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The Effect of Prenatal Yoga on Back Pain in Pregnant Women

Nareswari Diska Nugraha[1], Candra Dewi Nataningtyas[2], Herdian Fitria Wdyanto Putri[1]

[1] *Undergraduate Midwifery Program, Faculty of Health, Institut Ilmu Kesehatan Bhakti Wiyata, Indonesia*
[2] *Diploma of Midwifery Program, Faculty of Health, Institut Ilmu Kesehatan Bhakti Wiyata, Indonesia*

Correspondence should be addressed to:
Nareswari Diska Nugraha
nareswari@iik.ac.id

Abstract:
Hormonal changes during pregnancy alter the soft tissue that supports and connects the muscles, thereby reducing muscle flexibility and resulting in pregnant women's back pain. The purpose of this research is to determine whether prenatal yoga helps pregnant women with back discomfort. A pre-experimental research design was used. Non-probability sampling was conducted using a one-group pre-test-post-test design. We used the accidental sampling method to select 10 participants for the sample at random. A pregnant woman who happened to meet a researcher could be used as a sample when viewed as a suitable respondent. Data collection was done with observation sheets using the Numeric Rating Scale pain scale. According to the Wilcoxon test results, H0 is rejected and H1 is obtained, the ρ value is equal to 0.001, and the α value is less than 0.05. A 1.9% decrease is indicated by the average difference of 6.40 ± 4.50 between the pretest and posttest. The findings of this study indicate that expectant mothers' discomfort can be lessened by using prenatal yoga. Prenatal yoga may help pregnant women with back pain, according to one study. Prenatal yoga is intended to be used in conjunction with other therapies as a supplemental treatment to help pregnant women with their back pain.

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INTRODUCTION

Pregnancy is a state wherein a woman has an embryo or fetus developing in her womb. Beginning on the day of the last menstrual cycle, a pregnancy typically lasts 40 weeks or 280 days. (Jeepi, 2019). Internal changes often occur by themselves during pregnancy as a result of the body's adjustment to changing pregnancy conditions (Jeepi, 2019). Pregnancy is a natural event that involves a large number of changes and adaptations in a woman's body and requires medical attention and proper care to ensure the mother's and child's health.

Pregnant women face a number of important physiological and psychological problems as they approach the third trimester, all of which require extensive treatment. During the third trimester, typical symptoms include fatigue, swollen hands and feet, shortness of breath, difficulty sleeping, and, most commonly, back pain. Based on research by Wulandari (2017) conducted on 180 pregnant women, back pain often occurs, especially in the third trimester of pregnancy, with an incidence varying from 50% in the UK and Australia to 70% in Indonesia. According to research by Mafikasari & Kartikasari (2015), the prevalence of pregnant women experiencing lower back pain in various regions of Indonesia reaches 60–80%.

The possibility of a pregnant woman experiencing complaints of back pain is greater if she has experienced back pain before pregnancy, has a history of backache in prior pregnancies, is older,

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or has had frequent births (Rahayu, Kusuma, & Sari, 2022). Untreated back discomfort during pregnancy may develop into persistent back pain, which will be more challenging to manage (Pisca, 2021). Back pain can be caused by weight gain related to pregnancy, joint instability due to ligament flexion, abnormalities in the curvature of the spine, and excessive stretching of the abdominal muscles during pregnancy, which are often the causes of back discomfort during pregnancy (Sencan, 2017). Back pain during pregnancy can reduce a woman's quality of life if left untreated. This issue will persist during pregnancy in the form of recurrent injuries or persistently worsening circumstances (Wulandari, 2021).

Pregnant women can lessen their back pain in the final trimester of their pregnancy by engaging in little activity, like prenatal yoga (Pischa, 2021). According to research by Rafika (2018), yoga can increase muscle strength and is especially useful for preventing back pain. The yoga exercises performed in this study not only strengthened the shoulder, back, and leg muscle groups but also helped maintain proper body position, which can lessen expectant mothers back pain.

The relaxing physical activity of prenatal yoga will aid expectant mothers in the second or third trimester. Expectant mothers can calm their minds and relax their joints by doing gentle and calming yoga poses, especially on the inside. Mothers can practice all the yoga poses at home or in pregnancy yoga classes during the second and third trimesters. Specific benefits include strengthening the body during pregnancy, avoiding back discomfort, breathing exercises, and better sleep due to reduced worry about giving birth. One of the five yoga pregnancy exercise methods is exercise. Yoga, breathing (pranayama), meditation, postures (mudra), and deep relaxation can also help maintain fetal health in addition to helping natural pregnancy and childbirth (Whidayanti, 2019). Based on the background, the purpose of this research is to determine whether prenatal yoga helps pregnant women with back pain.

METHOD

This research design uses pre-experimental research. This pre-experimental study is influenced by the dependent and independent variables. There are no control variables, and the samples are selected randomly. The research utilizes a single-group pretest-posttest design. In this design, before the treatment, a pretest was given to all respondents who experienced back pain; after that, they were given prenatal yoga, and after the treatment, the pain scale was assessed. The subjects of this research were 10 expectant mothers in their third trimester who experienced back pain at BPM Bidan X, Kediri City. This research technique uses total sampling. This study uses both independent and dependent variables. The independent variable is prenatal yoga for pregnant women, and the dependent variable is back pain in the third trimester. Data were assessed using the Wilcoxon test to ascertain the efficacy of prenatal yoga in lessening low back pain in third-trimester pregnant women.

RESULT

Table 1. Characteristic distribution by age

Age	Frequency	Percentage
18-21 year	5	7.7
22-31 year	5	38.5
32-41 year	7	53.8
>41 year	0	0
Total	13	100

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Table 1 indicates that out of the 13 respondents, 7 (53.8%) of the pregnant women were between the ages of 32 and 41.

Table 2. Distribution of back pain in pregnant women prior to prenatal yoga

Pain Intensity	Frequency	Percentage (%)
4	1	7.7
5	3	23.1
6	4	30.8
7	4	30.8
8	1	7.7
Total	13	100

Based on table 2, it can be seen that of the 13 respondents in this study before prenatal yoga, 8 respondents had moderate pain of intensity 4-6, intensity 4 was 1 respondent (7.7%), intensity 5 was 3 respondents (23.1%), intensity 6 was 4 respondents (30.8%). Meanwhile, severe pain was controlled with an intensity of 7-9 by 5 respondents, where intensity 7 was 4 respondents (30.8%), and intensity 8 was 1 respondent (7.7%).

Table 3. Frequency distribution of back pain after prenatal yoga in second-trimester pregnant women

Pain Intensity	Frequency	Percentage (%)
0	9	69,2
1	4	30,8
Total	13	100

Based on Table 3, the 13 respondents in this study, after prenatal yoga intervention, had mild and non-painful pain intensity. The distribution of mild intensity pain was 4 respondents (30.8%) in the pain range 1. Meanwhile, 9 respondents (69.2%) indicated no pain or a range of 0.

Table 4. Effect of prenatal yoga on back pain in pregnant women in the third trimester

Characteristics	N	Signification (p)
Pre-Intervention Pain Post Intervention Pain	13	0,001

Based on the results of the Wilcoxon test in Table 4 above, the significance value $\rho = 0.001$, which means <0.05, so H0 is rejected and H1 is accepted, so that prenatal yoga has a significant effect on reducing the intensity of back pain in pregnant women in the third trimester.

DISCUSSION

There is a distinction in typical pain before and following the intervention. The results of the study showed a p-value = 0.001, which means that there is an effect of lower back pain in pregnant women before and after pre-birth yoga. Back pain is one of the problems often experienced by pregnant women. Low back pain is discomfort that manifest beneath the ribs and above the buttock joints. Back pain in pregnant women can be caused by various things, especially in the second and third trimesters, such as weight gain, excessive twisting of the body, walking without breaks, and lifting heavy objects (Susanto and Fitriana, 2019). Back pain can occur due to the burden on the back muscles or shifts that occur in the spine (Arummega, 2022).

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Pregnancy and fetal development increase with gestational age, which causes the uterus to enlarge. With the broadening of the uterus, the tendons, muscles, nerve filaments, and back muscles will be extended. As a result, the weight to thrust the spine forward will increase, causing physical lordosis. This causes back pain in pregnant ladies (Husein, 2014). During pregnancy, back pain is the most common type of pain. Back pain can be caused by weight on the back muscles or changes within the spine that cause pressure within the joints (Tanjung Rejeki and Fitriani, 2019).

Midwives play an important role in helping mothers reduce complaints of back pain by advising mothers to maintain good body mechanics, encouraging exercise during pregnancy to strengthen their muscles, helping mothers adapt to changes in their bodies, and advising mothers to reduce activity and get more rest. period as needed (Husein, 2014). Prenatal yoga is one example of pregnancy exercise that can reduce or even prevent low back pain experienced by mothers during pregnancy. According to Fitrhriyah (2020), lower back discomfort associated with pregnancy can be overcome by using unique yoga postures and methods, which are very good for pregnant women. The science of yoga reveals how a person's physical, mental, and spiritual well-being are all connected to achieving overall health (Lebang, 2015).

Prenatal yoga may be an adaptation of yoga practices that are adjusted to the circumstances of pregnancy. The objective is to prepare pregnant ladies physically, rationally, and profoundly for the birthing process (Holden, 2019). Based on an inquiry by Rafika (2018), pre-birth yoga performed once a week for two weeks, with a p-value of 0.000 and for 30 to 60 minutes, is valuable in lessening lower back pain in pregnant ladies. Prenatal yoga employs breathing and stretching procedures. During pregnancy, the mother may encounter lopsidedness, which can cause back pain. Delicate extending with a center on adjustments and muscle adaptability will offer assistance, diminish inconvenience, and unwind muscles (Purinawa, 2016).

Pregnancy yoga consolidates certain postures and strategies that are safe for pregnant women and offers assistance to soothe the discomfort caused by their changing bodies. Pregnant women who practice yoga can help their bodies become more flexible and comfortable, improve blood circulation, and eliminate pain, swelling, and back and waist pain (Fitrhiyah, 2020).

According to research by Fitriani (2018), the effect of pregnancy yoga in diminishing lower back pain in pregnant ladies who are within the third trimester, with a crude estimate of 29 (p=0.000), as seen from the decrease in lower back pain from pre-test to post-test. Prenatal yoga not only helps in reducing back pain but can also support an overall healthy pregnancy by strengthening core muscles, increasing flexibility, and reducing stress. Prenatal yoga may be an adaptation of yoga practices that are adjusted to the circumstances of pregnancy. The objective is to get pregnant ladies ready physically, rationally, and profoundly for the birthing process (Purinawa, 2016). Based on research by Rafika (2018), prenatal yoga performed once a week for two weeks, with a p-value of 0.000, and for 30 to 60 minutes, is useful in reducing lower back discomfort in pregnant women. Prenatal yoga uses breathing and stretching techniques. During pregnancy, the mother may experience an imbalance, which can cause back pain. Gentle stretching with a focus on balance and muscle flexibility will help reduce discomfort and relax muscles (Pisca, 2021).

CONCLUSION

The outcome of the speculation test within the inquiry appeared as a p-value of 0.001, which demonstrates the effectiveness of pre-birth yoga in diminishing back pain for pregnant women in the 3rd trimester. There are also limitations in this research, such as researchers only using one group, so it is impossible to compare it with other therapies.

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REFERENCES

Arummega, M. N., Rahmawati, A., & Meiranny, A. (2022). Faktor-Faktor yang Mempengaruhi Nyeri Punggung Ibu Hamil Trimester III: Literatur Review. *Oksitosin : Jurnal Ilmiah Kebidanan, 9*(1), 14–30. https://doi.org/10.35316/oksitosin.v9i1.1506

Babbar S, Hill JB, Williams KB, Pinon M, Chauhan SP, Maulik D. (2016). Acute fetal behavioral Response to prenatal Yoga: a single, blinded, randomized controlled trial (TRY yoga). *Am. J. Obstet. Gynecol, 213*(3), 309.e1-8.

Fitrhriyah, R. D. (2020). Pengaruh Prenatal Message Terhadap Penurunan Nyeri Punggung Pada Ibu Hamil Trimester III (Di Desa Ceweng, Kecamatan Diwek, Kabupaten Jombang). *Jurnal Kebidanan,* 36-43.

Fitriani, L. (2019). Efektivitas Senam Hamil dan Yoga Hamil terhadap Penurunan Nyeri Punggung Pada Ibu Hamil Trimester III di Puskesmas Pekkabata. *JKESMAS: Jurnal Kesehatan Masyarakat, 4*(2), 72.

Husein, F. (2014). *Asuhan Kehamilan Berdasarkan Bukti.* Sagung Seto

Jeepi. (2019). *Pengantar Asuhan Kebidanan.* CV. Trans Info Media.

Lebang, E. (2015). *Yoga Atasi Back Pain.* Pustaka Bunda

Mafikasari, A. & Kartikasari, R. A. (2015). Posisi Tidur Dengan Kejadian Back Pain (Nyeri Punggung) Pada Ibu Hamil Trimester III.

Mu'alimah, M. (2021). Pengaruh Prenatal Yoga Terhadap Nyeri Punggung pada Ibu Hamil Trimester III. *Jurnal Kebidanan.*

Pisca, M. A. (2021). Pengaruh Prenatal Yoga Terhadap Nyeri Punggung Ibu Hamil Di PMB Ami Amalia Jakarta Timur Tahun 2021. *Undergraduate thesis*.

Purinawa, Ryan. (2016). *Buku Saku Yoga.* An-Nuha Publishing.

Rafika, R. (2018). Efektifitas Prenatal Yoga terhadap Pengurangan Keluhan Fisik pada Ibu Hamil Trimester III. *Jurnal Kesehatan, 9*(1), 86. https://doi.org/10.26630/jk.v9i1.763

Rahayu, B., Kusuma, R. M., & Sari, A. A. (2021). Optimalisasi Gerakan Yoga untuk Mengurangi Ketidaknyaman pada Kehamilan. *Jurnal Pengabdian Masyarakat,* 53-62.

Sencan, S., Ozcan-Eksi, E. E., Cuce, I., Guzel, S., & Erdem, B. (2017). Pregnancy-related low back pain in women in Turkey: Prevalence and risk factors. *Elsevier Masson,* 33-37.

Susanto, V.A & Fitriana Y. (2019). *Asuhan Kebidanan pada Kehamilan.* Pustaka Baru Press.

Tanjung Rejeki, S., & Fitriani, Y. (2019). Pengaruh Yoga Prenatal terhadap Nyeri Punggung Pada Ibu Hamil Trimester Ii Dan Iii Di Lia Azzahra Mom & Baby Spa Tegal. *Indonesia Jurnal Kebidanan, 3*(2), 67–72.

Wulandari. (2021). *Asuhan Kebidanan – Kehamilan.* Media Sains Indonesia.