



## Implementation of Prenatal Yoga to Relieve Low Back Pain in Pregnant Women

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### ORIGINAL ARTICLE

#### ABSTRACT

Feeling comfortable during pregnancy improves overall quality of life. Pregnant women who feel comfortable are better able to enjoy their pregnancy, participate in social activities, and maintain positive relationships with their partners and families. The physical and hormonal changes that pregnant women experience cause discomfort, such as low back pain, which pregnant women commonly experience. Managing low back pain during pregnancy can prevent long-term musculoskeletal problems. Yoga exercises for pregnant women have many benefits, one of which is to overcome low back pain that is often experienced during pregnancy. This study aims to describe prenatal yoga is effective in relieving low back pain in pregnant women. This study used a Quasy Experiment research design using an equivalent time sample design model. The population of pregnant women in this study were pregnant women TM II and III who made visits who made ANC visits at the Independent Practice of Midwife Nurhikmah Hildayanti Cirebon Regency. The sampling method in this study was non probability sampling similar to consecutive sampling. Data collection was carried out using an observation sheet, by recording the level of decrease in the intensity of low back pain, after the intervention was carried out to reduce the intensity of low back pain by doing pregnant gymnastics and yoga. The results showed a decrease in the intensity of low back pain experienced by respondents after prenatal yoga was done both at the first meeting to the fourth meeting. The application of prenatal yoga carried out in the Independent Practice of Midwife Nurhikmah Hildayanti Cirebon Regency can relieve low back pain in pregnant women TM II and III.

**Keywords:** Yoga Exercises, Antenatal Care, Pregnancy.

#### ABSTRAK

Rasa nyaman selama kehamilan meningkatkan kualitas hidup secara keseluruhan. Ibu hamil yang merasa nyaman lebih mampu menikmati kehamilannya, berpartisipasi dalam kegiatan sosial, dan mempertahankan hubungan yang positif dengan pasangan dan keluarga mereka. Perubahan fisik dan hormon yang dialami ibu hamil menyebabkan ketidaknyamanan, seperti nyeri pinggang, yang biasanya dialami ibu hamil. Mengatasi nyeri pinggang selama kehamilan dapat mencegah masalah muskuloskeletal jangka panjang. Senam yoga untuk ibu hamil memiliki banyak manfaat, salah satunya adalah mengatasi nyeri pinggang yang sering dialami selama kehamilan. Penelitian ini bertujuan untuk mendeskripsikan yoga prenatal efektif dalam meringankan nyeri pinggang pada ibu hamil. Penelitian ini menggunakan desain penelitian *Quasy Eksperimen* dengan menggunakan model *equivalent time sample design*. Populasi ibu hamil dalam penelitian ini adalah ibu hamil TM II dan III yang melakukan kunjungan yang melakukan kunjungan ANC di Praktek Mandiri Bidan Nurhikmah Hildayanti Kabupaten Cirebon. Metode pengambilan sampel dalam penelitian ini adalah *non probability sampling* sejenis *consecutive sampling*. Pengambilan data dilakukan dengan menggunakan lembar observasi, dengan mencatat tingkat penurunan intensitas nyeri pinggang bawah, setelah dilakukan intervensi penurunan intensitas nyeri pinggang bawah dengan melakukan senam hamil dan yoga. Hasil penelitian menunjukkan penurunan intensitas nyeri pinggang yang dialami para responden setelah dilakukannya prenatal yoga baik pada pertemuan pertama sampai dengan pertemuan keempat. Penerapan yoga prenatal yang dilakukan di Praktek Mandiri Bidan Nurhikmah Hildayanti Kabupaten Cirebon dapat meredakan nyeri pinggang pada ibu hamil TM II dan III.

**Kata Kunci:** Senam Yoga, Antenatal Care, Kehamilan.

## INTRODUCTION

Feeling comfortable and healthy is needed by pregnant women in carrying out daily activities because it is important for both the mother and the fetus in the womb. Feeling comfortable during pregnancy improves overall quality of life. Pregnant women who feel comfortable are better able to enjoy the pregnancy experience, participate in social activities, and maintain positive relationships with partners and family. However, hormonal changes and physical changes experienced by pregnant women make discomfort appear such as low back pain which is experienced by many pregnant women. Low back pain is a common problem that is often experienced by pregnant women, especially in the second and third trimester of pregnancy. Low back pain can cause significant discomfort and interfere with daily activities. Reducing this pain is important to maintain the mobility and ability of pregnant women to perform daily tasks. Limited mobility can negatively impact overall health, including increasing the risk of other medical conditions such as deep vein thrombosis (DVT). Ongoing pain can impact the mental health of pregnant women. Chronic pain is often associated with an increased risk of depression and anxiety. Feeling comfortable during pregnancy helps to maintain emotional and mental balance, which is important for the well-being of pregnant women (Mardliyana et al., 2022).

Optimal maternal physical and mental health has a direct impact on fetal development. Mothers who are pain-free and comfortable tend to have better sleep patterns, adequate nutrition, and less stress, all factors that contribute to healthy fetal development. Avoiding low back pain and maintaining comfort during pregnancy can help prepare the mother's body for labor. Muscles and joints that do not experience pain or excess tension tend to be better prepared for the labor process. This can also reduce the risk of complications during labor (Siburian et al., 2021).

Managing low back pain during pregnancy can prevent long-term musculoskeletal problems (Dewi et al., 2024). Poorly managed low back pain may continue after delivery and become a chronic condition requiring further medical intervention. To achieve comfort and avoid low back pain, pregnant women are advised to take several steps such as exercising regularly with mild to moderate intensity, maintaining good posture, using a support pillow while sleeping, and consulting health professionals such as doctors or physiotherapists for appropriate advice (Apreliasari & lin Wahyuni, 2018).

Yoga exercises for pregnant women have many benefits, one of which is to overcome low back pain that is often experienced during pregnancy (Winarni & Nuryanti, 2020). Yoga contains various poses designed to increase flexibility and muscle strength, especially in the lower back, pelvis, and abdominal areas. Increased strength and flexibility of these muscles can help support the spine better, reduce pressure on the lower back, and reduce low back pain. Good posture is especially important during pregnancy as changes in weight and body shape can lead to poor posture, which in turn can lead to low back pain. Yoga helps improve posture by teaching correct body position and good balance (Erna et al., 2022).

Yoga involves gentle stretching and relaxation techniques that can reduce muscle tension in the lower back. The breathing techniques used in yoga can also help reduce stress and tension, which often worsen low back pain. Yoga movements and poses can improve blood circulation, including in the back and waist area. Better circulation helps reduce swelling and inflammation that can be the cause of pain (Suwares et al., 2023). Overall, yoga provides a holistic approach to managing low back pain in pregnant women by combining physical exercise, breathing techniques, and meditation that all contribute to physical and mental well-being. However, it is important for pregnant women to consult a doctor or prenatal yoga instructor before starting a yoga program to ensure that the practice is safe and appropriate for their health condition.

Midwives have a very crucial role in improving the quality of mothers and children, one of which is in ante natal care services. Midwives are expected to upgrade their competence in providing comprehensive and complementary services or care. One of the complementary services that midwives can provide to pregnant women is to do prenatal yoga and massage for pregnant women.

Complementary therapy is a way of overcoming disease that is carried out as a supporter of conventional medical treatment or as a treatment of other options outside conventional

medical treatment. The principle of complementary therapy is therapy provided as a complement to the applicable midwifery care standards. Complementary therapy is a non-conventional treatment that does not originate from the country concerned. The term complementary medicine or alternative medicine refers to a broad set of health care practices that are not part of the country's own tradition. Efforts that can be made by health workers are to provide health education about the prevention or treatment of low back pain in pregnant women including transverse exercises, pelvic floor exercises and stretching in general. These exercises train the tone of the deep transverse abdominal muscles which are the main postural support of the spine during pregnancy.

This study aims to describe and analyze the effectiveness of prenatal yoga in relieving low back pain in pregnant women. This research is expected to be an additional experience and skills in providing midwifery care and it is hoped that the results of this study can be useful for agencies in providing counseling and information or input in improving services. The results of this study are also expected to be a treasure of new insights for the development of midwifery science.

## RESEARCH METHODS

This study used a Quasy Experiment research design using the equivalent time sample design model, which is a research design consisting of two groups of samples that are equivalent in time. Sample A is given X1 treatment and sample B is given X2 treatment. Then both are observed and carried out repeatedly. Data collection was carried out using an observation sheet, by recording the level of decrease in the intensity of low back pain, after the intervention decreased the intensity of low back pain by doing pregnant gymnastics and yoga. The data analysis technique used in this study is to use descriptive analysis that describes the implementation of each meeting.

The population of pregnant women in this study were pregnant women TM II and III who made ANC visits at the Independent Practice of Midwife Nurhikmah Hildayanti, totaling 30 people. The sample in this study were pregnant women who visited the Independent Practice of Midwife Nurhikmah Hildayanti who experienced low back pain and who had not and rarely participated in pregnant gymnastics totaling 25 people. The sampling method in this study was non-probability sampling similar to consecutive sampling, namely every pregnant woman who experienced low back pain in trimester II and III who met the inclusion and exclusion criteria was included in the sample until a certain period of time, until the required number of samples was met.

## RESULTS

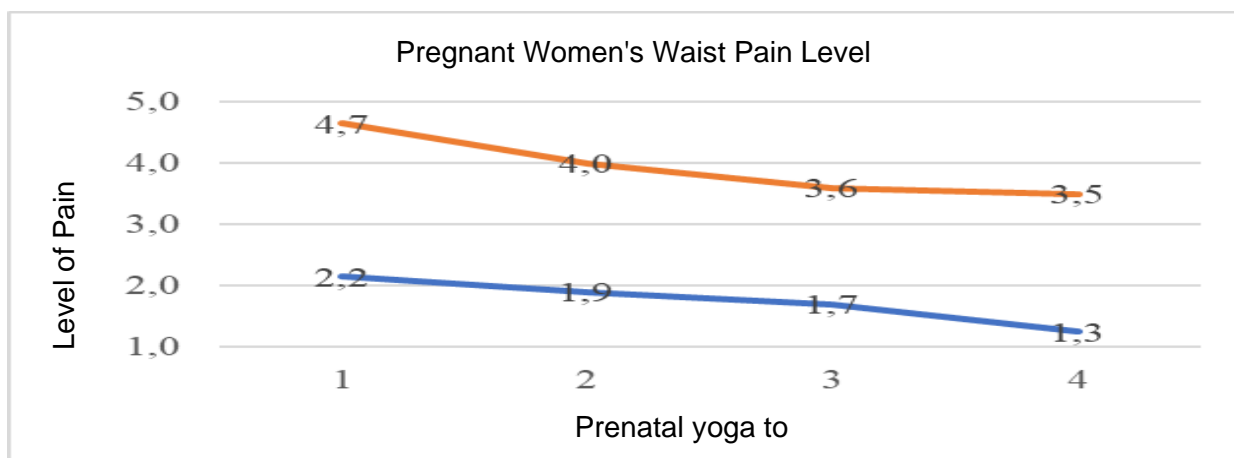
**Table 1.** Characteristics of Respondents

Characteristics	Total	Percentage (%)
<b>Age</b>		
< 20 Years	2	6,7%
20-25 Years	11	36,6%
> 25-30 Years	15	50%
> 30-35 Years	2	6,7%
> 35 Years	-	
<b>Gravida</b>		
First	15	50%
Second	8	26,7%
Third	5	16,6%
Fourth	2	6,7%

Respondents in this study were pregnant women aged between 20-30 years. The age of pregnancy when the research was conducted was in the third trimester, totaling 30 pregnant women. During the third trimester, the respondents complained of low back pain which made them uncomfortable and interfered with their daily activities. Based on observations, low back pain experienced by respondents often appears at night before bedtime. Some factors that affect low back pain are anxiety,

### Observation of Waist Pain Intensity

Yoga is done 4 times a meeting in 2 weeks, at each meeting pain observations are made of respondents using a numerical pain scale observation sheet. This aims to determine the effect before and after prenatal yoga on low back pain. The following is a comparison chart of the intensity of low back pain in pregnant women before and after prenatal yoga.



**Description:**

■ Before Doing Prenatal Yoga  
■ After Doing Prenatal Yoga

**Graph 1.** Comparison of Low Back Pain Intensity in Pregnant Women Before and After Doing Prenatal Yoga

### Implementation of Prenatal Yoga Techniques

Prenatal yoga activities were carried out for 2 weeks in 4 meetings. Prenatal yoga was conducted at the research site, namely Nurhikmah Hildayanti Midwife Independent Practice with a duration of between 10 to 20 minutes for each meeting. The following is an explanation of the process of implementing prenatal yoga in third-trimester pregnant women in the Independent Practice of Midwife Nurhikmah Hildayanti:

**Table 2.** Description of Prenatal Yoga Implementation

Meeting	Description
First	The first meeting, prenatal yoga was carried out guided by researchers from the initial movement to the final movement, pregnant women were directed to do each movement correctly.
Second	The second meeting, prenatal yoga was carried out with researchers giving examples of prenatal yoga movements and pregnant women following prenatal yoga movements but there were several movements that were still difficult for pregnant women to follow without direct direction.
Third	The third meeting, prenatal yoga has been done independently from the initial movement to the final movement by pregnant women properly and correctly but still with the assistance of researchers.
Fourth	The fourth meeting, every prenatal yoga movement has been memorized by the pregnant women so they only need to be accompanied without being directed by the researcher.

### DISCUSSION

Prenatal yoga is one of the pregnant sports activities that aims to train muscle elasticity and relieve problems in pregnant women such as low back pain. Prenatal yoga is a combination of pregnant gymnastics movements with antenatal yoga movements consisting of respiratory movements (pranayama), positions (mudras), meditation and relaxation that can help smooth out pregnancy and childbirth.

The first meeting was observed pain intensity using a numeric pain scale to determine the intensity of pain before and after prenatal yoga. Before prenatal yoga, the pain intensity of the pregnant women (respondents) was 5 (very sad, strong, deep, stabbing pain like sprains), measured using a pain scale. The pain experienced by pregnant women (respondents) is due to the habitual pattern of activities of pregnant women (respondents) everyday, namely as housewives, pregnant women (respondents) often do activities that bend over such as washing dishes, washing clothes, it is one of the causes of low back pain experienced by pregnant women (respondents).

Yuliyani et al., (2023) state that daily habits can affect the level of pain that mothers, these activities are related to things that cause tension in the muscles so that it will have an impact on pain during pregnancy. After doing prenatal yoga for 10-20 minutes, pregnant women (respondents) feel more relaxed, comfortable and the pain experienced by pregnant women (respondents) is reduced to 4, namely (sad, strong, deep pain like toothache and pain stung by wasps), besides that the author also provides information about the benefits of prenatal yoga and provides support to pregnant women (respondents) to do this prenatal yoga so that pregnant women (respondents) are eager to follow prenatal yoga well.

At the second meeting, the observation of pain intensity was carried out again using a numerical pain scale, before prenatal yoga the pain experienced by pregnant women (respondents) ranged on a scale of 4, namely (sad, strong, deep pain such as toothache and pain stung by wasps), the scale was still the same at the time of the first meeting after prenatal yoga, after a deeper study of the reactions by pregnant women (respondents) to pain such as anxiety and anxiety for fear that this low back pain will be sustained due to the lack of knowledge possessed by pregnant women (respondents) regarding low back pain in pregnant women in trimester III is one of the factors that cause low back pain to appear.

Amin et al, (2017) state that the reaction to pain is how a person responds to pain, such as fear, anxiety, anxiety, crying, and screaming. In responding to pain, ignorance and inability can increase pain perception. Pregnant women (respondents) admitted to feeling anxious because this was their first pregnancy and lack of knowledge about physiological changes in third trimester pregnant women, one of which is low back pain caused by uterine growth. Uterine growth in third trimester pregnant women causes changes in posture, estrogen and progesterone hormones whose levels increase affect uterine enlargement that occurs in the first months of pregnancy, the normal weight of the uterus is approximately 30 grams.

At the end of pregnancy (40 weeks), the uterus weighs 1,000 grams. In addition, anxiety affects physical and psychological discomfort in third trimester pregnant women, such as fear in the face of labor and the safety of the baby. Anxiety will increase stress so that it can increase tension in pregnant women as a reaction to pain. After doing prenatal yoga for 10-20 minutes, the pain experienced by pregnant women (respondents) decreased, namely on a scale of 3 (can be tolerated, the pain is felt like being punched or injected). At this meeting the author provides information about physiological changes in third trimester pregnant women so that pregnant women (respondents) do not need to feel anxious about the problems they are experiencing at this time, because this is a common thing that happens to pregnant women, especially when entering the third trimester.

The third meeting before prenatal yoga the pain intensity of the pregnant women (respondents) on a scale of 4 (sad, strong, deep pain like toothache and pain stung by wasps), this scale returned up 1 number from the second meeting, After an in-depth assessment, the pregnant women (respondents) said that lately they were taking care of their nephews so that the pregnant women (respondents) were too tired so that it affected the resting patterns that caused the pregnant women (respondents) to sleep less, Heryani, (2019) states that increased pain results in sleep disturbances, fatigue, and muscle tension in each individual affects the pain felt by that individual. In addition, the habitual pattern of activity of pregnant women (respondents) makes their hip pain return. Wahyuni, (2023) states that daily habits can affect the level of pain experienced by mothers, these activities are related to things that cause tension in the muscles so that they will have an impact on pain during pregnancy. After prenatal yoga was done at the third meeting, pregnant women (respondents) said the pain was reduced to scale 3, namely (tolerable, pain is very painful like being punched in parts or injected).

This meeting the author advised pregnant women (respondents) not to do activities that could make the low back pain increase again, one of which was not taking care of her nephew first considering that the pregnant women (respondents) were heavily pregnant and needed adequate rest. At meeting 4 before prenatal yoga, the researcher observed the intensity of pain and obtained a scale of 2, namely (unpleasant, mild pain like being pinched), this scale dropped 1 number from the third meeting, after the assessment the mother said that she did prenatal yoga regularly within 5-10 minutes a day, this made the mother's low back pain complaints decrease and get better. After the assessment was carried out prenatal yoga for 10-20 minutes, the low back pain experienced by pregnant women (respondents) was reduced to 1, namely (pain is almost not felt, very mild like a mosquito bite).

At this meeting, pregnant women (respondents) already understand what factors can affect the low back pain they experience so that pregnant women (respondents) can avoid things that can worsen the pain they feel, after 4 meetings to do prenatal yoga with certain movements focused on the waist, pregnant women (respondents) feel changes in the pain they experience, Haslin et al., (2023) state that muscle stretching movements in prenatal yoga make oxygen circulation in the blood smooth so that it makes the body muscles relax so as to minimize and even eliminate discomfort that is often felt during pregnancy such as pain in the waist.

This study found changes in the intensity of low back pain after prenatal yoga was done 4 times a meeting for 2 weeks. The care that a midwife can give to pregnant women with low back pain problems is one of them by teaching mothers prenatal yoga, some of these prenatal yoga movements are specifically for pregnant women with low back pain, where this prenatal yoga movement is focused on the mother's waist area with the aim of reducing muscle tension caused by some of the factors above which causes blood flow in certain parts to become smoother so that the pain felt by the mother will decrease. if prenatal yoga is done regularly, with the right movements it can reduce and even eliminate the problem of low back pain in pregnant women, If prenatal yoga is done regularly, with the right movements it can reduce and even eliminate the problem of low back pain in pregnant women, for that pregnant women must be consistent in doing prenatal yoga in order to get maximum benefits and results.

## **CONCLUSION**

Based on research conducted on second and third trimester pregnant women with low back pain, it can be concluded that there is a decrease in the intensity of low back pain experienced by respondents after prenatal yoga. The respondents were able to follow every prenatal yoga movement well. Some factors that affect low back pain in respondents include anxiety, habitual patterns of daily activity, physiological changes in pregnant women in trimester II and III can be overcome after prenatal yoga and counseling. It is recommended that midwives can improve care services for pregnant women with low back pain problems and teach mothers how to prevent low back pain in second and third trimester pregnant women, one of which is with prenatal yoga and for pregnant women to apply prenatal yoga in reducing low back pain and apply it during pregnancy.

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