The Effect of Prenatal Massage with Hypnosis on Back Pain Intensity in Pregnant Women in the Second and Third Trimesters

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Abstract

Hippocrates (460–370 BC) described pregnancy as a nine-month period marked by physical and emotional changes, often causing discomfort such as lower back pain. Non-pharmacological options like prenatal massage and hypnosis may relieve this complaint. A preliminary study at Paniaran Community Health Center found that most pregnant women, particularly in the second and third trimesters, frequently reported back pain. To determine the effect of combined prenatal massage and hypnosis on reducing lower back pain severity in pregnant women during the second and third trimesters. This quantitative study used a true experimental design (randomized controlled trial) with a pretest–posttest control group, involving 30 pregnant women in their second and third trimesters, selected by purposive sampling and randomly assigned to an intervention group (n=15), receiving prenatal massage and hypnosis, or a control group (n=15) receiving counseling. Before the intervention, most participants experienced moderate pain (66.67%). One day post-intervention, 66.67% reported mild pain, while by the second day, 60% reported no pain. The Mann-Whitney test showed a statistically significant difference in pain reduction between the intervention and control groups (Z = -4.709, p <0.001). Prenatal massage combined with hypnosis effectively reduces lower back pain severity in pregnant women during the second and third trimesters, with the greatest effect seen on the second day, and can be considered as a non-pharmacological intervention.

Keywords: Prenatal Massage, Hypnosis, Pregnant Women, Back Pain Intensity

INTRODUCTION

Hippocrates (460–370 BC) defined pregnancy as a nine-month process. The average human pregnancy lasts 280 days, or between 37 and 42 weeks. (Drife, 2021) Pregnancy is divided into three main phases: the early phase, which lasts from conception to 12 weeks of gestation; the middle phase, which lasts from week 13 to week 27; and the final phase, which begins at week 28 and ends at week 40. During gestation, expectant mothers undergo significant physiological and emotional shifts. These encompass alterations in the uterus, breasts, cardiovascular and circulatory systems, respiratory and digestive tracts, musculoskeletal framework, urinary system, as well as the vagina and vulva (Prawirohardjo, 2011). Psychological changes include emotional changes, they tend to be lazy, feel confused, get sad easily, cry easily, hate their pregnancy, often fear that the baby will be born with abnormalities, feel ugly, and so on (Zinsser et al., 2020). Although these changes vary from trimester to trimester, they can cause discomfort. A study by Wu et al., (2021) explained that the peak of physical health in pregnant women occurs in the second trimester and declines in

the third trimester. Discomfort during pregnancy also varies from trimester to trimester. Pregnancy-related discomforts include common symptoms such as frequent urination (50%), vaginal discharge (15%), constipation (40%), leg cramps (10%), headaches (20%), stretch marks (50%), hemorrhoids (60%), shortness of breath (60%), and back pain (70%). Back pain stands out with the highest prevalence. Non-pharmacological interventions serve as a first-line choice for alleviating lower back pain in expectant mothers without the risk of side effects, through approaches such as nerve stimulation, acupuncture, relaxation techniques, yoga, and prenatal massage (Andarwulan, 2021). According to research by Simiati et al., (2024) prenatal massage is effective in relieving lower back pain during pregnancy due to its ability to reduce fatigue, increase body vitality, and support the elimination of metabolic products via the lymphatic and circulatory systems. Pregnant women often face discomforts such as muscular spasms, tightness, and rigidity (especially in the back), which tend to decrease after massage. This phenomenon occurs due to improved blood flow, which supports efficient heart function. It also helps regulate blood pressure, which in turn leaves pregnant women feeling more energetic and healthy. In addition, the endorphins released during massage sessions contribute to an increased sense of relaxation for pregnant women (Lestaluhu, 2022). This is in line with research by Shetty & Fogarty (2021), which found that massage in pregnant women can reduce anxiety, depression, and back pain.

Prenatal massage therapy can also be combined with complementary treatments, such as hypnosis. Hypnosis is a form of therapy designed to increase total focus and concentration, thereby making the patient's mind more receptive to positive suggestions. Hypnosis is applied to relax the body using audiovisual aids, such as music or images, which can be used to reduce discomfort during pregnancy, such as anxiety and back pain. The technique used combines physical relaxation and cognitive restructuring (Siregar & Panggabean, 2021). Research by Alita et al. indicates that self-hypnosis alleviates discomfort, particularly lower back pain, which is often suffered by pregnant women in the third trimester (Alita et al., 2022). This finding is similar to the results of a study by Dumont et al., (2023), which showed that hypnosis can reduce the intensity of back pain in pregnant women. A preliminary survey at the Paniaran Community Health Center of 10 expectant mothers in their second and third trimesters, every participant reported experiencing back pain. These pregnant women reported that the severity of back pain increased with advancing gestational age, caused by increases in maternal and fetal weight. Pregnant women also continue with their daily activities, such as hoeing in the rice fields and fields, in accordance with their livelihoods. These women also frequently lift heavy loads, such as manure to be taken to the fields, bend down to weed, and some even sit

for long periods because their livelihood is weaving. Interviews with 10 pregnant women revealed that they had been advised to do pregnancy exercises (rarely done) to manage back pain, but they had never received prenatal massage or hypnosis. Based on this, the researchers believe that a more in-depth study is needed to assess the efficacy of integrating prenatal massage with hypnosis in alleviating lower back pain in pregnant women, especially in the second and third trimesters, in North Tapanuli Regency.

The main goal of this research was to evaluate the effect of combining prenatal massage with hypnosis on the intensity of lower back pain experienced by pregnant women in their second and third trimesters. Hypothesis testing used a significance level of $\alpha = 5\%$ ($p < 0.05$). The null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted when the p-value is below 0.05, meaning that combining prenatal massage and hypnosis significantly affects the severity of lower back pain in pregnant women in the second and third trimesters.

METHOD

Research Design and Type

This study used a quantitative approach with a true experimental design, namely a randomized controlled trial with a pretest–posttest control group design, involving two groups: an intervention group and a control group. Its primary objective was to assess how well prenatal massage combined with hypnosis alleviates lower back pain among women in their second and third trimesters of pregnancy. Eligible participants were pregnant women in the second and third trimesters who met the predefined inclusion criteria. Each participant then drew a sheet of paper coded A or B from an opaque envelope (simple randomization).

If a participant drew code A, she was allocated to the intervention group and received prenatal massage and hypnosis; if she drew code B, she was allocated to the control group and received counseling (education) about prenatal massage and hypnosis only. Prior to the intervention, both groups underwent data collection using questionnaires and pain assessment with the Numeric Rating Scale (NRS). Back pain was assessed before the intervention and again on day 1 and day 2 afterwards. The control group did not receive direct prenatal massage or hypnosis.

Research Location

The Paniaran Public Health Center in Siborong-borong Subdistrict, North Tapanuli Regency. The study was conducted from April to October 2025.

Population and Sample

The population in this study was all pregnant women in the second and third trimesters who attended check-ups at the Paniaran Community Health Center. The sample consisted of

30 respondents selected by purposive sampling, who were then randomly assigned to two groups of 15: an intervention group receiving combined prenatal massage and hypnosis, and a control group receiving counseling about prenatal massage and hypnosis only.

Inclusion criteria were pregnant women in the second trimester (13–28 weeks) or third trimester (29–40 weeks) who experienced lower back pain, had no contraindications to prenatal massage (such as abortion, eclampsia, or placenta previa), and were willing to become respondents; age and parity were not restricted. Exclusion criteria were pregnant women who used analgesics, did not follow the research process until completion, or did not attend the prenatal massage and hypnosis sessions on two consecutive days.

Intervention

The intervention group received prenatal massage combined with hypnosis on two consecutive days (day 1 and day 2). Prenatal massage followed the standard procedure (comfortable position, private room, aromatherapy oil according to the mother's preference) with emphasis on the back area, using effleurage, kneading, diagonal strokes, thumb circles, cross-frictional therapy, chisel fist, and elbow techniques. Hypnosis was delivered with relaxing music and consisted of muscle relaxation, breathing relaxation, and mind relaxation (eye fixation) with positive suggestions. The interventions were carried out by a team trained in prenatal massage and hypnosis. The control group received counseling about prenatal massage and hypnosis and practiced them on their own at home.

Research Instrument and Data Collection

Primary data were collected using a questionnaire for respondent characteristics (age, parity, education, occupation, and gestational age) and brief interviews after the intervention. Back pain intensity was measured with the Numeric Rating Scale (NRS) 0–10, categorized as no pain (0), mild pain (1–3), moderate pain (4–6), and severe pain (7–10). Pain was assessed before the intervention and after the intervention on day 1 and day 2. The NRS is a standard instrument that has been reported as valid ($r = 0.90$) and reliable (>0.95) in previous studies, so it was not retested.

Data Analysis

Data were processed through editing, coding, data entry, cleaning, and tabulation, and analyzed using SPSS. Univariate analysis presented frequency distributions. Data normality was tested using the Shapiro-Wilk test ($n \leq 50$). Because the data were not normally distributed, the Wilcoxon signed ranks test was used to compare pain before and after the intervention within each group, and the Mann-Whitney test was used to compare the reduction in pain

(delta) between the intervention and control groups, with a significance level of α = 5%.

Ethical Consideration

This study obtained ethical approval from the Health Research Ethics Committee of Poltekkes Kemenkes Medan with Ethical Clearance Number No.01.26.2685/KEPK/POLTEKKES KEMENKES MEDAN 2026. Ethical principles applied were informed consent, anonymity, confidentiality, and justice.

RESULTS

Respondent characteristics included age, parity, education, occupation, and gestational age, all of which were obtained from the questionnaire. Based on Table 1, most respondents in both groups belonged to the productive age group of 20–35 years, namely 80% (12 participants) in the intervention group and 93.33% (14 participants) in the control group. By parity, multiparous women dominated both groups, making up 73.33% (11 women) in the intervention group and 66.67% (10 women) in the control group. Most participants had attained secondary education (SMP/SMA), namely 100% (15 women) in the intervention group and 93.33% (14 women) in the control group. In terms of occupation, most respondents in both groups were working, namely 73.33% (11 women) in the intervention group and 80% (12 women) in the control group. By gestational age, 53.33% (8 women) of the intervention group were in the second trimester, while 66.67% (10 women) of the control group were in the third trimester.

Table 1. Displays the Distribution of Respondent Characteristics by Age Group, Parity, Education Level, and Employment Status

No	Characteristics	Given Prenatal Massage & Hypnosis		Without Prenatal Massage & Hypnosis Intervention (Counseling)	
		f	%	f	%
1	**Age:**				
	1. < 20 years	0	0	0	0
	2. 20-35 years	12	80	14	93.33
	3. > 35 years	3	20	1	6.67
	Total	**15**	**100**	**15**	**100**
2	Parity:				
	1. Primipara	1	6.67	1	6.67
	2. Multipara	11	73.33	10	66.67
	3. Grandemultipara	3	20	4	26.67
	Total	**15**	**100**	**15**	**100**
3	Education:				
	1. SD	0	0	0	0
	2. SMP/SMA	15	100	14	93.33
	3. D3/S1	0	0	1	6.67

No	Characteristics	Given Prenatal Massage & Hypnosis		Without Prenatal Massage & Hypnosis Intervention (Counseling)	
		f	%	f	%
	Total	**15**	**100**	**15**	**100**
4	1. Working	11	73.33	12	80
	2. Not Working	4	26.67	3	20
	Total	15	100	15	100
5	Gestational Age:				
	1. Trimester 2	8	53.33	5	33.33
	2. Trimester 3	7	46.67	10	66.67
	Total	**15**	**100**	**15**	**100**

Source: primary data 2025

Researchers assessed the severity of lower back discomfort reported by expectant mothers prior to and following the prenatal massage and hypnosis intervention, employing the Numeric Rating Scale (NRS).

Table 2 shows the intensity of lower back pain in pregnant women in the second and third trimesters, measured with the NRS, before and after prenatal massage and hypnosis. Before the intervention, most participants experienced moderate pain, namely 10 respondents (66.67%). On day 1 after the intervention, the majority shifted to mild pain, namely 10 respondents (66.67%). By day 2, pain reduction was more marked, as 9 respondents (60%) reported no back pain.

The table below outlines the levels of lower back pain in the intervention group, assessed with the NRS, before and after the prenatal massage and hypnosis intervention.

Table 2. Intensity of Lower Back Pain in Pregnant Women The Second and Third Trimesters of the Intervention Group

	Category	f	%
Before Prenatal Massage & Hypnosis intervention	No Pain	0	0
	Mild Pain	3	20
	Moderate Pain	10	66.67
	Severe Pain	2	13.33
Total		**15**	**100**
Day 1 After Prenatal Massage & Hypnosis Intervention	No Pain	3	20
	Mild Pain	10	66.67
	Moderate Pain	2	13.33
	Severe Pain	0	0
Total		**15**	**100**
Day 2 After Prenatal Massage & Hypnosis Intervention	No Pain	9	60
	Mild Pain	4	26.67
	Moderate Pain	2	13.33
	Severe Pain	0	0
Total		**15**	**100**

Source: primary data 2025

Table 3 shows the intensity of lower back pain in the control group. Before the counseling, most participants experienced moderate pain, namely 8 respondents (53.33%), followed by severe pain in 4 respondents (26.67%), while the smallest proportion reported no pain, namely 1 respondent (6.67%). After the counseling, most respondents still experienced moderate pain, namely 7 respondents (46.67%), severe pain remained in 4 respondents (26.67%), and the number of pain-free respondents rose only to 2 (13.33%)

Table 3 Intensity of Lower Back Pain in Pregnant Women in the Second and Third Trimesters in the Control Group

Measurement	Category	f	%
Before counseling	No Pain	1	6.67
	Mild Pain	2	13.33
	Moderate Pain	8	53.33
	Severe Pain	4	26.67
Total		15	100
After counseling	No Pain	2	13.33
	Mild Pain	2	13.33
	Moderate Pain	7	46.67
	Severe Pain	4	26.67
Total		15	100

Source: primary data 2025

Table 4 Knowledge of Prenatal Massage and Hypnosis in the Control Group Before and After Counseling

Measurement	Category	f	%
Before counseling: Knowledge about Prenatal Massage	Not Enough	11	73.33
	Good	4	26.67
Total		15	100
Before counseling: Knowledge about Hypnosis	Not Enough	13	86.67
	Good	2	13.33
Total		15	100
After counseling: Knowledge about Prenatal Massage	Not Enough	0	0
	Good	15	100
Total		15	100
After counseling: Knowledge about Hypnosis	Not Enough	1	6.67
	Good	14	93.33
Total		15	100

Source: primary data 2025

Table 4 shows the knowledge of the control group about prenatal massage and hypnosis before and after the counseling. Before the counseling, most respondents had insufficient knowledge about prenatal massage (11 respondents, 73.33%) and about hypnosis (13 respondents, 86.67%). After the counseling, all respondents (15, 100%) had good knowledge about prenatal massage, and most (14, 93.33%) had good knowledge about hypnosis.

Table 5. Data Normality Test (Shapiro-Wilk) for Back Pain in Pregnant Women in the Second and Third Trimesters Pretest and Posttest of the Intervention Group and Control Group

Control and	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Experimental Groups	Statistic	df	Sig.	Statistic	df	Sig.
Back pain before intervention in the experimental group	.345	15	.000	.763	15	.001
Back pain after intervention in the experimental group	.345	15	.000	.763	15	.001
Back pain before education/counseling in the control group	.300	15	.001	.837	15	.011
Back pain after education/counseling in the control group	.287	15	.002	.847	15	.016

Analysis using the Shapiro-Wilk test for back pain data distribution in pregnant women in the second and third trimesters of pregnancy showed p-values ≤ 0.05 in both intervention and control groups. These results confirm a non-normal distribution, justifying the application of the non-parametric Wilcoxon and Mann-Whitney tests for subsequent analysis.

Table 6. Wilcoxon Signed Ranks Test of Back Pain Intensity Before and After Intervention in the Intervention and Control Groups

Group	Measurement	N	Mean	Std. Dev.	Z	p-value
Intervention Group (Prenatal Massage & Hypnosis)	Before	15	2.93	0.594	-3.873	<0.001
	After	15	1.93	0.594		
Control Group (Counseling)	Before	15	3.00	0.845	-1.414	0.157
	After	15	2.87	0.990		

Source: primary data 2025

The Wilcoxon signed ranks test showed that in the intervention group all 15 respondents experienced a decrease in back pain intensity (negative ranks = 15, mean rank = 8.00, sum of ranks = 120.00, ties = 0), with the mean score falling from 2.93 to 1.93 ($Z = -3.873$; $p < 0.001$). In the control group, only 2 respondents experienced a decrease, while 13 respondents showed no change (ties), and the mean score changed only from 3.00 to 2.87 ($Z = -1.414$; $p = 0.157$). Thus, a significant change in back pain intensity occurred only in the intervention group.

Table 7 Mann-Whitney Test of the Difference in Back Pain Reduction (Delta) Between the Intervention and Control Groups

Group	N	Mean Rank	Sum of Ranks
Intervention Group	15	22.00	330.00
Control Group	15	9.00	135.00
Total	**30**		
Test Statistics (Delta)			
Mann-Whitney U		15.000	
Wilcoxon W		135.000	
Z		-4.709	
Asymp. Sig. (2-tailed)		<0.001	
Exact Sig. [2*(1-tailed Sig.)]		<0.001	

Source: primary data 2025

Table 7 displays the Mann-Whitney test results, with a Z-score of -4.709 and a p-value of <0.001. Since the p-value is less than 0.05, the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted. This shows that prenatal massage combined with hypnosis effectively lowered the severity of lower back pain in pregnant women in their second and third trimesters.

DISCUSSION

This discussion addresses the level of lower back pain among pregnant women during the second and third trimesters in the experimental group before prenatal massage and hypnosis intervention. The research included 30 pregnant women in their second and third trimesters, randomly assigned to two equal groups of 15 participants each: the intervention group and the control group. In the intervention group, before receiving prenatal massage and hypnosis, the majority of respondents, 10 people (66.67%), experienced moderate pain. Every mother desires a comfortable and smooth pregnancy and childbirth and a healthy baby.

Pregnancy should be a joyful time, yet mothers often experience various discomforts from the first to the third trimester. Lower back pain frequently arises in the second and third trimesters and is the primary complaint reported by pregnant women. According to Salari et al. (2023), the global prevalence of back pain was 28.3% in the first trimester, 36.8% in the second trimester, and highest in the third trimester at 47.8% (Salari et al., 2023). It is usually caused by physiological and biomechanical changes that accompany pregnancy, such as increased body mass, shifts in posture, and ligament relaxation triggered by the hormone relaxin (Yoseph et al., 2025).

Pregnant women commonly suffer from discomfort in the lumbar area of their lower back around the sacrum. The pain can also radiate to the pelvis and legs, caused by changes in

posture, stretching of ligaments, and pressure from the enlarging uterus. The lumbar region is the most common area to experience pain because the lower spine supports the weight of the increased body weight and the enlarging uterus. Ligaments and muscles around the pelvis become loose due to the hormone relaxin, so this area is also often painful.

The enlarging uterus can press on nerves and blood vessels in the pelvis, causing pain that can radiate to the lower back and legs. Muscle tension from changes in posture and stress also contribute to pain in this area (Pisoh et al., 2025). Based on research by (Satılmış (2020), low back pain among pregnant women is affected by various factors, including maternal age, cultural background, partner support, perception of pain sensations, fatigue, fetal sex, social attention, pain interpretation, anxiety levels, previous experiences, history of trauma, restrictive clothing, and support from family and the social community. Primigravida women in their third trimester often report highly variable subjective experiences of lower back pain.

These symptoms can interfere with everyday activities and diminish their overall quality of life. Several strategies can be implemented to reduce back pain, including physical activity and maintaining physical fitness through pregnancy exercises, warm baths, or the use of hot compresses. Prenatal massage and hypnosis can effectively alleviate back pain and other discomforts faced by pregnant women. Prenatal massage refers to a specialized massage method designed exclusively for expectant mothers, aimed at relieving muscle tension, improving blood circulation, and providing a relaxing effect (Mueller & Grunwald, 2021). This technique has been proven effective in reducing musculoskeletal pain during pregnancy without causing adverse side effects for the mother or fetus (Fiat et al., 2022).

Hypnosis is a psychological method used to alter pain perception through suggestion and deep relaxation. Hypnosis can reduce central nervous system activity related to pain perception, thereby reducing the intensity of pain (Igwesi-Chidobe et al., 2021). The use of hypnosis in pain management in pregnant women has begun to be widely studied and has shown results in reduced pain levels, especially during the second and third trimesters of pregnancy.

Research results show that prenatal massage combined with hypnosis, delivered on the first day, effectively lowered back pain intensity among pregnant women. Most subjects reported mild pain (10 subjects, 66.67%). On the second day of the prenatal massage and hypnosis intervention, another decrease occurred, with the majority experiencing no back pain (9 subjects, 60%).

Based on interviews with pregnant women, after the prenatal massage and hypnosis intervention on the first day, mothers felt a reduction in back pain, allowing them to sleep better

that night (usually asking for a back massage before bed), as back pain makes it difficult to sleep soundly. Pregnant women were able to carry out activities comfortably, enjoy themselves more, and reduce their irritability. These benefits positively impact pregnant women, as pain reduction facilitates deeper sleep. High-quality sleep is essential for supporting physical and mental health throughout pregnancy (Anasari et al., 2022). Optimal sleep quality also helps lower the common stress and anxiety faced by many expectant mothers. Furthermore, reducing lower back pain allows pregnant women to engage in physical activities more freely. Pregnant women generally work as farmers.

However, during pregnancy, they reduce their time in the fields and rice paddies. They spend more time in the yard and doing housework. Although their activities are less strenuous than before pregnancy, pregnant women report that their back pain still interferes with their activities. After the prenatal massage and hypnosis intervention, their back pain decreased, and mothers can now resume their activities more comfortably.

Maintaining consistent physical activity during pregnancy helps pregnant women maintain peak physical condition, reduces the likelihood of pregnancy complications, and prepares the body for labor (Szumilewicz & Santos-Rocha, 2022). Therefore, effective interventions to relieve pain are crucial.

The process of prenatal massage in relieving lower back pain begins with the stimulation of mechanoreceptors in the skin and muscles, which can block pain signal transmission to the central nervous system (Osborne et al., 2021). Additionally, massage triggers the release of endorphins, which act as natural analgesics in the body (Fritz, 2016). Meanwhile, hypnosis works by inducing a trance state that allows positive suggestions to be more easily accepted by the subconscious mind. These suggestions can alter pain perception and increase pain tolerance. In his book "Hypnosis in Therapy" hypnosis is highly effective in alleviating and eliminating pain. The book also notes that the International Association of Physicians and Health Professionals (IAPA) published scientific papers explaining that medical personnel and health practitioners administer hypnosis to patients because of its analgesic properties in reducing pain (Gibson & Heap, 2021). It can be concluded that hypnosis techniques help pregnant women reduce anxiety, which often exacerbates pain perception.

The combination of these two methods, prenatal massage and hypnosis, provides a holistic approach that targets not only the physical aspects of pain but also the psychological aspects. This approach aligns with the principles of modern pain management, which emphasizes multimodal therapy (James, 2023). In addition to its direct benefits for pain relief, prenatal massage with hypnosis can also improve the psychological well-being of pregnant

women. The relaxation gained from these two techniques can reduce levels of stress hormones like cortisol, potentially improving mood and reducing the risk of depression during pregnancy.

The Mann-Whitney test results, presented in Table 7, yielded a Z-value of -4.709 and a p-value of <0.001, which is lower than the 0.05 significance level. Based on the decision criteria, the null hypothesis (H0) was rejected and the alternative hypothesis (Ha) was accepted. These findings demonstrate that prenatal massage with hypnosis effectively alleviates the severity of lower back pain in pregnant women during the second and third trimesters.

During gestation, the female body undergoes significant physiological, psychological, and anatomical changes essential for fulfilling increased metabolic needs, promoting ideal fetal growth, and preparing for childbirth. Nocturnal lower back pain commonly experienced by pregnant women often stems from venous congestion in the pelvic area. The expanding uterus presses on the vena cava and, combined with the fluid retention common in pregnancy, this leads to blood pooling in the veins and reduced oxygen supply to the lumbar region.

Prenatal massage plays a role in triggering the secretion of endorphins, which act as natural pain relievers, relieve muscle tension, and improve blood flow. On the other hand, hypnosis suppresses the perception of pain through deep relaxation and distraction from pain, thereby reducing anxiety and stress that can exacerbate the condition. The findings of this study align with those of Fitriyah & Hariyanti (2023), who demonstrated that prenatal massage effectively reduces the severity of lower back pain in pregnant women during the second and third trimesters. Furthermore, confirmed the effect of hypnosis as a therapy for lower back pain (Ruan & Chen, 2022). Another study showed that massage helps pregnant women feel relaxed and comfortable, and that the duration and technique of massage need attention to obtain optimal results (Santi et al., 2021). Connective tissue massage of the back has also been reported to improve autonomic nervous system function, blood circulation, and mobility, and to reduce back pain (Er & Yüksel, 2023). In addition, hypnobirthing combined with music significantly reduced low back pain in third-trimester pregnant women compared with a control group (Panduragan & Pardi, 2026). This demonstrates that the combination of prenatal massage and hypnosis provides a more optimal synergistic effect in alleviating lower back pain without causing significant side effects.

A literature review by Nurjanah (2025), confirmed that non-pharmacological interventions such as prenatal massage and hypnosis are safe and effective options that can be widely implemented in clinical practice. This holistic approach, which combines physical and mental relaxation techniques, is crucial for improving the overall well-being of pregnant

women. Implementing hypnosis-based prenatal massage can also increase maternal satisfaction with the healthcare services received and reduce reliance on analgesic medications that pose risks to the fetus. Thus, this intervention is not only clinically beneficial but also has positive psychosocial and economic implications, given the generally lower cost of non-pharmacological therapies and the reduced risk of side effects. By receiving prenatal massage and hypnosis, pregnant women are also helped to prepare physically and mentally for labor, because they have learned how to manage discomfort during pregnancy.

Overall, the results of these national and international studies reinforce the finding that prenatal massage combined with hypnosis as a non-pharmacological intervention has been proven effective and safe in reducing the intensity of lower back pain experienced by pregnant women in their second and third trimesters. This approach addresses not only the physical aspects of pain but also its psychological components, resulting in holistic benefits for expectant mothers. Healthy and happy pregnant women will give birth to healthy generations.

CONCLUSIONS

This study concluded that prenatal massage combined with hypnosis was effective in reducing the severity of lower back pain among pregnant women during the second and third trimesters. By the second day after the intervention, 9 respondents (60%) in the intervention group reported no pain. The Mann-Whitney test confirmed a statistically significant difference in pain reduction between the intervention and control groups ($Z = -4.709$, $p < 0.001$), supporting the alternative hypothesis. Compared with the control group, which received counseling only, participants who received the combined intervention showed a markedly greater reduction in pain intensity. These findings confirm the research objective and indicate that prenatal massage integrated with hypnosis can be recommended as an effective, non-pharmacological, complementary intervention for managing lower back pain in pregnant women in the second and third trimesters.

Suggestions: Pregnant women are advised to continue this technique as a safe and natural alternative for managing pain during pregnancy until delivery. Health workers, especially midwives, can develop training programs to apply prenatal massage and hypnosis effectively and safely. Future researchers are advised to examine the long-term effects of prenatal massage with hypnosis, to compare it with other therapies, and to develop technology.

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