

THE EFFECTS OF PROGRESSIVE MUSCLE RELAXATION ON THE LEVEL OF ANXIETY EXPERIENCED BY THE PRIMIGRAVID WOMEN IN THE THIRD TRIMESTER IN BPM IKA MARDIYANTI PRAMBON SIDOARJO

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Abstract

Besides the psychological problem that leads to anxiety, the common problem often occurs in pregnant women is the physical problem dealing with discomfort resulting from the changes in the body shape and posture. This psychological burden is often experienced by the pregnant women, especially the primigravid women in the third trimester. The treatment for anxiety can be done by giving pharmacological and non-pharmacological therapy. One of the non-pharmacological therapies is progressive muscle relaxation, the systematic technique to achieve a state of relaxation. Therefore, this study was purposed to analyze the effects of progressive muscle relaxation on the level of anxiety experienced by the primigravid women in the third trimester. This quasi-experimental study was done using one group pretest-posttest design. The study conducted in BPM Ika Mardiyanti involved 32 pregnant women chosen by using accidental sampling technique. The instrument used to measure the level of anxiety was Zung Self-Rating Anxiety Scale (ZSAS). Moreover, the non-parametric test using Wilcoxon signed rank test with the significance level of $\alpha = 0.05$ was used to analyze the collected data. Each pregnant woman received the intervention by performing progressive muscle relaxation once a day for 10 minutes done on 3 consecutive days. The results of statistical analysis using Wilcoxon signed rank test showed that p value was 0.000 (p value < 0.05) illustrating that progressive muscle relaxation therapy was effective on the level of anxiety experience by the primigravid women in the third trimester in BPM Ika Mardiyanti, Prambon, Sidoarjo.

Key words: primigravid women, anxiety, progressive muscle relaxation.

INTRODUCTION

Pregnancy and labor are the important and unforgettable experiences. However, pregnancy may also bring risks to the health of a mother and her baby (Bobak, 2011). During pregnancy, a woman often has various pregnancy problems. One of them is dealing with physical problem which creates discomfort

resulting from the changes in the body shape and posture besides the psychological problem that leads to anxiety. The anxiety occurs during pregnancy is not far different from the anxiety experienced during labour. The severe anxiety experienced by the pregnant women during labour also causes negative reactions to the physiological

condition of the women and the fetuses that may eventually become one of the causes of the high maternal and fetal mortality rate (Danuatmaja, 2008).

The psychological factors comprise of anxiety, lack of power, and worry in facing labour process (Sumarsih, 2009). The anxiety experienced by the pregnant women is also resulted from the increasing progesterone hormone. Besides, it also causes emotional disturbances and tiredness during pregnancy that may eventually lead to antepartum bleeding (Marmi, 2011). In addition, the increase of adrenaline during pregnancy can result in dysregulation of body's biochemistry that makes pregnant women to have psychological tension or stress causing anger, restlessness, inability to concentrate; they might even want to run away from the reality. The anxiety in facing labour usually appears in the first pregnancy or primigravid (Kartono, 2007).

Anxiety which is divided into 3 levels: mild, moderate, and severe, is a combination of fear, worries, and powerlessness toward subjective things (Stuart, 2007). Moreover, pregnancy is the period of physical and psychological adaptation.

The psychological changes during pregnancy happen in each semester: trimester I, II, and III. In the first

trimester, a pregnant woman often feels worried about the real shape of the fetus inside the uterus. In the second trimester, she feels anxious and worried about the role change from the one who receives love and affection to the one who provides them for the fetus growing in her uterus. In the third trimester, the anxiety is caused by feeling worried about something that might happen to the fetus, such as birth defects, problems during labor, and labor pain (Bobak, 2011).

The treatment for anxiety experienced by the primigravid women can be done by giving pharmacological and non-pharmacological therapy in which pharmacological therapy is mostly used recently. Continuous pharmacological treatment definitely brings bad effects that can trigger addiction to certain medicines. On the other hand, non-pharmacological treatment can be performed by doing yoga, meditation, *tai chi* therapy, autogenic relaxation, and progressive muscle relaxation (Micah, 2011).

Progressive muscle relaxation is a systematic technique to achieve a state of relaxation developed by Edmund Jacobson (Triwijaya, 2014). A study entitled *The Effects of Progressive Muscle Relaxation (PMR) on The Decreasing Level of Anxiety and Depression in Patients with Cancer in The Indonesian Cancer*

Foundation located In Surabaya in 2017 shows that the level of anxiety and depression decreases after performing progressive muscle relaxation. This study shows that the treatment done once a day on 3 consecutive days for 10-20 minutes can decrease the level of anxiety and depression on day 1, 2, and 3 (Rahmawati, 2017).

The preliminary study (through observation and interview) done to 5 primigravid women in the third trimester of pregnancy showed that they had anxiety. 4 of them were afraid of having pain during labor and were worried about the condition of the baby (born in normal or abnormal condition), whereas 1 woman were anxious about the condition of the baby; she was worried that something unexpected will happen to her baby. Besides, she was also worried about the possible complications.

Based on the above-stated description, the writer was interested to conduct a study on the effects of progressive muscle relaxation on the level of anxiety in the primigravid women in the third trimester in BPM Ika Mardiyanti, Prambon, Sidoarjo (independent midwifery clinic). The results of this study are expected to develop the sciences, especially the midwifery update on progressive muscle relaxation aimed to

decrease the level of anxiety experienced by the pregnant women.

METHODS

This quasi-experimental study was done using one group pretest-posttest design. The study conducted in BPM Ika Mardiyanti involved 32 pregnant women chosen by using accidental sampling technique.

The instrument used to measure the level of anxiety was Zung Self-Rating Anxiety Scale (ZSAS). The non-parametric test using Wilcoxon signed rank test with the significance level of $\alpha = 0.05$ was used to analyze the collected data. Each pregnant woman received the intervention by performing progressive muscle relaxation once a day for 10 minutes done on 3 consecutive days.

RESULTS AND DISCUSSION

Results

1. The frequency distribution of the general data

A. Age

Table 1. The frequency distribution of the respondents' characteristic based on age in BPM Ika Mardiyanti, Prambon, Sidoarjo

Age (year)	Frequency	Percentage
< 20	0	0
20-35	30	93,8
>35	2	6,2
Total	32	100

B. Level of education

Table 2. The frequency distribution of the respondents' characteristic based on the level of education in BPM Ika Mardiyanti, Prambon, Sidoarjo

Level of Education	Frequency	Percentage
Elementary	2	6,3
Secondary	29	90,6
Higher Education	1	3,1
Total	32	100

2. The frequency distribution of the specific data

A. The level of anxiety before receiving progressive muscle relaxation

Table 3. The frequency distribution of the respondents' characteristic based on the level of anxiety before receiving progressive muscle relaxation in BPM Ika Mardiyanti, Prambon, Sidoarjo

Level of Anxiety	Frequency	Percentage
Mild	7	21,9
Moderate	23	71,9
Severe	2	6,2
Total	32	100

According to table 3, before receiving progressive muscle relaxation, most of the respondents experienced moderate level of anxiety, totaling 23 respondents (71.9 %).

B. The level of anxiety after receiving progressive muscle relaxation

Table 4. The frequency distribution of the respondents' characteristic based on the level of anxiety after receiving progressive muscle relaxation in BPM Ika Mardiyanti, Prambon, Sidoarjo

Level of Anxiety	Frequency	Percentage
Mild	22	68,8
Moderate	9	28,1
Severe	1	3,1
Total	32	100

According to table 4, after receiving progressive muscle relaxation, most of the respondents experienced mild level of anxiety, totaling 23 22 respondents (68.8 %).

3. The effects of progressive muscle relaxation on the level of anxiety experienced by the primigravid women in trimester III in BPM Ika Mardiyanti, Prambon, Sidoarjo

Table 5. The effects of progressive muscle relaxation on the level of anxiety experienced by the primigravid women in trimester III in BPM Ika Mardiyanti, Prambon, Sidoarjo

	The level of anxiety after PMR			Total	P value	
	Mild	Moderate	Severe			
	n(%)	n(%)	n(%)	N(%)		
The level of anxiety before PMR	Mild	6 (18,8)	1 (3,1)	0 (0)	7 (21,9)	0,000
	Moderate	16 (49,7)	7 (21,9)	0 (0)	23 (71,9)	
	Severe	0 (0)	1 (3,1)	1 (3,1)	2 (6,2)	
Total	22 (68,8)	9 (28,1)	1 (3,1)	32 (100)		

According to table 5, Wilcoxon signed rank test showing the statistic result in which p value was 0.000 (p value \leq 0.05) illustrated that progressive muscle relaxation was effective on decreasing level of anxiety experienced by the primigravid women in trimester III in BPM Ika Mardiyanti, Prambon, Sidoarjo. It is shown by p value which was less than the significance level = 0.05 (p = 0.000 < 0.05).

Discussion

1. The level of anxiety experienced by the primigravid women before receiving progressive muscle relaxation in BPM Ika Mardiyanti, Prambon, Sidoarjo

Based on the results of pretest, 6.2% of the respondents experienced severe level of anxiety; 71.9% experienced moderate level; and 21.9% had mild anxiety. Most of the primigravid women in the third trimester had moderate level of anxiety.

Anxiety is an emotional condition which is unpleasant characterized by stressful unexpected psychological symptoms (Davies, 2009). Anxiety manifested in unavoidable worry or fear can cause responses to the body. An individual who is often worried about something has a high risk to have anxiety (Stuart, 2007).

Anxiety experienced by the pregnant women is resulted from their incorrect perception of labor process. They often perceive labor as the fearful process that causes extreme pain It definitely causes them to have severe level of anxiety when facing childbirth (Zamriati, 2013). It is in line with the theory proposed by Zanden (2007) stating that the third trimester of pregnancy is a concrete condition

which threatens a pregnant woman that causes stress, worried, and afraid when facing labor. Besides, the level of anxiety increases during the third trimester until several minutes before labor. Labor pain is also one of the factors which brings fear and anxiety to the pregnant women before labor (Bobak, 2011).

2. The level of anxiety experienced by the primigravid women after receiving progressive muscle relaxation in BPM Ika Mardiyanti, Prambon, Sidoarjo

According to the results of posttest, 3.1% respondents had severe level of anxiety; 28.1% had moderate level of anxiety; and 68.8% experienced mild level. In short, most of the primigravid women in the third trimester experienced moderate level of anxiety. It showed that the anxiety level decreased after the treatment.

Generally, primigravid women do not have any description about the things they will face at the end of the pregnancy (during labor). This condition creates anxiety when facing labor (Bobak, 2011). Giving information about labor and childbirth is useful to increase the understanding and belief to manage the anxiety and fear about the unknown.

This claim is also supported by Zamriati (2013) stating that self-

preparation by collecting various information about labor is one of the best ways before facing labor. When a pregnant woman has got information or knowledge about the things known the things which will happen to her, the anxiety experienced by her tends to decrease (Aprilia, 2011).

3. The effects of progressive muscle relaxation on the level of anxiety experienced by the primigravid women in the third trimester in BPM Ika Mardiyanti, Prambon, Sidoarjo.

Based on the result of Wilcoxon signed rank test, p value was $0.000 < 0.05$. This result showed that progressive muscle relaxation was effective to decrease the level of anxiety experienced by the primigravid women in the third trimester in BPM Ika Mardiyanti, Prambon, Sidoarjo.

The related study on progressive muscle relaxation has been conducted by Rahmawati (2017) to measure the effects of progressive muscle relaxation (PMR) therapy to decrease the level of anxiety and depression experienced by the patients suffering from cancer in the Indonesian Cancer Foundation. This study is also supported by Suyatmo (2009) who develops progressive muscle relaxation to fight the anxiety, stress, and tension. The result of his study shows that when an individual has stress,

the muscle fibers have contractions, gets smaller and shrinks. Stress occurs when an individual gets anxious; so anxiety is gone when stress disappears.

The results of this study is in line with Astuti (2015) stating that progressive muscle relaxation can be used to decrease the anxiety level because it can give pressures to the sympathetic nerves to compress stress experienced by an individual reciprocally to create counter conditioning.

Anxiety is also affected by some factors: age and level of education. Age affects the anxiety level as shown in table 1 illustrating that most of the respondents, totaling 30 women (93.8 %) were at the age of 20-35 years.

Age brings some effects to the anxiety level. During healthy reproductive age, the safe age for pregnancy and labor is 20-35 years. The maternal death during pregnancy and labor at the age of 20 years is twice to five times higher than the maternal death happens at 20-29 years old. It increases more at the age after 30-35 years. After 35 years, half of women are classified to have high risks for congenital defects and complications during labor (Zamriati, 2013).

The level of education also affects the anxiety level as presented in table 2

illustrating that most of the respondents 90.6% graduated from secondary school Basically, education is useful to change the mindset, behaviors, and decision making pattern. The low level of education possessed by an individual will result in risks to have anxiety easily. If a patient is clearly exposed to information about her disease, she will be relaxed when receiving the medical treatment. Moderate level of education will be useful to identify both internal and external stressors. Educational level also influences the awareness and understanding of stimulus (Lutfu, 2008).

Anxiety can be decreased by performing progressive muscle relaxation aimed to stimulate the discharge of endorphin and enkephalin, as well as to stimulate the brain signals to make the muscle relaxed and increase the blood circulation to the brain.

This study is also in line with the previous study done by Praptini (2015) stating that physiologically, relaxation exercise will reverse the effects of stress involving parasympathetic nerves of the center nervous system. Relaxation will hamper the increase of sympathetic nerves so that the amount of hormones causing dysregulation of the body also decreases. The system of parasympathetic nerves which functions oppositely to the

system of sympathetic nerves will slow down or weaken the works of the internal parts of body, such as the decrease of heartbeats, the rhythm of breath, blood pressure, muscle tension, metabolic rate, and the production of hormones that cause stress. As the hormone causing stress decreases, all parts of the body start functioning more healthily with more energy for healing, restoring, and rejuvenating.

CONCLUSION

1. Based on the respondents' characteristic of the anxiety level before receiving progressive muscle relaxation, the result shows that most of them, totaling 23 respondents (71.9%) had moderate level of anxiety.
2. Based on the respondents' characteristic of the anxiety level after receiving progressive muscle relaxation, the result shows that most of them, totaling 22 respondents (68.8 %) had mild level of anxiety.
3. Progressive muscle relaxation was effective to decrease the level of anxiety experienced by the primigravid women in the third trimester in BPM Ika Mardiyanti, Prambon. Sidoarjo.

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