



Optimizing Healthy Pregnancy Through Prenatal Yoga: An Effectiveness Study on Primigravida at Independent Midwifery Practices in East Lampung

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ABSTRACT

Background: One intervention that can be undertaken by pregnant women to support optimal pregnancy outcomes is prenatal yoga. Yoga is a discipline that integrates physical, mental, and spiritual practices aimed at achieving holistic health, which can be incorporated into daily life.

The purpose of this study was to examine the effectiveness of prenatal yoga on pregnancy outcomes among primigravida women at Independent Midwifery Practices in Batang Hari, East Lampung, in 2025.

Methods: This study employed a quantitative research approach, using a quasi-experimental design with a post-test only control group. The study population included third-trimester primigravida women, and data collection was conducted at the independent midwifery practices of Bd. Amelia Agustina, S.Keb., and Bdn. Sri Umi, S.ST., between January and March 2025. The Mann-Whitney test was used for data analysis.

Result: The findings revealed that the average post-test score for maternal outcomes in the prenatal yoga intervention group was 0.40, while the average post-test score for perinatal outcomes in the same group was 0.27. In the control group, the average post-test score for maternal outcomes was 1.80 with a standard deviation of 0.775, and the average score for perinatal outcomes was 0.93. A statistically significant difference was observed between the intervention and control groups, with a p-value of 0.000.

Conclusion: These results indicate that prenatal yoga is effective in improving pregnancy outcomes among primigravida women at the Independent Midwifery Practices in Batang Hari, East Lampung, in 2025.

Keywords: Pregnant Women; Primigravida; Prenatal Yoga

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Background

Childbirth is the process of delivering a viable fetus from the uterus to the outside world. Although commonly perceived as painful and stressful, childbirth can be experienced in a safe and comfortable manner, free from trauma. Several key factors influence the labor process, including the power (uterine contractions), passenger (the fetus), passage (the birth canal), and psyche (the psychological state of the mother) (Sukamti & Noviani, 2019).

One of the critical determinants affecting the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) is the availability and quality of skilled birth attendants. It is reported that every minute, a woman dies due to complications related to pregnancy and childbirth (Das et al., 2021; Woollett et al., 2021).

There are two main types of childbirth: vaginal (per vaginam) and abdominal (per abdominal), the latter referring to caesarean section (C-section). A study comparing the changes in uterine fundal height during the postpartum period in women who underwent physiological (vaginal) birth and those who had a C-section found significant differences. In cases of C-section delivery, the process of uterine involution is often disrupted, as indicated by the lack of significant decrease in fundal height. This condition is commonly attributed to delayed early mobilization among post-C-section mothers, primarily due to postoperative pain (Masjouidi et al., 2020).

In developing countries, the rate of caesarean section (C-section) deliveries has been increasing, often exceeding the standard recommended rate of 10% to 15%. In 2019, the global number of C-section deliveries reached 85 million, followed by 68 million in 2020, and a significant rise to 373 million in 2021. These procedures were most frequently reported in the Americas (39.3%), followed by Europe (25.7%) and Asia (23.1%). This trend is expected to continue rising annually (Organização Mundial de Saúde, 2022).

In Indonesia, high-risk pregnancies are a major concern, with hemorrhage accounting for 1,330 cases and pregnancy-induced hypertension for 1,077 cases. The national rate of C-section deliveries in Indonesia stands at 17.6%, driven by various medical indications such as transverse or breech fetal position, hemorrhage, eclampsia, premature rupture of membranes (PROM), and prolonged labor (Bi et al., 2021; Maheshwari et al., 2022).

In 2019, the coverage of caesarean section (C-section) deliveries in Lampung Province reached 100.6%, showing an increase compared to 97.03% in 2020. In that same year, 45.55% of deliveries were assisted by physicians. In the city of Bandar Lampung, the proportion of deliveries in health facilities in 2022 was 87.9%, an increase from 83% in 2021. The number of C-section deliveries in Bandar Lampung also rose, with 14 cases recorded in May 2022 and 52 cases in November 2022. Additionally, the total number of deliveries attended by physicians in the city in 2022 was 42 (Rashidi et al., 2019).

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According to 2022 data from East Lampung Regency, a total of 1,084 pregnant women were recorded, with several cases of pregnancy complications: 65 women (6%) experienced anemia in the first trimester, 22 (2.1%) had second-trimester anemia, 12 (1.1%) were diagnosed with chronic energy deficiency (CED), 57 (5.3%) suffered from hemorrhage, 34 (3.4%) had abortions, and 13 (1.2%) developed preeclampsia. In total, 203 women were identified with risk factors, of whom 101 (49.75%) were categorized as high-risk pregnancies (Lin et al., 2018).

In 2023, among 1,035 pregnant women, complications included: first-trimester anemia in 41 cases (4%), second-trimester anemia in 8 cases (0.8%), hemorrhage in 24 cases (2.4%), preeclampsia in 2 cases (0.2%), abortion in 8 cases (0.8%), and other complications in 6 cases (0.6%). A total of 89 women were recorded with risk factors, with 53 (59.6%) classified as high-risk pregnancies (East Lampung District Health Office, 2023). In terms of delivery at health service facilities, there were 15,076 births in 2022 (86.11%), 14,827 in 2023 (80.43%), and 12,016 in 2024 (59.10%) (Hidayati et al., 2018; Rahman, A.E., Perkins, J., Islam, S., 2018).

Caesarean section (C-section) delivery is defined as the surgical birth of a fetus weighing more than 1,000 grams or from a gestational age of more than 28 weeks, through incisions made in the abdominal and uterine walls. The decision to perform a C-section is expected to reduce maternal and neonatal morbidity and mortality, thereby improving human resources by ensuring the capacity to manage the risks associated with this surgical intervention. Some women are unable to undergo a normal or spontaneous vaginal delivery due to complications and must therefore deliver through an alternative method, such as a C-section (Raharja & Aini, 2023).

The increasing trend of C-section deliveries is attributed to both medical and non-medical indications. Medical indications include stalled labor, prolonged second stage of labor, and premature rupture of membranes (PROM) (Dheska Arthyka Palifiana & Nur Khasanah, 2019). While every woman hopes for a smooth delivery and the safe birth of a healthy baby, complications may arise that necessitate surgical intervention. In such cases, a C-section becomes the only viable option to save the baby's life in the event of fetal distress or other obstetric emergencies (Malahayati Inke, 2021; Ricchi et al., 2020).

Another condition that may occur during childbirth is prolonged labor. The duration of labor is one of the key indicators used to assess whether a delivery is progressing normally. Prolonged labor, particularly during the second stage, which is the final phase of childbirth, can result in several complications, including maternal dehydration, infection, exhaustion, fetal asphyxia, and even intrauterine fetal death (IUFD). In addition to psychological factors, the strength of the pelvic floor muscles—especially the perineal muscles—also plays an important role in ensuring a smooth and comfortable labor process. Research shows that spontaneous perineal rupture occurred in 64 primigravida mothers (51.6%) and in 60 multigravida mothers (48.4%) (Daniyati & Mawaddah, 2021; Holden et al., 2019).

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Anxiety is also a common concern among pregnant women in their third trimester, often stemming from emotional disturbances that can have serious psychological effects. Although pregnancy and childbirth are natural physiological events, complications can still arise. One strategy to help reduce or even prevent anxiety is childbirth preparation. Such preparations can be initiated during the third trimester of pregnancy, one of which includes practicing prenatal yoga (Qoyyimah et al., 2021).

The high rate of cesarean section (CS) deliveries has led to the common perception among the public that once a woman has delivered via CS, all subsequent deliveries must also be performed using the same method. Cesarean delivery is often seen as a safe and relatively painless method. However, many women are unaware that cesarean deliveries may increase maternal and neonatal morbidity, including risks such as hemorrhage, placenta previa, and a longer postpartum recovery period (Utami *et al.*, 2023). In response, Vaginal Birth After Cesarean (VBAC) can be promoted as an alternative solution for women with a history of CS, offering both education and awareness that vaginal delivery remains a possibility after a prior CS (Campbell & Nolan, 2019; Pratiwi et al., 2021).

One supportive strategy for expectant mothers is the practice of prenatal yoga. Yoga is a discipline that integrates physical, mental, and spiritual elements to promote holistic health and well-being, which can be applied to daily life. For pregnant women, yoga is taught through comprehensive guidance. As labor approaches, mothers can practice standing yoga postures combined with Sufi rotations and relaxation techniques to support the birthing process (Corrigan et al., 2022; Martins & Pinto E Silva, 2014; Sun et al., 2010).

Prenatal yoga has been shown to reduce the risk of negative birth outcomes. In addition to its physical benefits, prenatal yoga plays an important role in maintaining both emotional and physical health during pregnancy. It is associated with reduced pain, stress, prenatal complications, and a lower risk of preterm birth. Studies suggest that yoga is more effective than walking or other standard prenatal exercises (Ruqaiyah et al., 2020).

One of the key benefits of prenatal yoga is its ability to strengthen and maintain the elasticity of the abdominal wall muscles, ligaments, pelvic floor muscles, and inner thigh muscles—thus helping the mother to better manage the labor process. Through a combination of contraction and relaxation techniques, yoga facilitates complete relaxation, which is essential in managing tension or pain during labor. Exercises that strengthen the pelvic floor muscles are particularly useful. These exercises help to relax the pelvic floor muscles during pushing, allowing them to actively loosen and making it easier for the baby's head to pass through the birth canal. As a result, prenatal yoga can help ease labor and reduce the risk of perineal rupture (Ricchi et al., 2020; Youssef et al., 2025).

According to research by (Sotome et al., 2021), prenatal yoga is one of the efforts to reduce the incidence of cesarean section deliveries. The study also indicated that practicing yoga during

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pregnancy helps alleviate discomfort caused by bodily changes. Prenatal yoga offers numerous benefits, including facilitating optimal fetal positioning and movement, improving digestion and appetite, increasing energy levels, slowing metabolism to restore calmness, and reducing nausea, morning sickness, and mood disturbances.

Prenatal yoga has also been shown to influence the duration of the first stage of labor and reduce the risk of perineal rupture (Daniyati & Mawaddah, 2021). Research by (Longulo et al., 2021b) found that prenatal yoga programs are effective in improving neonatal outcomes such as Ballard scores, body length, birth weight, and head circumference. According to (Daniyati & Mawaddah, 2021), prenatal yoga is considered regular if pregnant women attend sessions twice per week for 30 minutes, or at least once a week. It can be performed by women whose gestational age is more than 20 weeks.

Based on a survey I conducted in Batang Hari, East Lampung, many pregnant women still prefer cesarean delivery. From interviews with 10 pregnant women, 7 reported that cesarean section (CS) is faster, painless, and conducted by a doctor. Other reasons cited included poor maternal health, support from husbands, and recommendations from neighbors, which influenced mothers to choose SC for a safer delivery. However, there is no clinical evidence that definitively supports one mode of delivery as superior to another. Delivery methods should be chosen based on individual evaluations or case-by-case assessments. Unless the woman has a clear medical indication requiring cesarean delivery, family counseling should consider both obstetric indications and the family's preferences. If there are medical indications, then a cesarean section is the appropriate choice.

Objective

Based on the aforementioned background and phenomena, the researcher is interested in conducting a study titled *"The Effectiveness of Prenatal Yoga on Pregnancy Outcomes in Primigravida Mothers at the Independent Midwifery Practice of Amelia Agustina, S.Keb in Batang Hari, East Lampung, 2025."*

Methods

This study was conducted to evaluate the effectiveness of prenatal yoga on pregnancy outcomes in primigravida mothers at the Independent Midwifery Practice in Batang Hari, East Lampung. The study employed a quantitative approach with a quasi-experimental design using a post-test only control group design. In this study, the intervention and control groups were not selected randomly. The intervention group (X) received prenatal yoga sessions, while the control group (C) received childbirth education. After the interventions were administered, data were collected using a checklist during labor. The average outcomes after delivery were then compared between the two groups.

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The study subjects were third-trimester primigravida pregnant women. This research was carried out at two Independent Midwifery Practices in Batang Hari, East Lampung, from January to March 2025. Data were analyzed using the Mann-Whitney test.

Research Results

Respondent Characteristics

Table 4.1
Respondents' Age Characteristics

Characteristics	Frequency	Percent (%)
Age		
≤ 30 YO	26	86,7
> 30 YO	4	13,3
total	30	100
Education Level		
SD	0	0
SMP	1	3,3
SMA	24	80
SARJANA	5	16,7
total	30	100
Occupation		
Not working	24	80
Working	6	20
total	30	100

Based on Table 4.1, it can be seen that the majority of mothers were aged ≤ 30 years, totaling 26 respondents (86.7%), while those aged > 30 years were 4 respondents (13.3%). In terms of education, most of the mothers had completed senior high school (SMA), accounting for 24 respondents (80%), followed by those with a bachelor's degree (5 respondents or 16.7%) and junior high school (SMP) education (1 respondent or 3.3%).

1. Univariate Analysis

Univariate analysis was conducted for each variable in the form of a descriptive statistical distribution table showing the average pregnancy outcomes among primigravida mothers, following the intervention in both the prenatal yoga group and the control group at the Midwife Independent Practice in Batang Hari, East Lampung, in 2025.

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a. Average pregnancy outcomes among primigravida mothers after prenatal yoga

Table 4.2 Average pregnancy outcomes among primigravida mothers after prenatal yoga at the Midwife Independent Practice in Batang Hari, East Lampung, in 2025.

Intervention Group	<i>n</i>	<i>Mean</i>	<i>Std. Deviasi</i>	S.E	Min	Max
Maternal outcome score	15	0,40	0,507	0,131	0	1
Perinatal outcome score	15	0,27	0,485	0,118	0	1

Based on Table 4.2, it can be seen that out of 15 research respondents, the mean or average maternal outcome score after the intervention in the prenatal yoga group was 0.40, with a standard deviation of 0.507, a minimum value of 0, and a maximum value of 1. The average perinatal outcome score after the intervention in the prenatal yoga group was 0.27, with a standard deviation of 0.458, a minimum value of 0, and a maximum value of 1.

b. Average Pregnancy Outcomes in Primigravida Mothers in the Control Group Receiving Birth Education

Table 4.3 Average Pregnancy Outcomes in Primigravida Mothers After Receiving Birth Education at the Independent Midwife Practice in Batang Hari, East Lampung Year 2025

Control Group	<i>n</i>	<i>Mean</i>	<i>Std. Deviasi</i>	S.E	Min	Max
Maternal outcome score	15	1,80	0,775	0,200	1	3
Perinatal outcome score	15	0,93	0,799	0,206	0	2

Based on Table 4.2 above, it can be seen that among the 15 research respondents, the mean or average maternal outcome score after receiving childbirth education was 1.80, with a standard deviation of 0.775, a minimum score of 1, and a maximum score of 3. Meanwhile, the average perinatal outcome score after receiving childbirth education was 0.93, with a standard deviation of 0.799, a minimum score of 0, and a maximum score of 2.

c. Normality Test

Before conducting a t-test, a normality test was carried out to determine whether the data were normally distributed. The Kolmogorov-Smirnov/Shapiro-Wilk normality test was used with the following criteria:

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1. If the Sig. value > 0.05 , the data are normally distributed.
2. If the Sig. value < 0.05 , the data are not normally distributed.

Table 4.4
Shapiro-Wilk Normality Test Results

Group	Df	Statistic	P-value	A	Keterangan
Maternal Outcomes in the Intervention Group	15	0,630	0,000	0,05	not normally distributed
Perinatal Outcomes in the Intervention	15	0,561	0,000	0,05	not normally distributed
Maternal Outcomes in the control Group	15	0,806	0,004	0,05	not normally distributed
Maternal Outcomes in the control Group	15	0,817	0,006	0,05	not normally distributed

The normality test presented in Table 4.4 was conducted using the Shapiro-Wilk test. Based on the results, the significance value for maternal outcomes in the intervention group was 0.000, indicating that the data were not normally distributed. Similarly, the perinatal outcomes in the intervention group also showed a significance value of 0.000, confirming non-normal distribution. In the control group, the maternal outcomes yielded a significance value of 0.004, and the perinatal outcomes showed a value of 0.006, both of which also indicate non-normal data distribution. Due to the non-normal distribution of the data in both groups, this study employed a non-parametric bivariate correlation test, specifically the Mann-Whitney U test.

2. Bivariate Analysis

Bivariate analysis was performed to examine the relationship between two variables presumed to be correlated. The type of analysis used in this study was the Mann-Whitney U test. This bivariate analysis presents the findings on the effectiveness of prenatal yoga on pregnancy outcomes among primigravida mothers at the Independent Midwifery Practice in Batang Hari, East Lampung, in 2025.

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Table 4.5 The Effectiveness of Prenatal Yoga on Pregnancy Outcomes among Primigravida Mothers at the Independent Midwifery Practice in Batang Hari, East Lampung, in 2025

Group	n	Mean	Min	Max	Selisih mean	Sig. (2-tailed)
Maternal Outcomes in the Intervention Group	15	0,40	0	1	1,4	0,000
Maternal Outcomes in the control Group	15	1,80	1	3		
Perinatal Outcomes in the Intervention group	15	0,27	0	1	0,66	0,015
Perinatal Outcomes in the control group	15	0,93	0	2		

Based on the data presented in Table 4.5, the mean difference between the maternal outcomes of the intervention group and the control group was 1.4. Meanwhile, the mean difference between the perinatal outcomes of the intervention group and the control group was 0.66, indicating a difference in average scores between the prenatal yoga group and the childbirth education group. The results of the statistical analysis using the Mann-Whitney test showed that the p-value for maternal outcomes was 0.000 ($p < 0.05$), and the p-value for perinatal outcomes was 0.015 ($p < 0.05$). These findings indicate that the alternative hypothesis (H_a) is accepted, meaning that prenatal yoga has a significant effect on pregnancy outcomes among primigravida mothers at the Independent Midwifery Practice in Batang Hari, East Lampung, in 2025.

Discussion

a. Mean Pregnancy Outcomes among Primigravida Mothers in the Prenatal Yoga Intervention Group

Based on the above data, it was found that among the 15 respondents in the study, the mean maternal outcome score in the prenatal yoga intervention group was 0.40, with a standard deviation of 0.507, a minimum value of 0, and a maximum value of 1. The mean perinatal outcome score following the prenatal yoga intervention was 0.27, with a standard deviation of 0.458, a minimum value of 0, and a maximum value of 1.

Practicing yoga during pregnancy has been shown to reduce the likelihood of negative birth outcomes. Additionally, prenatal yoga offers significant benefits in maintaining both emotional and physical health, as it helps reduce pain, stress, prenatal complications, and the incidence of preterm birth. Yoga is also considered a more effective form of exercise compared to walking or other standard prenatal workouts (K Curtis, A Weinrib, 2012).

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One of the benefits of prenatal yoga is that it helps strengthen and maintain the elasticity of the abdominal muscles, ligaments, pelvic floor muscles, and inner thigh muscles, thereby facilitating better control during labor. The relaxation process is optimized through the practice of contraction and relaxation exercises, which are crucial in managing tension or pain during labor. Among these, strengthening the pelvic floor muscles plays a key role in loosening strong pelvic muscles in a relaxed state. During the pushing phase, these muscles can actively relax, allowing the baby's head to pass more easily, thereby facilitating the delivery process and reducing the risk of perineal rupture (Hillary, 2013; Wang et al., 2018).

The results of this study align with those of (Lestari et al., 2019), who stated that prenatal yoga has a strong correlation with the duration of the second stage of labor. By practicing prenatal yoga, the abdominal wall muscles, diaphragm, joint muscles, and the perineal muscles of the mother become stronger and more elastic. Similar findings were reported by (Campbell & Nolan, 2019), who found a significant relationship between prenatal yoga and the second stage of labor ($p = 0.003$).

Based on the researcher's assumption, prenatal yoga has a significant effect on the duration of the second stage of labor and perineal tears. Prenatal yoga can strengthen the pelvic and abdominal muscles to facilitate labor. Additionally, practicing prenatal yoga influences maternal tension, as mothers become accustomed to focusing fully and achieving calmness during the sessions. Consequently, during labor, mothers tend to feel more relaxed and comfortable.

a. Average Pregnancy Outcomes in Primigravida Mothers in the Control Group Receiving Childbirth Education

Based on the results above, it was found that among 15 research respondents, the mean or average maternal outcome score after receiving childbirth education was 1.80, with a standard deviation of 0.775, a minimum value of 1, and a maximum value of 3. Meanwhile, the average perinatal outcome score after childbirth education was 0.93, with a standard deviation of 0.799, a minimum value of 0, and a maximum value of 2.

Pregnancy is a period that begins from conception until the birth of the fetus, lasting approximately 280 days (40 weeks or equivalent to 9 months and 7 days). Pregnancy is a process initiated by the meeting of the ovum and sperm cells in the uterus, specifically in the fallopian tube. This is followed by conception, implantation of the conceptus in the uterine wall, precisely in the endometrial layer, occurring on the sixth and seventh days after conception (Fauziah Arvicha & Kasmianti, 2023).

According to research conducted by Ariyana & Dian Afriyani, (2022), the pretest results showed that maternal knowledge about prenatal yoga before education was relatively low, with the

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majority—3 people (33.3%)—having moderate knowledge, and 2 people (22.2%) still having insufficient knowledge.

According to the researcher's assumption, all women hope for a smooth delivery and to give birth to a healthy baby. While labor can often proceed normally, it is not uncommon for complications to arise, necessitating delivery by cesarean section. This indicates that the fetus is in an emergency condition and can only be saved through surgical delivery. Based on this study, education alone cannot minimize complications during childbirth.

b. Effectiveness of Prenatal Yoga on Pregnancy Outcomes in Primigravida Mothers

Based on the data above, it is shown that the difference in the mean scores between the intervention group and the control group for maternal outcomes was 1.4. Meanwhile, the difference in the mean scores between the intervention group and the control group for perinatal outcomes was 0.66, indicating a difference in average scores between the prenatal yoga group and the delivery education group. The statistical test using the Mann Whitney test yielded p-values of 0.000 (< 0.05) for maternal outcomes and 0.015 (< 0.05) for perinatal outcomes, meaning that the alternative hypothesis (H_a) is accepted. This indicates that prenatal yoga is effective in improving pregnancy outcomes in primigravida mothers at the Independent Midwife Practice in Batang Hari, East Lampung in 2025.

According to the International Federation of Gynecology and Obstetrics, pregnancy is defined as the fertilization or union of spermatozoa and ovum followed by nidation or implantation. When counted from the time of fertilization until the birth of the baby, a normal pregnancy lasts approximately 40 weeks or 10 months, or 9 months according to the international calendar. Pregnancy is divided into three trimesters, where the first trimester lasts 12 weeks, the second trimester 15 weeks (from week 13 to week 27), and the third trimester 13 weeks (from week 28 to week 40) (Kashanian et al., 2015).

Yoga is a discipline that studies the integration of physical, mental, and spiritual aspects to achieve holistic health, which is applied in daily life. This guidance is provided to pregnant women through comprehensive steps; however, approaching labor, the mother can perform yoga in a standing position combined with Sufi rotations and relaxation techniques (Youssef et al., 2025).

The benefits of yoga include alleviating back and waist pain, supported by studies showing reductions in anxiety and prevention of prematurity, decreasing eating disorders (Eating Disorder Examination – EDE), enhancing body strength and stamina, improving blood circulation and oxygen supply to the fetus, fostering communication between mother and fetus during pregnancy, and accelerating physical recovery. Other research also indicates that yoga can reduce depression and pain in pregnant women.

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Yoga for pregnant and laboring women should not be performed in cases with complications or abnormalities during pregnancy. Contraindications for yoga include: rupture of membranes, history of preterm labor, history of two or more miscarriages, low-lying placenta or placenta previa, mothers with a history of pregnancy-related hypertension, heart disease, diabetes mellitus, hyperthyroidism, vaginal bleeding, and multiple pregnancies.

According to (Sun et al., 2010), prenatal yoga is one effort to reduce the incidence of cesarean section deliveries. Furthermore, their study showed that practicing yoga during pregnancy can help alleviate discomfort caused by bodily changes throughout pregnancy. Prenatal yoga offers many benefits, such as assisting fetal positioning and movement, improving the digestive system and appetite, increasing energy while slowing metabolism to restore calmness, and reducing nausea, morning sickness, and mood swings.

Prenatal yoga influences the duration of the first stage of labor and reduces the risk of perineal rupture. A study by (Longulo et al., 2021b) found that prenatal yoga programs were effective for improving Ballard scores, length, weight, and head circumference of newborns. According to (Longulo et al., 2021a), prenatal yoga is considered regular if pregnant women attend sessions twice a week for 30 minutes each or at least once a week, and prenatal yoga can be performed by pregnant women with gestational age over 20 weeks.

One of the benefits of prenatal yoga is strengthening and maintaining the elasticity of the abdominal wall muscles, ligaments, pelvic floor muscles, and inner thigh muscles, thus allowing better control over the labor process. The relaxation process is perfected through the contraction and relaxation needed to overcome tension or pain during labor. One exercise that strengthens and maintains elasticity is pelvic floor muscle training, which aims to relax a strong pelvic floor muscle in a relaxed state. During pushing, the muscle will actively loosen so that the baby's head can pass through easily, facilitating the labor process and reducing the risk of perineal rupture.

Based on the study by (Indrayani & Tuasikal, 2020; Landon, 2024), the intervention group was given treatment by asking pregnant women in their third trimester with gestational age over 36 weeks to perform prenatal gentle yoga for 30 minutes, at least three times over one month. The control group did not receive any treatment. The study involved 32 primigravida women delivering at PMB in the Kejayan sub-district between April and June 2023. The results showed that prenatal gentle yoga had an effect on perineal rupture in delivering mothers.

This finding aligns with the research conducted by (Campbell & Nolan, 2019), which also showed an influence of prenatal gentle yoga on perineal rupture in delivering mothers. According to another study by (Sotome et al., 2021), the majority of pregnant women who practiced prenatal yoga had normal (spontaneous) deliveries at 85%, while 15% underwent operative deliveries. In contrast, among pregnant women who did not practice prenatal yoga, 55% had normal deliveries and 45% had operative deliveries. There was a significant effect of prenatal yoga on the type of delivery, with a p-value of 0.038.

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Based on the study by (Czech et al., 2018; Lewis et al., 2015), the analysis of the effect of prenatal yoga on the duration of the second stage of labor using the Mann-Whitney test yielded a p-value < 0.005 , indicating a significant effect of prenatal yoga on the duration of the second stage of labor. Meanwhile, analysis using the Chi-square test showed a p-value of 0.012, where p-value < 0.005 indicates a significant effect of prenatal yoga on perineal rupture. Therefore, it can be concluded that prenatal yoga is effective in supporting pregnancy and labor with minimal trauma in women.

Midwives as healthcare professionals play an important role in providing care to pregnant women, particularly in reducing anxiety and birth trauma. Complementary care, such as prenatal yoga, is an intervention that has been scientifically proven to reduce anxiety and provide positive effects that can be recommended throughout pregnancy up to the onset of labor. This intervention can help accelerate the duration of the second stage of labor and prevent perineal tears and bleeding. Furthermore, prenatal yoga does not pose a risk of injury, making it advisable for pregnant women to practice prenatal yoga.

Conclusion

Based on the background, research objectives, hypothesis testing, and the research results described in the previous chapters, the researcher draws the following conclusions from this study:

1. The average maternal outcome score after intervention in the prenatal yoga group was 0.40, and the average perinatal outcome score after intervention in the prenatal yoga group was 0.27.
2. The average maternal outcome score in the control group was 1.80 with a standard deviation of 0.775, and the average perinatal outcome score in the control group was 0.93.
3. There is a difference in the average scores between the intervention group and the control group; therefore, H_a is accepted based on the obtained P-value of 0.000, meaning that prenatal yoga is effective on pregnancy outcomes in primigravida mothers at the Independent Midwife Practice in Batang Hari, East Lampung, in 2025.

Recommendations

The results of this study are expected to encourage prompt delivery of counseling or health education about pregnancy, especially regarding prenatal yoga for a smoother labor process. This study's findings are hoped to provide valuable information to increase knowledge on minimizing cesarean section (C-section) births, and it is encouraged that pregnant women actively seek information about pregnancy and prenatal yoga. Furthermore, this research is expected to enrich the literature and serve as meaningful and useful input for midwifery students and other health professionals regarding prenatal yoga. Lastly, this study is anticipated to add to the available reference literature, with hopes that future research can develop this further using cohort experimental designs and different variables.

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