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Frangipani Aromatherapy Oil in the Massage of Labor First Stage Reduced Events Perineum Ruptur Spontan at the Labor

Ni Gusti Kompiang Sriasih¹, Ni Wayan Ariyani¹, Juliana Mauliku¹, Ni Nyoman Budiani¹, Anwar Mallongi²

¹Department of Midwifery Polytechnic of Health Denpasar Bali, ²Department of Environmental Health, Faculty of Public Health Hasanuddin University

ABSTRACT

Background: Labor is a physiological event, but midwifery care is required to avoid complications in the mother and fetus. Midwifery care is given during labor to reduce the incidence of perineum rupture. Primiparous are considered most at risk of spontaneous perineum rupture. Perineum rupture may result in bleeding.

The aim of this research is to know the influence of frangipani aromatherapy oil in the first stage of labor massage on maternal perineum condition.

Research type Quasi-Experimental Design with posttest control group design. The sample size was 80 people, divided into 2 treatment groups and 40 respondents respectively. Sampling technique used Consecutive sampling. Data is recorded on the observation sheet. Univariate and bivariate data analysis "Mann-Whitney". The results showed perineum conditions in the treatment group mostly did not experience laceration perineum, while the control group most respondents suffered perineum injury level one. Mann-Whitney test result obtained 399.000 with value $p = 0,000$, indicating there is the influence of aromatherapy frangipani in the first stage of labor massage to perineum condition at level of significance $p < 0,05$. The conclusion of research that there is the influence of aroma of frangipani therapy in the first stage of labor massage to perineum condition

Keywords: *massage, aromatherapy, frangipani, first stage, labor*

INTRODUCTION

Childbirth is a physiological event, but care should be given to the midwifery well to prevent maternal and fetal complications. Midwifery care is given during labor to reduce the incidence of perineum rupture. Perineum rupture occurs in almost all of the first labor, and not infrequently in subsequent labor¹. primiparous are considered most at risk for spontaneous perineum rupture². The new paradigm with Normal Birth Care, primiparous is no longer an indication of episiotomy³. Perineum rupture may result in bleeding according to the degree of laceration that occurs. In perineum rupture of degree 1 and 2 rarely occurs bleeding, but at degree 3 and

4 it often leads to bleeding and infection complications⁴.

Approximately 90% of the causes of maternal deaths in Indonesia occur at the time of delivery. Post partum bleeding accounts for 40% as the main cause. Post partum bleeding, among others, occurs because of a tear in the birth canal including the perineum is the second cause of postpartum hemorrhage, after uterine atony. Episiotomies are not routinely performed because of the increased risk of bleeding and infection. Efforts to prevent perineum rupture can be done by regulating the expulsion of the head, shoulders and the entire body of the baby using birth help with the technique of Normal Birth Care, supported by policy ministry of health number 786 /SK/VII/1999 about Normal Birth Care⁵.

Correspondency:

Ni Gusti Kompiang Sriasih

E-mail: sriasihkespro@gmail.com

Results of research in Birth Clinic Panjawi Sukoharjo Surakarta in 2015 found 60% of primiparous maternal respondents normally suffered perineum

injury⁶. Efforts that can be done so that mothers can pass the process of natural labor, not using drugs, is the authority of the midwife with the techniques of massage and aromatherapy⁷. Aromatherapy is a complementary therapy in midwifery practice using essential oils from the smell of plants to improve the physical and emotional conditions. Frangipani is one of aromatherapy that have character and benefit to increase concentration, spirit, joy, confidence, relaxation, reduce fear, depression, panic, relaxes muscle and skin⁸. In research that have been done, found no allergy to aromatherapy oil frangipani⁹.

Based on the above background researchers are interested to examine the effect of aromatherapy aroma frangipani therapy in the first stage of labor delivery to the mother's maternal perineum condition. In general, this study aims to determine the effect of aromatherapy aroma frangipani therapy in the first stage of labor massage on the perineum at the Puskesmas Pembantu Dauh Puri Denpasar and Midwife Practice Gusti Ayu Widiasih Gianyar Bali Year 2016.

MATERIALS AND METHOD

This research is Quasi-Experimental Design type, posttest control group design with propective approach. Non probability sampling technique, consecutive sampling type. The study was conducted from June to

October 2016. Research subjects of maternity mother at Puskesmas Pembantu Dauh Puri Denpasar and Midwife Practice Gusti Ayu Widiasih Gianyar. Inclusion criteria: first delivery mother, cervical uterine active phase, cooperative maternity, while pregnant antenatal classes, fetal position of the head, estimated fetal weight 2,500 grams to 4,000 grams, willing to be respondents. Data collected primary data. The treatment and control groups were determined using a simple random system. The sample size of 80 respondents was divided into 2 groups, each group was 40 respondents. Treatment group of 40 people performed massage with palms and fingers on thoracic 10, 11, 12 and lumbal 1 using aromatherapy frangipani oil, while control group 40 people performed massage using virgin coconut oil (VCO) without aromatherapy. After respondents were given back massage treatment, then observed the condition of the perineum after the baby was born, then recorded on the observation sheet. Data analysis techniques include univariate and bivariate analyzes using "mann-witney", hypothesis testing through drawing conclusions based on p value at 95% confidence level.

RESULTS

Data collection was conducted from July to October 2016 with the following results:

Table 1. Characteristics of Respondents Research The Effect of Frangipani Aromatherapy in First Stage Labor Massage to Perineum Conditions at Puskesmas Pembantu Dauh Puri and Midwife Practice GAW Gianyar

No	Characteristics	Control Group		Treatment group	
		f	%	f	%
1.	Education				
	Basic	15	37.50	14	12.5
	medium	24	60.00	26	65.00
	high	1	2.50	0	0
	total	40	100	40	100
2.	age				
	<20 years /> 35 years	2	5.00	1	2.50
	20-35 years	38	95	39	97.5
	total	40	100	40	100
3.	work				
	work	35	97.50	36	90.00
	Does not work	5	12.0	4	10.00
	total	40	100	40	100

Table 1 shows, the distribution of respondents in each type of education and age between the control group and the treatment is almost the same. The highest frequency of respondents in both groups was secondary education. The age distribution of respondents in both groups was in the range of 20-35 years. Based on work, almost all respondents in both groups work.

Table 2. Perineal state

condition of the perineum	Control Group		Treatment group	
	f	%	f	%
intact	5	12.50	23	57.50
level 1 wound	28	70.00	17	42.50
level 2 wound	7	17.50	0	0
total	40	100	40	100

Based on table 2 above it can be seen that the respondents in the treatment group more than half of the perineum condition intact, whereas in the control group the majority of respondents suffered perineum injuries level 1, and a small percentage of wound level 2.

The data normality test by Kolmogorov-Smirnov or Shapiro-Wilk test was performed before bivariable analysis. The test results obtained data is not normally distributed, thus can be done nonparametrik analysis with Mann-Whitney test.

Effect of frangipani aromatherapy in the first stage of labor massage on Perineum Conditions

Table 3. Result of Influence Analysis of Frangipani Aromatherapy In First Stage Labor Massage Against Perineum Conditions

condition of the perineum	n	level of perineal wound			Mann-Whitney	p
		0	1	2		
Control group (without aromatherapy)	40	5 (12.50%)	28 (70.00%)	7 (17.50%)	399.000	0,000
Treatment group (aroma therapy frangipani)	40	23 (57.50%)	17 (42.50%)	0 (0%)		
Total	80	18	45	7		

Table 3 shows the condition of perineum in the maternity group who received frangipani aromatherapy in the first half of labor massage I had half of the wound perineum 0 (intact), while the maternity group who did not get the aroma of frangipani therapy in the first stage of labor massage were injured perineum level 1 (70%). Mann-Whitney test result obtained 399.000 with value $p = 0,000$, indicating there is influence of aroma of frangipani therapy in the first stage of labor massage to perineum condition at level of significance $p < 0,05$.

DISCUSSION

Based on the results of research on the characteristics of respondents that the characteristics of maternal education most of the educated medium meaning from the level of education has exceeded basic education. This allows the mother to be able to receive information related to the delivery process well. The level of education may affect the maternal psychosocial to the preparation, expectation and care it will undergo¹¹. The respondent's age in the control and treatment groups is mostly at the age of 20 to 25 years. Age is one of the factors that affect one's experience. Age is indirectly associated with labor because it affects a person's emotions and affects the mother's expectation of care during labor¹².

1. Perineum wound conditions in maternity women who performed massage in the first stage of labor using aroma oil frangipani therapy and without aroma therapy.

The condition of perineal wound in the maternity group that performed the massage using frangipani aromatherapy was more than half (57.50%) the condition of perineum intact, there was no injury level 2, while in control group most (70%) had perineum wound level 1, and a small fraction (17.50%) suffered level 2 wounds.

The results of this study showed that most of the respondents who received massage with frangipani aroma oil had better elasticity of the perineum muscles compared to those without massage therapy. The combination of massage and the use of frangipani-scented oil effectively provides a relaxant effect on the mother because it can simultaneously prevent or inhibit pain impulses derived from the cervix and corpus uteri and provide a relaxant effect of the relaxant compounds contained by frangipani^{13,14}. Massage performed on the area torakcic 10,11,12, and lumbar 1 can decrease labor pain. Labor pain arises as a result of uterine contractions that cause cervical dilatation, cervical thinning, decreased head, and decreased blood flow causing tissue oxygen deprivation. This is in accordance with the results of research in Purwokerto that there are significant differences before and after the massage of labor pain during the first stage active phase¹⁵. The results of this study support the theory that emphasis and rubbing can prevent or inhibit pain impulses derived from the cervix and corpus uteri using the theoretical basis of gate control so that the pain felt by the mother is reduced^{16,17}.

The pain felt by the maternal mother is reduced as a relaxant effect contained by frangipani such as triterpenoid and relaxant amyryn elements¹⁸. This is consistent with the theory that aroma therapy is a complementary therapy in midwifery practice using essential oils from the frangipani / jepun to improve physical and emotional condition¹⁹. Frangipani fragrances enter the nasal cavity through the inhalation so that it will be recorded by the brain as a sense of smell, then the smell will be transmitted as a message to the olfactory center, delivering it to the limbic system which is then sent to the hypothalamus to be processed and may affect the psychological and emotional conditions of the maternal mother¹⁴.

2. Effects of aroma therapy frangipani in the first stage of labor massage against the condition of the perineum

Birth care based on evidence based obstetrics, one of which is not routine episiotomy. In this regard pregnancy care also aims to prepare the condition of perineum to be elastic so that when stretching at the second stage of labor does not have tears. Combination in the thoracic region of 10,11,12, and lumbar 1 using frangipani aroma therapy gives rise to a feeling of relaxation. The resulting odor response stimulates the work of brain cells to secrete enkephalin that acts as a natural pain reliever and produces a feeling of calm¹⁴.

Perineal condition in maternal group who received aroma of frangipani therapy in the first half of labor massage I had half of the wound perineum 0 (intact), while the maternity group who did not get the aroma of frangipani therapy in the first stage of labor massage mostly had perineal injury level 1 (70%). Mann-Whitney test result obtained 399.000 with value $p = 0,000$, showing there is influence of aroma of frangipani therapy in the first stage of labor massage to perineum condition at level of significance $p < 0,05$.

In this study most of the conditions of intact perineum found in maternal women who performed massage using frangipani aroma therapy. The aroma of frangipani therapy that creates a sense of calm stimulates the brain area called *raphe* nucleus to secrete serotonin secretion, thus causing feelings of relaxation, muscle tension decreases, so the muscles become more flexible. It is explained that giving aromatherapy stimulates the autonomic nervous system that controls the movement of

the respiratory system and blood pressure²⁰. Giving aroma therapy frangipani make mothers more comfortable, calm, decreased muscle tension including pelvic and perineum pelvic muscles, so the muscles become more flexible. Mother will be able to better control the breath when casting. During labor the circle of muscles around the vagina enlarges allowing the baby to be born, when the muscles are in good condition will be very flexible to enlarge and return to their original size without injury, the delivery will be faster, convenient and easier²¹⁻²³.

The flexibility and strength of the pelvic floor muscles accompanied by the strength and mental tranquility of the maternal mother, gives a good effect on the condition of the perineum after the birth of the baby¹⁹. Mothers who relax in the maternity more able to control the impulse to move well, so the perineum gets a chance to stretch slowly while giving birth to the fetus. Maximum flexibility of the muscles and relaxation then the baby's birth process will run slowly and controlled, if the pelvic muscles are stiff and the contractions too strong, the baby will be too quickly out of the uterus that can damage the perineal muscles that are just below the pelvis, muscle which cannot relax can also prolong the time of expenditure this results in pelvic muscular and neuromuscular damage²²⁻²⁴.

Ethical Consideration: This study was approved by the ethics Committee of Medical Faculty of Udayana University / Sanglah General Hospital Denpasar Bali

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