



Effectiveness of Endorphin Massage and Positive Affirmations in Reducing Anxiety Levels Among Pre-Sectio Caesarea Patients

Rositawati¹, Siti Rafika Putri¹, Hernawati Efendi¹
¹Akademi Kebidanan Al-Ikhlas Cisarua, Bogor, Indonesia

Correspondence author: Rositawati

Email: rositawatiyos45@gmail.com

Address: Pondok Karadenan Asri 2 Blok AA 23 Cibinong Bogor 16913, Jawa Barat, Indonesia
Telp. +6281324421333

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ABSTRACT

Introduction: Facing a Caesarean section (C-section), patients often imagine the surgical process and various discomforts, leading to anxiety. Anxiety can result in both physical and psychological changes, such as an increased heart rate, elevated blood pressure, rapid breathing, fatigue, and an increase in fetal heart rate. Endorphin massage and positive affirmations offer benefits such as comfort and pain relief. This sense of relaxation and comfort is expected to reduce the anxiety experienced by patients before delivery.

Objective: This study aimed to evaluate the effectiveness of endorphin massage and positive affirmations in reducing anxiety levels among pre-C-section patients.

Method: This experimental study employed a pre-experimental design with a one-group pretest-posttest approach. The respondents included 30 pre-C-section patients at Sayang Hospital, Cianjur, selected through a total sampling technique. The research instrument used was the Hamilton Anxiety Rating Scale (HARS) questionnaire, which assessed the patients' anxiety levels before and after the intervention.

Result: The study results, analyzed using the Paired Samples T-Test, showed a p-value of 0.000, which is <0.05 .

Conclusion: The findings indicate a significant reduction in anxiety levels among pre-C-section patients before and after receiving endorphin massage and positive affirmation interventions.

Keywords: anxiety, endorphin massage, positive affirmation, pre-caesarean section

Introduction

Caesarean delivery is a surgical procedure to deliver a fetus. This method is performed based on medical indications from both the maternal and fetal perspectives, such as premature rupture of membranes, placenta previa, or severe preeclampsia, as well as other conditions that may endanger the mother's or fetus's life (Purba et al., 2021). According to the World Health Organization (WHO) (2020), the rate of Caesarean delivery continues to increase globally, now accounting for over 21% of all deliveries. This number is expected to rise further in the next decade. The prevalence of Caesarean delivery in Indonesia in 2023 was 25.9% (Yanti, 2023). Based on medical records from RSUD Sayang Cianjur, in 2022, there were 920 cases of Caesarean delivery, which slightly decreased to 864 cases in 2023. However, this figure remains significantly high.

During the preparation for a Caesarean section, patients often imagine the surgical process, anesthesia, the baby's well-being, patient safety, pain, and other discomforts, which can induce anxiety. Anxiety before delivery may manifest as concerns for the safety of the mother and baby, fear of pathological conditions or congenital defects, and more (Arianti and Restipa, 2019). Anxiety may also result in physical and psychological changes, including increased heart rate, elevated blood pressure, rapid breathing, fatigue, and increased fetal heart rate (Purwaningsih, 2016).

Excessive catecholamine secretion caused by anxiety can reduce blood flow to the placenta, limit oxygen supply, and decrease uterine contraction activity, potentially slowing the labor process (Intanwati, 2022). To address anxiety in pregnant patients anticipating delivery, non-pharmacological therapies can be applied to control their feelings of unease. Non-pharmacological methods, such as relaxation, positive affirmations, acupuncture, massage, warm compresses, aromatherapy, and Endorphin Massage, are effective techniques for relieving anxiety (Anjani et al., 2022).

Massage is a method to alleviate physical fatigue, improve blood circulation, stimulate toxin removal, and promote mental well-being. Massage techniques, as part of compassionate patient care, help patients feel refreshed, relaxed, and comfortable during labor (Maesaroh et al., 2020). Among the massage techniques, Endorphin Massage is effective in reducing discomfort and anxiety. This technique involves gentle touches to alleviate pain and anxiety. Moreover, positive affirmations can help mothers by calming their minds, eliminating negative thoughts, and fostering a sense of peace (Anjani et al., 2022). Positive affirmations have proven to be more effective in reducing anxiety caused by maternal stress during labor. Increased positive thinking can suppress stress and stabilize blood flow (A. Fumero et al., 2020).

Objective

This study aimed to evaluate the effectiveness of endorphin massage and positive affirmations in reducing anxiety levels among pre-C-section patients.

Method

The research design used in this study is experimental research with a pre-experimental design, specifically a one-group pretest-posttest approach. This design was chosen to compare conditions before and after the intervention. Sampling was conducted using the accidental/convenience sampling technique, where samples were selected based on ease of access—respondents who were available and willing to complete the questionnaire. This

method involves selecting respondents who happen to be in the right place at the right time and are willing to participate by filling out the questionnaire (Sugiyono, 2019).

The sample consisted of 30 pre-Caesarean section patients encountered in April-May 2024 in the Delima ward of RSUD Sayang Cianjur. These patients agreed to participate in the study, signed informed consent, and were not in an unstable general condition. The initial procedure involved interviewing the patients to gather demographic information and assess their anxiety levels using the Hamilton Anxiety Rating Scale (HARS). Subsequently, Endorphin Massage and Positive Affirmations were administered for 10-20 minutes. The patients' anxiety levels were then reassessed using the HARS scale.

Result

Univariate analysis

Table 1. Sociodemographic of participants

Variable	N	%
Age		
At Risk	11	37
Not At Risk	19	63
Parity		
Primipara	16	54
Multipara	13	43
Grande Multipara	1	3
Education		
Elementary School	13	43
Junior High School	9	30
Senior High School	8	27

Based on the table 1, out of 30 respondents, the majority were in the non-risk age group (20–35 years), with 19 respondents (63%), while 11 respondents (37%) were in the at-risk age group. Regarding parity, the highest proportion of respondents were primiparous, accounting for 16 respondents (54%), followed by multiparous respondents with 13 individuals (43%). In terms of education level, the majority of respondents had completed elementary school (13 respondents, 43%), followed by junior high school (9 respondents, 30%) and senior high school (8 respondents, 27%), with no respondents having attained higher education.

Bivariate analysis

Table 2. Pre-post test

Anxiety Level	Pretest	%	Posttest	%
No Anxiety	0	0.0	2	6.7
Mild	3	10.0	15	50.0
Moderate	18	60.0	11	36.7
Severe	9	30.0	2	6.7
Very Severe	0	0.0	0	0.0

The table 2 shows that, prior to the application of endorphin massage and positive affirmations, the majority of respondents experienced moderate anxiety (60%), followed by severe anxiety (30%) and mild anxiety (10%). After the intervention, the table indicates a reduction in anxiety levels, with most respondents falling into the mild anxiety category (50%), followed by moderate anxiety (36.7%), severe anxiety (6.7%), and no anxiety (6.7%).

Table 3. T-Test Paired Samples Test

Variables	Mean	N	SD	SE	P-Value
Pre Massage and Positive Affirmation (Pre)	3.20	30	0.610	0.111	0.000
Pre Massage and Positive Affirmation (Post)	2.43	30	0.728	0.133	0.000
Total	-	30	100	-	-

Based on the table 3, the mean value before the endorphin massage and positive affirmations was 3.20 with a standard deviation of 0.610. The results of the study using the T-Test Paired Samples Test showed a p-value of 0.000, which is less than 0.05. This indicates that there was a significant reduction in the anxiety levels of pre-sectio caesarea mothers before and after the administration of endorphin massage and positive affirmations.

Discussion

The majority of respondents in this study were in the non-risk age category, aged 20-35 years, with 19 respondents (63%). This finding aligns with a study conducted by Murdayah (2021) titled "Factors Associated with Anxiety in Laboring Mothers," which found that the majority of respondents were in the non-risk age category, aged 20-35 years, with 29 people (85.3%), and >35 years, with 5 people (14.7%), and no respondents were under 20 years of age. However, this study does not align with the theory proposed by Cunningham (2006), which states that mothers under 20 years of age tend to experience higher levels of anxiety due to physical immaturity, and those over 35 years are at higher risk of obstetric complications, as well as perinatal morbidity and mortality.

The majority of respondents in this study were primiparas, with 16 respondents (54%). This differs from a study by Ayu Handayani (2020) titled "The Effect of Endorphin Massage on the Intensity of Lower Back Pain in Third Trimester Pregnant Patients," where 18 of 20 respondents (90%) were multiparas. This finding is consistent with the theory of Purwanto

(2019) and K. Afyah (2019), which suggests that primigravida patients experience higher levels of pain due to their lack of previous experience and the anxiety they feel about labor and the health of their baby. This anxiety makes motivational support from family and caregivers crucial, especially through the use of complementary techniques such as massage, positive affirmations, or other relaxation methods.

Regarding the education level, the majority of respondents had an elementary education, with 13 respondents (43%). This contrasts with a study by Murdayah (2021) titled "Factors Associated with Anxiety in Laboring Patients," where the majority of 34 respondents had high school or vocational education (64.7%). This study aligns with Gary et al. (2020), who stated that education level influences a person's thinking and actions. People with higher education are more likely to think rationally, solve problems, and adopt positive coping mechanisms, which may reduce anxiety.

The study's findings show that before endorphin massage and positive affirmations were applied, the majority of respondents (60%) experienced moderate anxiety. This is in line with a study by Wulandara (2022), which found that the majority of third-trimester pregnant women at UPTD Puskesmas Gandrungmangu I, Cilacap in 2019, experienced moderate anxiety (67.57%) before receiving endorphin massage. This finding is also consistent with the theory of Purwanto (2019), which suggests that primigravida patients experience higher levels of pain and anxiety due to their concerns about labor and the well-being of their baby. Therefore, it is essential to provide motivation and support from family members and caregivers using complementary care techniques, such as massage, positive affirmations, or other relaxation techniques.

According to theory, anxiety is a personal feeling and experience that causes discomfort and is classified into several levels: none, mild, moderate, severe, and very severe (Anjani et al., 2022). Essentially, anxiety is the feeling we experience when thinking about something unpleasant that is going to happen (Syarifah, 2023). Severe and prolonged anxiety before or during pregnancy may lead to medical difficulties and abnormal birth outcomes compared to mothers who are relatively calm and secure. This can result in delayed labor progress or hinder post-partum recovery (Suryani, 2020). According to Jong in Effendi (2015), surgery cannot be performed if preoperative anxiety is too high, as it may lead to increased blood pressure, and if surgery proceeds, it can cause complications during the procedure and affect recovery.

After the application of endorphin massage and positive affirmations, the results from 30 respondents showed a decrease in anxiety, with the majority of respondents (50%) falling into the mild anxiety category. This is consistent with research conducted by Wulandara (2022), titled "Anxiety Levels in Third Trimester Pregnant Patients at UPTD Puskesmas Gandrungmangu I, Cilacap District in 2019," which found that after receiving endorphin massage, most respondents experienced a reduction in anxiety, with 28 people (75.68%) experiencing mild anxiety. Similarly, Sukmawati and Lestari R.D (2023) found that data analysis using the Wilcoxon rank test resulted in a p-value of 0.000, indicating that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected, meaning there was a significant difference in anxiety levels before and after the endorphin massage intervention for postpartum caesarean section mothers at RSUD Kota Kendari.

This is in line with the theory by Anjani (2022), who explained that massage is a technique used to relieve discomfort during labor, with one such technique being Endorphin

Massage. This method involves light touch combined with positive affirmations or phrases, which help reduce pain and anxiety.

Statistical analysis using the Paired Samples T-Test showed that the mean score before the endorphin massage (pre-massage) was 3.20, with a standard deviation of 0.610 and a p-value of 0.000 (<0.05). This indicates that endorphin massage and positive affirmations are effective in reducing anxiety in pre-cesarean mothers at RSUD Sayang Cianjur in 2024. This finding is consistent with Maesaroh's (2020) research, which also found a p-value of 0.000 (<0.05), meaning there was an effect of endorphin massage and positive affirmations on the anxiety levels of multipara mothers in the first stage of active labor before and after the intervention at Puskesmas Rantau Tijing, Pugung District, Tanggamus Regency in 2019. Similarly, Rahayu and Sutarno (2023) found, through the Mann-Whitney test, a p-value of 0.142 before the treatment and 0.008 after the treatment, leading to the acceptance of the null hypothesis and rejection of the alternative hypothesis, concluding that there is an effect of endorphin massage on reducing anxiety in pregnant women preparing for labor at Klinik Azzahra, Maja, Lebak Regency, Banten. Murdiningsih (2018) found a p-value of 0.001 (<0.05) in the Wilcoxon test, indicating a significant difference before and after the intervention, concluding that there is a positive suggestion effect in reducing anxiety levels in laboring mothers at BPM Soraya, Palembang City.

According to Sekartini N (2019) and Nainggolan DR et al. (2021), affirmations have the power to reprogram an individual's subconscious mind and adjust their mental state. As affirmations become more effective in influencing the subconscious, vitality, concentration, and focus will increase. Positive affirmations can reprogram the brain, helping to reduce excessive anxiety and keeping the mind focused. Furthermore, positive affirmations motivate and encourage mothers to remain enthusiastic during the labor process.

Conclusion

The results of the study show a p-value of 0.000, which is smaller than the alpha value of 0.05, indicating that endorphin massage and positive affirmations are effective in reducing anxiety in pre-cesarean mothers. Excessive anxiety experienced by mothers before labor can affect both their physical and psychological states and may threaten the well-being of the fetus. The implementation of non-pharmacological care, such as endorphin massage and positive affirmations, is part of affectionate maternal care, which is a health program aimed at providing a sense of safety and comfort during labor. It is hoped that midwives will apply affectionate maternal care, including non-pharmacological therapies like endorphin massage and positive affirmations, to every patient, whether they are undergoing a normal delivery or a cesarean section, so that the patient feels calm and prepared for the delivery process.

Conflict of interest

The researchers stated that there is no conflict of interest related to the implementation and publication of the results of this research. The entire research process, from planning, data collection, analysis, to report preparation, was carried out independently without any influence or pressure from any third party. A commitment to research ethics is upheld throughout the research process, ensuring transparency, accuracy and honesty in reporting results. Respondents' participation was voluntary with informed consent, and their confidentiality and privacy were maintained in accordance with applicable research ethics

standards. With this statement, researchers hope that the research results can be trusted and used as a valid reference for the development of science and health practices related to ethnomedicine and reproductive health.

Authors' contribution

Each author makes an equal contribution to all parts of the research. All authors have reviewed and approved the final draft critically and are responsible for the index and similarity of the manuscript.

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