

THE EFFECT OF PRENATAL YOGA ON MATERNAL BACK PAIN IN THE THIRD TRIMESTER OF PREGNANCY AT BANJAR BARU PRIMARY HEALTH CARE TULANG BAWANG

Rizka Safitri Marwi¹, Yuli Yantina², Astriana³

¹²³Diploma IV Midwifery Study Program, Faculty of Health Sciences, Malahayati University

* Correspondence email : yyantina42@gmail.com

ABSTRAK : PENGARUH YOGA PRENATAL TERHADAP NYERI PUNGGUNG IBU PADA TRIMESTER KETIGA KEHAMILAN DI PUSAT KESEHATAN PRIMER BANJAR BARU TULANG BAWANG

Latar belakang: Nyeri punggung adalah nyeri yang terjadi pada area lumbosakral. Nyeri punggung adalah gangguan yang umum terjadi dan ibu hamil mungkin pernah memiliki riwayat sakit punggung di masa lalu. Sebagai kemungkinan lain, nyeri punggung dapat dirasakan pertama kalinya dalam kehamilan. Upaya dalam mengatasi nyeri punggung bisa dengan salah satunya melakukan senam prenatal yoga.

Tujuan: Penelitian ini bertujuan untuk mengetahui pengaruh prenatal yoga terhadap nyeri punggung ibu hamil trimester III di Puskesmas Banjar Baru Tulang Bawang tahun 2023.

Metode: Jenis penelitian ini menggunakan eksperimental dengan pendekatan One group pretest-posttest design. Populasi dalam penelitian ini adalah 23 ibu hamil trimester III di Puskesmas Banjar Baru dengan sampel berjumlah 23 ibu hamil di ambil secara total sampling. Variabel independent adalah prenatal yoga dan variabel dependent adalah nyeri punggung pada ibu hamil trimester III. Instrumen dalam penelitian ini menggunakan lembar observasi dengan *Visual Analogue Scale (VAS)*. Pengolahan data menggunakan editing, coding, scoring, tabulating dengan Analisa data *t-Tes*.

Hasil: Hasil penelitian menunjukkan sebelum dilakukan senam prenatal yoga hampir seluruh ibu hamil mengalami nyeri punggung dengan tingkat nyeri sedang sebanyak 21 responden (91,3%), sedangkan setelah dilakukan senam prenatal yoga menunjukkan bahwa sebagian besar mengalami nyeri punggung ringan sebanyak 20 responden (87%). Berdasarkan uji *t-Tes* didapatkan hasil $p\text{-value } 0,000 < \alpha 0,05$. Oleh karena itu, dapat diartikan bahwa H_1 diterima. Kesimpulan dalam penelitian ini bahwa ada pengaruh prenatal yoga terhadap nyeri punggung ibu hamil trimester III di Puskesmas Banjar Baru Tulang Bawang tahun 2023. Diharapkan ibu hamil dapat melakukan prenatal yoga dirumah sendiri atau dapat mengikuti pelaksanaan prenatal yoga pada kelas ibu hamil.

Kesimpulan: Prenatal yoga dapat menurunkan nyeri punggung ibu hamil trimester III.

Saran: Dapat dilakukan prenatal yoga pada ibu hamil trimester III yang mengalami nyeri punggung.

Kata Kunci : Prenatal Yoga, Nyeri Punggung, Ibu Hamil Trimester III

ABSTRACT

Back pain is a discomfort that occurs in the lumbosacral area. It is a common issue, and pregnant women might have a history of back pain in the past. Alternatively, back pain might be experienced for the first time during pregnancy. One way to address back pain is by practicing prenatal yoga. This research aimed to determine the effect of prenatal yoga on back pain in pregnant women in the third trimester at Banjar Baru Primary Health Care, Tulang Bawang, in 2023.

This study employed an experimental design with a One-group Pretest-Posttest Design approach. The population consisted of 23 pregnant women in the third trimester at Banjar Baru Primary Health Care, with a sample size of 23 pregnant women selected through total sampling. The independent variable was prenatal yoga, while the dependent variable was back pain in pregnant women in the third trimester. The research instrument used observation sheets with the Visual Analog Scale (VAS). Data processing involved editing, coding, scoring, tabulating, and data analysis using a *t-test*.

The results showed that before participating in prenatal yoga, almost all pregnant women experienced back pain, with 21 respondents (91.3%) reporting moderate pain. After practicing prenatal yoga, the majority experienced mild back pain, with 20 respondents (87%) reporting such pain. The *t-test* results indicated a *p-value* of 0.000, which is less than $\alpha 0.05$. Therefore, it can be concluded that the null hypothesis (H_0) is rejected. The

conclusion of this study is that there was a significant effect of prenatal yoga on back pain in pregnant women in the third trimester at Banjar Baru Primary Health Care, Tulang Bawang, in 2023. Pregnant women are encouraged to practice prenatal yoga at home or attend prenatal yoga classes.

Keywords: Prenatal Yoga, Back Pain, Third Trimester Pregnant Women

INTRODUCTION

Pregnancy is a period that starts from conception until the birth of the fetus and the length of normal pregnancy is about 280 days (40 weeks or 9 months and 7 days) counting from the first day of the last menstruation. Third trimester pregnancy is a pregnancy that occurs in weeks 20 to 40 weeks (months seven to 9 months) (Sarwono, 2014). Pregnancy is divided into 3: the first quarter starts from conception for 3 months, the second quarter starts in the fourth month to the sixth month, the third quarter from the seventh month to the ninth month (Saifuddin, 2008 in Rut Yohana, 2022).

In the process of adaptation, it is not uncommon for mothers to experience discomfort which, although it is physiological, still needs to be given a prevention and treatment, some third trimester discomfort in pregnant women include frequent urination, vaginal discharge, constipation, flatulence, swelling of the legs, cramps in the legs, headaches, striae gravidarum, hemorrhoids, shortness of breath, and back pain (Sri Tanjung, 2019).

One discomfort that often arises is back pain. Back pain is pain that occurs in the lumbosacral area. Back pain is a common disorder, and pregnant women may have had a history of back pain in the past. As another possibility, back pain can be felt for the first time in pregnancy Back pain is so common in pregnancy that it is described as one of the minor disorders in pregnancy. Pregnant women lean their abdomen, increasing the curvature of the lower back which causes pain (Rosida Hi, et al. 2021).

Pain in the lower back is a fairly common musculoskeletal problem during pregnancy with estimated prevalence ranging from 30-70% in the United States, Europe and some parts of Africa. one third of the population with low back pain experiencing severe pain and is often associated with limitations on the ability of pregnant women to work effectively (Manyozo et al, 2019 in Dewi Nur 2022).

Previous research on the relationship between equality and the incidence of back pain at Zainoel Abidin Hospital in Banda Aceh, Indonesia, found that 36.92% of 65 people experienced back

pain, while 63.08% percent of them did not experience low back pain (Dewi Nur, 2022).

In Lampung province, some studies found that low back pain associated with pregnancy is about 25-90%. Most studies show that 50% of pregnant women experience low back pain. A third of them experience very severe pain, which interferes with their quality of life. 80% of pregnant women who experience back pain say that this disease interferes with their routine, and 10% of them say they are unable to work (Indriyani, 2023).

Previous data, collected at the Primary Health Care of Banjar Baru Tulang Bawang in 2022, showed 126 pregnant women in Trimester III, 40 of whom experienced low back pain, and the rest experienced pain in the hips, thighs, and upper back. In 2023, a total of 23 pregnant women, from January to February, experienced upper and lower back pain.

Factors that affect back pain in pregnant women include gestational age, gravida, work or activity, posture, previous history of pain, weight gain, and hormonal changes (Wahyuni, 2012). Thus, efforts or ways to overcome this pain are needed, one of which is by doing prenatal yoga including warm-up and breathing, stretching exercises, core exercises, and relaxation gently and slowly. This exercise can improve posture, relaxation, reduce muscle tension, prevent the occurrence and reduce back pain in pregnant women (Pratiyo, 2014 in Nurul Aini, 2021).

Prenatal yoga is a relaxation movement by the body that can be applied to pregnant women in the third trimester, gentle and relaxing yoga movements can make pregnant women flex their joints and calm their minds, especially in the third trimester, yoga can be done when the mother is at home or by attending yoga classes for pregnant women, in every yoga movement there are its own benefits for the mother and fetus such as strengthening the body during pregnancy preventing back pain, training breathing and improving sleep due to anxiety in the face of childbirth (Miftakul, 2021). Doing light and gentle exercises for 45-60 minutes and done 1-2 times a week can have a positive impact on pregnant women, one of which is to reduce complaints of back pain in pregnant women.

The results of the pre-survey conducted at Primary Health Care of Banjar Baru Tulang Bawang showed that ten TM III pregnant women surveyed admitted to experiencing back pain in 6 pregnant women, as well as shortness of breath in 2 pregnant women and discomfort due to increasingly tight abdominal thrusts in 2 pregnant women.

Based on this explanation, the researcher wants to know whether there is an effect of Prenatal Yoga on the back pain of third trimester pregnant women at Primary Health Care of Banjar Baru, Tulang Bawang in 2023.

RESEARCH METHODS

This research employed a quantitative approach based on the philosophy of positivism. This method was used to study certain populations or subjects, and data was collected with quantitative instruments to test predetermined hypotheses. Conducted at Banjar Baru Primary Health Care, Banjar Baru Sub-district, Tulang Bawang Regency, Lampung Province. The time of implementation of this research has been carried out in February to July 2023. The design in this study used experimental design with a One group pretest-posttest approach design, which is a measurement of two variables. The population in this study were 23 third trimester pregnant women at Banjar Baru

Primary Health Care. The sample in this study were 23 third trimester pregnant women at Banjar Baru Primary Health Care. Total sampling is sampling that includes the entire population. In this study has 2 (two) variables. The dependent variable is back pain in third trimester pregnant women and the independent variable is prenatal yoga. This study uses a Visual Analogue Scale / VAS for pain (VAS-P) measuring instrument is a unidimensional scale for measuring pain. Data processing includes editing, coding, tabulating, processing, and cleaning. In this study, the data analysis technique used was the Paired Sample t-Test test. Paired sample t-Test is a test of two paired samples.

RESEARCH RESULTS

Univariate Analysis

The average back pain of third trimester pregnant women before being given prenatal yoga at at Primary Health Care of Banjar Baru Tulang Bawang in 2023 with a mean of 56.30 which means that all respondents are in moderate pain, and the average back pain of third trimester pregnant women after being given prenatal yoga at the Primary Health Care of Banjar Baru, Tulang Bawang in 2023 with a mean of 28.61 which means that respondents are in mild pain.

Table 1
Average Back Pain of Third Trimester Pregnant Women Before and after Prenatal Yoga at at Primary Helath Care of Banjar Baru Tulang Bawang in 2023

Back Pain	N	Mean	SD	SE	95% CI
Pretest	23	56,30	11,186	2,332	51,47-61,14
Postes	23	28,61	8,633	1,800	24,88-32,34

Bivariate Analysis

Table 2
The Effect of Prenatal Yoga on Back Pain of Third Trimester Pregnant Women at at Primary Helath Care of Banjar Baru Tulang Bawang in 2023

Back Pain	N	Mean	SD	P-Value	95% CI
Pretest	23	56,30	11,186	0,000	23,619-31,772
Postes	23	28,61	8,633		

The average back pain of third trimester pregnant women before being given prenatal yoga at at Primary Health Care of Banjar Baru, Tulang Bawang in 2023 with a mean of 56.30 which means that all respondents are in moderate pain. After being given prenatal yoga with a mean of 28.61 which means that respondents are in mild pain. The results of statistical tests using dependent tests obtained a p-value of 0.000 (< α 0.05) which means

that there is an effect of prenatal yoga on back pain in third trimester pregnant women at at Primary Helath Care of Banjar Baru Tulang Bawang in 2023.

DISCUSSION

Average Back Pain of Third Trimester Pregnant Women Before Being Given Prenatal Yoga at at Primary Helath Care of Banjar Baru Tulang Bawang in 2023

The average back pain of third trimester pregnant women before being given prenatal yoga at the at Primary Health Care of Banjar Baru Tulang Bawang Health Center in 2023 with a mean of 56.30 which means that all respondents are in moderate pain.

In line with the theory of Rosida Hi, et al. (2021) Back pain is pain that occurs in the lumbosacral area. Back pain in pregnant women often occurs in general and pregnant women who have had a history of back pain in the past. Back pain is so common in pregnancy that it is described as one of the minor disorders in pregnancy. Pregnant women lean their abdomen so that it adds to the curvature of the lower back which causes pain. In line with research conducted by Girsang, Rut Yohana. 2022. "The Effectiveness of Prenatal Yoga on Back Pain in Third Trimester Pregnant Women at IMP of Rina and IMP of Ida Depok City." *Bunda Edu-Midwifery Journal (BEMJ)* 5(2): 86-93. The results showed that before Prenatal Yoga was done, third trimester pregnant women experienced moderate pain as many as 31 people (96.9%) while after Prenatal Yoga became mild pain as many as 29 people (90.6%).

In general, back pain that occurs in pregnant women is influenced by several factors, namely changes in posture during pregnancy, activity during pregnancy is also a factor in the occurrence of back pain during pregnancy. Back pain can have an impact on the activities and rest of pregnant women, the problem worsens if it turns out that the woman's abdominal muscles are weak so that they fail to support the uterus, a condition that makes the back arch lengthen (Rosida Hi, et al. 2021).

In the opinion of researchers, pregnant women experience discomfort associated with anatomical and physiological changes, one of the discomforts that often arise is back pain. Back pain is a disorder experienced by many pregnant women that does not only occur in certain trimesters, but can be experienced throughout pregnancy to the postnatal period. If back pain is not addressed immediately, this can result in long-term back pain, increasing the tendency of postpartum back pain and chronic back pain which will be more difficult to treat or cure.

Based on research conducted by researchers, back pain experienced by pregnant women is obtained due to excessive activity so that mothers can experience back pain. In addition, the increasing size of the mother's stomach can cause pregnant women to experience back pain. There is a conformity of the theory put forward with the results obtained in the study.

Average Back Pain of Third Trimester Pregnant Women After Being Given Prenatal Yoga at at Primary Health Care of Banjar Baru Tulang Bawang in 2023

The average back pain of third trimester pregnant women after being given prenatal yoga at the Banjar Baru Tulang Bawang Health Center in 2023 with a mean of 28.61 which means that respondents are in mild pain.

In line with the theory of Aswitami, Gusti, Paramita. (2017) Prenatal yoga or yoga exercises are the living science because almost all aspects of life are associated with it. Yoga gymnastics is a type of body, mind and mental exercise that really helps pregnant women flex joints, including calming the mind. This art that has long developed since thousands of years originated in India, as a form of respect for the fetus and the process of pregnancy. While the muscles around the pelvis will be made stronger will be stronger and elastic so that blood circulation becomes smooth so as to reduce pelvic and back pain during pregnancy and facilitate the process of labor.

In accordance with research conducted by Girsang, Rut Yohana. 2022. "The Effectiveness of Prenatal Yoga on Back Pain in Third Trimester Pregnant Women at IMP of Rina and IMP of Ida Depok City." *Bunda Edu - Midwifery Journal (BEMJ)* 5(2): 86-93. The results showed that before Prenatal Yoga was done, third trimester pregnant women experienced moderate pain as many as 31 people (96.9%) while after Prenatal Yoga became mild pain as many as 29 people (90.6%).

According to research by Rahmawati, et al (2021), Yoga in pregnancy is beneficial in maintaining health and emotional and physical. When a pregnant woman exercises regularly (1-2 times per week for 45-60 minutes), it can have a positive impact on pregnant women, one of which is to reduce complaints of lower back pain.

Aligned with researchers, prenatal yoga exercises performed by third trimester pregnant women can reduce back pain. Therefore, prenatal yoga exercises should be done 1-2 times every week and must be done according to SOP (Standard Operating Procedure). So that pregnant women can feel the benefits of prenatal yoga exercises to the maximum and mothers can be comfortable in undergoing pregnancy in the third trimester. There is a conformity of the theory put forward with the results obtained in the study.

The Effect of Prenatal Yoga on Back Pain of Third Trimester Pregnant Women at the Primary

Helath Care of Banjar Baru Tulang Bawang in 2023

The results of statistical tests using dependent tests obtained a p-value of 0.000 ($<\alpha 0.05$) which means that there is an effect of prenatal yoga on back pain of third trimester pregnant women at the Primary Helath Care of Banjar Baru Tulang Bawang in 2023. The results of this study are the average back pain of third trimester pregnant women before being given prenatal yoga at the Primary Helath Care of Banjar Baru Tulang Bawang in 2023 with a mean of 56.30 which means that all respondents are in moderate pain. After being given prenatal yoga with a mean of 28.61 which means that respondents are in mild pain.

Consistent with the theory of Rosida Hi, et al (2021) in general, back pain that occurs in pregnant women is influenced by several factors, namely changes in posture during pregnancy, this is in line with gradual weight gain during pregnancy, hormonal influences on ligament structures, the body's center of gravity shifts forward and when combined with weak abdominal muscle stretching, this often results in indentations in the lumbar spine, activity during pregnancy is also a factor in the occurrence of back pain during pregnancy. Back pain can have an impact on the activities and rest of pregnant women, the problem worsens if it turns out that the woman's abdominal muscles are weak so that they fail to support the uterus, a condition that makes the back arch even more elongated. So it is necessary to do prenatal yoga to flex the back muscles.

Related to research conducted by Anggasari, Yasi. 2021. "The Effect of Prenatal Gentle Yoga on Reducing the Level of Low Back Pain in Third Trimester Pregnant Women." *Midwifery Journal: Journal of Midwifery UM. Mataram* 6 (1): 34. V.A.R.Barao et al. 2022. "Overview." *Braz Dent J.* 33(1): 1-12. The results showed that there was an effect between the regularity of prenatal gentle yoga on low back pain in pregnant women at Anugrah Surabaya Maternity Hospital. Pregnant women are expected to follow routine prenatal yoga such as 1-2 times a week and using the chi square statistical test $p\text{-value } 0.01 < \alpha = 0.05$ which shows there is an influence.

Based on the results of research conducted by researchers, there are different results on the intensity of back pain in third trimester pregnant women, this is influenced by several characteristics of respondents, namely the work of housewives as many as 17 respondents (73.9%). Working mothers will experience physical fatigue due to the various

tasks they have to do. Fatigue or fatigue will indirectly worsen the pain perception of pregnant women. In addition, fatigue also causes the sensation of pain to intensify and reduce the coping mechanisms of pregnant women. While the age of the mother is not at risk (20-35 years) there are 19 (82.6%) who experience neurophysiological changes and decreased sensory perception of stimulus and increased pain threshold, often experiencing pain as an effect of hormonal changes during pregnancy. At 36 weeks gestation as many as 9 respondents (39.2%), the day will increase the size of the mother's abdomen which can cause the intensity of back pain in pregnant women to increase. Then multiparous parity as many as 11 respondents (47.9%) multiparous usually have very good abdominal muscles because these muscles have never experienced stretching before. Thus, the severity of lower back pain usually increases with parity, so women who have given birth tend to experience back pain during their next pregnancy. This is in accordance with the theory put forward with the results obtained in the study.

CONCLUSIONS

The average back pain of third trimester pregnant women before being given prenatal yoga with a mean of 56.30 which means that all respondents are in moderate pain. The average back pain of third trimester pregnant women after being given prenatal yoga with a mean of 28.61 which means that respondents are in mild pain. The results of statistical tests using dependent tests obtained a p-value of 0.000 ($<\alpha 0.05$) which means that there is an effect of prenatal yoga on the back pain of third trimester pregnant women at the Primary Health Care of Banjar Baru Tulang Bawang in 2023.

SUGGESTION

From the results of this study, the community is expected to follow or organize yoga gymnastics activities to reduce the intensity of back pain in third trimester pregnant women. Healthcare practitioners are expected to apply yoga exercise activities to reduce the intensity of pain in third trimester pregnant women, and are expected to be used as a reference for further research in reducing the intensity of back pain in third trimester pregnant women by doing prenatal yoga.

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