

# Effectiveness of Prenatal Massage and Maternity Pillow Against Back Pain of Pregnant Women Trimester III

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# Effectiveness of Prenatal Massage and Maternity Pillow Against Back Pain of Pregnant Women Trimester III at Sifra Langowan Maternity Clinic

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## Abstract

Back pain is commonly experienced by women during pregnancy. This complication resulted in the death of more than half a million back pain during pregnancy is a common complaint in pregnant women. This study aims to find out the Effectiveness of Prenatal Massage and Maternity Pillow Against Back Pain of Pregnant Women Trimester III. This research is a type of *Quasi Experimental Design* research designed by *Nonequivalent Control Group Design* which was conducted from March to November 2020. This research was conducted at SifraLangowan Maternity Clinic. Respondents in this study were pregnant women who were divided into two groups, 30 pregnant women performed Prenatal Massage and 30 Pregnant Women Maternity Pillow. Respondent criteria of this study are Trimester III Gestational Age and Pregnant Women who experience Back Pain. The data collected includes demographic data in the form of age, parity, education and employment. Data collection using Observation Sheet. The Mean value at Prenatal Massage before action 2.33 and after action is 1.26 and significantly meaningful with *p-value* 0.000. Mean Value on Maternity Pillow before action 1,00 and after action 1,50 and significantly meaningful with *p-value* 0.016. Prenatal Massage and Maternity Pillow can reduce Back Pain in Pregnant Women. Which is Prenatal Massage is more effective than Maternity Pillow.

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**Keywords:** Back Pain, Prenatal Massage, Maternity Pillow.

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## INTRODUCTION

Back pain is commonly experienced by women during pregnancy<sup>1-3</sup>. Back and pelvic pain affects approximately 35% –70% of women worldwide<sup>1</sup>. Back pain being one of the top five most common symptoms experienced during pregnancy in Australia<sup>3</sup>. More than two-thirds of pregnant women experience lower back pain and pelvic pain.

The prevalence of back pain in pregnancy reportedly varies from 50% in the UK and Scandinavia as well as 70% in Australia<sup>4</sup>. Generally, about 160 million women worldwide are pregnant. Most of these pregnancies take place safely, but about 15% suffer from severe

complications, with a third being life-threatening complications of the mother. This complication resulted in the death of more than half a million back pain during pregnancy is a common complaint in pregnant women. The figure is about 50-70 percent of pregnant women can feel it. This is due to the increasing heavy burden carried by the mother, namely the baby in the womb<sup>5</sup>. This low back pain can be felt at all levels of gestational age. But it is most felt during old pregnancy<sup>6</sup>. The high prevalence of back pain during pregnancy makes it a major health problem<sup>7</sup>.



In various regions of Indonesia reached 60-80% of people experienced back pain in their pregnancy. The position of sleep before pregnancy is a habit that will change. The recommended position for pregnant women is tilted left and right as it can maximize blood flow to the placenta. Bad sleep position affects sleep discomfort for pregnant women. Prenatal massage in addition to being able to reducing depression and anxiety in pregnant intervention to reduce anxiety and back pain experienced by mothers.

Back, neck, or pelvic pain is commonly experienced by women during pregnancy. The growth of the uterus in line with the development of pregnancy results in the strain of the supporting ligament that is usually felt by the mother as a piercing spasm that is very painful called ligament pain. This is what causes back pain. In line with gradual weight gain during pregnancy changes posture so that the body's center of gravity shifts forward. There is a tendency for the back muscles to shorten if the abdominal muscles stretch so that it can cause muscle imbalances around the pelvis and additional tension can be felt above the ligament<sup>10</sup>.

The mother's body system in the pregnancy process undergoes changes that all require an adaptation, both physical and psychological. Not all pregnant women can adapt well to the process of pregnancy, thus causing discomfort one of which is back pain. This is still one of the problems or complaints that often occur in pregnant women, this study aims to find out how the Effectiveness of Prenatal Massage and Maternity Pillow Against Back Pain of Pregnant Women

women caused by hormonal changes during pregnancy also serves to reduce Back Pain<sup>8</sup>. In addition, maternity pillow also serves to regulate the position of sleep in order to reduce disturbances and discomfort during sleep that causes back pain. In line with the results of the study from Field T<sup>9</sup>said that massage therapy can serve as an effective

Trimester III at The Maternity Clinic SifraLangowan.

## MATERIALS AND METHODS

This research is a type of Quasi Experimental Design with pretest and posttest control group design (Pretest Posttest). Pre-test observed back pain intensity. The intervention was carried out by Prenatal Massage in the treatment group and Maternity Pillow in the control group. Post-test, observation of back pain intensity. Research designed by Nonequivalent Control Group Design which was conducted from March to November 2020. This research was conducted at SifraLangowan Maternity Clinic.

Respondents in this study were pregnant women who were divided into two groups, 30 pregnant women performed Prenatal Massage, 30 Pregnant Women were given Maternity Pillow. Respondent criteria of this study are Trimester III Gestational Age and Pregnant Women who experience Back Pain. The data collected includes demographic data in the form of age, parity, education, employment. Data collection using Observation Sheet.

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## RESULT

### 1. Age of Pregnant Women

Table 1. Distribution of Respondents by Age of Pregnant Women Trimester III

No	Age	Frequency	Percentage%
1	< 20 years	11	18,3
2	20-35 years	45	75
3	>35 years	4	6,7
Total		60	100

Table 1 Shows the Age of Mother of most respondents aged 20-35 years amounted to 45 respondents (75 %).

### 2. Parity



**Table 2. Distribution of Respondents by Parity of Pregnant Women Trimester III**

No	Parity	Frequency	Percentage %
1	Primigravida	19	18,3
2	Multigravida	41	68,33
Total		60	100

Table 2 Shows the Parity of most >1 (Multipara) 41 respondents (68%).

### 3. Education

**Table 2. Distribution of Respondents by Education of Pregnant Women Trimester III**

No	Education	Frequency	Percentage %
1	SD	2	3,33
2	SMP	16	26,6
3	SMA	27	45,0
4	PT	15	25,0
Total		60	100

Table 3 Shows the education of most high school respondents amounted to 27 (45 %).

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### 4. Employment

**Table 4. Distribution of Respondents by Working For Pregnant Women Trimester III**

No	Employment	Frequency	Percentage %
1	ASN	2	3,3
2	SWASTA	7	11,7
3	WIRASWASTA	5	8,3
4	IRT	46	76,7
Total		60	100

Table 4 Shows most Jobs as a Housewife is 46 (76,7 %).

### Prenatal Massage

**Table 5. Distribution of Respondents according to back pain pre test Pregnant Women Trimester III conducted Prenatal Massage.**

No	Back Pain Phase	Frequency	Percentage %
1	No Pain	2	6,66
2	A Little Pain	17	56,6
3	A Little More Pain	10	33,3
4	More Pain	1	3,33
5	Very Painful	0	0
TOTAL		30	100

**Table 6. Distribution of Respondents according to back pain post test Pregnant Women Trimester III conducted Prenatal Massage.**

No	Back Pain Phase	Frequency	Percentage %
1	No Pain	8	26,6
2	A Little Pain	15	50
3	A Little More Pain	6	20,0
4	More Pain	1	3,3
5	Very Painful	0	0



TOTAL	30	100
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Table 7. Distribution of Respondents according to back pain Pre Pregnant Women Trimester III conducted Maternity Pillow.

No	Back Pain Phase	Frequency	Percentage %
1	No Pain	8	26.7
2	A Little Pain	15	50.0
3	A Little More Pain	6	20.0
4	More Pain	1	3.3
5	Very Painful	0	0
Total		30	100

Table 8. Distribution of Respondents according to back pain Post Pregnant Women Trimester III conducted Maternity Pillow.

No	Back Pain Phase	Frequency	Percentage %
1	No Pain	6	20.0
2	A Little Pain	8	26.7
3	A Little More Pain	11	36.7
4	More Pain	5	16.7
5	Very Painful	0	0
Total		30	100

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Table 9. Distribution of Respondents according to back pain pre post Pregnant Women Trimester III conducted Prenatal Massage.

Pre Prenatal Massage	Post Prenatal Massage										Total	
	No Pain		A Little Pain		A Little More Pain		More Pain		Very Painful		Σ	%
	Σ	%	Σ	%	Σ	%	Σ	%	Σ	%		
No Pain	2	6,7	0	0	0	0	0	0	0	0	2	26.7
A Little Pain	0	0	15	50	1	3,3	1	3,3	0	0	17	50.0
A Little More Pain	5	16,67	0	0	5	16,67	0	0	0	0	10	20.0
More Pain	1	3,33	0	0	0	0	0	0	0	0	1	3.3
Very Painful	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	26,7	15	50	6	20	1	3,3	0	0	30	100

Table 10. Distribution of Respondents according to back pain pre post Pregnant Women Trimester III conducted Maternity Pillow.

Pre Maternity Pillow	Post Maternity Pillow										Total	
	No Pain		A Little Pain		A Little More Pain		More Pain		Very Painful		Σ	%
	Σ	%	Σ	%	Σ	%	Σ	%	Σ	%		
No Pain	6	20	0	0	0	0	2	6,67	0	0	8	26.7
A Little Pain	0	0	7	23,37	8	26,7	0	0	0	0	15	50.0
A Little More Pain	0	0	0	0	3	10	3	10	0	0	6	20.0
More Pain	0	0	1	3,33	0	0	0	0	0	0	1	3.3



Very Painful	0	0	0	0	0	0	0	0	0	0	0	0
Total	6	20	8	26,7	11	36,7	5	16,7	0	0	30	100

Table 11. Effectiveness of Maternity Pillow and Prenatal Massage

Group		Mean	Q	SD	p-value
Prenatal Massage	Before	2.3333	8,449	.66089	0.000
	After	1.2667		.78492	
MaternityPillow	Before	1.0000	-2,548	.78784	0.016
	After	1.5000		1.00858	

*Paired T-Test*

Table 11 Shows Back pain before and after maternity pillow administration and Prenatal Massage is meaningful with *p-value* 0.016 in Maternity Pillow and *p-value* 0.000 in Prenatal Massage.

**DISCUSSION**

Back Pain is a common disorder in pregnant women<sup>7,11-13</sup>. Back pain affects 35% -70% of women worldwide<sup>14,15</sup>. The results of research in the prenatal massage group intensity of back pain before prenatal massage was mostly on a scale of slightly more pain 17 (56,6%), decreased to a slight scale of pain amounting to 15 (50%) after prenatal massage. In the Maternity pillow group with a slightly more pain scale amounted to 15(25%), after being given a maternity pillow the pain scale mostly increased by 1 scale to A Little More Pain 11 (18.3%).

Based on the results of paired T-Test analysis in each group showed the influence of Maternity Pillow and Prenatal Massage with Back Pain in Pregnant Women Trimester III. In line with the results of Field's research, et al<sup>8,16</sup> that there is a decrease in back pain after prenatal massage. Prenatal massage has been shown to reduce depression and back pain<sup>8,9,17,18</sup>. Back pain that is often experienced by the mother during pregnancy when pregnancy enters the third trimester with pain that often appears especially on the back, pelvis to the legs, caused by increased production of hormones while pregnant, especially estrogen hormones that affect the back especially when entering the age of 7 months part of muscle tissue and joints will develop and become more flexible<sup>11</sup>. One of the discomforts of pregnancy is back pain<sup>19</sup>. A large number of people are looking for alternatives to massage with the aim of preventing health or disease which are beneficial

both physically and psychologically<sup>20,21</sup>. Research shows that massage has profound benefits on health effects and can reduce pain<sup>21-23</sup>.

Back pain is also caused by the enlarged uterus that is getting bigger and bigger because of the growth of the fetus that causes the mother's body to become lordosis. This puts pressure on the mother's body, causing the mother back pain. Prenatal Massage and Maternity Pillow can both reduce back pain experienced by pregnant women. Maternity Pillow is useful to support the abdomen, neck, legs, and back so as to reduce pressure on the ribs, back, waist and spine. Back, neck and pelvic pain during pregnancy can have significant physical and psycho-social consequences affecting the daily health and behavioral functioning and may lead to changes in sleep patterns<sup>14,15,24-28</sup>. Many women use massage as an alternative to help treat pregnancy-related health problems including back pain<sup>14,29</sup>. Massage is useful for back pain during pregnancy. Pregnancy massage can support the physiological, structural and emotional well-being of both mother and child<sup>17,18</sup>. Massage can provide strategies for pregnant women who experience back pain and is effective for supporting health without the risks associated with pharmacological interventions. Massage can be recommended as a way to improve health during pregnancy so that Massage can be received and beneficial<sup>30</sup>.

**CONCLUSION**





In this Study Maternity Pillow and Prenatal Massage can reduce Back Pain in Pregnant Women Trimester III. Which is Prenatal Massage is more effective compared to Maternity Pillow.

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#### Conflict of interest

The authors declare no conflict of interest.

#### Advice

Prenatal Massage and Maternity Pillow are recommended to be applied to Non-Pharmacological Midwifery Care.

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