

## THE RELATIONSHIP OF PRENATAL YOGA WITH PERINEUM RUPTURE

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### ABSTRACT

**Background:** Prenatal yoga trains the perineal muscles to be stronger and stretches elastically during the delivery process so that it is effective in preventing perineal rupture in women giving birth. The purpose of this study was to determine the effect of prenatal yoga on perineal rupture. **Method:** The research method used was a pre-experimental design using an intact-group comparison design. **Result:** The sample in this study were pregnant women with gestational age above 34 weeks who took part in yoga pregnancy 20 respondents and who did not participate in yoga pregnancy 20 respondents so that the sample size was 40 respondents. Analysis using Chi square. The results showed that prenatal yoga had an effect of 4,333 times on pregnant women to be able to give birth without experiencing perineal rupture compared to pregnant women who did not do yoga. **Conclusion:** there is an effect of prenatal yoga on perineal rupture.

## 1. INTRODUCTION

Yoga is an exercise technique that is used to get to know yourself so you can analyze more about your thoughts and actions that have been done. Exercise is done through posture (asana), breathing (pranayama) and relaxation techniques so that it can increase natural intuition and help the mind to focus. Yoga includes body postures (asanas), breathing techniques (pranayama), meditation (dhyana), chants (mantras) and teachings of wisdom (sutras) to promote health and relaxation. Yoga is effective for reducing anxiety, depression and pain without any side effects. Yoga interventions improve psychological health (anxiety, depression, depression, stress) and improve quality of life.[1]

Yoga in pregnancy or known as prenatal yoga can provide many benefits during pregnancy, childbirth and postpartum. The benefits of prenatal yoga for pregnant women can reduce complaints in pregnancy such as back pain, anxiety, insomnia and so on. Prenatal yoga also increases a mother's chances of giving birth normally, this is because regular yoga practice can provide benefits for pregnant women including a more flexible body, a flexible body will reduce aches and pains during labor, besides pregnancy yoga. can also make the body stronger when pushing and reduce stress at the time of delivery[2]

The strengthening and flexibility of the perineal, vaginal, anal sprigter, and urinary tract muscles and followed by an increase in the pelvic diameter resulting from regular yoga practice, it can facilitate minimal trauma labor and reduce the duration of each phase of labor.[3] Prenatal yoga shortens the duration of the second stage of labor with p-value <0.05.[4] The average length of the second stage in mothers with yoga was 0.25 hours and the average length of the second stage in mothers who did not do prenatal yoga was 1.7 hours. Shortening the duration of the second stage will help reduce the incidence of prolonged labor, reduce stress and injury during labor. Mothers who did prenatal yoga during the second stage of labor were much shorter than mothers who did not do prenatal yoga.[4]

Yoga can train the perineal muscles (pelvic floor muscles) which function as birth muscles; making it stronger and more elastic so as to facilitate the birth process.[5] The incidence of perineal tears during delivery reached 90% in mothers who did not do pregnancy exercise.[6] In Indonesia, perineal tears are also the second cause of postpartum hemorrhage. Based on this, the mother should prepare for the comfort of childbirth starting from the gestation period. There are several factors that can cause a perineal tear, one of which is a rigid perineum. The rigid condition of the perineum can affect the second stage of labor so that it can increase the risk of death for the fetus and can cause extensive damage to the birth canal during the delivery process. Stiff perineum can be anticipated since pregnancy through various efforts, one of which is by doing prenatal yoga. Prenatal yoga can provide benefits in training the perineal muscles to be stronger and stretch elastically during the labor process so as to facilitate the delivery process. Prenatal yoga has a significant relationship with the incidence of perineal rupture in pregnant women, in other words, prenatal yoga performed during pregnancy has been shown to be effective in preventing perineal rupture in women giving birth.[7]

Pregnancy yoga exercise can increase physical readiness in facing childbirth by 60.8%.[8] While in research Putri and Lestari, the incidence of perineal tears during delivery reached 90% in mothers who did not do pregnancy exercise.[6] According to research Widyawati and Syahrul, mothers who do pregnancy exercise experience labor 1.80 times faster than pregnant women who do not exercise.[9]

Meanwhile, in the study of Maharana et al, the intervention of yoga pregnancy exercise 1 hour per day from 19-20 weeks of gestation showed that the first stage of labor was shorter than the control group.[10] In addition, according to research of Dewi et al, there is an effect of yoga pregnancy exercise on pelvic floor muscle strength in postpartum vaginal primigravida women by 1.75 mmHg in conditions without contractions and 1.5 mmHg in contraction conditions. In addition to the psychological condition, the strength of the pelvic floor muscles also plays a role in the smooth and comfortable delivery, including the perineal muscles. [11]

In Indonesia, perineal tears are also the second cause of postpartum hemorrhage. There are several factors that can cause a perineal tear, one of which is a rigid perineum. The rigid condition of the perineum can affect the second stage of labor so that it can increase the risk of death for the fetus and can cause extensive damage to the birth canal during the delivery process. Stiff perineum can be anticipated since pregnancy through various efforts, one of which is by doing prenatal yoga. Prenatal yoga can provide benefits in training the perineal muscles to be stronger and stretch elastically during the labor process so as to facilitate the delivery process. Prenatal yoga has a significant relationship with the incidence of perineal rupture in pregnant women, in other words, prenatal yoga performed during pregnancy has been shown to be effective in preventing perineal rupture in women giving birth.[7] Most of the mothers who experienced perineal rupture were born with adequate weight (2500-4000 grams) as much as 94%.[12]

According to the research Dewi et al, did the results show that there was a significant difference in cortisol levels before and after the intervention in the treatment group. The Mann-Whitney test results obtained a significance value of 0.010 which was smaller than 0.05. There was a decrease of -209.67ng/ml in the treatment group and -129.96 ng/ml in the control group. The average length of labor in the treatment group and the control group after statistical tests with the Wilcoxon test was obtained, the value of  $p = 0.003$  was smaller than 0.05, meaning that there was an effect of the combination of prenatal yoga and pregnancy exercise on the duration of the first stage of labor.[11]

## 2. Materials and Method

This study is an experimental study that uses a pre-experimental design using an intact-group comparison design, namely the measurement of the case group and control group in the same sample and not chosen randomly.[3] The sample in this study were all TM III pregnant women with gestational age above 34 weeks who participated in yoga pregnancy 20 respondents and 20 respondents who did not participate in yoga pregnancy so that the sample size was 40 respondents. sampling technique is purposive sampling. The source of the data used is primary data which is taken directly by filling out the observation sheet. The analytical method in this study uses Chi square.

### 3. Results and Discussion

#### 3.1. Result

##### a. Characteristics of respondents

##### 1) Age

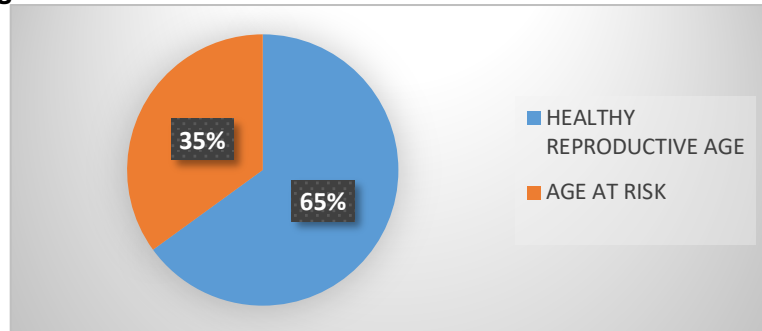


Figure 1. Age distribution of respondents

Based on the results of the study in Figure 1 above, most of the respondents are in the healthy reproductive category, which is 65%. Meanwhile, 35% of respondents are in the risk age category, namely less than 20 years or more than 35 years.

##### 2) Parity

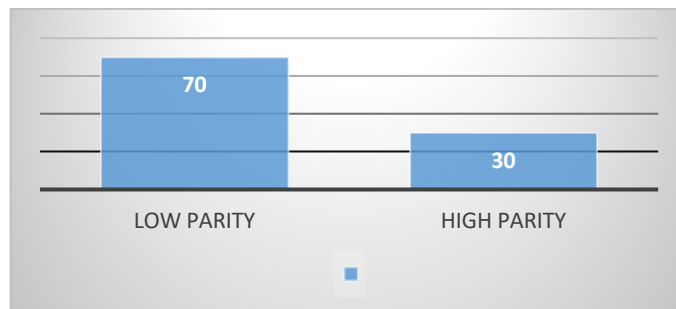


Figure 2. Respondent parity distribution

Based on the results of the study in Figure 2 above, most of the respondents have parity in the low category, which is 70%. Meanwhile, 30% of respondents have parity in the high parity category, that is, they have given birth more than 3 times.

##### 3) Education

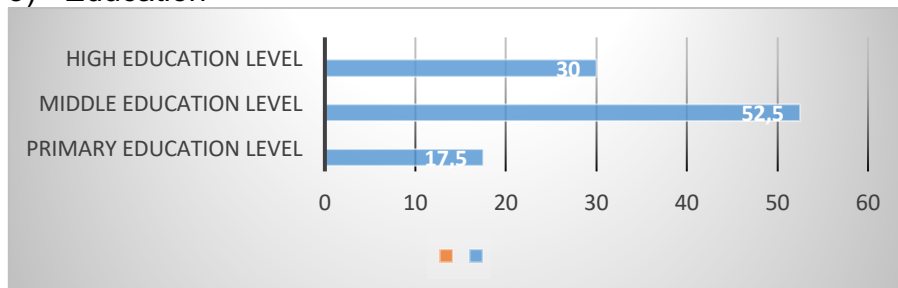


Figure 3. Distribution of respondents' education

Based on the results of the study in Figure 3 above, most of the respondents have middle education level (SMA), which is 52.5%. Meanwhile, 17.5% of respondents have primary education level (SD-SMP) and 30% of respondents have higher education level (diploma/bachelor).

**a. Effect of prenatal yoga with rupture of the perineum**

**Table 1.** Effect of prenatal yoga with rupture of the perineum

Perineal Rupture	Prenatal Yoga				Total		p Value
	Case		Control				
	f	%	f	%	f	%	
1. No	14	70	7	35	21	100	0.031
2. Yes	6	30	13	65	19	100	
Total	20	100	20	100	40	100	

Based on the results of the study in Table 1, it shows that the majority of pregnant women who did prenatal yoga at the time of delivery did not experience a perineal rupture by 70%, while in the control group, pregnant women during childbirth experienced a perineal rupture at 65%.

**3.2. Discussion**

The results of the chi-square correlation analysis, obtained a probability value (p) of 0.027 with a significance level of 5% (0.05). Because the value is  $0.027 < 0.05$ , it can be stated that prenatal yoga has a significant effect on perineal rupture during childbirth in pregnant women who do prenatal yoga. Odd Ratio value: 4.333 (CI: 1.150-16.323) which means that prenatal yoga has an effect of 4.333 times on pregnant women to be able to give birth without experiencing perineal rupture compared to pregnant women who do not do yoga. Based on the results of the study in Table 2, it shows that the results of the chi-square correlation analysis, obtained a probability value (p) of 0.027 with a significance level of 5% (0.05). Because the value is  $0.027 < 0.05$ , it can be stated that prenatal yoga has a significant effect on perineal rupture during childbirth in pregnant women who do prenatal yoga. Odd Ratio value: 4.333 (CI: 1.150-16.323) which means that prenatal yoga has an effect of 4.333 times on pregnant women to be able to give birth without experiencing perineal rupture compared to pregnant women who do not do yoga.

The results of this study are in accordance with the research of Rusmita pregnancy yoga exercise can increase physical readiness in facing childbirth by 60.8%. [8] While in Putri's research the incidence of perineal tears during childbirth reached 90% in mothers who did not do yoga pregnancy exercise. [6] According to research of Widyawati Syahrul, mothers who did yoga during pregnancy experienced 1.80 times faster delivery than pregnant women who did not. [9]

While in research of Maharana, the intervention of yoga pregnancy exercise 1 hour per day from 19-20 weeks of gestation resulted in the first stage of labor being shorter than the control group. There is an effect of pregnancy yoga exercise on pelvic floor muscle strength in vaginal postpartum primigravida women of 1.75 mmHg in conditions without contractions and 1.5 mmHg in contraction conditions. In addition to the psychological condition, the strength of the pelvic floor muscles also plays a role in the smooth and comfortable delivery, including the perineal muscles. [10]

There are several factors that can cause a perineal tear, one of which is a rigid perineum. The rigid condition of the perineum can affect the second stage of labor so that it can increase the risk of death for the fetus and can cause extensive damage to the birth canal during the delivery process. Stiff perineum can be anticipated since pregnancy through various efforts, one of which is by doing prenatal yoga. Prenatal yoga can provide benefits in training the perineal muscles to be stronger and stretch elastically during the labor process so

as to facilitate the delivery process. Prenatal yoga has a significant relationship with the incidence of perineal rupture in pregnant women, in other words, prenatal yoga performed during pregnancy has been shown to be effective in preventing perineal rupture in women giving birth.[7] The majority of mothers who experience perineal rupture are born with adequate weight (2500-4000 grams) as much as 94%.[12]

According to the results Widyawati and Syahrul, it was found that there was an effect of prenatal yoga and pregnancy exercise on the length of the first stage of labor. The effects included significant differences in cortisol levels before and after the intervention in the treatment group. The Mann-Whitney test results obtained a significance value of 0.010 which is smaller than 0.05. There was a decrease of -209.67ng/ml in the treatment group and -129.96 ng/ml in the control group. The average length of labor in the treatment group and the control group after statistical tests with the Wilcoxon test was obtained, the p value = 0.003 smaller than 0.05, which means that there is an effect of the combination of prenatal yoga and pregnancy exercise on the duration of the first stage of labor.[9]

#### 4. Conclusion

- a. Most of the respondents are in the category of healthy reproduction, which is 65%
- b. Most of the respondents have parity in the low category, which is 70%.
- c. Most of the respondents have education in the secondary category (SMA), which is 52.5%.
- d. Prenatal yoga has an effect of 4,333 times on pregnant women to be able to give birth without experiencing perineal rupture compared to pregnant women who do not do yoga.

#### Declaration

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#### Conflicts of Interest:

The founding sponsors had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, and in the decision to publish the results

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