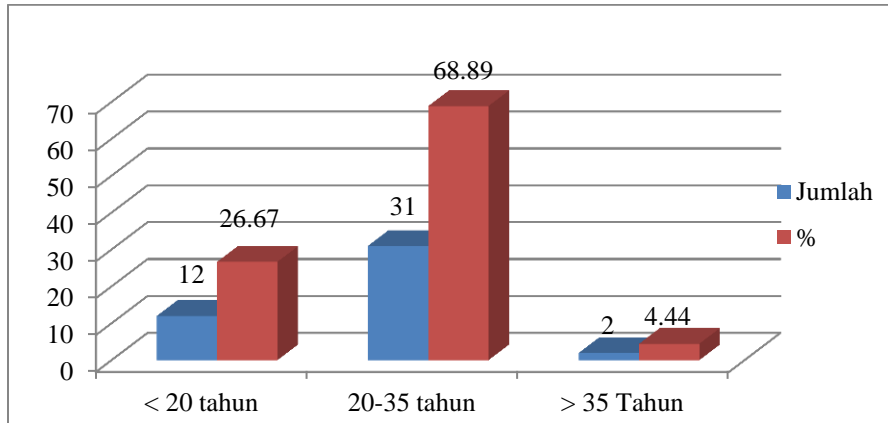
Age of respondents who had the highest parity 1 at the age of 20-35 years before treatment were 30 mothers (73.7%) <20 years 6 respondents (14.63%) and > 35 years 5 mothers (12.2%).

RESULT

1. Subject Demography

From the data above can be seen that on the of conventional relaxation breathing technique group in and the 4-7-8method.





From the data above it can be seen that in the conventional relaxation breathing technique before treatment there were 30 mothers (66,7%) who experienced severe pain, after the treatment of amount felt the intensity of severe pain decreased to 5 mothers (11,1%).

From the data above it can be seen that in the 4-7-8 breathing methods group before the treatment there were 31 mothers (75,6%) who experienced severe pain, after the

treatment of the amount that felt the intensity of severe pain decreased to 4 mothers (9.8 %).

2. Pain Intensity on Deep Breath Group

Intensity of pain in the group of deep breathing techniques in the amount of 45 respondents in the Sutra Maternity Clinic Tompaso Baru, Sifra Clinic Langowan, Yuli Maternity Clinic Tondano, Tondano Maternity Clinic as in the table below:

Pain Intensity	Before		After		p-Value
	n	%	N	%	
Light Pain	0	0	12	26,7	0,000*
Intermediate Pain	15	33,3	28	62,2	
Severe Pain	30	66,7	5	11,1	
TOTAL	45	100	45	100	

Based on the result of statistical test using *wilcoxon test* which is (difference test in paired data with ordinal scale) on 45 respondents indicated that p-value = 0.000 which means there is difference of pain intensity between before treatment with after treatment breath technique in conventional relax

3. Pain Intensity on 4-7-8 Deep Breath Technique

Based on statistical test result using *wilcoxon test* which is (different test on paired data with ordinal scale) shows that p-value = 0.000 which means there is difference of pain intensity between before

treatment with after treatment breath technique method 4-7-8

Pain Intensity	Before		After		p-value
	n	%	N	%	
Light Pain	0	0	18	36,6	0,000*
Intermediate Pain	11	24,4	23	53,7	
Severe Pain	34	75,6	4	9,8	
TOTAL	45	100	41	100	

Tabel 3. Perbedaan Intensitas nyeri setelah perlakuan pada kelompok Teknik nafas dalam rileks konvensional dengan teknis nafas Metode 4-7-8

Intensitas Nyeri setelahperlakuan	Metode 4-7-8		NafasDalam		p-value
	n	%	N	%	
Nyeri Ringan	15	36,6	12	26,7	0,449*
Nyeri Sedang-Berat	26	63,4	33	73,3	
TOTAL	41	100	45	100	

*Ujistatistik = Chi Square

Based on statistical test results using chi square test (relationship test) showed that p-value = 0.449 which means no relation / different intensity of pain between Breathing technique with breathing method 4-7-8 after treatment

DISCUSSION

The effectiveness of deep relaxation breathing in labor pain during the active 1st phase in the maternity clinic was performed in the first 10 minutes of pre test and continued on post test to measure the presence or absence of labor pain reduction stage 1 active phase by using Quasy experiment with a large sample 45.

This is consistent with the gate control theory that by diverting attention with deep breathing relaxation can reduce pain. According to Hartanti, 2005, relaxation

is an attempt to reduce pain or prevent pain so that there will be no severe by decreasing muscle tension. The deep breathing relaxation technique can decrease the intensity of pain by relaxing the skeletal muscles that experience spasm caused by increased prostaglandins resulting in vasodilation of blood vessels and will increase blood flow to spasmic and ischemic areas. In a relaxed state the body will stop production of the adrenaline hormone and all the hormones needed during stress. Because the sex hormones estrogen and progesterone and adrenaline stress hormones are produced from the same chemical building blocks. When we reduce stress then reduce the production of both sex hormones. Thus, the need for relaxation to provide an opportunity for the body to produce essential

hormones to obtain a pain-free body (Price and Wilson, 2006). So this relaxation technique is one of the interventions that can be done to reduce pain due to uterine contractions and assist the mother in indirectly affect the power and psychology of the mother so as to reduce the length of the process of delivery while keep attention to other factors that affect the smoothness of the birth process.

CONCLUSION

1. There is an different of pain intensity between pre-treatment and after-treatment using Deep Breathing Relaxation Technique on first stage normal delivery at Maternity Clinics across North Sulawesi.
2. There is a different of pain intensity between pre-treatment and after-treatment using 4-7-8 Breathing

Methods on first stage normal delivery at Maternity Clinics across North Sulawesi.

3. There is no relation/different in pain intensity between deep breathing relaxation technique and 4-7-8 breathing methods after the treatment.

SUGGESTIONS

1. To respondent

For coming labor, it is suggested to conduct the technique given.

2. To health worker

For coming labor, it is suggested to conduct the breathing method and the deep breathing method 4-7-8.

3. To researcher

It is suggested to make the SOP for deep breathing technique for relaxation and 4-7-8 method at the places of research. The SOP will help the midwives during delivery.