

EFFECTIVENESS OF PELVIC TILT EXERCISE IN REDUCING BACK PAIN IN TRIMESTER III PREGNANT WOMEN

Ai Asri Massitoh¹, Nita Ervianasari², Vida Wira Utami³, Susilawati⁴

^{1,2,3,4} Midwifery DIV student at Malahayati University
Email Correspondence : nita.nuninosa@gmail.com

ABSTRAK : EFEKTIVITAS LATIHAN MIRING PANGGUL DALAM MENGURANGI NYERI PUNGGUNG PADA WANITA HAMIL TRIMESTER III

Latar Belakang: Nyeri punggung pada ibu hamil merupakan respons tidak nyaman yang sering dirasakan oleh ibu hamil. Biasanya nyeri punggung muncul ketika usia kehamilan memasuki 7 bulan. Nyeri punggung merupakan salah satu penyebab ketidaknyamanan pada ibu hamil dan dapat mengganggu aktivitas sehari-hari. Di Indonesia, pada tahun 2018, ditemukan bahwa 68% ibu hamil mengalami nyeri punggung intensitas sedang, dan 32% ibu hamil mengalami nyeri punggung intensitas ringan, terdapat 373.000 ibu hamil, 107.000 orang (28,7%) mengalami nyeri punggung selama persalinan. Bagaimana mengatasi nyeri punggung dengan gerakan olahraga, salah satunya dengan gerakan Pelvic Tilt Exercise. Pelvic Tilt Exercise adalah gerakan yang aman untuk ibu hamil. Data diperoleh dari BPM Nurhasanah, STr.Keb dalam 3 bulan terdapat keluhan nyeri punggung pada ibu hamil trimester ketiga.

Metode Penelitian: Penelitian ini merupakan penelitian kuantitatif menggunakan metode penelitian Quasi-Experimental dengan pendekatan desain pretest-posttest satu kelompok. Populasi dalam penelitian ini adalah ibu hamil trimester ketiga yang mengalami nyeri punggung, dan sampelnya adalah ibu hamil trimester ketiga yang mengalami nyeri punggung dengan ukuran sampel sebanyak 30 responden. Pengambilan sampel dalam penelitian ini menggunakan teknik accidental sampling dan alat ukur yang digunakan adalah Visual Analog Scale.

Hasil penelitian: Hasil penelitian menunjukkan penurunan nyeri punggung sebesar 15,00 kali dengan rata-rata 435,00 kali. Hasil uji asymp sig 2 adalah 0,000, yang berarti nilai $P < 0,05$ sehingga H_0 ditolak dan H_a diterima, artinya terdapat pengaruh latihan kemiringan panggul terhadap penurunan nyeri punggung pada ibu hamil trimester ketiga.

Kesimpulan: Dari hasil penelitian ini dapat disimpulkan bahwa terdapat pengaruh pemberian latihan kemiringan panggul terhadap penurunan nyeri punggung pada ibu hamil trimester ketiga.

Saran: Untuk lokasi penelitian, agar dapat meningkatkan kualitas pelayanan kesehatan, khususnya pada ibu hamil trimester ketiga yang mengalami nyeri punggung.

Kata kunci: Nyeri Punggung, Latihan Kemiringan Panggul, Trimester ketiga kehamilan

ABSTRACT

Background : Back pain in pregnant women is an uncomfortable response that is often felt by pregnant women. Usually back pain appears when the gestational age enters 7 months. Back pain is one of the causes of discomfort in pregnant women and can interfere with daily activities. In Indonesia, in 2018, it was found that 68% of pregnant women experienced moderate intensity back pain, and 32% of pregnant women experienced mild intensity back pain, there were 373,000 pregnant women, 107,000 people (28.7%) experienced back pain during labor. . How to deal with back pain with exercise movements exercise one of them with movement Pelvic Tilt Exercise. Pelvic Tilt Exercise is a movement that is safe for pregnant women. Data were obtained from BPM Nurhasanah, STr.Keb within 3 months there were complaints of back pain in third trimester pregnant women.

Research methods : This research is a quantitative research using research methods Quasi-Experimental with approach one group pretest – posttest design. The population in this study were third trimester pregnant women who experienced back pain and the sample in the third trimester pregnant women who experienced back pain with a sample size of 30 respondents. Sampling in this study using the technique accidental sampling and the measuring tool used is Visual Analog Scale.

Research result : Found results mean reduction in back pain after the exercise pelvic tilt exercise 15.00 with an average number of 435.00. And the result of asymp sig 2 tested is .000 where is the result P value < 0.05 which results in H_0 being rejected and H_a being accepted, which means there is an influence pelvic tilt exercise with a decrease in back pain in third trimester pregnant women.

Conclusion: From the results of this study it can be concluded that there is an effect of giving pelvic tilt exercise to reducing back pain in third trimester pregnant women

Suggestion :For research sites, in order to improve the quality of health services, especially in third trimester pregnant women who experience back pain.

Keywords: Back Pain, Pelvic Tilt Exercise, Third trimester of pregnancy

INTRODUCTION

Pregnancy is a natural process, the changes that occur in women during pregnancy are normally physiological (Elisabeth, 2013).

During pregnancy there are changes in anatomical, physiological and biochemical adaptations in the body of pregnant women. Along with the gradual increase in body weight during pregnancy and the redistribution of concentration there are hormonal influences on the ligament structure. These two factors change the body posture of pregnant women making it lordosis which will then be at risk of back pain (Cunningham, 2013).

Low back pain is one of the discomforts felt by pregnant women. Low back pain is a common musculoskeletal problem during pregnancy with an estimated prevalence ranging from 30% to 78% in the United States, Europe and parts of Africa. One third of the population suffers from low back pain which experiences severe pain and is often associated with limitations on the ability of pregnant women to work effectively. This is related to poor quality of life, as a result the productivity of pregnant women in their daily routine activities is reduced (Manyozo et al, 2019).

In Indonesia, it was found that 68% of pregnant women experienced moderate intensity back pain, and 32% of pregnant women experienced mild intensity back pain, there were 373,000 pregnant women, who experienced back pain in the face of labor as many as 107,000 people (28.7%) . Indonesia's health data profile in 2018 there were 168,098 pregnant women in Lampung province. The number of pregnant women who did K4 was 154,447 people or as much as 91.88%. (Health profile of Lampung province 2018).

The impact of back pain that is not treated immediately can result in long-term back pain, increasing the tendency for postpartum back pain and chronic back pain which will be more difficult to treat or cure, besides that it can make the mother lose concentration, decrease appetite, sleep disturbances, difficulty doing other relaxing activities (Eileen, 2007).

Research conducted by R. Shiri et. al. (2017) showed that exercise during pregnancy can reduce pain and can be recommended for pregnant women.

Exercises that can be given are exercises with stretching movements that are safe for pregnant women, such as lumbar flexion exercises. Lumbar flexion exercise can reduce pressure on the posterior part of the lumbar. This exercise restores movement and strength to the back which helps in reducing pain and preventing back pain from recurring. This exercise is also effective for improving lumbar lordosis (Ricci et al, 2011). One of the lumbar flexion exercise movements is the pelvic tilt exercise. According to Elkheshen et. al, (2016) pelvic tilt exercise is significant in reducing back pain in pregnant women.

The results of a preliminary study conducted at BPM Nurhasanah in the last 3 months 3 main complaints of pregnant women are dizziness, back pain, and anemia.

The purpose of this study was to determine the effectiveness of pelvic tilt exercise in reducing back pain in first trimester pregnant women

RESEARCH METHOD

This research uses a type of quantitative research that uses research methods *Quasi-Experimental* with approach *one group pretest – posttest design*. The population in this study were third trimester pregnant women who experienced back pain and the sample in the third trimester pregnant women who experienced back pain with a sample size of 30 respondents. Sampling in this study using the technique *accidental sampling* and the measuring tool used is *Visual Analog Scale*.

RESEARCH RESULTS

The normality test is used to determine the relationship between two variables whether it is significant or not. Its purpose is to find out whether the data is around or close to the normal line. The normality test was carried out using the SPSS program with the Shapiro-Wilk formula.

- a) If the Sig. Shapiro-Wilk test > 0.05 then the data is normally distributed.
- b) If the Sig. Shapiro-Wilk test < 0.05 then the data is not normally distributed.

The normality test results can be seen from the following table.

Table 1
Normality Test Results

Test score value	Wednesday Shapiro-Wilk
Pretest	0,00
Posttest	0,00

Based on the table above, it can be seen that the Shapiro-Wilk pretest 0.00 and posttest 0.00,

meaning that all data has value $p < 0.05$ data for these two data variables are not normally distributed. So the Wilcoxon test was carried out.

From 30 respondents table 2, the average back pain was obtained before it was carried out *pelvic tilt exercise* namely the mean value of 4.50 with a minimum pain level of 2 and a maximum pain level of 7 with a standard deviation of 1.358.

Table 2
Average Pain Scale Value Before Pelvic Tilt Exercise At BPM Nurhasanah, STr, Keb.

Variable	N	Mean	Median	Min	Max
Pretest	30	4.50	5.00	2	7

Table 3
Average Pain Scale Value After Pelvic Tilt Exercise At BPM Nurhasanah, STr, Keb.

Variable	N	Mean	Median	Min	Max
Posttest	30	2.27	2.00	1	5

Table 4
The average test results for the effect of Pelvic Tilt Exercise on Third Trimester Pregnant Women at BPM Nurhasanah, STr.Keb Gudang Auction in 2023

Variable	N	Mean	SD	Mean Rank	P value
Pre test	30	4.50	1.358	15.00	0.000
Post test	30	2.27	1.230		

From 30 respondents table 3, the average result was a decrease in pain after the procedure was carried out *pelvic tilt exercise* namely the mean value of 2.27 with a minimum result of 1 and a maximum pain level of 5 with a standard deviation of 1,230.

From the table above, the average back pain in third trimester pregnant women before *pelvic tilt exercise* is a mean of 4.50 with a standard deviation of 1.358, then the average back pain of pregnant women after pelvic tilt exercise results in a mean of 2.27 with a standard deviation of 1.230, the results also show that the average difference between measurements after and before *pelvic tilt exercise* is the mean result of 15.00 with an average number of 435.00, the result of asymp sig 2 tested is .000 where the result $P \text{ value} < 0.05$ which results in H_0 being rejected and H_a being accepted, which means there is an influence *pelvic tilt exercise* with a decrease in back pain in third trimester pregnant women.

DISCUSSION

Based on the research conducted, the average back pain in third trimester pregnant women before *pelvic tilt exercise* is a mean of 4.50 with a standard deviation of 1.358, then the average back pain of pregnant women after pelvic tilt exercise results in a mean of 2.27 with a standard deviation of 1.230, the results also show that the average difference between measurements after and before *pelvic tilt exercise* the mean result is 15.00 with an average number of 435.00, the result of asymp sig 2 tested is .000 where the result $P \text{ value} < 0.05$ which results in H_0 being rejected and H_a being accepted, which means there is an influence *pelvic tilt exercise* with a decrease in back pain in third trimester pregnant women.

According to the theory (Liddle et al., 2015; Kinser et al., 2017). Back pain can interfere with the daily activities of pregnant women. Therefore, back pain can be overcome by providing exercise. Exercise is effective in preventing back pain in pregnancy, reducing the intensity of the pain and the possibility of disability.

According to Ricci et al., (2011) Exercise during pregnancy can reduce pain and can be

recommended for pregnant women. Exercises that can be given are exercises with stretching movements that are safe for pregnant women, such as lumbar flexion exercises. Lumbar flexion exercise can reduce pressure on the posterior part of the lumbar. This exercise restores movement and strength to the back which helps in reducing pain and preventing back pain from recurring. This exercise is also effective for improving lumbar lordosis. One of the lumbar flexion exercise movements is the pelvic tilt exercise.

According to Elkheshen et. al, (2016) pelvic tilt exercise is significant in reducing back pain in pregnant women.

Back pain can be overcome by providing exercise. Exercise is effective in preventing back pain in pregnancy, reducing the intensity of the pain, *Pelvic tilt exercise* or pelvic tilt exercise is one of the mobility exercises that seems to strengthen or improve flexibility muscles necessary to compensate for the increased abdominal mass and thereby maintain normal posture (Deepthi et al, 2016).

Based on research conducted by researchers obtaining results that are in line with research from Mariah Ulfa (2017) entitled "Differences in benefits before and after exercise *pelvic tilt* on back pain in third trimester pregnant women" using research methods *quasy experimental by design pre and post design*. The sample used was 21 third trimester pregnant women who experienced lower back pain using the sampling technique *incidental sampling*. Data collection was carried out using secondary data from the health profile of the Kembaran I Health Center in Purwokerto and primary data obtained from direct measurements before and after the exercise *pelvic tilt* by using data analysis paired t test. The results of the study stated that there was a difference between back pain before and after exercise *pelvic tilt*.

CONCLUSION

1. The average result of back pain before pelvic tilt exercise is 4.50 with a minimum pain level of 2 and a maximum pain level of 7
2. The average result of back pain before pelvic tilt exercise is 2.27 with a minimum pain level of 1 and a maximum pain level of 5
3. Result obtained *r-value* of 0.000 ($r < 0.05$) which means there is an effect on effectiveness *pelvic tilt exercise* on back pain in third trimester pregnant women at BPM Nurhasanah Warehouse Auction in 2023.

SUGGESTION

1. For researchers
By conducting this research, you can increase your insight, knowledge and research experience in applying the knowledge you have acquired while in education as well as the final requirement for obtaining a Bachelor of Applied Midwifery degree.
2. For educational institutions
Can add information that can be used as input for academics in the development of learning and reference material for further research.
3. For Research Sites
It is hoped that this can be used as information for health workers, especially at BPM Nurhasanah Warehouse Auctions in 2023 in improving the quality of health services, especially in midwifery services for pregnant women in their third trimester who experience back pain.

REFERENCES

- Arikunto. 2014. *Research Procedures A Practice Approach*. Jakarta: Rineka Cipta
- Bupa. 2017. *Exercise for Low Back Pain* (<http://www.bupa.co.uk/exercise-for-low-back-pain>)
- Casagrande, J. Danielle., Gugala, Zhibgniew., Clark, Shannon M., dan Lindsey, Ronald. 2015. *Low Back Pain and Pelvic Girdle Pain in Pregnancy*. The Journal of the American Academy of Orthopaedic Surgeons. 00:1-11
- Cunningham. 2013. *Williams Obstetrics*, Jakarta: EGC.
- Deepthi, et al. 2016. *Does Sitting Pelvic Tilt Influence Quality of Pain in Low Back Pain and Quality of Sleep Among Primigravida Indian Mothers*". Journal of Women's Health Care. 5(5) : 1-5
- Elkheshen, S. A., Mohamed, H. S., dan Abdelgawad, H. A. 2016. "The Effect of Practicing Pelvic Rocking on Lowering Disability Level through Decreasing Pregnancy Related Lower Back Pain". Journal of American Science. 12(5) : 98 – 103
- Gultom, Syamsul. 2013. *Pregnancy Exercise to Reduce Back Pain During Pregnancy*. Campus Generation Journal. Unimed.
- Hidayat, A.A.. 2014. *Nursing Research Methods and Technical Data Analysis*. New York: Salemba Medika.
- Ismail, N., Aziz, A., Taha, W., & Elgzar, I. (2018). *The Effect of Progressive Muscle Relaxation on Post Cesarean Section*

- Pain, Quality of Sleep and Physical Activities Limitation.* 3(3), 14-29. <https://doi.org/10.20849/ijsn.v3i3.461>
- Jannah, Nurul. 2012. *Textbook of Midwifery Care: Pregnancy*. Yogyakarta: Andy.
- Kartikasari, R. I., & Nuryanti, A. (2016). The Effect of Endorphin Massage on Reducing the Intensity of Back Pain in Pregnant Women. Scientific Meeting on Research Results and Community Service, (1), 297–304.
- Liddle, S.D., dan Pennick, P. 2015. *Intervention for Preventing and Treating Low Back and Pelvic Pain during Pregnancy*. *Cochrane Database Syat Review*.30 (9)
- Manuaba I. 2012. *Obstetrics, Gynecology, and Family Planning*, EGC, Jakarta.
- Manyozo, S. 2019. *Low back pain during pregnancy: Prevalence, risk factors and association with daily activities among pregnant women in urban Blantyre*, Malawi: Malawi Medical Journal.
- Ningsih, Febti. 2016. Differences in the Effect of Exercise Pelvic Tilting and Ultrasound with William Flexion Exercise and Ultrasound to Improve Functional Ability in Low Back Pain. Yogyakarta. University of 'Aisyiyah Yogyakarta.
- Notoatmodjo, Soekidjo. 2018. *Health Research Methodology*. Jakarta: Rineka Cipta.
- Prawihardjo, Sarwono. 2014. *Obstetrics*. Library Development, Jakarta
- Purnamasari, Kurniati, D and Widyawati, M. (2019). Description of Back Pain in Pregnant Mother Trimester III. *Silampari Nursing Journal*, 3(2), p. 352-261.
- PoltekkesKemenkes Semarang. <https://journal.ipm2kpe.or.id/index.php/JKS/article/view/512>. Retrieved March 6, 2021.
- Ricci, B., Marchetti, M., dan Figura, F. 2011. *Biomechanics of Sit Ups Exercise*. *Medsci Sports Exercise*. 113: 54-59
- Rukiyah, Ai Yeyeh. 2013. *Midwifery Care I Pregnancy*. Jakarta: Trans Info Media.
- Rusniawati, Niah. *The Effectiveness of Pelvic Tilt Exercise in Reducing Back Pain in Third Trimester Pregnant Women*. Jakarta. National University
- Sugiyono. (2017). *Quantitative, qualitative and R&D research methods*. Bandung : Alfabeta, CV
- Sunarti, 2013. *Pregnancy Care*. Inmedia, Jakarta.
- Supported by Areerat, et al. 2002. "Effect of the Sitting Pelvic Tilt Exercise during the Third Trimester in Primigravidas on Back Pain". *Journal of the Medical Association of Thailand*. 85(1) : 171-179
- Tyastuti, Siti and Wahyuningsih, Heni Puji. 2016. *Pregnancy Midwifery Care*. Jakarta. Republic of Indonesia Ministry of Health.
- Ulfah, Mariah and Ikit Netra. "The Differences in Benefits Before and After Pelvic Tilt Exercise Against Back Pain in Third Trimester Pregnant Women". *Medisains: Scientific Journal of Health Sciences* vol 15:2 (2017) 80-83.
- Walyani, Elisabeth Siwi. 2015. *Midwifery Care in Pregnancy*. Yogyakarta: New Press Library
- Wiarso, Giri. 2017. *Bone and Joint Pain*. Yogyakarta: Gosyen Publishing.
- Yuanita Syaiful, S. M. (2019). *Pregnancy Nursing Care*. Surabaya : Jakad Publishing