The Effect of Pelvic Rocking on The Level of Readiness of Pregnant Women in Facing Labour

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ABSTRACT

This study aims to determine the effect of pelvic rocking exercises on the level of readiness of pregnant women in facing labor. The research utilized a one-group pretest-posttest design. A sample of 30 pregnant women in their third trimester participated in the study. Before the intervention, a readiness assessment was conducted to measure the level of preparedness of the participants for labor. Following the pretest, pelvic rocking exercises were implemented for a period of two weeks. Afterward, a posttest was conducted to reassess the level of readiness. Data were analyzed using paired t-test to compare pre and post-intervention readiness scores. The results indicated a significant increase in the readiness level of pregnant women post-intervention ($p < 0.05$). This suggests that pelvic rocking exercises may enhance the physical and psychological readiness of pregnant women in preparing for labor. Based on these findings, it is recommended that pelvic rocking exercises be considered as a beneficial intervention in antenatal care programs to support pregnant women in their labor preparation.

Keyword: Pelvic Rocking; Pregnancy Readiness.

Introduction

Labor is a physiological process experienced by the mother when the pregnancy is full term, but it is possible that there will be various problems that cause the labor process to become a pathological condition. To prevent pathological conditions, a comprehensive pregnancy examination is needed. Antenatal Care (ANC) is a health service by professionals for mothers during their pregnancy that is carried out in accordance with established antenatal service standards. (Ministry of Health, 2020). Antenatal care serves as the second pillar of the Safe Motherhood initiative, ensuring that mothers are better prepared for labor. Lack of readiness for labor is one of the factors contributing to high maternal mortality rates (MMR) and infant mortality rates (IMR).

In various countries, including Indonesia, birth preparedness and complication readiness (BPCR) is a component of the Safe Motherhood and Maternal and Neonatal Health (MNH) programs recommended by WHO (2017). These programs aim to reduce delays in obtaining maternal and neonatal care. BPCR components include recognizing danger signs, preparing transportation, saving funds, and identifying potential blood donors, as implemented in Indonesia through the "Birth Planning and Complication Prevention Program (P4K) with stickers" (Ministry of Health, 2014). A lack of labor readiness can lead to maternal anxiety.

Anxiety during pregnancy is an emotional state similar to general anxiety but specifically focused on concerns related to pregnancy. Pregnancy brings physical and psychological changes, acting as a stressor for women. These

changes occur due to hormonal shifts that facilitate fetal growth and development (Siallagan & Lestari, 2018).

Pregnant women require mobility exercises to keep ligaments loose, relaxed, free from tension, and provide more space for the baby to descend into the pelvis, which can shorten the duration of labor stages I and II. Pelvic rocking is an exercise that involves tilting the pelvis forward, backward, left, and right. Pelvic Rocking Exercises (PRE) aim to strengthen the waist and hip muscles and assist in fetal descent into the birth canal (Hermina & Wirajaya, 2015). Additionally, pelvic rocking exercises can reduce the intensity of lower back pain in labor stage I.

Based on this background, the researchers are interested in studying the effect of pelvic rocking on the readiness level of pregnant women in facing labor.

Methods

This study used a pre-experimental research design with a one-group pretest-posttest approach. The research was conducted in the working area of Tegowanu Health Center, Grobogan, from August to December 2023. The study population consisted of 50 pregnant women in their third trimester (37-40 weeks of gestation), with a sample size of 30 respondents selected using accidental sampling.

Data were collected using the Perinatal Anxiety Screening Scale (PASS) questionnaire. Ethical approval for this study was obtained from the Research Ethics Committee of Poltekkes Kemenkes Semarang with EC number: 1355/EA/KEPK/2023 dated December 27, 2023.

Results and Discussion

1. Univariate Analysis
a. Frequency distribution of characteristics and anxiety levels of respondents

Table 4.1 Frequency distribution of characteristics and anxiety levels of respondents.

Variables	n	Mean	SD	Min	Max
Age (Years)	30	27	5.3	18	38
Paritas	30	2	0.7	1	3
Anxiety Score	30	20.3	9.5	7	44
Age Category					
< 20 Years	3	10.0%			
> 35 Years	1	3.3%			
20-35 Years	26	86.7%			
Parity Categories:					
Premigravida	14	46.7%			
Multigravida	16	53.3%			
Anxiety Category:					
No anxiety symptoms	16	53.3%			
Mild to severe anxiety	13	43%			
Severe anxiety	1	3%			

Table 4.1 presents the frequency distribution of respondents' characteristics and anxiety levels. The sample comprised pregnant women aged between 18 and 38 years, with an average age of 27 years. Most respondents (86.7%) were aged 20-35 years. The participants had childbirth experience ranging from 1 to 3, with an average parity of 2. As expected, anxiety levels varied among pregnant women, with an average anxiety score of 20.3. Some participants exhibited severe anxiety with scores reaching 44, while 43% experienced mild to moderate anxiety. Additionally, 53.3% of respondents were classified as multigravida.

b. Distribution of Anxiety Score Data in Pregnant Women
The distribution of anxiety score data in pregnant women, tested using the Shapiro-Wilk test, is shown in Table 4.2.

Table 4.2. Distribution of Anxiety Scores in Pregnant Women Before and After the Intervention

Variable	Shapiro-Wilk		
	Statistic	df	p
Pre-test Anxiety Score	0.94	30	0.115
Post-test Anxiety Score	0.90	30	0.009

Table 4.2 shows that the pre-test anxiety score data follows a normal distribution (p = 0.115), while the post-test anxiety score data does not follow a normal distribution (p = 0.009). This condition indicates that the analysis of the relationship between performing pelvic rocking and the anxiety scores of pregnant women should use a non-parametric test, namely the **Wilcoxon test**.

2. Bivariate Analysis
Analysis of the Effect of Pelvic Rocking on the Readiness Level of Pregnant Women in Facing Labor. Pregnant women who perform pelvic rocking can reduce anxiety during pregnancy. This study also proves that pregnant women who engage in pelvic rocking for 25 minutes experience a decrease in anxiety scores, as shown in
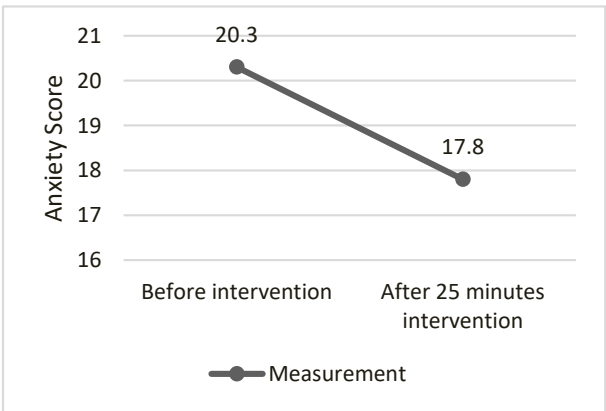

Figure 4.1. Changes in Anxiety Scores of Pregnant Women Before and After the Intervention

Figure 4.1 shows that before the intervention, pregnant women had an average anxiety score of 20.3. After performing pelvic rocking for 25 minutes, the anxiety score decreased to an average of 17.8. To determine the significance

of this decrease, the Wilcoxon test was conducted, as presented in Table 4.3.

Table 4.3. Wilcoxon Test Results on the Relationship Between Pelvic Rocking and Anxiety Scores in Pregnant Women

Intervention	Anxiety Score	MD	SD	ES	E	p*	95% Confidence Interval MD	
							Lower Bound	Upper Bound
Before Intervention	20.3	2.5	9.5	0.3	62%	0,017	0.4	4.6
After 25 minute intervention	17.8							

*Wilcoxon MD= Mean Different SD= Standart Deviasi ES= Effet Size E= Effectiveness

Table 4.3 shows that pregnant women who performed pelvic rocking for 25 minutes experienced a decrease in anxiety scores by 2.5 points (MD: 2.5). The Wilcoxon test results indicate that performing pelvic rocking for 25

minutes led to a significant reduction in anxiety scores (MD: 2.5; 95% CI MD: 0.4-4.6; p = 0.017). The effect size (ES) of performing pelvic rocking for 25 minutes in reducing anxiety scores, calculated by dividing MD by SD, was

0.3. When the effect size was transformed into a percentile using SPSS, the effectiveness was found to be 62%. However, the magnitude of

Discussion

1. Characteristics of Respondents: Age and Parity

   Based on the research conducted on 30 pregnant women, the average age of the respondents was 27 years, with the youngest being 18 years old and the oldest 38 years old. The majority of respondents (86.7%, or 26 individuals) were between 20-35 years old, while 13.3% (4 individuals) were younger than 20 or older than 35. Women in the 20-35 age range are considered to be in their reproductive prime, reducing the risks associated with childbirth.

   This study aligns with the research by Ria Agustin, Tetty Rihardini, and Solichatin (2023) on the effect of pelvic rocking on reducing back pain in third-trimester pregnant women at Puskesmas Socah Bangkalan, where most respondents (53.3%) were aged 25-35 years. Similarly, this study is consistent with Andriani, Mardiyanti, and Amalia (2022) on pelvic rocking exercises and labor duration, where 98.3% of respondents were 20-35 years old. This confirms that most of the study participants were within the active reproductive age. Regarding parity, most pregnant women in this study had given birth 1 to 3 times, with an average parity of 2. Among the respondents, 53.3% were classified as multigravida.

2. Anxiety Levels of Pregnant Women Before and After Pelvic Rocking

   As commonly experienced during pregnancy, anxiety was also observed in the study participants, with an average anxiety score of 20.3. Some participants had anxiety scores as high as 44, which falls under severe anxiety, while 43% of the sample experienced mild to moderate anxiety. Among the respondents, 53.3% were multigravida. This study contrasts with the findings of Hidayat & Sumarni (2022) on pregnancy anxiety before labor, where 69.6% of respondents experienced moderate anxiety, while only 8.7% were categorized as having no anxiety or mild anxiety.

this effect or effectiveness is still considered small.

3. The Effect of Pelvic Rocking on Pregnancy Readiness

   In this study, the impact of performing pelvic rocking for 25 minutes on reducing anxiety scores was measured by dividing the MD (Mean Difference) by SD (Standard Deviation), resulting in an Effect Size (ES) of 0.3. When transformed into a percentile using SPSS, the effectiveness was calculated at 62%. However, this level of impact is still categorized as small. These findings indicate that pelvic rocking has a positive effect on the readiness level of pregnant women in facing labor, as shown by a reduction in anxiety scores after 25 minutes of intervention.

Conclusion

Based on the research on the effect of pelvic rocking on the readiness level of pregnant women in facing labor among 30 pregnant women in the working area of Tegowanu Health Center, Grobogan Regency, the following conclusions were drawn:

1. The majority of respondents were within the reproductive health age range (20-35 years), totaling 26 individuals (86.7%). More than half of the respondents, 16 pregnant women (53.3%), were classified as multigravida.
2. Before performing pelvic rocking, the average anxiety score of pregnant women was 20.3. After performing pelvic rocking for 25 minutes, the average anxiety score decreased to 17.8.
3. There was a significant effect of pelvic rocking on the readiness level of pregnant women in facing labor, as indicated by a decrease in anxiety scores, with a p-value of 0.017.

Acknowledgements

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