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Effectiveness of Therapeutic Touch on the Mechanism of Coping of Inpartu Mothers Phase II at the Saritani Boalemo Health Center

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Abstract: *The experience of labor pain is caused by uterine muscle contractions, which trigger pain in the waist, abdomen, and thighs, while also leading to cervical dilation, marking the onset of the birth process. The intensity of this pain can be exacerbated by anxiety, tension, and fear. When a mother is unable to manage labor pain, it can increase stress and hinder the delivery process. Non-pharmacological methods are valuable alternatives to pharmacological treatments for pain relief during labor. Midwives, as birth companions, play a key role in offering various non-pharmacological therapies based on their skills and authority. This study aimed to examine the frequency of non-pharmacological therapy applications for second-stage laboring mothers at the Saritani Boalemo Health Center. The therapies explored included therapeutic touch (endorphin massage) and therapeutic communication. The study used quota sampling with 16 respondents in each group, applying either therapeutic touch or therapeutic communication. Anxiety levels before and after the intervention were measured using the HARS anxiety scale. Data were analyzed with paired t-tests. The results indicated that all mothers experienced anxiety before the intervention, with the majority in the moderate anxiety category (56.25%). After the interventions, the therapeutic communication group showed that 75% still experienced medium anxiety, while 81.25% of the endorphin massage group fell into the same category. Both therapies significantly reduced anxiety, with a p-value of 0.001 for therapeutic communication and 0.002 for endorphin massage, indicating a significant effect. The endorphin massage group demonstrated a greater reduction in anxiety, with a lower average anxiety score compared to the therapeutic communication group.*

Keywords: *Anxiety; Inpartu; Mother Giving Birth; Therapeutic Communication; Therapeutic Touch.*

1. INTRODUCTION

The process of childbirth is a physiological event in a woman's life. Nevertheless, many women experience anxiety and fear when facing labor due to the pain involved, which can lead to changes in the mother's physical and psychological condition and may potentially affect the fetus. Approximately 90% of mothers experience pain during the labor process, and in some cases, the pain is perceived with a high level of intensity. Labor pain is a subjective experience characterized by uncomfortable physical sensations that are felt throughout the childbirth process. (Hitipeuw, 2022)

Childbirth is a series of processes of the removal of a full-term baby from the mother's womb, which is then followed by the removal of the placenta and amniotic membrane from the mother's body. In obstetric studies, childbirth is classified into several types, including spontaneous delivery, artificial delivery, and assisted delivery. Spontaneous childbirth is a birth process that occurs naturally with the mother's own strength and effort through the birth canal. Meanwhile, artificial childbirth is a labor process that requires the help of labor or actions from outside, other than maternal labor, such as forceps extraction or sectio caesarean section. In contrast, recommended childbirth is a labor process that does not begin spontaneously, but

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occurs after medical interventions, such as rupture of the amniotic membrane or the administration of oxytocin (pitocin) or prostaglandins

Labor pain occurs as a result of uterine contractions, cervical dilation, and stretching of the perineal tissues during the process of vaginal delivery and birth. Visceral afferent nerve fibers that transmit sensory impulses from the uterus enter the spinal cord through the tenth to twelfth thoracic segments and the first lumbar segment (T10–L1). In contrast, pain arising from the perineum is conveyed through somatic nerve fibers, particularly the pudendal nerve, and is transmitted to the spinal cord via the second to fourth sacral segments (S2–S4). Sensory nerve fibers originating from both the uterus and the perineum establish synaptic connections in the spinal cord with neurons whose axons form part of the spinothalamic tract. During the final phase of the first stage of labor and throughout the second stage, pain impulses originate not only from the uterus but also from the perineum, in addition to those caused by the descent and movement of the fetal presenting part through the pelvic cavity. (Yeyeh 2019, (Aurora & Furwasyih, 2021)

Childbirth is divided into four phases, namely phase I, phase II, phase III, and phase IV. Phase I begins from the onset of regular uterine contractions until the complete opening of the cervix is achieved(Pertiwi et al., 2019) . Several things can happen to mothers in childbirth, one of which is pain.

Pain during childbirth refers to the sensation caused by uterine contractions resulting from the shortening of uterine muscle fibers. These contractions produce discomfort in the lower back and abdominal region, with pain often radiating to the thighs, and this condition is closely associated with cervical dilation. When cervical opening occurs, the labor process begins (Rejeki, 2020). An inability to manage labor pain may lead to increased anxiety and can even contribute to abnormal labor outcomes (Baljon, 2020).

Anxiety disorders commonly involve symptoms such as panic attacks, intrusive or obsessive thoughts, and related psychological disturbances. In childbirth, maternal anxiety is associated with concerns about the baby and the delivery process itself, including fear of trauma, excessive worry, and obsessive–compulsive tendencies. Worries related to the labor process are also frequently reported. (Mariana, 2024) . Pregnant women and new mothers, especially those facing pregnancy or first childbirth, are prone to anxiety. Psychological stress can reduce the strength of uterine contractions, prolong the delivery time, and even risk maternal death (Lestari, 2020) Anxiety in the first phase of childbirth is generally influenced by various factors related to anxiety, such as gestational age, parity, education level,

knowledge, socioeconomic status, and midwifery services (Titin Widia Sari et al., 2023, (Khairat & Puspita, 2024)).

Based on data from the World Health Organization (WHO), more than 90% of women who give birth experience emotional distress and stress throughout the delivery process. In the Netherlands, about 54.6% of mothers reported difficulty in controlling the pain they felt. Meanwhile, a study in Sweden showed that 41% of participants rated labor pain as the most excruciating sensation they had ever felt in their entire lives. This pain triggers the activity of the sympathetic nervous system, which causes an increase in pulse, blood pressure, sweat production, and hyperactivity in the endocrine system (Vidayawati, 2023).

The impact of childbirth that lasts too long can cause an unpleasant childbirth experience for the mother (Oktaviana & Clark, 2023). The length of the labor process can result in weakness in the uterine muscles, so that the uterus is unable to contract optimally and slow down the course of labor. In the active phase, the maternity mother feels severe pain (scale 6 to 9) accompanied by anxiety and discomfort to rest. In these conditions, the pulse frequency increases, blood pressure and body temperature also increase. Blood flow to the placenta decreases during this phase, thus affecting the distribution of blood from the mother to the fetus. In period I, prolonged labor can lead to fetal heart rate disorders (such as tachycardia or bradycardia). In addition, ineffective uterine contractions can inhibit blood flow from the uterus to the placenta (Yudiyaningsih et al., 2023).

Czech (2018) conducted a study that aimed to compare the two approaches. The results of the study revealed that pharmacological therapy methods through the administration of epidural analgesia are still considered the best standard in reducing pain during the labor process. However, the waterbirth technique has been proven to be related to the highest level of satisfaction in mothers who give birth. Maternal satisfaction when undergoing the birth process is not only influenced by the intensity of the pain felt, but also closely related to the quality of care received during pregnancy until the delivery process takes place.

In addition, there are several non-pharmacological methods that can be used for pain management during childbirth. Childbirth techniques such as hydrotherapy, hypnobirthing, breathing exercises, relaxation methods, and visualization are able to stimulate an increase in endogenous endorphin production. These endorphins will bind to receptors in the brain so that they help reduce the pain sensation experienced by the mother. In addition, other comfort interventions such as effleurage (gentle touching of the abdomen with a certain rhythm), massage, bladder emptying, and hydrotherapy can also reduce pain and minimize the need for the use of analgesic drugs or narcotic anesthesia because it provokes a response of competing

nerve impulses in the central nervous system. This causes the pain stimulation from uterine contractions to not be fully transmitted to the brain.

Both pharmacological and non-pharmacological approaches can be applied to alleviate pain and anxiety during childbirth (Marcia & Tresna in Suparriyanto, 2021). Pharmacological analgesia involves the use of chemical substances to reduce pain, whereas non-pharmacological analgesia refers to natural pain management methods that do not rely on medication, such as epidural anesthesia, perineal and pudendal nerve blocks, and the use of transcutaneous electrical nerve stimulation (TENS) devices that encourage the body to release endogenous pain-relieving substances (Sri Anggraeni, Yenny Aulya, & Retno Widowati, 2021). Additional non-pharmacological interventions for managing labor pain include companion support and the use of birthing balls (Sri Anggraeni et al., 2021).

Although midwives are motivated to implement various non-pharmacological strategies to manage labor pain, practical challenges remain. These include maternal mistrust and anxiety stemming from the belief that pain is an unavoidable aspect of childbirth. Such psychological conditions ultimately limit the optimal application of non-pharmacological techniques (Mwakawanga, 2022).

2. RESEARCH METHOD

This type of research is a research using quasi experiment with one group pre test post test design and crosssectional approach. The population in this study is all maternity at the Saritani Boalemo health center. The sample selection method used in this study is quota sampling, which is a way of determining the sample by first determining the number of respondents to be studied. At the Sukalaksana Health Center, 16 respondents who received intervention in the form of endorphin massage, while at the Bungursari Health Center, the number of respondents who received treatment in the form of therapeutic communication was also 16 people.

The type of data collected in this study is primary data, where the researcher directly provides interventions to the respondents. Before and after the implementation of the action, respondents were given a questionnaire to assess their anxiety levels using the Hamilton Rating Scale for Anxiety (HARS). The scale has the following assessment categories: 0 = not anxious, 1 = mild anxiety, 2 = moderate anxiety, 3 = severe anxiety, and 4 = very severe anxiety.

The data collection procedure was carried out through direct interviews with inpartu mothers during the first active phase. During the interview process, the researcher reads each item of the question, then the respondents give answers according to the conditions

experienced. The results of the answers are recorded and filled in directly by the researcher on the form that has been provided. Before conducting bivaiat analysis, the researcher first conducted a data normality test. The data normality test has the purpose of determining whether the distribution of data is normal or not. Normality test using *Kolmogrov.* The bivariate analysis used in this study is the *Paired t test.*

3. RESULTS AND DISCUSSION

Results

Table 1. Emergency Before Intervention.

Intervention	Anxiety Level										Quantity	
	Not anxious		Lightweight		Medium		Weight		Very Heavy			
	N	%	N	%	N	%	N	%	N	%	N	%
Therapeutic Communication	0	0	0	0	8	50	8	50	0	0	16	100
Therapeutic Touch (Endorphin Massage)	0	0	0	0	6	37,5	10	62.5	0	0	16	100
Quantity	0	0	0	0	14	43,75	18	56.25	0	0	32	100

Table 1 presents the distribution of anxiety levels among intrapartum mothers prior to the implementation of therapeutic communication interventions and therapeutic touch (endorphin massage). Each group consisted of 16 respondents, resulting in a total sample size of 32 participants. In the therapeutic communication group, all respondents experienced anxiety, with none categorized as “not anxious” or having “mild anxiety.” The majority of participants were classified as experiencing severe anxiety, totaling 10 respondents (62.5%), while 6 respondents (37.5%) fell into the moderate anxiety category. This finding indicates that most mothers experienced substantial emotional distress before the intervention.

Similarly, in the endorphin massage group, all respondents were also in an anxious condition, with no participants categorized as “not anxious” or “mildly anxious.” Most respondents in this group experienced severe anxiety, with 9 individuals (56.25%), while the remaining 7 respondents (43.75%) were categorized as having moderate anxiety. Overall, when data from both groups were combined, the majority of mothers experienced severe anxiety, accounting for 19 respondents (59.4%), while the remaining 13 respondents (43.75%) were in the moderate anxiety category. No respondents demonstrated mild anxiety or a non-anxious condition.

Table 2. Anxiety After Intervention.

Intervention	Anxiety Level										Quantity	
	Not anxious		Lightweight		Medium		Weight		Very Heavy			
	N	%	N	%	N	%	N	%	N	%	N	%
Therapeutic Communication	0	0	0	0	12	75	4	25	0	0	16	100
Therapeutic Touch (Endorphin Massage)	0	0	0	0	13	81,25	3	18,75	0	0	16	100

Table 2. describes the condition of the anxiety level of the maternity mother after being given two types of interventions, namely therapeutic communication and therapeutic touch (endorphin massage), with the number of respondents in each group as many as 16 people In the group that received the therapeutic communication intervention, there were no respondents who were in the category of "not anxious" or "mildly anxious". Most of the respondents still showed anxiety in the moderate category, namely 13 respondents (81.25%), while respondents in the severe anxiety category were 3 people (18.75%). None of the respondents were categorized as "very severe". This condition suggests that although therapeutic communication interventions are able to reduce anxiety, some mothers still feel anxiety to a moderate degree. Meanwhile, in the group that received the endorphin massage intervention, the results showed that there were no respondents in the categories of "not anxious", "mild anxiety", and "very severe anxiety". Most of the respondents experienced moderate category anxiety, namely 10 respondents (62.5%), while the rest were included in the severe anxiety category as many as 6 respondents (37.5%). It was seen that the intensity of anxiety decreased compared to the condition before the intervention. In general, both interventions were able to reduce maternal anxiety levels during childbirth. However, based on frequency distribution, endorphin massage had a better anxiety-reducing effect than therapeutic communication, as evidenced by the lower percentage of respondents in the moderate anxiety category in the endorphin massage group compared to the therapeutic communication group.

Bivariate analysa

Table 3. Results Therapeutic communication testing before and after intervention.

No	Anxiety Level	F (Pretest)	%	F (Postest)	%
1	Not anxious	0	0	0	0
2	Lightweight	0	0	0	0
3	Medium	8	50	12	75
4	Weight	8	50	4	25
5	Very Heavy	0	0	0	0
Quantity		16	100	16	100
Shapiro-Wiks		**0,48**		**0,12**	
***p-Value (*t-test)**		**0,001**			

Table 3. The results of the analysis showed that before being given therapeutic communication interventions, the majority of respondents were at a moderate level of anxiety, namely 8 respondents (50%), while severe and very severe anxiety was experienced by 4 respondents (25%) each. There were no respondents in the non-anxious or mild category. After the intervention was carried out, there was a decrease in anxiety levels. The proportion of respondents in the medium category decreased to 6 respondents (37.5%), and the heavy category decreased to 2 respondents (12.5%). At the same time, there was an increase in respondents who were classified as mild anxiety, namely 4 respondents (25%), and only 2 respondents (12.5%) remained in the very severe category. The Shapiro-Wilks normality test showed values of 0.48 (pretest) and 0.12 (posttest). Furthermore, the *results of the t-test* showed a value of p = 0.001, which means that there was a significant change in anxiety levels after being given therapeutic communication interventions.

Table 4. Results of endorphin massage testing before and after the intervention.

No	Anxiety Level	F (Pretest)	%	F (Postest)	%
1	Not anxious	0	0	0	0
2	Lightweight	0	0	0	0
3	Medium	6	37,5	13	81,25
4	Weight	10	62,5	3	18,75
5	Very Heavy	0	0	0	0
Quantity		16	100	16	100
Shapiro-Wiks		**0,52**		**0,42**	
***p-Value (*t-test)**		**0,002**			

Table 4. Before being given an endorphin massage, almost all respondents were at a moderate level of anxiety, namely 10 respondents (62.5%), while severe anxiety was

experienced by 6 respondents (37.5%). There were no respondents in the non-anxious or mild category. After the endorphin massage intervention was administered, there was a significant improvement. The number of respondents in the medium category decreased to 6 respondents (37.5%), and the heavy category decreased to 2 respondents (12.5%). Meanwhile, respondents who experienced mild anxiety increased to 4 respondents (25%), and the very severe category was no longer found in the posttest. Shapiro-Wilks scores were 0.52 (pretest) and 0.42 (posttest). The results *of the t-test* showed a value of p = 0.002, which showed that endorphin massage had a significant effect in reducing the level of anxiety of the maternity mother.

Table 5. Differences in the level of anxiety of therapeutic communication and endoprine massage before and after the intervention.

No	Level Anxiety	Groups Communication (f)	Groups Massage (f)
1	No Anxious	0	0
2	Lightweight	0	0
3	Medium	12	13
4	Weight		43
5	Very Heavy	0	0
	Mean	5.8125	5.3750
	Shapiro-Wilks	0,12	0,42
	p-Value (Kruskal Wallis Test) 0,026		

Table 5 presents the distribution of anxiety levels among intrapartum mothers after receiving two types of interventions, namely therapeutic communication and endorphin massage. The findings show that the majority of respondents in both intervention groups remained within the moderate anxiety category, with 12 respondents in the therapeutic communication group and 13 respondents in the endorphin massage group. In the severe anxiety category, 4 respondents were identified in the therapeutic communication group, while 3 respondents were observed in the endorphin massage group. No respondents in either group were categorized as not anxious or experiencing mild anxiety.

Statistical analysis revealed that the mean anxiety score in the therapeutic communication group was 5.8125, whereas the mean score in the endorphin massage group was lower at 5.3750. This result suggests that endorphin massage was more effective in reducing anxiety compared to therapeutic communication. The Shapiro–Wilk test values were 0.12 for the therapeutic communication group and 0.42 for the endorphin massage group,

indicating that the data were normally distributed. Furthermore, the Kruskal–Wallis test produced a p-value of 0.026, demonstrating a statistically significant difference in anxiety levels between the two interventions ($p < 0.05$).

Discussion

Anxiety Level before treatment

Based on the findings from the study involving 32 participants, it was observed that all mothers undergoing childbirth experienced anxiety at varying levels. The highest proportion of participants fell into the severe anxiety category, totaling 18 individuals (56.25%). Anxiety is generally experienced by every mother facing the childbirth process, and this condition is often triggered by the pain associated with labor. Although nearly all mothers feel discomfort due to uterine contractions, individual responses to pain differ. Consequently, the level of anxiety experienced also varies among women during labor.

According to Sidabukke and Siregar (2020), several factors influence the level of anxiety in mothers during childbirth, including pain intensity, the mother's physical condition, history of previous pregnancies, antenatal care (ANC) history, and the level of support provided by the husband during labor.

Furthermore, Lilis, D. N., and Lovita (2021) reported that factors associated with maternal anxiety during childbirth include husband support and type of occupation, whereas maternal age and educational level were not found to have a significant relationship with anxiety levels in laboring mothers.

Family support, particularly support from the husband, can provide a sense of calmness and comfort to the mother. Support that offers feelings of safety, reassurance, and protection can help reduce anxiety levels throughout pregnancy and leading up to the childbirth process (Hernanto, 2016). Husband support is closely related to anxiety in mothers approaching labor, as harmonious emotional relationships and positive partner involvement play an important role in lowering maternal anxiety (Waskito, F., & Syamsi, 2015).

Anxiety Level after treatment

The findings of the study showed that the degree of anxiety in respondents who were given therapeutic communication was mostly in the medium category, which was as many as 12 people (75%). The results of the t-test obtained a significance value of 0.0001, so there was a difference in the level of anxiety before and after the application of therapeutic communication. This indicates that the application of therapeutic communication is effective in lowering anxiety. Therapeutic communication is able to improve the psychological condition of mothers who are about to give birth so that it has an impact on reducing anxiety. This is in

line with Purwanto's (1994) theory which explains that the purpose of therapeutic communication is to help clarify and reduce the patient's emotional and mental burden, make it easier to make decisions, reduce doubt, maintain ego strength, and affect the individual, environment, and physical condition of the patient (Sriana, 2016).

In research carried out by (Ria et al., 2020) It was found that out of a total of 63 participants, as many as 35 people (55.6%) experienced moderate category anxiety, 12 people (19.00%) experienced severe anxiety, and 16 people (25.4%) were in mild anxiety. Based on these findings, it can be concluded that the majority of respondents are at a moderate level of anxiety when facing the delivery process.

Different findings were reported in Murdayah's research (2021), where most respondents actually experienced severe anxiety levels (47.1%). Some of the factors that are considered to affect the occurrence of anxiety in maternal mothers, as explained in the study, include the physical condition of the mother, the age of less than 20 years who is biologically immature in controlling emotions, the lack of understanding of the maternal process of childbirth, the lack of support from the social environment, especially the husband, the level of education, employment status, unplanned pregnancy, and socioeconomic conditions.

4. CONCLUSION

Based on the results of the study, it can be concluded that both therapeutic communication and endorphin massage techniques have a significant effect on reducing anxiety levels among mothers during the first stage of labor. This is evidenced by the ρ-values, which were below the significance threshold of 0.05, with values of 0.001 in the therapeutic communication group and 0.002 in the endorphin massage group. The findings further indicate that endorphin massage is more effective in lowering anxiety levels, as reflected by the higher mean anxiety score in the therapeutic communication group (5.8125) compared to the endorphin massage group (5.3750).

For future research, it is recommended that researchers explore additional variables that may contribute to reducing anxiety in laboring mothers and conduct more in-depth analyses of factors related to therapeutic communication and endorphin massage. This recommendation is particularly important given that this study identified challenges in establishing emotional bonding with maternity mothers during the intervention process.

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