



The Effectiveness of Pregnancy Exercises on Sleep Quality in Third Trimester Pregnant Women at the Pratama Arabih Clinic Pekanbaru

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Abstract - Pregnancy is a critical period in the life of a woman. A period in which changes occur in all body systems, including cardiovascular, respiratory, hormonal, gastrointestinal, and musculoskeletal systems. Pregnant women during pregnancy experience physical and psychological changes that can cause discomfort starting from the first to third trimesters, one of which is sleep disturbances. Sleep disturbances in third trimester pregnant women are caused by discomfort, growing stomach, back pain, frequent urination, fetal movement, fatigue, leg cramps, difficulty initiating sleep, and physiological changes. Sleep disturbances result in decreased sleep quality. Pregnancy exercise is an alternative that can break the cycle of anxiety and increase the comfort of pregnant women while sleeping or to reduce the complaints of pregnant women which result in a decrease in the duration of sleep for pregnant women. The purpose of this study was to determine the effectiveness of pregnancy exercise on sleep quality in third trimester pregnant women. The type of research carried out is a quasi-experimental which was carried out on 03-24 September 2020 which was carried out at the Arrabih Pratama Clinic, Pekanbaru City. The population and samples used were all pregnant women who visited in September 2020. The results obtained p value = 0.000, so it was concluded that there was an effect of pregnancy exercise on the sleep quality of third trimester pregnant women ($p < 0.000$). It is hoped that the next research will be able to carry out different interventions to overcome discomfort in pregnant women.

Keywords: Pregnancy Exercise, Sleep Quality, Third Trimester Pregnant Women

1. Introduction

Pregnancy is the fertilization or union of spermatozoa and ovum and is continued by nidation or implantation. When calculated from the time of fertilization to the birth of the baby, a normal pregnancy will take place within 40 weeks or 9 months according to the international calendar. Pregnancy is divided into 3 trimesters, where the first trimester lasts for 12 weeks, the second trimester is 15 weeks (weeks 13 to 27), and the third trimester is 13 weeks (weeks 28 to 40) (Prawirohardjo, 2010).

Pregnant women in the third trimester feel more discomfort because they are getting closer to the time of delivery. Pregnant women must be prepared to adapt to the discomfort they feel and also need to avoid factors that can affect pregnancy so that pregnancy runs smoothly and can give birth to both mother and baby healthily. We often encounter third trimester pregnant women coming to health care facilities with various complaints such as night leg cramps, frequent urination, difficulty sleeping, edema, back pain and many other complaints (Tyastuti & Wahyuningsih, 2016)

Sleep disturbances are common among healthy nulliparous women and will increase significantly during pregnancy, so that poor sleep quality in early and late pregnancy is associated with an increased risk of preterm delivery. Other studies have shown that sleep quality during pregnancy decreases due to increased depression ((Praningrum & Hidayah, 2018). Pregnant women who have poor sleep quality can lead to several complications in pregnancy, as in a study conducted by Okun (2011), which states that sleep disturbances that occur in pregnant women can worsen inflammation of the body can cause excess production of cytokines. Cytokines are molecules associated with immune cells. When the body has excess cytokines, it can disrupt the spinal arteries leading to the placenta, causing vascular disease, and premature birth (The Indonesian Journal of Public Health, 2017).

According to Husin F, (2014) said that in a recent study conducted by the National Sleep Foundation stated that more than 79% of pregnant women experience sleep disturbances. Frequent fatigue and sleep disturbances are one of the most common complaints by pregnant women. On average, 60% of pregnant women feel tired at the end of the semester and more than 75% complain of disturbed sleep patterns.

The role of the midwife in helping mothers reduce complaints of difficulty sleeping is by suggesting to find a comfortable sleeping position, take a warm bath before bed, listen to classical music, drink a glass of warm milk or pregnant women can also overcome sleeplessness with exercise. pregnant women is a safe exercise for pregnancy. The most suitable type of exercise for pregnant women is pregnancy exercise (Mediarti et al., 2014). Pregnancy exercise is a form of structured exercise or exercise.

Pregnancy exercise as an alternative and prenatal service that can break the cycle of anxiety and increase the comfort of pregnant women while sleeping or to reduce the complaints of pregnant women resulting in a decrease in the duration of sleep of pregnant women (Wahyuni & Ni'mah, 2013). From the results of another study conducted by (Rahayu & Hastuti, 2019) concluded that pregnancy exercise has an effect on overcoming the problem of sleep disorders, namely by improving the quality of sleep in third trimester pregnant women or before delivery.

2. Table

This research was conducted on 03 – 24 September 2020 at the Pratama Arabih Clinic, Pekanbaru City. The population in this study were third trimester pregnant women at Arrabih Clinic, Pekanbaru City, who visited in September 2020. The sampling in this study used a non-random sampling technique using purposive sampling. Data processing is done by editing, coding, entry and tabulating methods. Univariate analysis is carried out to explain or describe the characteristics of each variable studied (Notoadmojo, 2013). The analysis of this study was to determine the score of sleep quality before and after pregnancy exercise. To test the effectiveness of pregnancy exercise on the quality of sleep in third trimester pregnant women at the Arrabih Primary Clinic, Pekanbaru City. The test used is the Dependent T test with the interpretation of the results if the p value <0.05 means that there is an influence of pregnancy exercise on the sleep quality of pregnant women in the third trimester, if p> 0.05, it means that there is no effect of pregnancy exercise on the sleep quality of pregnant women in the third trimester.

2.1 Bivariate Analysis Results

Table 1.

Distribution of Sleep Quality for Pregnant Women in the Third Trimester Before Pregnancy Exercises

Sleep Quality	Frequency(N)	Percentage (%)
15	2	5.7
14	2	5.7
13	2	5.7
11	9	25.7
10	7	20.1
9	11	31.4
7	2	5.7
Total	35	100 .0

From table 1, it was found that the majority of the sleep quality of pregnant women before the Pregnancy Exercises was 9, which amounted to 11 people (31.4%)

Table 2.

Distribution of Sleep Quality for Pregnant Women in the Third Trimester After Doing Pregnancy Exercises

Sleep Quality	Frequency(N)	Percentage (%)
7	3	8.5
6	7	24.5
5	10	28.6
4	15	42.9
Total	35	100 .0

Based on table 2 above, the majority of pregnant women's sleep quality after doing Pregnancy Exercises is 4, which is 15 people (42.9%)

2.2 Bivariate Analysis Results

Tabel 3.
Paired Samples Statistics

	N	Mean	Std. Deviation	Std.error mean	P.Value
Before given	35	5.63	1.653	0.301	0,000
After given		4,90	1.567	0.268	

Based on table 3 paired samples statistics, the results show that the average quality of sleep in third trimester pregnant women in the first measurement is 5.63 (poor quality), while the average quality of sleep in third trimester pregnant women in the second measurement is 4.90 (quality good).

In the statistical test, obtained p value = 0.000 so that H_0 is rejected, it is concluded that there is an effect of Pregnant Exercise on the sleep quality of pregnant women in the third trimester ($p < 0.000$).

3. Analysis

Analysis of the difference in sleep quality before (Pre-Test) and After (PostTest) doing pregnancy exercise, the results showed that the average sleep quality in the third trimester pregnant women in the first measurement was 5.63 (poor quality), while the average sleep quality for pregnant women was 5.63 (poor quality). Third trimester pregnant on the second measurement is 4.90 (good quality). In the statistical test, obtained p value = 0.000 so that H_0 is rejected, it is concluded that there is an effect of pregnancy exercise on the sleep quality of third trimester pregnant women ($p < 0.000$).

This is in accordance with research (Rahayu & Hastuti, 2019) concluding that pregnancy exercise has an effect on overcoming the problem of sleep disorders, namely by improving the quality of sleep in third trimester pregnant women or before delivery. The results of this study indicate that pregnancy exercise is very helpful in overcoming maternal sleep disorders during pregnancy through movements and breathing exercises in pregnancy exercise. One of the benefits of pregnancy exercise is to increase the duration of sleep for pregnant women. When pregnant women do these exercises regularly and correctly, they will feel a relaxing effect on pregnant women which is useful for overcoming anxiety and tension (Wahyuni & Ni'mah, 2013).

Physiologically, sleep complaints experienced by pregnant women are caused by fetal growth and fetal movement which can suppress the bladder so that it can increase the frequency of urination, the body burden is getting heavier so that it can change the structure of the spine so that pregnant women can feel discomfort in the waist area. also in the extremities which sometimes pregnant women like to experience cramps. This condition can also cause psychological changes in pregnant women, which sometimes the physical changes they experience can cause anxiety and worry when facing childbirth, this can sometimes affect the quality of sleep of pregnant women (Hidayat & Uliyah, 2015).

Pregnancy exercise is a form of structured exercise or exercise. Pregnancy exercise as an alternative and prenatal service that can break the cycle of anxiety and increase the comfort of pregnant women while sleeping or to reduce the complaints of pregnant women resulting in a decrease in the duration of sleep of pregnant women (Wahyuni & Ni'mah, 2013). Relaxation exercises in pregnancy exercise will physiologically cause a relaxing effect that involves the parasympathetic nerves in the central nervous system. Where one of the functions of the parasympathetic nerves is to decrease the production of the hormone adrenaline or epinephrine (stress hormone) and increase the secretion of the hormone noradrenaline or norepinephrine (relaxing hormone) so that there is a decrease in anxiety and tension in pregnant women which causes pregnant women to become more relaxed and calm.

Pregnancy exercise will help the mother in a relaxed state due to the formation of endorphins which have a calming effect. Thus, it is easy for pregnant women to sleep with good quality provided that pregnancy exercises are carried out regularly to get more optimal results. Pregnancy exercise can be done 3-4 times a week in the morning or evening at home with a duration of 10-20 minutes (Husin F, 2014).

4. Conclusion

The conclusion of the effectiveness of pregnancy exercise on sleep quality in third trimester pregnant women at the Arrabih Pratama Clinic showed that the majority of pregnant women's sleep quality before pregnancy exercise was 9, which amounted to 11 people (31.4%), the majority of pregnant women's sleep

quality after doing pregnancy exercise was 4 which is 15 people (42.9%), the result that the average quality of sleep in third trimester pregnant women in the first measurement is 5.63 (poor quality), while the average quality of sleep in third trimester pregnant women in the second measurement is 4.90 (good quality). In the statistical test, obtained p value = 0.000 so that H_0 is rejected, it is concluded that there is an effect of pregnancy exercise on the sleep quality of third trimester pregnant women ($p < 0.000$)

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