

EFFECTIVENESS OF PRENATAL YOGA AND PREGNANCY EXERCISE TO REDUCE BACK PAIN IN 3rd TRIMESTER PREGNANT WOMEN AT PMB YANA PERMATA SARI

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Abstract

Background The problem of back pain that occurs in pregnant women in the third trimester with an incidence varying from 50% in England and Australia to 70%, while in Indonesia it reaches 60-80% of 180 pregnant women who experience pain in the spine (Wulandari, 2020). This pain causes discomfort in pregnant women so there are various efforts that can be made to reduce this pain, one of which is holistic action, namely prenatal yoga and pregnancy exercise. **Research purposes** In general, this research aims to determine the effectiveness of prenatal yoga and pregnancy exercises to reduce back pain in pregnant women in the third trimester at PMB Yana Permata Sari. **Research methods** This research uses experimental research with pretest and posttest with control group type which has the characteristics of research that reveals cause and effect relationships by conducting trials on groups of research objects by making comparisons with the control group (Sujarweni, 2014). The research sample was 46 respondents with data collection techniques, namely interviews and questionnaires and data analysis techniques using bivariate and univariate tests. **Research result** Based on a comparison of the average value of the back pain scale from the 46 respondents, the results obtained by doing prenatal yoga reduced the level of pain by 1.48 while pregnancy exercise was only 1.18 so it was concluded that prenatal yoga was more effective in reducing the level of back pain in pregnant women in the first trimester. 3 at PMB Yana Permata Sari. **Conclusions and recommendations** This research concluded that prenatal yoga was more effective in reducing the level of back pain in pregnant women in the third trimester at PMB Yana Permata Sari.

Keywords: Back Pain, Effectiveness, Prenatal Yoga

Intoduction

Pregnancy, childbirth and postpartum are natural processes that can occur during a woman's life. Every woman who experiences pregnancy, gives birth and becomes a mother has different events and experiences. This is physiological in nature, but if it is not properly monitored and examined, it can turn into a pathological condition and threaten the condition of the mother and fetus. (Saifuddin, 2018)

Efforts to accelerate the reduction of MMR are carried out by ensuring that every mother is able to access quality maternal health services, such as health services for pregnant women, birth assistance by trained health workers in health service facilities, post-natal care for mothers and babies, special care and referrals if complications occur, and family planning services including postnatal family planning. (South Sumatra Provincial Health Office, 2022). One of the efforts made at PMB Yana Permata Sari to improve the quality of health services is by providing continuous Continuity of Care (CoC) midwifery care. CoC aims to reduce or detect risks in pregnancy. (Estining et al, 2020). Problems that occur in pregnancy are due to physical and psychological changes. During pregnancy, the mother's psychological

and physical changes such as nausea, vomiting, dizziness can make the mother feel uncomfortable. Apart from that, problems that arise during pregnancy can be felt or increasingly felt in the third trimester. One of them is back pain during pregnancy which is caused by the increased load carried by the mother, so that there is stretching of the spine and causing pain in the back area, and if it is not handled well then the quality will be poor during pregnancy. And it is possible that the problem will continue in the form of injury and may continue to recur if the problem is not handled properly (Richard, 2022).

The problem of back pain that occurs in pregnant women in the third trimester with an incidence varying from 50% in England and Australia to 70%, while in Indonesia it reaches 60-80% of 180 pregnant women who experience pain in the spine (Wulandari et al., 2020). This pain causes discomfort in pregnant women so there are various efforts that can be made to reduce this pain, one of which is holistic action, namely prenatal yoga. Prenatal yoga is very beneficial for pregnant women because it can reduce back pain in the third trimester. Prenatal yoga provides benefits for maintaining heart and lung health, overcoming stress, depression and anxiety disorders. In research by Rustiningsih, Asih and Solihin (2022) it was found that prenatal yoga can reduce complaints of back pain so that it can provide comfort during pregnancy.

With prenatal yoga, it will improve blood circulation so that the mother remains comfortable when breathing, then with the action of yoga it will also relax the body and stretch the muscles so that it will make it easier for the mother during the birthing process. Yoga can increase muscle strength, especially it is very useful in preventing back pain. Yoga exercise in this study can strengthen the muscles of mothers. The muscles that we can train during yoga are to strengthen the shoulder muscles, back muscles and leg muscles, so that this can reduce back pain during pregnancy, especially the third trimester (Rafika, 2018).

Pregnancy exercise is effective for reducing lower back pain in the third trimester. Pregnancy exercise can also increase hemoglobin levels. Pregnancy exercise is a form of structured exercise or training (Wahyuni, 2012). Ministry of Health of the Republic of Indonesia (2023) Pregnancy exercise is recommended to help train breathing and make pregnant women feel relaxed, thereby facilitating the process of adapting to body changes during pregnancy. Apart from being beneficial for the mother, pregnancy exercise is also beneficial for the health of the fetus because it can increase intelligence. This was confirmed by Muhimah N Safe'I (2010) who stated that pregnancy exercise can be done when the gestational age has entered 22 weeks (Kustriyani, Menik, et al, 2016)

Based on a preliminary study that was carried out on 10 pregnant women who were divided into 2 intervention groups, namely 5 pregnant women for prenatal yoga and 5 pregnant women for pregnancy exercise. Of the 5 pregnant women in the group, it was found that before doing yoga, all 5 pregnant women experienced severe back pain. After doing prenatal yoga, 4 people experienced a decrease in pain from severe to moderate and 1 person still felt severe pain.

Meanwhile, in the 5 pregnant women in the pregnancy exercise group, it was found that before doing the exercise, the 5 pregnant women experienced severe pain and after doing the pregnancy exercise, the results were that 2 people experienced a decrease in severe pain to moderate, 3 people still felt severe pain.

Based on the explanation of the positive impact of prenatal yoga and pregnancy exercises and the preliminary study conducted by the researchers above, the researchers are interested in conducting research with the title "Effectiveness of Prenatal Yoga and Pregnancy Exercises to reduce Back Pain in Pregnant Women in the 3rd Trimester at PMB Yana Permata Sari".

Method

This research uses experimental research with pretest and posttest with control group type which has the characteristics of research that reveals cause and effect relationships by conducting trials on groups of research objects by making comparisons with the control group (Sujarweni, 2014). The research sample was 46 respondents with data collection techniques, namely interviews and questionnaires and data analysis techniques using bivariate and univariate tests.

Result Research

5.1. Analysis Univariate

Table 5.1 Characteristic Age

Characteristic	Group		Frekuensi	Presentase
	Prenatal Yoga	Senam Hamil		
Usia Responden				
< 20 Tahun	1	1	2	4,3%
20-35 Tahun	22	22	44	95,7%
> 35 Tahun	0	0	0	0
Total	23	23	46	100%

Based on the table above, this research involved a sample of 46 respondents, in terms of age, the majority of pregnant women were 20-35 years old, namely 44 people or the equivalent of 95.7% of the total respondents with details of 22 pregnant women from the prenatal yoga group and 22 pregnant women from the pregnancy exercise group. Meanwhile, the fewest respondents were pregnant women aged < 20 years, namely 2 people or equivalent to 4.3% of the total respondents with details of 1 person from the prenatal yoga group and 1 person from the pregnancy exercise group.

5.2. Bivariate analysis

In this bivariate analysis, the Paired Samples T-Test was used to see the results before and after prenatal yoga and pregnancy exercises for pregnant women in the third trimester at PMB Yana Permata Sari. The data that will be analyzed is the data from the questionnaire that has been distributed to all research samples before and after being given treatment to each group.

1. Prenatal Yoga Group

The data analyzed is data from questionnaires that have been distributed to all samples before and after being given treatment to each group. By using the Paired Samples T-Test in the prenatal yoga group, the following results were obtained.

Tabel 5.2. Uji Paired Samples T-Test Kelompok Prenatal Yoga

Paired Samples Statistics					Std. Error
		Mean	N	Std. Deviation	
Prenatal	Sebelum	2.83	23	.778	.162
Yoga	Sesudah	1.35	23	.573	.119

Based on the table above, it can be seen that in the prenatal yoga group the average or mean value before doing prenatal yoga was 2.83 with a standard deviation of 0.778. Meanwhile, the average or mean value after prenatal yoga was 1.35 with a standard deviation of 0.573. The standard deviation after being given prenatal yoga treatment is closer to zero, the more effective it is for back pain in pregnant women in the third trimester at PMB Yana Permata Sari. Kelompok Senam Hamil

By using the Paired Samples T-Test in the pregnant exercise group, the following results were obtained.

Tabel 5.3. Uji Paired Samples T-Test Kelompok Senam Hamil

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Senam	Sebelum	2.70	23	.822	.171
Hamil	Sesudah	1.52	23	.730	.152

Based on the table above, it can be seen that in the pregnancy exercise group the average or mean value before carrying out pregnancy exercise was 2.70 with a standard deviation of 0.822. Meanwhile, the average or mean value after carrying out pregnancy exercises was 1.52 with a standard deviation of 0.730. The standard deviation after being given pregnancy exercise treatment is closer to zero, the more effective it is for back pain in pregnant women in the third trimester at PMB Yana Permata Sari.

Tabel 5.4. Perbandingan Efektivitas Prenatal Yoga dan Senam Hamil Untuk Mengurangi Nyeri Punggung Pada Ibu Hamil Trimester 3 di PMB Yana Permata Sari

Kelompok	Mean		Perbandingan
	Sebelum	Sesudah	
Prenatal Yoga	2,83	1,35	1,48
Senam Hamil	2,70	1,52	1,18

Based on the results in the table above, the analysis shows that the average value of the back pain level of pregnant women before and after the intervention in the prenatal yoga group, namely before the intervention was given, was 2.83 and after the intervention was 1.35, which means that the level of back pain in the prenatal yoga group decreased. of 1.48. Meanwhile, the average value of the level of back pain for pregnant women before and after the intervention in the pregnancy exercise group, namely before the intervention was given, was 2.70 and after the intervention was 1.52, which means that the level of back pain in the prenatal yoga group decreased by 1.18. So, based on a comparison of the average values of the back pain scale, prenatal yoga is more effective in reducing the level of back pain in pregnant women in the third trimester at PMB Yana Permata Sari.

Discussion

6.1. Discussion of Research Results

In this chapter, the results of research on the influence of the effectiveness of prenatal yoga and pregnancy exercise to reduce back pain in pregnant women in the third trimester at PMB Yana Permata Sari will be discussed. With the data collection and processing process carried out since December 2023, it was found that:

Based on table 5.1. From the total sample of 46 respondents, in terms of age, the majority of pregnant women were 20-35 years old, namely 44 people or equivalent to 95.7% of the total respondents with details of 22 pregnant women from the prenatal yoga group and also the pregnancy exercise group.

For the results of the bivariate analysis, in table 5.4, the analysis shows that the average value of the back pain level of pregnant women before and after the prenatal yoga group intervention, namely before the intervention was given 2.83 and after the intervention was 1.35, which means the level of back pain in the group prenatal yoga decreased by 1.48. Meanwhile, the average value of the level of back pain for pregnant women before and after the intervention in the pregnancy exercise group, namely before the intervention was given, was 2.70 and after the intervention was 1.52, which means that the level of back pain in the prenatal yoga group decreased by 1.18. Based on a comparison of the average values of the back pain scale, the results showed that prenatal yoga was more effective in reducing the level of back pain in pregnant women in the third trimester at PMB Yana Permata Sari.

This research is in line with previous research, namely that prenatal yoga is effective in reducing physical complaints in pregnant women in the third trimester. Based on theory, the implementation of the prenatal yoga program which is carried out twice a week by doing relaxation movements is considered capable of releasing endorphin hormones so that it can provide a response to the spinal cord. and results in reduced intensity of back pain (Rafika, 2018). This is in accordance with research results which show that the intensity of back pain after doing prenatal yoga decreased by 1.48. In addition, the increase in the hormone relaxin influences all joints and muscles in the lower back and pelvis to become flexible and more relaxed. Bunda (2022) said that pregnant women who are beginners and those who are used to doing prenatal yoga will experience benefits such as muscle flexibility, improved balance and improved circulation during pregnancy.

In research by Wulandari, Ahadiyah and Ulya (2020), the mechanism of prenatal yoga can create space to breathe comfortably, train the pelvic muscles to make them more elastic and stronger so that they are useful in facing the birthing process. Girsang (2022) added that gentle yoga movements done repeatedly can help obtain the correct body position so that pregnant women can feel comfortable doing other activities.

The results of this research are also in line with the theory put forward by Gustina and Nurbaiti (2021) that of the various benefits of prenatal yoga, the most important is to help reduce the level of back pain in pregnant women in the third trimester. So based on these studies, it can be concluded that prenatal Yoga is considered more effective in reducing the level of back pain in third trimester pregnant women at PMB Yana Permata Sari. This research also shows that the reduction in back pain levels is not based on the age or occupation of pregnant women. However, apart from that, there are several obstacles that occur in implementing prenatal yoga, namely the lack of interest and knowledge of pregnant women regarding prenatal yoga. Many pregnant women are hesitant because they have never done it before. This turns out to be in accordance with research by Nasanova, Susanti and Jannah (2022) that the anxiety and fear of pregnant women and the lack of knowledge of pregnant women can hinder the implementation of the prenatal yoga program. However, this can be overcome by providing counseling about prenatal yoga and at the same time providing direction to practice it directly regarding the steps for prenatal yoga properly and correctly.

6.2. Research Limitations

The researcher is aware of the limitations in carrying out this research, the limitations of this research are as follows: There is no standard data collection instrument in this research, so the instruments in this research were prepared by the researcher himself based on the literature obtained regarding prenatal yoga and pregnancy exercise. The research subjects know that they are being researched so that it can influence the respondents' answers (Houtthron Effect). In this research, it is independent from conflicts of individual and organizational interests.

Conclusion

The back pain scale of pregnant women before and after the prenatal yoga group intervention decreased by 1.48. The average value of the back pain level of pregnant women before and after the intervention in the pregnant exercise group decreased by 1.18. Comparison of the average scale values from back pain, the results showed that prenatal yoga was more effective in reducing the level of back pain in pregnant women in the third trimester at PMB Yana Permata Sari

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