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Effect of Prenatal Gentle Yoga on Low Back Pain Among Pregnant Women: A Quasi-Experimental Study

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A B S T R A C T

Introduction: *Low back pain* (LBP) during pregnancy can interfere with physical activity, sleep patterns, and quality of life. One safe and effective therapy to relieve it is prenatal gentle yoga. The purpose of this study was to determine the effect of prenatal gentle yoga on the level of LBP in pregnant women at Hulonthalangi Health Center. The research design used quasi-experiment with pretest-posttest control group. A total of 24 pregnant women were divided into two groups, those are intervention (prenatal gentle yoga) and control (educational leaflet). The prenatal gentle yoga intervention was carried out over four sessions, with a frequency of twice a week, and each session lasted for 30 to 45 minutes.Test results of independent t-test showed an average difference in pain of -2.83 points with a p-value of 0.000 ($p<0.05$), which means there was a significant decrease in pain in the intervention group. Around 83.3% respondents in the intervention group experienced a decrease in pain from moderate and severe pain to mild and no pain, while the control group only had 33.3%. This study shows that prenatal gentle yoga is significantly effective in reducing Low back pain (LBP) in pregnant women.

INTRODUCTION

Low back pain (LBP) is one of the most common complaints experienced by pregnant women, particularly during the second and third trimesters. Hormonal changes during pregnancy, especially the increase in relaxin levels, cause the joints and ligaments in the pelvic area to become more flexible, which places additional stress on the spine (1). Globally, the prevalence of LBP during pregnancy increases with gestational age, reaching 74.2%, indicating that this condition is a significant issue affecting pregnant women worldwide (2). According to previous research (3) approximately 68% of pregnant women experience moderate back pain, while 32% report mild back pain (3).

Data from the Gorontalo Provincial Health Office (2024) show that the number of pregnant women in their second and third trimesters reached 3,680. In the Gorontalo City Health Office area, 744 pregnant women were recorded in these trimesters. The distribution data from ten Community Health Centers in Gorontalo City reveal that the Hulonthalangi Community Health Center ranks second, with 63 pregnant women in their second and third trimesters. Primary data from the same center indicate that LBP is the most frequent complaint among pregnant women attending antenatal care.

An initial survey conducted at the Hulonthalangi Health Center with 10 pregnant women found that 8 of them experienced LBP. Research by Kurniyati et al. (2024) highlights that one of the contributing factors to LBP is the progressive growth of the uterus, which alters posture and causes discomfort during daily activities, often accompanied by pain (4).

According to (2), LBP during pregnancy can lead to significant consequences, including physical discomfort, weight gain that increases pressure on muscles and ligaments, activity limitations, sleep disturbances, and even psychological issues such as anxiety, all of which can reduce quality of life (2). In response, the Indonesian government, through the Healthy Living Community Movement (GERMAS) program, has implemented strategies to reduce LBP in pregnant women. These include education on proper posture, promotion of light physical activities (e.g., walking, stretching), improved access to healthcare, and nutritional support such as calcium supplementation. Additional recommended non-invasive interventions include the use of assistive devices, relaxation techniques, and hot/cold therapy (5).

One increasingly popular non-pharmacological option is prenatal gentle yoga, a practice designed to support women in adapting to physiological changes during pregnancy, including alleviation of LBP (6). Journal by (7) found that yoga significantly reduced severe LBP in pregnant women who regularly attended sessions compared to those who did not (7). Another study by(8) proved that prenatal yoga with a duration of 20 minutes per session,

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once a week for four weeks, can relieve back pain. The study also noted an increase in beta-endorphin levels, a natural substance in the body that functions as a pain reliever and can improve the quality of life of pregnant women (8).The role of midwives in Article 47 of Law No. 4 of 2019 includes the provision and management of services in midwifery. In this case, midwives have an important role in reducing complaints of lower back pain in mothers by contributing to handling problems that occur (9). From the results of the initial data survey above, it shows that at the Hulonthalangi Health Center, 8 out of 10 pregnant women come with complaints of lower back pain or LBP which can have an impact on their mental and physical health, but safe and effective interventions are still very limited. Therefore, the author considers this study important to be conducted. This study aims to explore interventions which is prenatal gentle yoga which can help ease it low back pain in pregnant women at the Hulonthalangi Health Center.

METHODS

This research is a quantitative research method with Non Equivalent Pretest-Posttest Control Group Design. This study was conducted at the Hulonthalangi Health Center in March and April 2025. The population in this study were 63 pregnant women in the second and third trimesters registered at the Hulonthalangi Health Center and 24 pregnant women were the samples. The sampling technique used Purposive Sampling based on inclusion and exclusion criteria. The inclusion criteria in this study are: 1). Gestational age >20 weeks to 36 weeks, 2). pregnant women do not have a history of severe Musculo skeletal disorders, 3). willing to follow the research process and sign informed consent, exclusion criteria are 1). pregnant women with pathological pregnancies or pregnancy complications, 2). pregnant women who often do other physical activities besides yoga, such as pregnancy gymnastics, morning walks and often do pregnancy massages. The instrument in this study uses standard operating procedures (SOP) of prenatal gentle yoga which is provided directly by certified midwife practitioners who have undergone prenatal gentle yoga training and use Visual Analog Scale (VAS) to assess Low back pain (LBP). The prenatal gentle yoga intervention was conducted twice a week for four weeks, with each session lasting approximately 30 minutes. Each session consisted of three stages: a five-minute warm-up involving light stretching of the neck, shoulders, back, and hips accompanied by diaphragmatic breathing guidance; a 20-minute core exercise session that included Tadasana, Warrior (Virabhadrasana), Vasishtasana, Bilikasana (Cat–Cow Pose), Utkasana (Chair Pose), and Child Pose, accompanied by controlled breathing and modifications according to the comfort of the pregnant women; and a five-minute cool-down consisting of light stretching and mindful breathing exercises for relaxation. All movements are supervised by an instructor to ensure proper technique and prevent injury. In this study, the statistical method that will be used depends on the data distribution. If the data is normally distributed, then it will be used paired t-test And independent t-test to compare results of pre test And post test. On the other hand, if the data is not normally distributed, then the Wilcoxon Signed Rank Test. All data processing and analysis were carried out using the Statistical Package for the Social Sciences (SPSS) version 21. All respondents were provided with an explanation of the study's objectives, procedures, benefits, and potential risks, and were asked to provide written informed consent before participating. Participation was voluntary, and confidentiality of identity was maintained using anonymous codes.

RESULT AND DISCUSSION

Respondent Characteristics

Table 1. Frequency Distribution of General Data of Respondents

Characteristics	Category	Intervention Group		Control Group	
		n	%	n	%
Mother's Age (years)	< 20 years	2	6.7	0	0
	20–35 years	10	3.3	12	100
	> 35 years	0	0	0	0
	Total	12	00	12	100
Education	Elementary	2	6.7	1	8.3
	Junior High	4	3.3	4	33.3
	Senior High	5	1.7	6	50
	Collage	1	8.3	1	8.3

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Characteristics	Category	Intervention Group		Control Group	
		n	%	n	%
	Total	12	00	12	100
Work	House Wife	9	75	10	83.3
	Private	2	6.7	1	8.3
	Civil Servant	1	8.3	1	8.3
	Total	12	00	12	100
Gestational Age	Trimester II	2	6.7	4	33.3
	Trimester III	10	3.3	8	66.7
	Total	12	00	12	100
Parity	Primipara	5	1.7	4	33.3
	Multipara	7	8.3	8	66.7
	Total	12	00	12	100

Source: Profile Data 2025

This study involved a total of 24 pregnant women who were divided equally into two groups, namely the intervention group and the control group, each consisting of 12 participants. In the intervention group, most pregnant women were in the age range of 20–35 years, namely 10 people (83.3%), while the rest were under 20 years old (16.7%). There were no participants over 35 years old. In terms of education level, 41.7% of respondents were high school graduates, 33.3% had junior high school education, 16.7% were elementary school graduates, and only 8.3% had a college education background. Based on occupation, the majority were housewives (75%), while 16.7% worked in the private sector, and 8.3% did not work as civil servants. Most respondents were in their third trimester of pregnancy (83.3%), and the rest were in their second trimester (16.7%). In terms of parity, 58.3% were multiparous and 41.7% were primiparous. Respondent attendance in this group was recorded at 100%, indicating that all participants attended the intervention sessions according to the specified schedule.

Meanwhile, in the control group, all participants (100%) were in the age range of 20–35 years. No participants were found to be under 20 years or over 35 years old. Based on education, 41.7% were high school graduates, 33.3% were junior high school graduates, and 8.3% came from elementary school or college education backgrounds. Most were unemployed and acted as housewives (83.3%), while 16.7% worked as civil servants, and none worked in the private sector. Based on gestational age, the majority (66.7%) were in the third trimester and the rest (33.3%) were in the second trimester. As many as 66.7% of respondents were multiparas and 33.3% were primiparas. Similar to the intervention group, all participants in the control group were also fully present (100%) during the series of activities.

Low back pain Level in pregnant women in the intervention group before and after being given prenatal gentle yoga therapy

Tabel 2. Distribution level of low back pain in pregnant women in the intervention group before and after being given prenatal gentle yoga therapy

Level Low Back Pain		Min	Max	Mean	Standard Deviation
Before	2	5	8	6.17	0.937
After	2	2	5	3.25	1.055

Source: Profile Data 2025

Based on the data in the table above, before receiving therapy, the level of lower back pain in pregnant women showed the lowest value of 5 and the highest of 8, with an average of 6.17 and a standard deviation of 0.937. These figures illustrate that most participants experienced pain with moderate to severe intensity.After getting prenatal gentle yoga therapy, there was a decrease in pain intensity with a minimum value of 2 and a maximum of 5. The average pain decreased to 3.25 with a standard deviation of 1.055. This indicates that lower back pain has decreased to a milder level.

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Low back pain Level in pregnant women in the control group before and after being given education in the form of leaflets

Tabel 3. Distribution of low back pain level in pregnant women in the control group before and after being given education in the form of leaflets

Level Low Back Pain	n	Min	Max	*Mean*	Standard Deviation
Before	12	5	8	6.17	0.937
After	12	2	8	6.08	0.996

Source: Profile Data 2025

Referring to the table above, before the intervention, the level of lower back pain in pregnant women in the control group showed the lowest value of 5 and the highest of 8, with an average value of 6.17 and a standard deviation of 0.937. These data indicate that most respondents experience lower back pain in the moderate to severe category. After the implementation of educational intervention through leaflets, a decrease in pain levels was recorded, with the minimum value remaining at 2 and the maximum remaining at 8. The average pain level became 6.08 with a standard deviation of 0.996. This decrease is minimal and does not show a clinically significant difference.

Tests Of Normality

Table 4. Testing the Normality of Low Back Pain Levels in Pregnant Women at the Hulonthalangi Community Health Center

Variable	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	tatistics	df	Sig.
Kelompok Intervensi						
Sebelum	.237	12	061	.891	12	.123
Sesudah	.260	12	024	.872	12	.069
Kelompok Kontrol						
Sebelum	.237	12	061	.891	12	.123
Sesudah	.200	12	200*	.877	12	.080

Source: Profile Data 2025

Based on the results of the normality test that has been conducted, it is known that all data in the intervention group and control group, both before and after treatment, have a normal distribution. This is indicated by the significance value ($p > 0.05$) in the Shapiro-Wilk test. With the fulfillment of the normality assumption, the bivariate analysis in this study can be continued using parametric statistical tests.

To determine the effectiveness of the treatment in each group independently, a paired t-test was used, which aims to analyze the difference in the average level of low back pain between before and after the intervention within one group (intragroup comparison). This test was used for both the intervention group and the control group.

Furthermore, to assess the difference in effectiveness between groups, namely between the group that received prenatal gentle yoga therapy and the group that only received a leaflet, an independent t-test was used. This test was conducted to compare the average reduction in low back pain between the two groups after the treatment was administered (intergroup comparison).

The Influence of prenatal gentle yoga and education in the form of leaflets toward the low back pain level in pregnant women at Hulonthalangi Health Center

Table 5. Test Analysis Paired T-test

Variable	N	Mean	ndard Deviation	p-value
Intervention Group				
Before	12	6.17	0.937	0.000
After	12	3.25	1.055	
Control Group				
Before	12	6.17	0.937	0.339
After	12	6.08	0.996	

Source: Profile Data 2025

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Based on the results of data analysis, it was found that there were significant changes in the level of lower back pain in the group that receives the intervention. Before the intervention, the mean pain score was recorded as high as 6.17 (SD=0.937), and after the intervention the mean pain score decreased significantly to 3.25 (SD = 1.055). the value of p-value 0.000 ($p<0.05$) indicates that this decrease is statistically significant. This indicates that prenatal gentle yoga is effective in reducing the intensity of lower back pain in pregnant women.On the other hand, in the control group that only received education with media leaflet, the decrease in pain level was not significant. The average pain score only dropped slightly from 6.17 (SD=0.937) to 6.08 (SD=0.996), with p-value 0.339 ($p>0.05$), which indicates that the change is not statistically significant.

Low Back Pain Level In Pregnant Women in the Intervention Group and Control Group at Hulonthalangi Health Center

Table 6. The Independent T-test Analysis

Level Low Back Pain	n	*Mean*	*Mean Difference*	*p-value*
Intervention Group	12	3.25		
Control Group	12	6.08	-2.83	0.000
Total	24			

Source: Profile Data 2025

Based on the results of the analysis using the independent t-test in the table above, it can be seen that there are differences in the level of lower back pain between the intervention group and the control group in pregnant women in the Hulonthalangi Health Center work area. Pregnant women who participated in prenatal gentle yoga showed an average pain of 3.25, while those who only received education through leaflets had an average pain of 6.08. The average difference of -2.83 indicates that the intervention group experienced a more significant reduction in pain compared to the control group. The p-value of 0.000 from the test results of independent t-test indicates that the difference is statistically significant ($p<0.05$). Therefore, prenatal gentle yoga significantly effective in reducing the level of low back pain in pregnant women**.**

DISCUSSION

Low back pain Level in pregnant women in the intervention group before and after being given prenatal gentle yoga therapy

Prior to the intervention, the intensity of low back pain was assessed using the Visual Analogue Scale (VAS), with results showing that most respondents experienced moderate pain (66.7%) and the remainder severe pain (33.3%), yielding a mean score of 6.17, which falls within the moderate-to-severe category. No participants reported being pain-free or experiencing mild pain. These complaints were closely related to respondent characteristics, where the majority were aged 20–35 years (83.3%), housewives (75%), and in their third trimester of pregnancy (83.3%), with more than half being multiparous (58.3%). The combination of productive age, physical domestic workloads, and the physiological posture changes in late pregnancy contribute to increased biomechanical strain on the lumbar region. As the fetus grows, the body's center of gravity shifts forward, worsening lumbar lordosis and increasing tension in the lower back muscles and connective tissues, especially in the absence of proper posture and muscle conditioning (10). Physiologically, low back pain in the second and third trimesters is influenced by elevated relaxin and progesterone levels, which, while preparing the body for labor, also cause ligament laxity and greater pelvic joint mobility, potentially leading to lumbopelvic instability. Additional factors include the mechanical load from an enlarged uterus compressing pelvic veins, leading to venous congestion and tissue hypoxia, weight gain averaging 11–15 kg, reduced abdominal muscle strength, and gait alterations—all of which heighten stress on lumbar structures (11).

To address these issues, a prenatal gentle yoga program was administered for two consecutive weeks, twice weekly, for 30–45 minutes per session, involving light stretching, back and pelvic muscle strengthening, and deep breathing exercises (12). Post-intervention measurements revealed that 66.7% of participants reported mild pain and 33.3% moderate pain, with no cases of severe pain, and the mean pain score decreased to 3.25. This improvement can be explained by yoga's capacity to improve posture, enhance flexibility, strengthen spinal support muscles, and boost blood circulation, while breathing techniques activate the parasympathetic nervous system, reducing cortisol levels and increasing endorphins as natural analgesics (13). These findings are consistent with (14), who reported a significant reduction in back pain intensity among pregnant women after prenatal gentle yoga

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(p = 0.007), and (15), who recorded a decline in mean pain scores from 4.60 to 2.07 after a similar two-week program (p = 0.001). Both studies highlight yoga's benefits in improving postural balance, reducing muscle tension, and promoting psychological calm, making it an effective non-pharmacological intervention for managing low back pain in pregnancy. In conclusion, regular prenatal gentle yoga can safely and effectively reduce the severity of low back pain while enhancing both physical and emotional well-being in pregnant women, thus serving as a valuable complementary strategy within antenatal care.

Level of low back pain in pregnant women in the control group before and after being given education in the form of leaflets

Before the intervention, respondents' lower back pain levels were measured using Visual Analogue Scale(VAS). Based on the initial measurement results, the distribution of lower back pain in the control group was obtained with a score range between 5-8 and an average pain score of 6.17. The pain categories experienced by respondents consisted of 66.7% experiencing moderate pain and 33.3% experiencing severe pain, and no respondents were in the mild pain or no pain category. This condition indicates that most of the respondents in the control group experienced lower back pain complaints that were quite disturbing to comfort during pregnancy.

The characteristics of respondents in the control group showed that all participants were in the productive age of 20-35 years (100%) which, although ideal for pregnancy, is still susceptible to musculoskeletal complaints due to changes in posture and body weight during pregnancy. In terms of education, the majority were high school graduates (50%) and junior high school graduates (33.3%), while only a small number had higher education (8.3%). Most respondents were housewives (IRT) as much as 83.3%, who usually have quite heavy household physical activities without paying attention to ergonomic aspects. In addition, most pregnant women in this group were in the third trimester (66.7%), a period in which pressure on the lower back increases significantly due to the increase in fetal weight. The majority of respondents were also multiparous (66.7%), indicating that they had experienced more than one pregnancy, so they had a higher risk of lower back pain due to repeated changes in muscle and ligament structure. Although all respondents had regular pregnancy check-ups (100%), the pain still did not decrease significantly.The intervention given to the control group was in the form of education through leaflets containing information about the causes and how to treat lower back pain in pregnant women. The leaflets were distributed to each respondent and their use was explained, but were not accompanied by direct practice or assistance. Education was delivered once at the beginning of the intervention, then respondents were asked to read and understand the material independently for two weeks.

After two weeks, a remeasurement of the intensity of lower back pain was carried out using the VAS scale. The measurement results showed that there was no significant change in the level of pain. The composition of pain after the intervention still showed that 66.7% of respondents experienced moderate pain and 33.3% experienced severe pain, the same as before the intervention. The average pain score after the intervention was 6.08, which showed a very small decrease from the previous value (6.17), with a difference of only 0.09 points, and the results paired t-test show value of p=0.339, which means it is not statistically significant.

This study shows that without direct involvement in physical activity or more intensive interaction, passive education such as leaflets tends to only increase cognitive understanding, but is unable to cause physiological or behavioral changes needed to reduce pain complaints significantly. This is due to the lack of motor stimulation and muscle adaptation that can only be obtained through active practice, so that the pain condition persists. This finding is in line with the results of a study by Carin et al., 2024 which stated that health education in the form of printed or visual media only has an impact on increasing knowledge, not on changes in symptoms or physical conditions, unless accompanied by active practice. In addition, according to St. Malka et al., 2023 to reduce musculoskeletal complaints such as back pain in pregnancy, an integrative approach is needed such as pregnancy gymnastics or targeted physical exercise, not just one-way education. Another study by Fitriani, 2019 also revealed that independent education has not had enough impact on physical changes if it is not followed by motor involvement (16) (17) (18).Thus, it can be concluded that education in the form of leaflets has not provided a significant effect in reducing the intensity of lower back pain in pregnant women. This intervention is more appropriate as supporting material in a health promotion program, not as the main intervention to overcome physical complaints such aslow back pain.

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Influence of prenatal gentle yoga and education in the form of leaflets regarding the level of low back pain in pregnant women at Hulonthalangi Health Center

Bivariate analysis using paired t-test in each group showed contrasting differences in results. In the intervention group given prenatal gentle yoga therapy, there was a significant decrease in the intensity of lower back pain. The average pain score before the intervention was 6.17 (SD=0.937), and after the intervention decreased to 3.25 (SD=1.055), with p-value of 0.000 ($p<0.05$). This shows that prenatal gentle yoga is statistically effective in reducing lower back pain in pregnant women.Prenatal gentle yoga works by reducing tension in the back muscles and increasing flexibility of the spine and pelvis. This exercise also helps improve posture which is often disturbed during pregnancy due to the enlargement of the uterus and changes in the body's center of gravity. This is in accordance with research by Makmun, 2023, which shows that after doing prenatal gentle yoga regularly, pregnant women can feel improvements in their physical comfort, strengthen their back and pelvic muscles, and prepare themselves for the labor process. This study shows the value p=0.000, which confirms the effectiveness of yoga in treating back pain (19).

In contrast, in the control group that was only given education in the form of leaflets, there was no significant change. The average pain score only decreased slightly from 6.17 (SD=0.937) to 6.08 (SD=0.996), with p-value of 0.339 ($p>0.05$). This shows that educational interventions without physical activity components are not effective enough to significantly reduce low back pain in the short term.Research conducted by Wahyuni, 2023 also strengthens this finding, by showing that delivering health information or education alone is not effective enough in reducing complaints of back pain in pregnant women in the third trimester. A significant impact is only seen after pregnant women attend a session of prenatal gentle yoga routinely for four weeks, where there was a decrease in the average pain score from 5.58 to 3.42 based on measurements Visual Analogue Scale (VAS), with statistical test results of p=0.000. These findings suggest that active interventions involving conscious body movement and breathing regulation, as the main principles of yoga that integrate the physical and mental, are more effective than passive educational approaches in dealing with physical discomfort during pregnancy (20).Prenatal gentle yoga massage can be very helpful in reducing lower back pain due to its comprehensive approach. Prenatal gentle yoga is not only focuses on the physical aspect, but also pays attention to the emotional and mental needs of pregnant women. Yoga routines can provide a relaxing effect that reduces muscle tension, improves body position, and helps regulate breathing, all of which contribute to reducing pain. Furthermore, the active participation of pregnant women in this physical activity can provide a feeling of control over their body and health, which helps in reducing the pain felt. By following prenatal gentle yoga can also help pregnant women to provide time to reflect and calm themselves, this is very important during pregnancy, especially in the third trimester where pregnant women often feel physically uncomfortable. Thus, prenatal gentle yoga is considered more effective than simply getting passive information, because it is able to fulfill physical and spiritual needs simultaneously, and this is believed to be the main reason why yoga helps relieve lower back pain in pregnant women.

Level of low back pain in pregnant women in the intervention group and control group at Hulonthalangi Health Center

Analysis of independent t-test is conducted to compare the effectiveness between intervention groups (prenatal gentle yoga) and control group (education via leaflet). The test results showed that there was a very significant difference between the two groups. The average pain score in the intervention group after treatment was 3.25, while in the control group it remained high at 6.08. The p-value of 0.000 ($p<0.05$) strengthens the finding that the difference between the two groups is statistically significant.

This difference explains that the active approach through yoga is much more effective than the passive approach such as leaflet education. Doing prenatal gentle yoga regularly can activate the parasympathetic nervous system which helps reduce stress responses and reduce pain perception. Franisia et al., 2022 stated that the implementation of prenatal yoga has been proven effective in relieving complaints of back pain in pregnant women, while providing benefits for flexibility and muscle relaxation. This study showed a significant decrease in the average pain score, from 4.60 to 2.07 after the mother underwent a series of yoga exercises regularly, with statistical test results showing p=0.001. Yoga interventions that include gentle movements, flexibility exercises, and controlled breathing techniques are considered to be able to reduce physical stress due to postural changes during pregnancy and help calm the nervous system so that pain can be suppressed naturally (21).Research conducted by Wahyuni, 2023 showed that implementing prenatal yoga for four weeks was able to significantly reduce the intensity of lower back pain and improve sleep quality in pregnant women. These results strengthen the

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understanding that physical exercise carried out systematically and accompanied by breathing and relaxation techniques is effective in reducing muscle tension, improving blood flow, and stimulating the production of beta-endorphins, which are natural compounds in the body that function as pain relievers (20). Not only does it have a physical impact, prenatal yoga also provides positive benefits on the psychological aspect. Ginting, 2024 stated that the participation of pregnant women in yoga sessions contributed to increased self-efficacy and decreased anxiety levels before giving birth. This is closely related to increased body awareness and the creation of emotional support obtained from social interactions during group yoga practice (21). In addition, the results of research conducted by Katili et al. 2023 showed that prenatal gentle yoga can also be applied in the normal birth process, mothers in labor who do birth yoga have been shown to be able to speed up the progress of their labor (22).

This study shows prenatal gentle yoga in reducing lower back pain in pregnant women is influenced by a number of important factors. One of the main factors is the direct involvement of the mother in structured physical activity, which can build a sense of control over the body and foster self-confidence and mental readiness in dealing with physiological changes during pregnancy. In addition, yoga presents a holistic approach that involves not only physical movement, but also breathing regulation and increased body awareness, thus providing therapeutic impacts physically, emotionally, and spiritually. A supportive atmosphere during the Exercise session with interaction and social support from other participants is also believed to be able to reduce the psychological burden and increase the mother's motivation to undergo the exercise consistently.Furthermore, yoga is considered to play an important role in aligning the functions of the body and mind, a very crucial aspect in dealing with physical discomfort during late pregnancy. This practice provides a special time for pregnant women to pay attention and feel their body condition more deeply, and becomes a moment to slow down the busy daily activities. The opportunity to be consciously present in every movement and breath during a yoga session provides a reflective experience that cannot be obtained only through passive information such as reading or counseling without direct practice.

On the other hand, the passive educational approach through leaflets does not provide direct physical or emotional stimulation. Written materials tend to be one-way and do not always evoke an active response from the recipient of the information. Researchers assume that although education is important in shaping knowledge, without the involvement of body movement or direct practice, its impact on physiological changes such as pain reduction is very limited. The lack of kinaesthetic experience in passive education also results in low effectiveness in overcoming musculoskeletal problems that require movement stimulation. Taking into account all the results obtained, prenatal gentle yoga can be considered as a more clinically and statistically effective intervention in the management of low back pain in pregnant women compared to passive leaflet-based counseling. Therefore, it is highly recommended to integrate prenatal yoga programs into health services. Antenatal community-based in health centers or other primary health facilities.

CONCLUSION

This study shows that prenatal gentle yoga has a real effect in reducing complaints of lower back pain. Therefore, prenatal gentle yoga can be used as an effective non-pharmacological therapy alternative to support the comfort and health of pregnant women.

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