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The Effect Of Use Of Birthing Ball On Reducing Back Pain Of Pregnant Women In Third Trimester At Kudus In 2023

Rewanta Cahya Mita[a] | Siti Muawanah[a]* | M. Zuhal Purnomo[a]
[a] Institute of Health Science Bakti Utama Pati
*Corresponding Author: wawa@stikesbup.ac.id

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ABSTRACT

Introduction *Low back torment in third trimester pregnant ladies happens due to hormonal changes which cause changes within the supporting and interfacing delicate tissues coming about in diminished muscle flexibility and adaptability. Administration that can be done to diminish and avoid back torment can be done is Birthing ball. Birthing ball is the application of non-pharmacological torment administration that can be done by giving works out and works out to clients with back torment complaints that frequently occur in pregnancy, particularly within the third trimester of pregnancy.*
Objectives: : *To determine the effect of using a birthing ball on reducing back pain in third trimester pregnant women at PMB Isni Handayani Utami.*
Methods: *In this study experimental designs with a two group pretest-posttest design. Where measurements were taken before carrying out the treatment (pre-test), then giving birthing ball therapy to pregnant women in the third trimester for 1 month, namely once every week, after being given the intervention, measurements were made again (post-test). Analysis of research data using univariate and bivariate Mann-Whitney*
Results: *Univariate analysis showed that the distribution of pre-test respondents was a moderate pain scale which was dominated by scale 4 which totaled 18 people (60%), scale 5 numbered 8 people (26.67%) and the smallest scale 6 amounted to 4 people (13, 33%). Then the birthing ball intervention was carried out and a post-test was carried out with the results of the mild pain scale category, namely scale 3 totaling 3 people (10%), scale 2 totaling 14 people (46.67%) and scale 1 totaling 13 people (43.33%) . Then the Mann-Whitney statistical test was carried out showing a sig(-2tailed) value = 0.0020 <0.05 so that it can be*
Conclusions: *that the use of birthing balls has an effect on reducing back pain in third trimester pregnant women. Thus third trimester pregnant women who have complaints of low back pain are expected to do birthing balls as an effort to reduce low back pain.*

Introduction

Pregnant women can experience health problems such as musculoskeletal, neurological and/or psychological problems during pregnancy (Sarah, et al. 2018). One of the

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most common complications of pregnancy in musculoskeletal problems is low back pain (Roig, et al. 2018).

The 2010 Global Burden of Disease study has shown that back pain is one of the top ten diseases and injuries worldwide (Tiang Soon Teck, et al. 2016). The progression of back pain over time shows higher levels. Pain disorders that many pregnant women experience do not only occur in certain trimesters, but can be experienced throughout pregnancy and the postpartum period.

The phenomenon of pain in the back of pregnant women is one of the most frequently reported complaints among pregnant women, varying from 50% to 80%, based on previous research in various countries, even 8% of them result in serious disability. Back pain in pregnant women in the second and third trimesters is a common complaint that often occurs among pregnant women. It is estimated that around 70% of pregnant women complain of some form of back pain at some point during pregnancy, childbirth and postpartum (Purnamasari. 2019).

Management that can be done to reduce and prevent back pain can be done with pharmacological pain management methods, namely a way to relieve pain by administering analgesia drugs which are injected via intravenous infusion, respiratory inhalation or by blockade of the nerves that transmit pain. The most important requirement for this action is that it does not cause harm or cause side effects, both for the mother and the baby (Suwondo et al., 2017). Meanwhile, non-pharmacological pain management can be done by providing exercises and sports such as pregnancy exercises, massage, birthing balls, or other physical exercises.

The use of a birth ball is believed to reduce back pain in TM III pregnant women. This is proven by research conducted by Safitri (2021) in the results of her research entitled The Effect of Using a Birth Ball on Reducing Lower Back Pain in Third Trimester Pregnant Women stating that the use of a birth ball has an effect on reduction in lower back pain scale in third trimester pregnant women. So it can be concluded that before and after using the birth ball there is a difference of 1 scale.

Methods

This type of research uses the experimental designs method with a two group pretest-posttest design. Where measurements are taken before carrying out the treatment (pre-test), then giving birthing ball therapy to pregnant women in the third trimester for 1 month, namely once every week, after being given the intervention, measurements are carried out again (post-test). Research data analysis used univariate and bivariate Mann-Whitney. The total population in this study was 50 people using a purposive sampling technique using inclusion and exclusion criteria to obtain a sample size of 30 pregnant women

Results

The research results show
Table 1. Univariate Analysis

No	Variabel		f	%
1.	Age			
	-	20 Years	2	6,67 %
	-	24 Years	4	13,33 %
	-	25 Years	5	16,67 %
	-	27 Years	3	10 %
	-	29 Years	4	13,33 %
	-	30 Years	5	16,67 %
	-	32 Years	7	23,33 %
2.	pain scale			
	-	4	18	60 %
	-	5	8	26,67 %
	-	6	4	13,33 %
3.	*Gravida, Partus, dan Abortus*		4	13,33 %
	-	G1P0A0	7	23,33 %
	-	G2P1A0	5	16,67 %
	-	G2P0A1	11	36,67 %
	-	G3P2A0	3	10 %
	-	G3P1A1		

Table 1.1 Age

Distribution of respondents based on age with the highest number being 7 pregnant women aged 32 years (23.33%) and the lowest number of respondents being 2 pregnant women aged 20 years (6.67%).

1.2. Pain Scale

The distribution of respondents based on the moderate pain scale is dominated by scale 4, totaling 18 people (60%) and the smallest, scale 6, totaling 4 people (13.33%).

1.3. Gravida, Parturition, and Abortion

The distribution of respondents was based on Gravida, Parturition and Abortion with the highest number being G3P2A0 with 11 people (36.67%) and the least being G3P1A1 with 3 people (10%).

Tabel 2. Analisis Bivariate

o	Variabel	Minimum	Maksimum
	- *Pre-Intervensi*	4	5
	- *Post–Intervensi*	1	3
	Test Statisticts[a]		
	- Mann-Whitney U	21.000	

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-	Asymp.Sig (2-tailed)	.0020

The results should include findings of the study, including, if appropriate, results of statistical analysis, which must be included either in the text or as tables and figures.

Table 2.1 above can be seen from the Descriptive Pre-Intervention using SPSS, the results show that the valid data for respondents is 30 TM III pregnant women, the minimum score obtained in the pre-intervention is with a pain scale of 4 (Moderate pain) and the maximum pre-intervention result is 5 (Pain currently).

Table 2.2 above can be seen from the Descriptive Pre-Intervention using SPSS, the results show that the valid data for respondents is 30 TM III pregnant women, the minimum score obtained in the post-intervention is with a pain scale of 1 (Mild pain) and the maximum post-intervention result is 3 (Pain light).

Table 2.3 above can be seen from the Mann-Whitney asymp.sig test. (2-tailed) shows a figure of 0.0020, which means there is a difference between before giving the intervention and after giving the intervention. With the results of this test, the Ho data was rejected and Ha was accepted, which means that the use of a birth ball has an effect on reducing back pain for pregnant women in the third trimester.

Discussion

This discussion will also explain the research results and interpretation of the research which is linked to previous research as well as theories that will strengthen this research.

1. Univariate Analysis

    1.1 The largest distribution of respondents based on age was 7 pregnant women aged 32 years (23.33%) and the lowest number of respondents was 2 pregnant women aged 20 years (6.67%). This research is in line with research conducted by Rosyaria (2022), it is known that the majority of respondents were 20-35 years old, 18 people (100%). This is in accordance with the theory of Sukeksi et al., (2018) which states that mothers generally experience lower back pain between the ages of 20 - 24 years and will reach its peak when they are over 40 years old.

    1.2 The distribution of respondents based on the moderate pain scale is dominated by scale 4, totaling 18 people (60%) and the smallest, scale 6, totaling 4 people (13.33%). In the study cited by Aggraini (2021), researchers used a pain scale in the study which showed the scale before the gym ball action, namely a pain scale of 4-6 (moderate pain). Pain is a very subjective feeling of discomfort and only the person experiencing it can explain and substantiate the feeling. In general, pain can be defined as a feeling of discomfort, either mild to moderate or severe.

    1.3 The distribution of respondents was based on Gravida, Parturition and Abortion with the highest number being G3P2A0 with 11 people (36.67%) and the least being G3P1A1 with 3 people (10%). In parity, it often occurs in multiparas and grandemultiparas who are more at risk because the muscles have weakened and cause the muscles to fail to support the uterus or the uterus is getting bigger so that many experience back pain (Fithriyah, Rizki Dyah Haninggar, 2020).

2. Bivariate Analysis

2.1 above, it can be seen from the Descriptive Pre-Intervention using SPSS that the results showed that the valid data for respondents was 30 TM III pregnant women, the minimum score obtained in the pre-intervention was with a pain scale of 4 (moderate pain) and the maximum pre-intervention result was 5 (moderate pain).).

2.2 above, it can be seen from the Descriptive Post-Intervention using SPSS that the results showed that the valid data for respondents was 30 TM III pregnant women, the minimum score obtained in the post-intervention was with a pain scale of 1 (Mild pain) and the maximum post-intervention result was 3 (mild pain).

2.3 above, it can be seen from the Mann-Whitney asymp.sig.(2-tailed) test that it shows a figure of 0.0020, which means there is a difference between before the intervention was given and after the intervention was given. With the results of this test, the Ho data was rejected and Ha was accepted, which means that the use of a birth ball has an effect on reducing back pain for pregnant women in the third trimester. This is in line with research from Wijayanti (2020) which stated that there was a difference in reducing back pain in third trimester pregnant women before and after the gym ball exercise group by 3.01.

Birthing ball is a non-pharmacological therapy and is a simple physical therapy that uses a ball. Birthing ball can be interpreted as exercise for pregnant women, postpartum mothers and postpartum mothers using a ball.

The use of a Birthing ball is believed to reduce back pain in TM III pregnant women. This is proven by research conducted by Wijayanti (2020) entitled Comparison of Pregnant Women Who Do Gym Ball Exercises and Pregnant Women Who Do Pregnancy Exercises on Reducing Lower Back Pain, which states that there is Differences in reducing back pain in third trimester pregnant women before and after the gym ball exercise group.

The birthing ball technique is a method used to increase the size of the pelvic cavity by slowly shaking the pelvis above the ball from the pelvis above the ball and slowly swinging the hips back and forth, right, left and in circles. Birthing Ball can be done independently, including physical therapy or simple exercises using a ball, where these exercises are applied to pregnant women, giving birth mothers and post-natal mothers. Indications for using a birthing ball are to relieve back pain, to help with prolonged opening and to lower the baby's head for a long time (Shanti. 2021).

According to the researchers' assumptions, the birthing ball method is very influential on the back pain of TM III pregnant women because apart from being easy to do, the muscles in the supporting and connecting soft tissue can have more elasticity and flexibility.

Conclusion

Based on the research that has been carried out, the following conclusions can be drawn:

1. It can be concluded that based on data from respondents' questionnaire answers, the pain scale before the birthing ball intervention was carried out was moderate pain, namely pain numbers 4 and 5
2. After being given the birthing ball intervention 4 times and evaluating the pain scale to mild pain, namely a pain number of 1 to 3.
3. Based on the data above, the Mann-Whitney asymp.sig.(2-tailed) test shows a figure of 0.0020, which means there is a difference between before giving the intervention and after giving the intervention. With the results of this test, the data Ho was rejected and Ha was accepted, which means that the use of a birth ball has an effect on reducing back pain for pregnant women in the third trimester.

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