



The Effect of Yoga Exercises on Back Pain in Third Trimester Pregnant Women

Ika Nur Saputri

Institut Kesehatan Medistra Lubuk Pakam

ARTICLE INFO

Article history:

Received December 04, 2019
Accepted February 12, 2020
Published June 05, 2020

Keyword:

Influence
Yoga Gymnastics
Third Trimester Pregnancy

ABSTRACT

Back pain is common in pregnancy with the reported incidence varying from approximately 50% in the UK and Scandivia to close to 70% in Australia. The aim study was to determine the effect of yoga exercise on back pain in third trimester pregnant women at the Bunda Tessa Clinic in 2021. This type of study is quasi-experimental research. The population in this study were all pregnant women who had entered the third trimester of pregnancy at the Mother Tessa Clinic. The sample in this study were 30 pregnant women who had entered the third trimester using the Accidental Sampling technique. The results of the statistical test obtained a p value of $0.000 < 0.05$, that there was an effect of yoga exercise on back pain in third trimester pregnant women at the Mother Tessa Clinic in 2021. It is hoped that pregnant women will further increase their knowledge about yoga exercise through electronic media in order to overcome back pain in pregnant women, especially in the third trimester.

This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Kata kunci:

Pengaruh
Senam Yoga
Kehamilan Trimester III

*) corresponding author

Ika Nur Saputri
Institut Kesehatan Medistra Lubuk Pakam
LKI Jl. Sudirman No.38 Lubuk Pakam
Kabupaten Deli Serdang-Sumatera Utara

Email: ikanursaputri@gmail.com

DOI: 10.30604/jika.v5i1.832

ABSTRAK

Nyeri punggung lazim terjadi pada kehamilan dengan insiden yang dilaporkan bervariasi dari kira-kira 50% di Inggris dan Skandivia sampai mendekati 70% di Australia. Tujuan penelitian ini adalah Untuk Mengetahui Pengaruh senam yoga terhadap nyeri punggung pada ibu hamil Trimester III di Klinik Bunda Tessa Tahun 2021. Jenis penelitian ini yang pada penelitian ini adalah quasi experiment (eksperimen semu). Populasi dalam penelitian ini adalah seluruh ibu hamil yang sudah memasuki kehamilan trimester III di Klinik Bunda Tessa. Sampel dalam penelitian ini adalah ibu hamil yang sudah memasuki trimester III sebanyak 30 orang dengan menggunakan metode tehnik Accidental Sampling. Hasil uji statistic diperoleh nilai p value $0,000 < 0,05$, bahwa ada pengaruh senam yoga terhadap nyeri punggung pada ibu hamil Trimester III di Klinik Bunda Tessa Tahun 2021. Diharapkan kepada ibu hamil agar lebih meningkatkan pengetahuan tentang senam yoga melalui media elektronik agar dapat mengatasi nyeri punggung pada ibu hamil khususnya pada trimester III.

This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



INTRODUCTION

Back pain is common in pregnancy with the reported incidence varying from approximately 50% in the UK and Scandivia to close to 70% in Australia. Mantle reported that 16% of women studied complained of severe back pain and 36% in a 1991 study by Ostgaard et al (Lichayati and

Kartikasari, 2013). The results of a limited epidemiological study conducted by Mayer cited by Yosefa, Febriana et al (2014), stated that back pain during pregnancy peaks at week 24 to week 28, just before abdominal growth reaches its maximum point. Back pain is often exacerbated by the occurrence of backache or often referred to as "long back pain". Back pain during pregnancy varies around 35-60%.

Among all pregnant women, 47-60% reported that back pain occurred at 5-7 months of pregnancy (Triyana, 2013). The prevalence of spinal pain in pregnant women is more than 50% in the United States, Canada, Turkey, Korea. The incidence rate in third trimester pregnant women who experience anxiety in Central Java is 52.3%. As a result of this anxiety can have an impact on the mother and fetus, the mother will become irritable and give birth for a long time, the baby will result in LBW, premature birth and autism. (Handayani, E.V, 2016). Nowadays, pain management for back pain in pregnant women is mostly carried out pharmacologically and non-pharmacologically. If possible non-pharmacological therapy options should be considered before using pharmacological therapy, although most are more effective in reducing pain in pregnancy, besides being expensive but also having the potential to have side effects for the mother and baby (Maryunani, 2015). Non-pharmacological pain management has become a highly developed thing at this time to reduce back pain during pregnancy because it has the advantage of being safer, simpler and does not cause adverse effects and refers to maternal care, compared to pharmacological methods that have the potential to have adverse effects.

In the third trimester of pregnancy, there are several simple non-pharmacological methods that midwives can give to help reduce back pain, including back massage, good posture, swimming, acupuncture, hot showers using a supporting belt, gymnastics and yoga (Richens, 2015). . Based on the background of the data above, the researcher is interested in conducting research on "The Effect of Yoga Exercise on Back Pain in Third Trimester Pregnant Women at the Mother Tessa Primary Clinic" in 2021?

METHODS

This type of research is a quasi-experimental research (quasi-experimental) because it measures changes in the level of maternal complaints in the third trimester after a certain action is taken, namely antenatal yoga. This research was conducted by examining maternal complaints before (pretest) and after (post test) antenatal yoga was performed. This research was carried out at the Bunda Tessa Deli clinic, Serdang. The time of this research was carried out in January – June 2021. The population in this study were all pregnant women who had entered their third trimester of pregnancy at the Mother Tessa Clinic. The sampling technique in this study used the Accidental Sampling technique, namely the third trimester pregnant women who came to visit the Tessa clinic in 2021.

The sample in this study were 30 pregnant women who had entered the third trimester. The criteria in the sample of this study are the inclusion and exclusion criteria. In this study the data obtained using primary data. Primary data is data obtained directly from respondents through questionnaires. Materials and tools used in this research is to use a mattress. The instrument used in this study was the independent variable using the SOP for yoga exercise while for back pain the Face Pain Scale-Revise (FBS-R) measurement technique was used. This tool is used as a substitute for the word descriptor of pain (Visual Descriptor Scale). The Face Pain Scale uses a smiling face for the number 0 on the far left line, for no pain, to a teary face for the number five on the right line which indicates unbearable pain/severe pain. For the Pain Scale-Revise (FBS-R) measurement, respondents were asked to mark one face that was considered to describe the intensity of the pain they felt. Univariate analysis was carried out to obtain an overview of the distribution and frequency of the dependent and independent variables. Data is presented in tabular form and interpreted.



Pain Intensity

- 0 : no pain
- 1 = mild pain
- 2 = Slightly more pain
- 3 = more pain
- 4 = very painful
- 5 = Very Great Pain

1. Bivariate Analysis

Bivariate analysis was carried out to see the relationship between the independent variable and the dependent variable, whether the variable had a significant relationship or just a coincidence relationship. In this analysis, using the paired test, the confidence level is 95% ($\alpha = 0.05$). If the value is 0.05, then H_a is accepted, meaning that there is an effect of

yoga exercise on reducing back pain in third trimester pregnant women at the mother tessa pratama clinic.

RESULT AND DISCUSSION

Based on Table1 the characteristics of respondents at the Bunda Tessa Clinic, it shows that of the 30 respondents, most

of the respondents aged 20-35 years were 21 people (70.0%), most of the respondents had high school education as many as 17 people (56.7%), most of them had a high school education. respondents worked as housewives as many as 12 people (40.0%) and most of the respondents were multiparous as many as 18 people (60.0%). Then most of the

respondents had never lifted heavy weights as many as 26 people (86.7%), most of the respondents had never bent excessively as many as 21 people (70.0%) and most of the respondents obtained information from the print media as many as 13 respondents (43,3%).

Tabel 1.
Characteristics of Respondents

Karakteristik Responden	N	%
Age		
- < 20 Years	3	4
- 20 – 35 Years	21	70
- > 35 Years	6	20
Education		
- SD	4	13,3
- JUNIOR HIGH SCHOOL	7	23,3
- SENIOR HIGH SCHOOL	17	56,7
- Diploma/Bachelor	2	6,7
Work		
- Private employees	7	23,3
- Government employees	2	6,7
- Entrepreneur	9	30
- IRT	12	40
parity		
- Primipara	5	16,7
- Multipara	18	60
- Grandepara	7	23,3
Lifting Weights		
- Never	26	86,7
- Ever been	4	13,3
bend over		
- Never	21	70
- Ever been	9	30
Resources		
- Print media	13	43,3
- Electronic Media	8	26,7
- Media Board	5	16,7
- Health workers	4	13,3
Total	30	100

The bivariate analysis in this study aims to determine the effect of yoga exercise on the level of back pain in third trimester pregnant women at the Bunda Tessa Clinic in 2021 before and after the intervention. Bivariate analysis using paired t test. The basis for making the decision to accept the

hypothesis is based on the level of significance (p value). If the p value > 0.05 then the research hypothesis is rejected and if the p value < 0.05 then the research hypothesis is accepted.

Tabel 2.
Average Back Pain Before Doing Yoga Exercises for Third Trimester Pregnant Women

No	Pain Scale	Category	N	%
1	Before doing yoga	0 (No Pain)	0	0
		1 (Mild Pain)	5	16,7
		2 (Slightly More Pain)	17	56,7
		3 (More Pain)	8	26,7
		4 (Extremely Painful)	0	0
		5 (Extremely Excruciating Pain)	0	0
Total			30	100

Based on the research results presented in Table 2, it can be seen that back pain before doing yoga exercises in third trimester pregnant women at the Mother Tessa Primary Clinic in 2021 with a total of 30 respondents, the average third trimester pregnant women experience back pain with a

pain scale on Category 2 (slightly more painful) with a total of 17 respondents (56.7%). experienced back pain with a scale of 1 (mild pain) as many as 15 respondents (50.0%).

Tabel 3.
Average Back Pain After Doing Yoga Exercises for Third Trimester Pregnant Women

No	Pain Scale	Category	N	%
1	After doing yoga	0 (No Pain)	6	20
		1 (Mild Pain)	15	50
		2 (Slightly More Pain)	9	30
		3 (More Pain)	0	0
		4 (Extremely Painful)	0	0
		5 (Extremely Excruciating Pain)	0	0
Total			30	100

Based on the table above, it can be seen that back pain after doing yoga exercises for pregnant women in the third trimester at the Pratama Bunda Tessa Clinic with a total of 30

respondents, the average third trimester pregnant women experience back pain on a scale of 1 (Mild Pain) with a total of 15 respondents (50), .0%.

Tabel 4.
Assessment of Back Pain with Before and After Yoga Exercises for Third Trimester Pregnant Women

	Intervensi
Sig <i>Pre - Post</i>	0,000
Z	-3,690

Based on the table above shows that the results of statistical tests obtained p value of 0.000 <0.05, it can be concluded that "Ha is accepted" meaning that there is a difference in the level of back pain for before and after yoga exercise, so it can be concluded that there is an effect of yoga exercise on back pain in third trimester pregnant women at the Mother Tessa Clinic in 2021.

pregnancy can be caused by the condition of the abdomen of pregnant women who are entering an old gestational age (third trimester), where the longer it gets bigger so that the posture of the pregnant woman is more resistant to heavy loads and can cause back pain. In addition, back pain in third trimester pregnant women can generally be caused by excessive activity that causes fatigue and can affect back pain in pregnant women.

DISCUSSION

Back Pain Before Doing Yoga Exercises for Third Trimester Pregnant Women

Based on the results of the study before doing yoga exercises for pregnant women in the third trimester at the Mother Tessa Clinic in 2021, with a total of 30 respondents, the average third trimester pregnant women experienced back pain on a scale of 2 (slightly more painful) with a total of 17 respondents (56), .7%.

Based on research conducted by Mayer cited by Yosefa, Febriana et al (2014), Back pain during pregnancy reaches its peak at week 24 to week 28, just before abdominal growth reaches its maximum point. Back pain is often exacerbated by the occurrence of backache or often referred to as "long back pain".

Back pain generally occurs in the lumbosacral area. Back pain is a disorder that generally occurs in pregnant women entering the third trimester of pregnancy, and pregnant women who may have had a history of back pain in the past. In addition, back pain can also be felt by pregnant women for the first time in their pregnancy. Back pain often occurs in pregnancy so it causes minor disturbances in pregnancy. The abdomen of pregnant women tends to lean forward resulting in an increase in the curve of the lower back which causes pain (Varney, 2010).

According to Richard G. Fesler's research in (Mirnawati, 2017) back pain in pregnant women is influenced by the hormones progesterone and relaxin (which softens connective tissue) and changes in body posture as well as increased heavy loads carried into the uterus.

Based on the researcher's assumptions, back pain in

Back Pain After Doing Yoga Exercises in Third Trimester Pregnant Women

Based on the results of the study after doing Yoga exercise, with a total of 30 respondents, the results showed that on average pregnant women experienced a decrease in back pain levels with a scale category 1 (mild pain) as many as 15 respondents (50.0%).

Based on the theory put forward (Firdayani, 2018), following yoga exercises in pregnancy regularly can maintain a healthy body and can relieve back pain felt by pregnant women because in this exercise there are movements that are centered on the muscles for fitness and function in the delivery process. Yoga exercise can reduce low back pain in pregnant women in the second and third trimesters. By doing yoga exercises at least 3 times a week in accordance with the SOP for yoga exercise, pregnant women can feel the benefits to the maximum and mothers feel comfortable during their pregnancy.

The research conducted by Fitriani (2018) on the Effectiveness of Pregnancy Exercise and Pregnancy Yoga on Reducing Back Pain in Third Trimester Pregnant Women found that yoga exercise was very effective in reducing low back pain in third trimester pregnant women.

Based on research conducted by Fauziah L (2016) that primigravida mothers who did yoga classes for pregnant women showed a decrease in anxiety related to the birth process, increased self-confidence and abilities related to childbirth, and reduced physical complaints. This is because yoga can help pregnant women position more precisely, and is comfortable because yoga creates space in the torso, in yoga it doesn't do postures that put too much pressure or pull on joints that have the potential for injury.

Based on the researcher's assumption, that after doing

yoga exercises, pregnant women, there is a decrease in the level of pain from back pain on a scale of 2 (more painful) to a category of scale 1 (mild pain). This shows that there is an effect of yoga exercise on reducing the level of back pain in pregnant women in the third trimester, where pregnant women do yoga for a duration of 3 times a week in accordance with the SOP for yoga exercise given to pregnant women so that pregnant women feel the benefits of yoga exercise maximally. in reducing back pain.

The Effect of Yoga Exercises on Back Pain in Third Trimester Pregnant Women Before and After Yoga Exercises

Based on the results of research conducted before and after doing yoga exercises for pregnant women in the third trimester at the Pratama Bunda Tessa Clinic with a total of 30 respondents with the results of statistical test calculations obtained a p value of $0.000 < 0.05$, it can be concluded that "Ha is accepted" which means there is a difference back pain level scale for before and after yoga exercise, so it can also be concluded that there is an effect of yoga exercise on back pain in third trimester pregnant women at the Mother Tessa Clinic in 2021.

According to Dewi (2016) research, which is an experimental study on yoga exercise, the results obtained by testing the effect of yoga treatment between before the intervention got the mean \pm SD 4.14 ± 1.127 with $p = 0.000$ while after the intervention the mean \pm SD 2.71 ± 1.204 with a value of $p < 0.000$ ($p < 0.05$). This means that there is a significant effect between pain intensity before and after yoga, where yoga exercise can reduce back pain in pregnant women

Based on research (Lebang 2015), Yoga exercise or also called Prenatal yoga is a modification of classical yoga that has been adapted to the physical condition of pregnant women, which is carried out with a softer and slower intensity. The purpose of prenatal yoga is to prepare pregnant women physically, mentally, and spiritually for the birth process. With good preparation, pregnant women will be confident in a comfortable and smooth delivery later. Yoga exercise starts from breath awareness, full awareness (neck heating) and the last movement is the core movement of yoga exercise.

According to Dr. Vivek Narendran from Cincinnati Children's Hospitality Medical Center in Ohio, United States, said yoga practice can help improve blood flow to the placenta, reduce the transfer of maternal stress hormones to the fetus, reduce the release of hormones that trigger birth, thereby reducing the chance of premature birth. Prenatal yoga has five ways, namely physical yoga practice, breathing (pranayama), position (mudra), meditation, and deep relaxation that can be used to get benefits during pregnancy so that it can help smooth pregnancy and birth naturally and help ensure a healthy baby (Wagiyo & Putrono, 2016)

According to researchers, there is an effect of namesake yoga on reducing back pain in third trimester pregnant women before and after doing yoga exercises, namely from a scale of 2 (more painful) to a category of scale 1 (mild pain), because it can help pregnant women reduce complaints and pain. during pregnancy, especially back pain. With a duration of 3 times a week with a duration of 45 minutes-1 hour, pregnant women can feel the benefits of yoga exercise. Another thing that can be done in senm yoga is to tell the mother to wear loose clothes when doing yoga exercises, yoga exercises without shoes, the condition of the stomach is not hungry or full, and consume lots of water.

CONCLUSION

1. The average back pain in third trimester pregnant women at the Mother Tessa Primary Clinic in 2021 before doing yoga exercises, it can be concluded that pregnant women experience back pain using the Faced Pain Scale-Resived (FPS-R) is on a scale of 2 (more painful)
2. The average back pain after doing yoga exercises for pregnant women in the third trimester at the Pratama Bunda Tessa Tahun Clinic, it can be concluded that pregnant women experience back pain using the Faced Pain Scale-Resived (FPS-R) is on a scale of 1 (mild pain). Assessment of Back Pain Before and After Yoga Exercises for Pregnant Women in the Third Trimester at the Mother Tessa Primary Clinic in 2021 with the results of statistical test calculations obtained a p value of $0.000 < 0.05$, it can be concluded that "Ha is accepted" so it can also be concluded that There is an effect of yoga exercise on back pain in third trimester pregnant women at the Mother Tessa Clinic in 2021.

REFERENCES

- Ali, Zainuddin, 2015, *Metode penelitian Hukum*, Sinar Grafika Jakarta.
- Arikunto, S. 2011. *Prosedur penelitian suatu pendekatan praktik*. Jakarta: Rineka Cipta
- Asmadi. (2011). *Konsep dan aplikasi Dasar Manusia*. Jakarta : Selemba Medika.
- Carvalho MECC, Lima LC, Terceiro CADL, Pinto DRL, Silva MN, Cozer GA, et al. Low back pain during pregnancy. *Revista brasileira de anesthesiologia*. 2017;67(3):266-70.
- Devi M, Sulaiman, Rosnani, Jawiah. *Pengaruh senam yoga antenatal Terhadap pengaruh keluhan ibu Hamil trimester III*. *Jurnal Kedokteran dan Kesehatan*, volume 1, no. 1, Oktober 2014;47-53
- Fitriani, Lina. (2018). *Efektivitas Senam Hamil Dan Yoga Hamil Terhadap Penurunan Nyeri Punggung Pada Ibu Hamil Trimester III Di Puskesmas Pekkabata*. *Jurnal Kesehatan Masyarakat*, Vol 4, No 2, Nov 2018 (72-80).
- Firdayani, Dhebi. 2018. *Pengaruh Senam Hamil Terhadap Penurunan Nyeri Punggung Bawah Pada Ibu Hamil Trimester II Dan III*. Jombang: Skripsi, Sekolah Tinggi Ilmu Kesehatan Insan Cendekia Medika.
- Katonis P, Kampouroglou A, Aggelopoulos A, Kakavelakis K, Lykoudis S, Makrigiannakis A, et al. Pregnancy-related low back pain. *Hippokratia*. 2011;15(3):205.
- Mirawati. 2017. *Hubungan Usia Kehamilan Dengan Kejadian Nyeri Pinggang Bawah Pada Ibu Hamil Di RSIA. Siti Fatimah Makassar*. Makassar: Skripsi, Fakultas Ilmu Kesehatan UIN Alauddin Makassar
- Notoatmodjo, S. 2012. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta
- Nursalam. (2015). *Manajemen keperawatan. Aplikasi dalam praktik keperawatan profesional*. Jakarta: Salemba Medika.
- Nursalam. 2012. *konsep dan penerapan Metodologi penelitian ilmu Keperawatan, Pedoman Skripsi. Tesis, dan Instrumen Penelitian Keperawatan*. Jakarta Penerbit: Salemba Medika
- Parwati, Ni Wayan Manik dkk. 2017. *Hubungan Pijat Bayi Dengan Perkembangan Bayi berumur 3-6 bulan*. JRKN

- Purnamasari.Devi , 2019. *Nyeri Punggung Bawah Pada Ibu Hamil Trimester II Dan III* .Fakultas Ilmu Kesehatan, Universitas Galuh, Indonesia. Midwifery Journal of Galuh University Volume 1 Nomor 1 Mei 2019
- Riyanto, Agus, (2011). *Aplikasi metodologi penelitian kesehatan*. Yogyakarta Nuhu Medika.
- Romauli. 2011. Buku Ajar ASKEB I : “*Konsep Dasar Asuhan Kehamilan*”. Yogyakarta: NuhaMedika
- Sindhu, P. 2013. *Yoga untuk kehamilan sehat, bahagia dan penuh makna*. Seri bugar. Bandung: Qonita, Mizan Pustaka
- Sutanto dan Yuni. 2017. *Asuhan Pada Kehamilan*. Jakarta: Pustaka Baru.
- Tia,P.,2014, *Yoga Ibu Hamil*, Pustaka Bunda, Jakarta
- Triyana, YF. *Panduan klinis kehamilan dan persalinan*. Jogjakarta: Divapress; 2013
- Verney, Helen, 2012. *Buku Ajar Asuhan Kebidanan (Edisi 4)*. Jakarta;EGC.
- Wagiyo& Putrono. (2016). *Asuhan Keperawatan Antenatal, Intranatal & bayi baru lahir fisiologis dan patologis*. Yogyakarta :CV.Andi
- Walyani, E.S. (2015). *Asuhan Kebidanan pada Kehamilan*. Yogyakarta:pustaka baru.