



The Effect of Endorphin Massage on Anxiety Levels in Preoperative Caesarean Section Patients with Spinal Anesthesia at Rumah Sakit Islam Purwokerto

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Received: 07-01-2025

Accepted: 13-03-2025

Published: 17-03-2025

ABSTRACT

The level of anxiety in preoperative caesarean section patients who receive spinal anesthesia can affect physiological and psychological responses that affect surgical outcomes. Endorphin massage therapy is a relaxation technique that aims to increase endorphin production and reduce anxiety. The purpose of this research was to determine the effect of endorphin massage therapy on the anxiety level of patients before cesarean section with spinal anesthesia at RSI Purwokerto. This research used a quasi-experimental design with a pre-test and post-test approach without a control group. The sample consisted of 30 preoperative caesarean section patients selected using purposive sampling technique. Anxiety level was measured using HARS (Hamilton Anxiety Rating Scale) questionnaire before and after endorphin massage therapy. Data analysis was performed using paired statistical tests. The results showed a decrease in the patient's anxiety level before the massage intervention of 23.23 and after the intervention of 11.90, these results indicate the average difference in anxiety scores in preoperative caesarean section mothers is 11.23. Wilcoxon statistical test showed the result ($p < 0.05$). With the conclusion that endorphin massage therapy effectively reduces anxiety levels in patients undergoing cesarean section with spinal anesthesia. This intervention can be used as a non-pharmacological method to reduce patient anxiety before surgery.

Keywords: endorphin massage; caesarean section; anxiety; spinal anesthesia

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INTRODUCTION

Caesarean section is an artificial delivery where the fetus is delivered through an incision in the uterine wall through the anterior abdominal wall and vagina, or cesarean section is a hysterotomy where the fetus is delivered inside the uterus. Cesarean section surgery is a stressful operation and can generally lead to anxiety. According to the World Health Organization (WHO) in 2017, the caesarean section rate in a country range from 5% to 15% per 1,000 live births worldwide, with an average of 11% in public hospitals and more than 30% in private hospitals. In Indonesia, the results of the 2018 Basic Health Survey showed that the prevalence of caesarean section during childbirth was 17.6%, the highest in the DKI Jakarta area (31.3%) and the lowest in Papua (6.7%) (A. Lestari & Arafah, 2020). Based on data from South Sulawesi compiled by the Provincial Health Office South Sulawesi in 2018, the number of caesarean sections in South Sulawesi reached 76.48%, exceeding the target of 69% (South Sulawesi Health Office, 2018).

Anxiety is also an unpleasant feeling characterized by restlessness, tension, and abnormal hemodynamic changes due to stimulation of the sympathetic, parasympathetic, and endocrine nervous systems. This fear arises immediately after planning a surgical procedure. Uncertainty and ignorance lead to feelings of anxiety, causing fear, worry, and dread (Sri Devi 2023). Procedures such as surgery

and anesthesia can cause high levels of stress that can lead to anxiety in people undergoing such procedures. Based on several studies, it was found that 60% to 80% of people undergoing surgery report varying levels of anxiety towards the procedure and anesthesia. The level of anxiety varies and starts with mild anxiety: Restlessness, mild insomnia, moderate anxiety: Increased heart rate or pulse and blood pressure, trembling, severe anxiety: Headache or headache, nausea, long and deep breathing, panic: Hyperactivity and decreased exercise capacity. Different levels of anxiety can affect how you prepare for surgery. The best time to share constructive coping strategies with patients is when anxiety levels are moderate (Difa Amanda Djohansyah & Tophan Heri Wibowo, 2023).

To overcome mood and anxiety in pre-natal mothers, various treatments can be done, including providing deep breath relaxation therapy, aromatherapy, relaxation music therapy, and massage therapy (Cahyani Zarlis et al., 2022). One example of complementary therapy with massage that can be used to reduce anxiety in primigravida mothers is Endorphin Massage. Endorphin massage is one method that is considered more effective than other non-pharmacological methods, because it provides a light touch that helps relaxation and reduces pain (Hajar & Hasanah, 2023).

Endorphin massage can reduce the sensory stimulation of the patient, helping to lower anxiety and reduce the sensation of fear. One of the psychological effects of this massage is relaxation, which serves to lower heart rate, breathing, and metabolism. Massage is performed on the mother in a side lying position, with pillows placed behind the back and between the legs for support. Moderate pressure is applied gradually for 10 minutes, starting from the head and neck, then continuing to the back, waist, and legs (Khasanah & Sulistyawati, 2020).

Research that has been conducted by Aulia et al. (2022) on the Effect of Endorphin Massage on Anxiety of preoperative caesarean section Patients at Engku Haji Daud Hospital the results show a decrease in anxiety towards the effect of endorphin massage therapy before being given the intervention the average anxiety score of pre SC mothers is 21.85 and after being given the intervention the average anxiety score of pre SC mothers is 12.8 with a value of ($p = 0.000$; $p < 0.05$) meaning that there is an effect of providing endorphin massage techniques on reducing anxiety in pre Sectio Caesaria mothers at EHD Tanjung Uban Hospital.

Research conducted by (Margarita Dupe & Azizah, 2023a)The effect of Endorphin Massage on Anxiety in Maternity Women at TPMB Feby Jatinegara the results show that the Wilcoxo test analysis obtained a significance value of 0.000 ($p < 0.05$), it can be concluded that there is a significant difference, the effect of endorphin massage on reducing the anxiety level of maternity women before and after being given endorphin massage.

Based on preliminary surveys that have been conducted at Purwokerto Islamic Hospital on November 04, 2024 obtained patient data on Purwokerto Islamic Hospital records in 2024 from August-October 2024 calculated from the last 3 months as many as 92 patients. From the interview of 10 preoperative caesarean section patients, there were 2 patients or 20% experiencing severe anxiety (1 patient said to reduce anxiety by doing dhikr and listening to murotal, 1 other patient also by doing dhikr and asking to be massaged by her husband to relax), 4 patients or 40% experiencing moderate anxiety (2 patients said to reduce anxiety by playing social media, family support and deep breath therapy, 2 other patients also said they prayed and were massaged by their husbands), 3 patients or 30% experienced mild anxiety (1 patient reduced anxiety by watching TV, playing with children and family, 2 other patients said only by sleeping and listening to music).

Based on the above background, the research problem formulated is "Is there an effect of endorphin massage therapy on the anxiety level of preoperative caesarean section patients with spinal anesthesia at Purwokerto Islamic Hospital?". The urgency of this research is to determine the effect of endorphin massage therapy on the anxiety level of preoperative caesarean section patients. So, the

purpose of this research is to determine the anxiety level of preoperative caesarean section patients before being given endorphin massage therapy and to determine the anxiety level of preoperative caesarean section patients after being given endorphin massage therapy.

Previous researchers examined pre-natal maternal respondents, while this research focused on the anxiety of preoperative caesarean section patients with spinal anesthesia, which has not been widely studied compared to aspects of pain or other physical complications. The benefits and implications of this research for educational institutions, the results of this research can be teaching materials or learning materials in educational institutions, especially in nursing about the effectiveness of endorphin massage therapy to reduce anxiety levels in preoperative caesarean section patients. For related institutions, it is hoped that this research can be a reference for hospitals to develop Standard Operating Procedures (SOP) regarding the application of endorphin massage therapy as one of the anxiety management interventions for preoperative caesarean section patients.

METHOD

This research uses a type of quantitative research that uses a pre-test and post-test one group design, with a Quari-Experimental design without a control group that compares the results of research before and after respondent treatment. The research population was all pregnant women who would give birth by caesarean section method who were treated at RSI Purwokerto in the Al-Barokah ward room, totaling 30 people. Side taking using non probability sampling type purposive sampling. The instrument for collecting data on the level of anxiety of patients using the Hamilton Anxiety Rating Scale (HARS) as an SOP for endorphin massage therapy that can reduce anxiety. The aspect of anxiety measurement is that respondents are asked to fill out the HARS questionnaire before and after the intervention. The application of endorphin massage therapy was given for 15-20 minutes 1 hour before surgery. After the intervention, respondents were observed to find out whether there was an effect of reducing anxiety after being given the intervention. This research used the Wilcoxon test statistical test.

RESULTS AND DISCUSSION

Table 1. Characteristics of Patient Respondents in Preoperative caesarean section with Spinal Anesthesia (n: 30)

Characteristics	f	%	Min	Max
Age				
Late teens (17-25)	12	33,3		
Early adults (26-35)	11	30,6	1,00	3,00
Late adulthood (36-45)	7	19,4		
Education Level				
Not in school	0	0		
SD	1	2,8		
SMP	8	22,2		
HIGH SCHOOL	12	33,3		
PT	9	25,0		
Total	30	100,0		

Table 1 shows the results of the characteristics of the respondents, it can be concluded that, of the 30 patients studied, the characteristics according to age, the patients were in the age range of late adolescence (17-20) years with 12 respondents (33.3%) and very few from late adulthood (36-45) with 7 respondents (19.4%). Meanwhile, the characteristics based on the level of education obtained the highest number at the high school level with 12 respondents (33.3%).

Table 2. Frequency Distribution of Respondents Anxiety Level of Caesarean section Surgery Patients with Spinal Anesthesia Before and After Giving Endorphin Massage at RSI Purwokerto (n: 30)

Anxiety Level	Before		After	
	f	%	f	%
1-<14 (not anxious)	0	0	19	63,3
14-20 (mild anxiety)	8	26,7	9	30,0
21-27 (moderate anxiety)	17	56,7	2	6,7
28-41 (severe anxiety)	5	16,7	0	0
43-52 (panic)	0	0	0	0
Total	30	100.0	30	100.0

Based on the results of table 2 shows that the level of anxiety of respondents before being given endorphin massage intervention, the majority experienced moderate anxiety levels with a score range of 21-27 as many as 17 respondents (56.7%). And after being given an endorphin massage intervention the majority experienced a non-anxious anxiety level with a range of 19 respondents (63.3%).

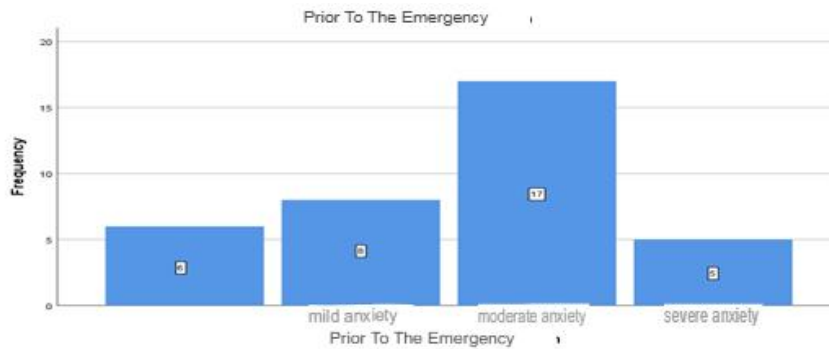


Figure 1. Anxiety Level Chart Before Intervention

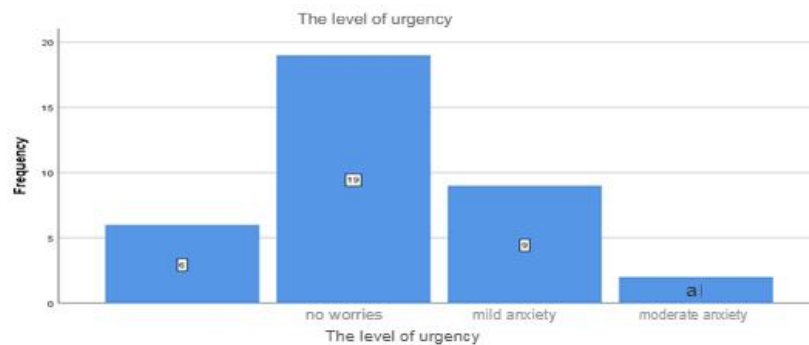


Figure 2. Graph of Anxiety Level after Intervention

Table 3. Effect of Endorphin Massage Therapy

Variables	N	Mean	Sum	Z	Si
Pre-post Negative	0	0.00	0.00		
Positive	30	15.50	465.00	-4.790	0.000
Tie	0				
Total	30				

The results of table 3 show that there is a difference in anxiety after being given an intervention in pre-caesarean section patients as many as 30 respondents experienced a decrease in anxiety with a rank value of 15.50. The results of the analysis based on the Wilcoxon test obtained a p value of 0.000 which means the value of $0 < 0.05$ so it can be concluded that H_0 is rejected and H_a is accepted which

means that there is an effect of endorphin massage therapy on the anxiety level of pre caesarean section patients with spinal anesthesia.

Characteristics of Respondents of Preoperative caesarean section Patients with Spinal Anesthesia

a. Characteristics Based on Age

Based on the results of research on the characteristics of respondents based on age in table 1 the majority who experienced anxiety were in their late teens with an age range of 17-25 years as many as 12 respondents (33.3%), late adults 26-35 years as many as 11 respondents (30.6%). The above results are in line with studies conducted by previous researchers, which state that the age of young factors can experience stress more easily than those who are older, namely with an age range of 20-35 years in previous studies (R. Lestari & Ahsan, 2019).

This is in line with previous research, the data shows that respondents aged 20-40 years more often find mild to moderate anxiety (48.5%). The younger the age, the greater the influence on his self-concept in dealing with problems,

b. Characteristics Based on Education

The research results showed that most respondents had the latest education at the high school level, namely 12 people (33.3%). The level of education also determines how easy it is to absorb and understand the knowledge obtained before surgery. For the sake of the family itself, it is very important to be given education so that health problems can be handled properly and action can be taken as soon as possible. Respondents with higher education were able to better understand how to adaptively respond to fracture events compared to respondents with lower education. A person's ability to think is influenced by their level of education. The higher the level of education, the easier it is for a person to think rationally and absorb new information. Analytical skills allow individuals to easily explain new problems (Rusli, 2023).

Anxiety Level Pre Endorphin Intervention

In this research, the results of the level of anxiety before being given an endorphin massage intervention that experienced mild anxiety (26.7%), moderate anxiety (56.7%), and severe anxiety (16.7%) with a mean value of 23.1. Factors affecting respondents experiencing anxiety at the pretest of endorphin massage have respondent characteristics caused by age and education level. This explanation is in line with previous studies which show that before endorphin massage the majority of respondents experienced moderate anxiety levels (Djojo Achmad et al., 2019).

Anxiety Level Post Endorphin Intervention

This research found that the level of anxiety after being given endorphin massage decreased the level of anxiety for patients is no anxiety (63.3%), mild anxiety (30.0%), and moderate anxiety (6.7%). After the endorphin massage intervention, respondents said that their anxiety was reduced, they looked more relaxed and less tense. This is the same as in a research conducted previously, the results of an analysis of a decrease in anxiety after being given an intervention obtained a mean value of 12.85 (Murdiningsih et al., 2022).

Anxiety is a psychological component that describes the feelings and emotional state that a person has when faced with a reality or event in his life. Several factors affect pregnant women's anxiety: knowledge, finances, experience, family support, and husband support. Anxiety can increase anxiety during childbirth by 3 times and increase labor pain during cesarean section by 1.7 times. Anxiety during pregnancy continues until the delivery process, causing labor to be prolonged and increasing the risk of maternal and fetal death (Mardalena & Wenny Indah, 2023).

Effectiveness of Endorphin Massage Relaxation Techniques on Reducing Anxiety Levels of Preoperative caesarean section Patients with Spinal Anesthesia

The results of the paired sample t-test showed that the average anxiety of patients before treatment was 23.13 which then dropped to 11.90 after the endorphin massage intervention. This indicates a difference in anxiety levels before and after the intervention. And obtained significant results of paired sample t-test of (p value) as much as $0.000 < 0.005$ which means that the endorphin massage intervention in reducing the anxiety of pre caesarean section patients is proven to be effective and has an influence.

This explanation is consistent with previous research which shows that before endorphin massage therapy, the majority of respondents experienced moderate anxiety (68.9%), while after therapy the majority experienced mild anxiety (51.7%) with a p-value = 0.001 ($p < 0.1$). This shows that endorphin massage has a significant effect on reducing the anxiety of preoperative patients (Margarita Dupe & Azizah, 2023).

Anxiety is a psychological response to an unexplained, internalized, vague, or contradictory threat. One of the things that most often causes anxiety is when patients are told they will undergo surgery. Preoperative anxiety is caused by fear of surgery and anesthesia, which can cause pain during and after surgery. The causes of preoperative anxiety are influenced by several risk factors, including age, gender, education, previous surgery history, and medical conditions (Imani et al., 2020).

Management of anxiety in labor includes non-pharmacological and pharmacological treatment. Non-pharmacological approaches that do not use drugs such as relaxation, massage, acupressure, acupuncture, hot and cold compresses, and pharmacological approaches that use drugs can relieve fatigue in the body, improve blood circulation and eliminate toxins stimulate the body to promote toxic detoxification. Improve your mental health. Massage techniques help mothers feel more refreshed, relaxed and comfortable during labor (Meihartati & Mariana, 2018).

Endorphin is a light touch and massage technique. It can increase the release of the hormones oxytocin and endorphins to convey feelings of calm and security. Endorphin massage can increase the production of endorphins and relax the muscles, because endorphin massage provides a sense of calm and well-being. Just below the surface of the skin attached to the hair follicle is a smooth muscle called the erector cilia muscle. This muscle responds to stimulation by contracting. When this happens, the muscle pulls the hair to the surface, causing it to stand up and the hair on the back of your neck to stand on end. When the hairs stand up, endorphins are produced in parts of the brain, creating a relaxing and pleasurable effect that reduces feelings of anxiety and pain. In addition, it stimulates the release of the hormone oxytocin which can trigger the birth process (Eka Pujiastutik et al., 2021).

CONCLUSION

Based on the research that has been conducted, it is concluded that based on the characteristics of the respondents, the majority who experience anxiety are in the late adolescent age group (17-25 years) as many as 12 respondents (33.3%) and late adulthood (26-35 years) as many as 11 respondents (30.6%). Judging from the level of education, most respondents have the last education of high school / equivalent, as many as 12 people (33.3%). Before the endorphin massage intervention, the majority of patients experienced moderate anxiety with a total of 17 people (56.7%). However, after the intervention, the patient's anxiety level decreased significantly, with the majority of patients becoming not anxious as many as 19 people (63.3%). These results indicate that endorphin massage is effective in reducing anxiety levels in preoperative caesarean section patients with spinal anesthesia. Based on the results of the analysis showed that there was a significant result of the Wilcoxon test of (p value) of $0.000 < 0.005$ which means that the endorphin massage intervention in reducing the anxiety of pre caesarean section patients is proven effective and has an influence.

Based on the research findings, several suggestions have been made for future studies. First, researchers are encouraged to explore additional factors that may influence anxiety levels in preoperative caesarean section patients. They should also consider comparing the effectiveness of endorphin massage with other anxiety reduction interventions for pregnant women, such as hot herbal compresses, various types of massage, classical music therapy, and murotal therapy. Additionally, it is recommended that future researchers utilize two control groups to better assess the differences between the group receiving the intervention and the group not receiving it.

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