



## The Effect of Yoga Exercise on Back Pain Reduction of Pregnant Women

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### ABSTRACT

Back pain is one of the most common complaints among pregnant women in their third trimester. In Indonesia, back discomfort affects 18% of the population. Yoga is a body, mind, and mental practice that can assist pregnant women in flexing their joints and soothing their brains, especially during the third trimester. The research objective was to recognize the effect of yoga on reducing back pain in the third trimester of pregnant women at the independent midwife practice of Bekti Deka Mardiana in 2021. This research type was quantitative with a pre-experimental design and a one-group pre-test and post-test approach. The participants in this study were all third-trimester pregnant women who had back pains at an independent midwife practice of Bekti Deka Mardiana, in December 2021, with a total of 21 respondents and a sample of 16 people. Purposive sampling was used in the sampling process. Wilcoxon was utilized for data analysis. The results of this research indicate that the average back pain in the third trimester of pregnant women before yoga exercise is 4.94 and after yoga exercise is 1.94. The p value for the Wilcoxon test was  $0.000 < 0.05$ , indicating that yoga activity has a p value of 0.000 for lowering back pain in pregnant women in the third trimester at the independent midwife practice of Bekti Deka Mardiana in 2021. It is suggested that mothers attend programs for pregnant women who hold yoga exercises to avoid back discomfort on a regular basis.

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#### Kata kunci:

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### ABSTRAK

Salah satu keluhan ibu hamil yang paling umum di akhir kehamilan adalah nyeri punggung. Prevalensi nyeri punggung di Indonesia adalah 18%. Senam yoga adalah latihan untuk pikiran, tubuh dan jiwa yang membantu ibu hamil menekuk persendian dan menenangkan pikiran, terutama di akhir kehamilan. Tujuan dari penelitian ini adalah untuk mengetahui efektivitas latihan yoga dalam mengurangi nyeri punggung pada ibu hamil di akhir kehamilan di PMB Bekti Deka Mardiana. Jenis penelitian ini adalah kuantitatif dengan menggunakan pre-experimental design dan pendekatan pre-test dan post-test design. Populasi penelitian ini berjumlah 21 orang dan jumlah sampel 16 orang untuk seluruh ibu hamil akhir yang mengalami nyeri punggung bawah di PMB Bekti Deka Mardiana bulan Desember 2021. Teknik sampling yang digunakan adalah Target Sampling. Analisis data menggunakan Wilcoxon Hasil penelitian ini menunjukkan rata-rata nyeri punggung pada ibu hamil trimester 3 yaitu 4,94 sebelum latihan yoga dan 1,94 setelah latihan yoga. Hasil uji Wilcoxon diperoleh p-value sebesar 0,000 & lt; 0,05 berarti latihan yoga efektif menurunkan nyeri punggung pada ibu hamil tua di PMB Bekti Deka Mardiana tahun 2021, dengan p-value 0,000. Disarankan agar ibu hamil dapat menghadiri kelas ibu hamil secara teratur untuk mencegah sakit punggung.

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## INTRODUCTION

The gestation period is the period from conception to the birth of the baby for 280 days starting from the first day of the last menstrual period. A normal pregnancy can be a problem or every pregnant woman has the possible risks associated with her pregnancy to life-threatening conditions so that every pregnant woman needs care. One of the discomforts that often occurs in the third trimester pregnant women is back pain (Carvalho et al, 2017). Yoga was a body, mind, and mental activity that is particularly beneficial to pregnant women in the second and third trimesters for flexing their joints and soothing their brains (Wagiyo and Putrono, 2016).

Back discomfort during pregnancy is common in Europe, America, Australia, and China, including mountainous places in Taiwan and rural regions of Africa, as well as among Nigerian upper-class women. Among women who suffered back pain during pregnancy, approximately 16% had reported the location of back pain during the first 12 weeks of gestation, 67% at week 24, and 93% at week 36 (Kristiansson, 2015). Based on research conducted on 869 pregnant women in the United States, England, Norway and Sweden, there was 70-86% of pregnant women experience low back pain. (Gutke, 2017).

According to Ramachandra's research (2017) in India, 33.7 percent of pregnant women experience low back discomfort in the third trimester, which occurred in 261 pregnant women. In Indonesia, back discomfort affects 18% of the population. Low back pain (LBP) becomes more common as people become older, with the majority of cases occurring in their middle and early forties (Rama chandra, 2017).

Back pain is a symptom and not a disease. Back pain can range from mild discomfort to painful pain. As the uterus enlarges, the center of gravity in pregnant women will move forward. This displacement will cause the mother to adjust her standing position. These body changes can trigger a lumbar curvature (lordosis) and a compensatory spinal

thoracic curvature (kyphosis). This kind of mechanism will occur in the fourth and ninth month of pregnancy, and will last until twelve weeks after giving birth (Geta, 2020).

Walking in the morning, indoor cycling, aerobics, and water exercise dance, and yoga were some of the preventive measures that can be taken throughout pregnancy to keep the mother and fetus healthy and ensure a normal birth. Yoga, pilates, kegels, and hypnotherapy are some of the fitness options for pregnant women (Rafika, 2018).

Yoga is a practical attempt to integrate the body, mind, and spirit. Yoga benefits include the formation of a firm posture, the development of muscles that are flexible and powerful, and the purification of the central nerve system in the spine. Pregnant women's problems during the third trimester, one of which is back discomfort, can be reduced by practicing yoga throughout this cheval (Devi, 2014).

## RESEARCH METHODS

This study employed quantitative research with a pre-experimental design and a one-group pretest and posttest design. The population in this research was all third trimester pregnant women who suffered back pain at the independent midwife practice of Bekti Deka Mardiana on December 2021 with a total were 21 people. After selecting the sample based on the inclusion and exclusion criteria, 16 pregnant women met the criteria. So that the sample in this research were all pregnant in the third trimesters who suffered back pain at the independent midwife practice of Bekti Deka Mardiana with a total of 16 people. Purposive sampling was used in the sampling technique. Yoga exercises are taught to pregnant women between the ages of 28 and 36 weeks of their pregnancy. Qualified midwives performed the intervention, which lasted 30 minutes twice a week for three weeks. The NRS scale was used to assess back pain in this study. Wilcoxon was utilized for data analysis.

## RESULTS AND DISCUSSION

**Table 1.**  
**The average of back pain in the third trimester of pregnant women before yoga at the independent midwife practice of Bekti Deka Mardiana in 2021**

Back Pain	N	Mean	Standard Deviation	Min-Max
Before Yoga Exercises	16	4,94	1,289	3-7

According to the findings, the average score of back pain before yoga activity was 4.94, with a standard deviation of 1.289, a minimum pain score of 3 and a maximum pain score of 7.

An imaginary transverse line through the end of the spinous process of the last thoracic vertebra, inferiorly through the end of the spinous process of the first sacral vertebra, and laterally through a vertical line that runs through the spine pulled from the lateral border of the lumbar spine defines low back pain (LBP) (Rinta 2013).

Low back pain in pregnancy was an unpleasant disorder caused by the uterus's growth and increased body weight, which causes the muscles to work harder, putting stress on the muscles and joints (Tyastuti, 2016).

The findings of this study concede from those of Mu'alimah (2021), who found that pregnant women before doing yoga had a mean value (average back pain scale) of 4.69, a median (middle value) of 5.00, a mode (often back pain scale) of 5, and a standard deviation of 1.138. The minimum value of the back pain scale is 3 and the maximum value of the back pain scale is 7.

According to the researcher's assumption, back pain is a symptom of discomfort in third trimester pregnant women caused by the increase in pregnancy and the increase in fetal weight, causing the mother to experience back pain which can interfere with the activities of pregnant women. To overcome these complaints, it is necessary to give intervention to pregnant women, one of which is by doing yoga exercises.

**Table 2.**  
**The average of back pain in the third trimester pregnant women after yoga exercise**

Back pain	N	Mean	Standard Deviation	Min-Max
After Yoga Exercise	16	1,94	1,340	0-4

According to the findings, the average back pain after yoga practice was 1.94, with a standard deviation of 1.340, a lowest pain score of 0 and a maximum pain score of 4.

One sort of non-pharmacological pain reduction therapy was yoga. Yoga was a practical endeavor to harmonize body, mind, and spirit, as well as establishing strong postures, strengthening muscles that are flexible and powerful, and cleansing the central nerve system in the spine. The goal of yoga is to physically, psychologically, and spiritually prepare pregnant women for the birth process. With thorough planning, mothers will feel more secure in having a smooth and comfortable birth. If yoga activities are performed according to the rules and guidelines, the mother will experience maximum advantages and feel at ease during her pregnancy (Mediarti et al, 2014).

Pregnancy yoga can help with general physical complaints such as back pain, pelvic pain, and swelling of the body. Based on the findings of previous studies, it can be concluded that pregnancy yoga can bring balance to various aspects of the body, mind, and personality, resulting in users full of energy, strength, and clarity of purpose in life. If pregnant women do it every week during pregnancy, it can

help maintain the elasticity and strength of the ligaments of the pelvic muscles, hips, and legs, which can help reduce pain during labor and provide space for birth (Rusmita, 2015).

The findings of this study support those of Safarina (2018), who found that 12 respondents were in mild pain (scale 2.50) with a pain scale value of at least 1 (mild pain) and a maximum pain scale of 5 (severe pain), with a standard deviation of 1.243. So that there is a difference in the mean on the low back pain scale before 5.17 with a standard deviation of 1.030 and the low back pain scale after 2.50 with a standard deviation of 1.243 after being given yoga practice.

According to the researcher's views, respondents who suffer from back discomfort require yoga practice, and respondents began to follow the researchers' advice to do yoga after the researchers informed them about the benefits of yoga for pregnant women. The results in the field showed that after implementing the prescribed yoga exercise, the discomfort gradually began to fade. Yoga techniques are extremely simple to perform and help to relax the mind.

**Table 3.**  
**The effect of yoga in reducing back pain in pregnant women of the third trimester at the independent midwife practice of Bakti Deka Mardiana 2021**

Back Pain	N	Mean	P value
Before yoga exercise	16	4,94	0,000
After yoga exercise	16	1,94	

According to the findings, the average back pain before and after doing yoga activity was 4.94 and 1.94 respectively. The Wilcoxon test yielded a p value of 0.0000.05, indicating that yoga exercise has an effect on lowering back pain in pregnant women in the third trimester at an independent midwife practice of Bakti Deka Mardiana in 2021.

To assist pregnant women with back pain, two types of nursing interventions might be performed: pharmaceutical therapy and non-pharmacological therapy. In this study, non-pharmacological therapy was used instead of medicines. Complementary therapy (yoga exercise) is one type of non-pharmacological therapy that is most beneficial for relieving back pain in pregnant women since it includes the most exercises for the spine (Tilbrook et al, 2011).

These exercises will flex and strengthen the bone system, muscles and joints become more flexible so they are not easily injured. Yoga exercise can also prevent osteoporosis of the spine, therefore the left and right parts of the bone structure have rows of sympathetic and parasympathetic nerve nodes that work autonomously, so that when practicing yoga the nerve nodes will be massaged intensely which makes them healthier (Wiadnyana, 2015).

Yoga is a practical approach to balancing body, mind and spirit. The benefits of yoga include the formation of strong postures, the development of flexible and strong muscles, and the purification of the central nervous system located in the spine. Yoga exercises performed during the third trimester of pregnancy can relieve some of the complaints

experienced by pregnant women during the third trimester, including low back pain. Yoga exercise carried out in the third trimester of pregnancy can reduce the complaints felt by pregnant women during the third trimester, one of which is low back pain (Mediarti, 2014).

Pregnant women who do physical exercise using yoga exercises can increase endorphins. Pregnancy gymnastics and yoga include relaxation, long breathing exercises, and meditation. Physical exercise can increase endorphins and pregnant women will relax, calm down, and can inhibit painful stimuli that arise during pregnancy and childbirth. In addition, the hormone enkephalin with physical exercise during pregnancy will increase naturally. This hormone works with endorphins as pain transmission inhibitors (Hidayati, 2019).

The findings of this study agree with those of Latifah et al (2021), who found that the results were significant (p = 0.000), indicating that yoga exercise has an effect on reducing low back pain in third-trimester of pregnant women. Furthermore, Wulandari (2020) supports this study by demonstrating that the p value is 0.000, indicating that prenatal yoga has an effect on back pain in third-trimester pregnant women. Prenatal yoga helped reduce back discomfort in pregnant women in their third trimester, according to the findings of this study.

According to the researcher's assumptions, yoga can lowering back pain in pregnant women by using relaxation techniques that can be done by imagining something fun in

order to relax the body, maintain elasticity and strength of the pelvic ligaments, hips, and leg muscles.

## CONCLUSION

In 2021, the average score of back pain in third-trimester pregnant women was 4.94 before yoga activity and 1.94 after yoga exercise at an independent midwife practice of Bekti Deka Mardiana, according to the findings. The effect of yoga in reducing back pain in third-trimester pregnant women had a p value of 0.000.

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