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A Yoga programme approaches for pregnancy-related low back and pelvic pain

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Abstract

Background: One of the most common discomforts during pregnancy is relating to low back and pelvic pain. Predisposing factors include uterine growth that causes posture changes, weight gain, the influence of relaxin hormone on ligaments, previous history of back pain, parity and activity. The exercise that helps pregnant women get a power to facilitate the delivery process by a Yoga programme approaches.

Purpose: To determine the effect of a Yoga programme approaches for pregnancy-related low back and pelvic pain

Method: A quantitative research method. The study population was third trimester pregnancy, taken by purposive sampling technique, and got a sample of 22 participants and Questionnaire used as the research instrument test. The analysis technique used in this research is descriptive quantitative.

Results: Finding that the average score of low back and pelvic pain before a Yoga programme (pre test) was 3.73 (moderate pain) with a standard deviation of 1.38. The average score after intervention at the post-test stage was 1.14 (mild pain) with a standard deviation of 0.94. (p value = 0.000 < 0.05).

Conclusion: There is an effect of a Yoga programme approaches for pregnancy-related low back and pelvic pain in third trimester pregnancy

Keywords: A Yoga programme; Low back and pelvic pain; Third trimester pregnancy.

INTRODUCTION

One of the most common discomforts during pregnancy is low back and pelvic pain, is a disorder experienced by many pregnant women and an occurrence by experienced throughout the pregnancy period to the post-natal period (Megasari, 2015; Casagrande, Gugala, Clark, & Lindsey, 2015). The prevalence of back pain on pregnant women is more than 50% in the United States, Canada, Iceland, Turkey, Korea and Israel (Ansari, Hasson, Naghdi, Keyhani, & Jalaie, 2010). Meanwhile, what happened in non-Scandinavian

countries such as North America, the Middle East, Norway, Hong Kong and Nigeria, the prevalence was higher, ranging from 21% to 89%. An online survey conducted by the University of Ulster in 2014, of the 157 pregnant women who filled out a questionnaire, 70% had experienced back pain (Anggraeni, 2018).

The results of research on pregnant women in various regions of Indonesia reached 60-80% of people who experience back pain in their pregnancy (Thahir, 2018). Among 180 pregnant women studied in Indonesia, 87 ($\pm 48\%$) people

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had complaints of low back pain, 36 of them had complaints that were referred pain in one leg and 18 others regarding both limbs of ischias in pregnancy (Ministry of Health Republic of Indonesia, 2009). Pregnant women are advised to do light exercise during pregnancy so that their womb is healthy and reduce problems that commonly arise during pregnancy such as edema, hypertension, low back pain, shortness of breath, varicose veins, spasms, insomnia and other problems, yoga exercise is one of the preferred mild sports. can be taken by pregnant women (Nurul, 2014; Rohmah, Natalia, & Anggriani, 2018).

The effort of relaxation before childbirth and reducing anxiety, yoga can also help pregnant women improve sleep quality because pregnant women often find it difficult to sleep at night or during the day because of changes in body shape experienced by pregnant women (Saputri, 2018).

The effort of exercise that helps pregnant women get enough for a power to facilitate the delivery process, namely prenatal yoga. The yoga exercises include various relaxation, adjusting postures, breathing exercises and meditation for one hour, routine every day. Relaxation movements, adjusting postures and breathing exercises are the same as movements performed during pregnancy exercise, because the movement techniques focus on exercise muscles including the chest, abdomen, waist, pelvic floor, thighs and legs (Ashari, Pongsibidang, & Mikhrunnisai, 2019).

The effort of meditation performed during prenatal yoga is guiding imagery, where pregnant women are encouraging to set the most relaxed position, then asked to close their eyes and follow the imaginations directed by the coach. The coach describes it through sentences accompanied by soft music, prenatal yoga, which is a combination of pregnancy exercise and distraction through guided imagery (Mediarti, Sulaiman, Rosnani, & Jawiah, 2014).

RESEARCH METHODS

This study used a quantitative method with an experimental research design with a pre-experimental approach (one group pretest posttest). The study conducted in December 2018 - January 2019 in Pringsewu Regency-Lampung. The population in this study were all third trimester pregnant women who had complaints of Low back and pelvic pain. The sampling taken by purposive sampling technique of 22 participants and data collected by observation and interviews using a pain measurement scale questionnaire. This data analysis technique uses univariate and bivariate data analysis.

The exercises include 10 Prenatal Yoga steps take 2 times a week in groups for 60-75 minutes during exercise within a month and end with an evaluation. The expert instructor supervising and participants guiding by videos and demonstrations. The ethical clearance taken from Faculty of Health, Muhammadiyah University, with letter number 393/KEPKFKUMPRI/ 2018.

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RESULTS

Table 1. Demographic Characteristics of Participants (N = 22)

Variable	M±SD
Age (Years) (Range: 19-38)	29.32±3.66
Duration of Pregnancy (Week) (Range: 27-35)	30.42±2.64

Based on table 1. Knowing that the most of the participants by range of 19-38 years old, a mean age of 29.32 years old and standard deviation of 3.66 years old, duration of pregnancy by range of 27-35 weeks, a mean of 30.42 weeks and standard deviation of 2.64 weeks.

Table 2. Evaluation of Yoga Programme

Variable	N	Mean	SE	Median	Min	Max	SD	CI:95%
Low Back And Pelvic Pain Before Having Intervention (<i>pre test</i>)	22	3,73	0,296	4,50	2,0	5,0	1,38	3.11-4.34
Low Back And Pelvic Pain After Having Intervention (<i>post test</i>)	22	1,14	0,20	1,50	0,0	2,0	0,94	0.72-1.55

Table 2 shows that before having yoga at the pre-test stage, the average pain score was 3.73 (moderate pain) with a standard deviation of 1.38. The smallest score was 2.00 and the maximum score was 5.00. The interval estimation, it concluded pain score is between 3.11 and 4.34.

After having yoga exercise at the post-test stage, the average pain score was 1.14 (mild pain) with a standard deviation of 0.94. The smallest score was 0.0 and the maximum score was 2.0. The interval estimation, it concluded that pain score is between 0.72 and 1.55.

Table 3. Testing Distributions Result for Normality

Variable	Skewness Score	Standar Error	The Result of Division	Conclusion
Pain score <i>pre test</i>	-0,286	0,491	-0,58	Normal
Pain score <i>post test</i>	-0,293	0,491	-0,59	Normal

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Table 3. shows the results of the data normality test, where it is known that all variable data produces a skewness score divided by the standard error is <2 , so it can be explained that all variables are normally distributed.

Table 4. The Effect of Yoga Programme Related Low Back and Pelvic Pain

Variable	Mean	SD	SE	p-value	CI 95%	
Pain Score	Before	3,73	1,39	0,29	0,000	(2,33-2,85)
	After	1,14	0,94	0,20		

Table 4. shows that in the results of the analysis using the paired sample t-test, the average pain score during the pre-test was 3.73 with a standard deviation of 1.39. The average low back and pelvic pain after having intervention (post test) was 1.14 with a standard deviation of 0.94. In the statistical test results, the p-value is 0.000 <0.05 , it concluded that there is an effect of yoga programme on low back and pelvic pain, where the average pain score before having intervention is significantly higher than the pain score after having interventions.

DISCUSSION

Average Score of Low Back and Pelvic Pain Before Having Intervention

The average pain score before yoga (pre test) was 3.73 (moderate pain) with a standard deviation of 1.38. The smallest value was 2.00 and the maximum value was 5.00. From the results of the interval estimation, it can be concluded that it is 95% believed that the mean pain score is between 3.11 and 4.34. The International Association for the Study of Pain (IASP) quoted defines pain as an uncomfortable sensory and emotional experience associated with the actual and potential tissue damage felt in the events in which the damage occurs (Potter, Perry, Hall, & Stockert, 2015). This uncomfortable feeling is very subjective and only the person who experiences it can explain and evaluate the feeling (Wiaro, 2017).

Pregnancy brings so many changes to a woman's body that it is not surprising that

some aches and pains arise (Megasari, 2015). This pain takes a long time to relax, usually a pregnant woman thinks what she is feeling is suffering, which sometimes affects her psychological atmosphere. Apart from the lordosis posture, the gait is also different compared to when it is not pregnant, which looks like it is about to fall and wobble (Sulistiyawati, 2011).

In the previous study showed that the average pregnant woman complained of pain in the measurement before doing prenatal yoga exercise with a result of 12.78 with a standard deviation of 2,210. In the opinion of researchers, back pain during pregnancy is a psychological change during the third trimester of pregnancy, the cause of back pain is that the fetus growing in the mother's womb changes its posture so that there is pressure on the nerves around the back which causes pain (Mediarti, Sulaiman, Rosnani, & Jawiah, 2014).

Average Score of Low Back and Pelvic Pain After Having Intervention

The results explained that after having intervention (post-test), the average pain score was 1.14 (mild pain) with a standard deviation of 0.94. The smallest score was 0.0 and the maximum score was 2.0. From the results of the interval estimation, it concluded that it is 95% confident interval that the mean pain score is between 0.72 and 1.55. Yoga process of studying and observing the reactions and habitual patterns of the mind, body and breath. When you are aware of the patterns you have, and slowly you will get to

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exchange them with new and more balanced patterns of movement, breathing and thoughts (Aprilia, 2017).

Management of back pain usually pursued by conventional medical treatment, from massage, yoga practice and physiotherapist exercises, the use of anti-inflammatory drugs on the muscles and nerves, so that in severe cases, surgery can be performed. The way to reduce back pain that must be done is to make changes in lifestyle, namely to stay active as much as possible, lose weight, learn how to bend and lift objects appropriately, improve posture, avoid resting in bed. Activity can maintain muscle strength, health, and flexibility, as well as speed up rehabilitation and help return to normal life more quickly. Exercises that can help relieve back pain include light exercise, pregnancy exercises, walking, cycling, swimming and yoga. While sports that are not very good for back pain are jogging, soccer, golf, ballet / floor exercises, weight lifting (Lampah et al., 2019).

According to the researcher's opinion, complaints of back pain after doing yoga exercise in the category of mild pain, namely 1.14, this is because in this study the respondents had a high willingness and were more cooperative in following trainer instructions because the respondents in this study were dominated by respondents in the category of respondents aged 20 - 35 years, namely 21 respondents (95.5%) so that they already have physical and psychological maturity. In addition, age also affects the way a person thinks so that they are more cooperative in receiving input from others (Mediarti, Sulaiman, Rosnani, & Jawiah, 2014).

The Effect of Yoga programme on Low Back And Pelvic Pain

The results showed that the results of the analysis using the paired sample t-test showed that the average pain score during the pre-test was 3.73 with a standard deviation of 1.39. The average back pain after having intervention (post test) was 1.14 with a standard deviation of 0.94. In the statistical test results, the p-value is 0.000 <0.05, it concluded that there is an effect of yoga

on back pain, where the average pain score before having intervention is significantly higher than the pain score after having intervention. The benefits of yoga are purifying the central nerves in the spine, so that back pain complaints can resolve. One of the yoga movements, the sitting pose, has the benefit of improving the flexibility of the hip, knee and ankle joints. This happens because of the upward stretch that is focused on the spine area (Lebang, 2015). The results previous study show that before doing yoga exercises, almost half of pregnant women experienced back pain on a scale of 2, 44.4%, totaling 20 respondents, then after doing yoga exercises, almost half of pregnant women with scale 1 were 48, 9% totaled 22 respondents (Mega et al., 2018).

The sperman rank statistical test shows a p value of 0.0001 <0.05, so it can be concluded that there is an effect of yoga exercises on back pain for pregnant women in trimester 1. In the opinion of researchers yoga is a sport that is not risky for pregnant women. One of the yoga movements, the asana, is a yoga position that can relieve back pain, and many of the breathing techniques in yoga are therapeutic. Based on the results of research on complaints of pregnant women pre-test and post-test, it is known that the complaints that have decreased are back pain, uncomfortable sleeping position and insomnia, contractions, leg cramps and anxiety.

CONCLUSION

The results of this study, it shows that yoga programme is very useful in reducing the level of low back and pelvic pain in third trimester pregnancy.

SUGGESTION

This study as a source of information to public health centre, health care provider, community, and support group as alternative implementation to help in reducing the level of low back and pelvic pain for pregnancy.

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