

# NURSING INTERVENTIONS USING PREGNANT GYMNASTICS IN NY. N TO REDUCE BACK PAIN IN TRIMESTER II PREGNANCY

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## Abstract

**Background:** Pregnancy is the period from the start of fertilization until the fetus's birth. Every body system will experience various changes during pregnancy; one of the physiological complaints is the back. Back pain during pregnancy needs to be treated immediately because it can lead to chronic back pain. Pregnant gymnastics is a non-pharmacological management that has no side effects to reduce back pain and is beneficial to improve maternal and fetal health and reduce pregnancy complications. **Objective:** Applying nursing care to Mrs. N through the intervention of pregnant gymnastics to minimize back pain in second-trimester pregnant women in Sungai Kitano Village, Martapura Timur Sub-district. **Methods:** This study uses a case study with a pregnant gymnastics intervention conducted for 4 meetings in 2 weeks on Mrs. N with second-trimester pregnancy. **Results and Discussion:** There is a decrease in the pain scale from 3 (mild) to 0 (no pain). Pregnant exercises can reduce back pain in pregnant women, and implementation shows that pregnant gymnastics can reduce back pain. **Conclusion:** Pregnant gymnastics is effective in reducing back pain in pregnant women. It is recommended that future researchers provide pregnant gymnastics interventions for third-trimester pregnant women.

**Keywords:** back pain, pregnancy gymnastics, pregnancy

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## Background

Pregnancy is the period from the start of fertilization until the fetus's birth. Everybody's system will experience various changes during pregnancy. Some of the changes that can occur include social, psychological, and physical changes. Therefore, a pregnant woman must be mentally and physically prepared (Mongi, 2022). A woman's body will undergo significant changes during pregnancy. These changes are caused by the development of the fetus in the womb and include biochemical, physiological, and even psychological changes in addition to changes in body weight and shape (Kurniasih, 2019).

Discomfort or changes in pregnant women can occur in each trimester of pregnancy. In line with physiological adaptations in second-trimester pregnancy, several discomforts can occur, such as edema, back and waist pain, itching and stiffness in the fingers, bleeding gums, abdominal cramps, hemorrhoids, frequent urination, difficulty sleeping, heartburn, shortness of breath and increased sweat production (Handayani & Anggi, 2023). Pregnancy

pain is a common problem, especially during the second and third trimesters (Nurlitawati & Aulya, 2022).

Back pain is one of the most common discomforts. Pregnant women often experience lower back discomfort due to changes in the musculoskeletal system, such as abdominal expansion caused by the fetus (Prananingrum, 2022). Back pain is defined as pain originating from the lumbosacral region of the spine and supraspinal components (Wahyunita, 2023). In addition to causing back pain, carrying extra weight makes the muscles work harder, which puts pressure on the joints (Aulianisa & Corniawati, 2023).

Back and pelvic pain affects approximately 35-70% of women worldwide (Darmawan & Kamaliyah, 2023). According to data from the Kementerian Kesehatan Indonesia (2020), there are approximately 5,221,784 pregnant women in Indonesia. According to data on the incidence of back pain during pregnancy in Indonesia, 47% of 180 pregnant women surveyed experienced back

discomfort. About 10% percent of pregnant women experience chronic back pain, which begins in the early trimester and peaks in the second and third trimesters. In contrast, about fifty percent of pregnant women experience back discomfort (Amanda & Mansoben, 2024).

Back pain in pregnancy needs to be treated immediately because it can lead to chronic back pain, which is more difficult to treat or cure, postpartum back pain, and long-term back pain (Nurlitawati & Aulya, 2022). Pregnancy gymnastics is a non-pharmacological management that has no side effects, reduces back pain, improves maternal and fetal health, and reduces pregnancy complications (Sari & Pratama, 2020).

In addition to overcoming back pain, pregnancy gymnastics can provide long-term benefits until childbirth. The benefits of pregnancy gymnastics include reducing labor pain, maintaining and strengthening important pelvic floor and abdominal wall muscles, reducing back and waist pain, practicing breathing techniques, improving mood, improving sleep quality, and reducing stress and pain.

### Method

This research uses a case study in providing nursing care, which aims to assess the differences before and after giving the pregnancy exercises intervention to reduce the pain intensity of pregnant moms by using an observation sheet to measure the scale of back pain with the Numerical Rating Scale (NRS). Data collection was carried out for 4 meetings in 2 weeks by researchers with respondents at 11.00 WITA.

Previously, respondents were given health education using a booklet regarding pregnancy exercises to reduce back pain, and after this health education, respondents could do it independently. Assessments were conducted before and after intervention for 10-15 minutes on respondents experiencing back pain. The place to do the exercise can be anywhere as long as it is safe and comfortable, for example, on a bed. Repeat the movement 3-5x in the left and right positions. This exercise can also be done in conjunction with other non-pharmacological techniques.

## RESULTS AND DISCUSSION RESULTS

### Analysis of Back Pain Intensity Levels Before Pregnancy Exercises Intervention

Table 1. Diagnosis of Acute Pain Before Pregnancy Exercises Intervention

Provocation	Work or a lot of activity
Quality	Throbbing pain
Regio	Back and waist down
Severity	2 (light)
Time	After finishing the activity, the duration of pain is $\pm$ 2 minutes.

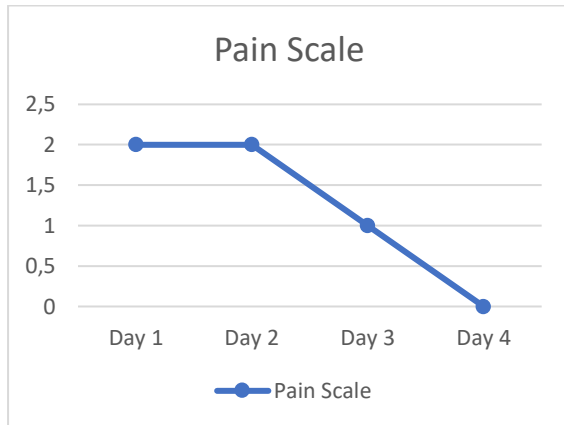
The International Society for the Study of Pain defines pain as an unpleasant sensory and emotional experience that causes actual or potential tissue damage. Pregnant women who experience low back pain in the musculoskeletal area often feel uncomfortable (Arummega & Rahmawati, 2022).

Back pain can be treated in several ways, but pharmacological treatment during pregnancy can cause adverse side effects, including gastrointestinal problems, impaired renal function, edema, and hypertension. To reduce these side effects, non-pharmacological or traditional medicine can be used as an alternative therapy to treat back pain complaints without the risk of side effects (Amalia, 2020; Sulastri, M., Nurakilah, 2022). The form of intervention offered to Mrs. N to help manage pelvic pain during pregnancy is pregnancy exercises.

Pregnancy exercises are a type of physical exercise performed by pregnant women to make the muscles and ligaments of the pelvic bones more elastic. In addition to helping pregnant women relax during contractions, pregnant exercises can also help pregnant women control breathing during labor (Sari, 2023).

### Analysis of Back Pain Intensity Levels Before Pregnancy Exercise Intervention

Table 2. Diagnosis of Acute Pain After Pregnancy Exercises Intervention



Pregnancy exercises aim to improve the function of the heart, blood vessels, and lungs in distributing oxygen and nutrients throughout the body, as well as developing a positive body attitude and strengthening and stretching the muscles, especially the muscles involved in the labor process, to reduce complaints and physical discomfort in pregnant women (Ilmu and Faletahan 2018; Nurfazriah & Fitriani, 2021). The calming effect of prenatal exercises can help stabilize anxiety and minimize fear, in addition to physical and mental relaxation, as well as information that prepares them to experience what will happen during labor and birth.

Before doing pregnancy exercises, Mrs. N's back pain was on a scale of 3 (mild). The pain Mrs. N feels is a physiological process of the body, especially when entering the second trimester of pregnancy. Another factor that can aggravate the pain level is the daily physical activity.

Then, on the first day of the intervention, there was a decrease in the pain scale to 2 (mild), and on the fourth day after the intervention of pregnant gymnastics, there was a decrease in the pain scale to 0 (none).

Pregnancy exercises are a mild form of exercise that pregnant women can do. Through physical and mental relaxation, as well as information obtained to prepare pregnant women to know what will happen during childbirth, the calming effect of pregnancy exercises can help stabilize anxiety and minimize fear. (Nurfazriah & Fitriani, 2021).

### **The Effect of Pregnancy Exercise on Reducing Back Pain in Pregnant Women**

Pregnancy exercises are a type of physical exercise that pregnant women do to make the muscles and ligaments of the pelvic bones more

elastic. In addition to helping pregnant women relax during contractions, pregnancy exercises can also help pregnant women control breathing during labor (Anggraeni & Setyatama, 2018). In pregnancy exercises, movements that circulate oxygen to the body include relaxation exercises. These exercises have a double benefit: launching ischemic muscle tissue and reducing pain (Anggraeni & Setyatama, 2018; Sari, 2023).

Pregnancy exercises aim to improve the function of the heart, blood vessels, and lungs in distributing oxygen and nutrients throughout the body. Better blood circulation, decreased swelling, improved muscle balance, reduced risk of gastrointestinal disorders, such as constipation, decreased leg spasms or cramps, strengthening of abdominal muscles, accelerated postpartum healing, improved sleep quality, mastery of breathing techniques and the ability to control oneself to calm down (Rukiyah & Yulianti, 2019; Yunanda & Lumbanraja, 2022).

Pregnant gymnastics exercises during pregnancy will physiologically reduce the effects of stress on the parasympathetic nervous system. Relaxation stops the sympathetic nervous system from increasing, which decreases the hormones that cause the body to become disorganized. The body will work better due to reduced heart rate, respiratory rhythm, blood pressure, muscle tension, metabolism, stress hormones, and hormone production (Sari, 2023).

Researchers realize that in implementing this study, limitations can affect the research process, including adjusting the intervention's implementation time to the next day, often at different times. Mrs. N's condition did not allow intervention, such as feeling sleepy and not feeling well.

### **Conclusion**

Nursing implementation for Mrs. N is to apply Pregnant Gymnastics, which is carried out for 4 meetings in 2 weeks a day with a minimum exercise frequency of 1 time a day when back pain appears. The results of the evaluation during the intervention, from the provision of pregnant gymnastics, showed that the

respondent stated that the pain she felt was slowly decreasing every day with an average of 1 level on the pain scale.

It is hoped that future researchers can maximize the activities of pregnant gymnastics by comparing the activities carried out by respondents because it can affect the effectiveness of these gymnastics and provide this pregnancy gymnastics intervention to third-trimester pregnant women.

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