



The Effect of Oxytocin Massage on First Stage Labor Pain

Wahyu Abadi Junjung Drajad¹, Kharisma Kusumaningtyas², Titi Maharrani³, Siti Alfiah⁴

^{1,2,3,4}Department of Midwifery, Applied Bachelor of Midwifery, Poltekkes Surabaya, Surabaya, East Java, Indonesia

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CORRESPONDENCE

E-mail: wawaj022@gmail.com

ABSTRACT

Introduction: Pain during labor is a manifestation of uterine muscle contractions which cause the cervix to open greatly and affect anxiety levels so that blood vessels narrow, and oxygen levels decrease. This can cause prolonged labor (mother) and hypoxia (fetus). The way to deal with labor pain is with oxytocin massage. **Purpose:** To analyze the effect of oxytocin massage on first stage labor pain. **Method:** Quantitative research, pre-experimental one group pretest-posttest design, at TPMB Afah Fahmi Surabaya, 17 mothers in labor were taken using purposive sampling technique. Primary data collection technique using Numeric Rating Scales (NRS) observation sheets on a ratio scale (0-10). The data analysis technique uses the Paired Sample T-Test. **Result:** The data analysis test showed p-value = 0.000 ($p < 0.05$), meaning that there was a difference in first stage labor pain between before and after being given oxytocin massage. **Conclusion:** Oxytocin massage can be useful for reducing pain in the first stage of labor, so it is hoped that health workers can provide oxytocin massage to mothers in labor so that the labor process can take place comfortably.

INTRODUCTION

Every pregnant woman craves a normal, smooth and painless delivery. Young mothers who give birth think that childbirth is scary and always painful. This is commonplace. However, if left unchecked, it will become a big problem (Wijaya, Bewi and Rahmiati, 2018). Contraction of the uterine muscles that radiates to the waist, abdomen, thighs and makes the opening of the uterine mouth called labor pain (Rejeki, 2020).

It is reported that sources from WHO 15% have mild pain, 35% have moderate pain, 30% have severe pain, and 20% have very severe pain. This makes pregnant women feel worried during childbirth (Barus, Widiyanti and Yulyana, 2023). Research conducted by Ebirim, reported a total of 300 deliveries in first stage with 32% severe pain, 57% moderate, and 11% mild pain (Utari and Futriani, 2022). According to research conducted by Livana, it was reported that 30 mothers gave birth in the latent phase, 3 mothers had mild pain, 18 had moderate pain, 9 had severe pain, and 0 had uncontrollable severe pain (Livana et al., 2020).

Factors that affect labor pain include culture, anxiety, fear, previous experience, support, and preparation for childbirth. Pain in each respondent is unique and different (Rejeki, 2020). Problems due to pain are not resolved, namely increased anxiety during the delivery process so that blood pressure rises due to narrowing of blood vessels triggered by the hormone adrenaline, disruption of blood distribution to the fetus makes hypoxia (fetus) and old partus (mother) (Wijaya, Bewi and Rahmiati, 2018).

Pain can be reduced by pharmacological and non-pharmacological. Pharmacological, with analgesic drugs and anesthetics. Non-pharmacological with relaxation, breathing, hypnobirthing, acupuncture, acupressure, water birth, TENS, and massage (Himawati and Kodiyah, 2020). Developments in the provision of comprehensive care are currently carried out with a natural or non-pharmacological therapy approach (Jamir and F, 2021). Non-pharmacological therapies are often used because they tend to be safer and easier, one of which is oxytocin massage. Oxytocin massage brings out a relaxing effect due to increased production of endorphins. This relaxation stimulates the brain to lower the production of adrenaline but makes the oxytocin increase so that uterine contractions become adequate. Massage is applied to the spine from the scapula to the costa 5-6 as the location of the massage. Adequate contractions are expected to speed up and facilitate the delivery process to avoid pain that lasts too long. (Himawati and Kodiyah, 2020)

Oxytocin massages provide many benefits. Many studies have proven the benefits of oxytocin massage in increasing breast milk production. Other benefits are stimulating oxytocin, avoiding stress, and pain (Litasari, 2020). From the above problem, the researcher wants to research on "The Effect of Oxytocin Massage on First Stage Labor Pain" conducted at TPMB Afah Fahmi Surabaya.

The formulation of the problem "Is there an effect of oxytocin massage on labor pain in first stage?". The general purpose of this study is "to determine the effect of oxytocin massage on labor pain in first stage". The first specific goal is "to identify labor pain in the first stage before being given oxytocin massage", the second "to identify labor pain in the first stage after being given oxytocin massage", and the third "to analyze the effect of oxytocin massage on labor pain in the first stage". The theoretical benefits of this research are that it is useful information in enriching obstetrics science to add insight into the effect of oxytocin massage on labor pain in the first stage and be used as material for further research.

METHOD

This study is a quantitative research pre-experimental one-group pretest-posttest design. The population in March - April 2024 is 90 mothers giving birth with a sample of 17 mothers giving birth using purposive sampling. As for the inclusion criteria, respondents who give birth during the first active phase of the maximum dilatation period (VT result of 5-9 cm), are willing to be used as respondents, and complete oxytocin massage intervention in accordance with standard operating procedures. Data collection with primary data uses an observation sheet instrument with NRS (Numeric Rating Scale) pain measurement on a ratio scale (0-10) instead of categorically. Univariate analysis technique to process data from observation sheets so that data in the form of percentages and interpretations are known. Bivariate analysis to analyze whether there was a difference in labor pain in the first stage between before and after oxytocin massage. Paired Sample T-Test statistical test. Previously, a data normality test was carried out with a p-value of >

0.05, meaning that it was normally distributed. There was a difference in first stage of labor pain between before and after giving oxytocin massage if the results of the Paired Sample T-Test produced a p-value < 0.05.

RESULT

Table 1 Frequency Distribution of Maternal Characteristics by Age

Age	Frequency (n)	Percentage (%)
<20 years	1	5,9
20-35 years	16	94,1
>35 years	0	0
Total	17	100

Table 1 shows that the characteristics of maternity mothers by age, almost all (94.1%) have an age range of 20-35 years as many as 16 people.

Table 2 Distribution of Frequency of Menstrual Pain in Phase I Before Oxytocin Massage

Pain Score	Frequency (n)	Percentage (%)	Mean	St. deviation
0	0	0	7,2353	1,3074
1	0	0		
2	0	0		
3	0	0		
4	0	0		
5	2	11,8		
6	3	17,6		
7	5	29,5		
8	3	17,6		
9	4	23,5		
10	0	0		
Total	17	100		

Table 2 shows that almost half (29.5%) of mothers who give birth feel labor pain before being given oxytocin massage with a score of 7 (0-10) as many as 5 people. The average pain score was 7.23 and the standard deviation was 1.30.

Table 3 Distribution of Frequency of Vaginal Pain After Oxytocin Massage

Pain Score	Frequency (n)	Percentage (%)	Mean	St. deviation
0	0	0	5,47059	1,5384
1	0	0		
2	1	5,9		
3	1	5,9		
4	3	17,6		
5	1	5,9		
6	7	41,2		
7	3	17,6		
8	1	5,9		
9	0	0		
10	0	0		
Total	17	100		

Table 3 shows that almost half (41.2%) of pregnant women feel pain in the first stage after being given oxytocin massage with a score of 6 (0-10) as many as 7 people. The average pain score was 5.47 and the standard deviation was 1.53.

Table 4 Analysis of the Effect of Oxytocin Massage on First Stage Labor Pain

Variable	Before		After		<i>p-value</i>
	Mean	St. Deviation	Mean	St. Deviation	
First Stage Labor Pain	7,2353	1,3074	5,47059	1,5384	0,000

Table 4 shows an average decrease in labor pain between before and after oxytocin massage with a difference of 1.76. The standard deviation after the intervention was given had a greater value than before the intervention, indicating that the data were increasingly varied. The results of the Paired Sample T-Test with $p\text{-value} = 0.000$ ($p < 0.05$) mean that H_0 was rejected and H_1 was accepted, so it was concluded that there was a difference in labor pain in the first stage between before and after giving oxytocin massage.

DISCUSSION

The results of this study were known that before being given oxytocin massage, almost half of the respondents felt labor pain with a score of 7 (0-10) and the average overall pain score of all maternity mothers was classified as controlled severe pain. In this study, the respondents involved in the study were almost all aged 20-35 years. After being given an oxytocin massage, almost half of the mothers who gave birth felt pain in the first stage of labor with a score of 6 (0-10) and the average overall pain score was classified as moderate pain. Before the administration of oxytocin massage, the average value of labor pain was classified as severe controlled pain, while after the administration of oxytocin massage, the average value of labor pain became moderate pain. Childbirth pain before and after giving oxytocin massage there was a decrease as evidenced by the difference in mean values. The results of the parametric analysis test with the paired sample t-test produced a value of $p\text{-value} = 0.000$ ($p < 0.05$).

In line with WHO data in 2019 reported that almost half of mothers in childbirth experience severe pain (Barus, Widiyanti and Yulyana, 2023). Research conducted by Ebirim reported that almost half of mothers who give birth experience severe pain (Utari and Futriani, 2022). Research conducted by Livana also shows that almost half of mothers who give birth experience severe pain (Livana et al., 2020). Labor pain is a sensation felt physically or physically caused by uterine contractions, opening and effacement, as well as hodge in the lowest part of the fetus during childbirth (Sari, Rufaida and Lestari, 2018). Childbirth pain in the first stage in general in the lower back, if the pain appears excessively causing the adrenaline hormone to increase, anxiety eventually arises, fear and tension so that the body's ability to withstand pain decreases (Riskiya, 2018).

Lailatul and Naomi's research stated that the age factor is an important factor in childbirth (Mustaghfiroh and Hesti, 2022). WHO in 2018 stated that the safe age of pregnancy is 20-35 years old because the reproductive organs are mature and the risk of complications is small (Anashrin, Aryanti and Februanty, 2024). In line with Adam's research, it is reported that younger people are also more likely to feel pain because they are not emotionally stable to reduce anxiety during childbirth (Maryuni, 2020).

In line with Laily's research, it was reported that almost half of mothers in childbirth experienced moderate pain, none of whom were in severe pain (Himawati and Kodiyah, 2020). Saleha's research also reported that labor pain after being given the intervention mostly experienced mild pain, almost half moderate pain and none of them were severe pain (Saleha, 2023).

Oxytocin massage is to massage the spine of the costa to the 5-6th to the scapula to relax the body. Oxytocin massage is carried out for 5 minutes and repeated 3 times, thereby reducing pain in the mother. Oxytocin itself is a love hormone, so an increase in the hormone oxytocin facilitates childbirth, controls pain, stress, reduces pain, relaxes the body, feels comfortable, and reduces childbirth complications. (Himawati and Kodiyah, 2020)

Oxytocin massage stimulates the work of the hormone oxytocin so that it provides many benefits. Many studies have proven the benefits of oxytocin massage in increasing breast milk production, reducing stress and spinal pain (Litasari, Mahwati and Rasyad, 2020).

Oxytocin massage is a safe and easy non-pharmacological method to overcome labor pain (Himawati and Kodiyah, 2020). Wijaya's research reported that there was an effect of oxytocin massage on pain but not with the progress of labor due to the duration and method or strength of massage that was less than optimal (Wijaya, Bewi and Rahmiati, 2018). Chakti's research has found the effect of massage on labor pain that is effective (Chakti, Indrayani and Sariaty, 2022).

First stage labor pain felt before being given oxytocin massage appears due to contractions of the uterine muscles. Contractions that are increasingly adequacy in the opening progress can increase the pain of labor felt. Maternity mothers are expected to still be able to communicate and be cooperative so that they can complete a series of oxytocin massage administration according to standard operating procedures based on previously planned inclusion criteria. Oxytocin massage is a massage that can provide benefits both during the labor process and after childbirth. A gentle massage accompanied by communication between the midwife and mother makes her more relaxed so that she can pass the first stage as comfortably as possible. Give space for the maternity mother to relax herself so that fear and anxiety subside.

The difference in the mean value has shown that there is a difference and the occurrence of a decrease in labor pain in the first stage between before and after being given oxytocin massage because in the operational definition table that has been prepared previously, the measurement scale chosen by the researcher is a ratio with a value range of 0-10 not categorically.

CONCLUSION

The conclusion from the results of the above study is that the labor pain in the first stage before being given oxytocin massage is classified as severe controlled pain on average, the labor pain in the first stage after being given oxytocin massage is classified as moderate pain on average, and there is an effect of oxytocin massage on labor pain in the first stage.

REFERENCES

- Anashrin, P. A., Aryanti, D., & Februanti, S. (2024). Implementasi pendidikan kesehatan penanganan anemia kehamilan pada ibu hamil di Tasikmalaya. *Nursing Care and Health Technology Journal (NCHAT)*, 2(2), 148–153. <https://doi.org/10.56742/nchat.v2i2.43>
- Barus, O. Z. B., Widiyanti, D., & Yulyana, N. (2023). Penggunaan birth ball terhadap penurunan intensitas nyeri persalinan kala I fase aktif. *Jurnal Kesehatan Tambusai*, 4(4), 5053–5058.
- Chakti, I. O., Indrayani, D., & Sariaty, S. (2022). Pengaruh teknik pijat oksitosin terhadap penurunan nyeri persalinan: Evidence-based case report (EBCR). *Kesehatan Siliwangi*, 3(2), 212–221.
- Himawati, L., & Kodiyah, N. (2020). Pengaruh pijat oksitosin terhadap nyeri persalinan pada ibu bersalin di Rumah Sakit Permata Bunda Purwodadi Grobogan. *Journal of Midwifery*, 8(1), 17–22. <https://doi.org/10.37676/jm.v8i1.1029>
- Jamir, A. F., & F, K. (2021). Pengaruh pijat oksitosin terhadap lama kala I fase aktif pada ibu bersalin di Puskesmas Balangnipa Kabupaten Sinjai. *RCI*, 1(1).
- Litasari, R., Mahwati, Y., & Rasyad, A. S. (2020). Pengaruh pijat oksitosin terhadap pengeluaran dan produksi ASI pada ibu nifas. *Jurnal Kesehatan STIKes Muhammadiyah Ciamis*, 5(2), 61–70. <https://doi.org/10.52221/jurkes.v5i2.37>
- Livana, P. H., et al. (2020). Efektivitas terapi musik pada nyeri persalinan kala I fase laten. *Jurnal Ners Widya Husada*, 4(2), 47–52.
- Maryuni, M. (2020). Hubungan karakteristik ibu bersalin dengan nyeri persalinan. *Journal of Health Science and Physiotherapy*, 2(1), 116–122. <https://doi.org/10.35893/jhsp.v2i1.42>
- Mustaghfiroh, L., & Hesti, N. P. (2022). Pengaruh pijat oksitosin terhadap lama kala I persalinan. *STIKes Kendal*, 12(2), 279–286.
- Rejeki, S. (2020). *Buku ajar manajemen nyeri dalam proses persalinan (Non Farmaka)* (A. Yanto, Ed.). Semarang: Penerbit Unimus Press.
- Riskiyya, M. (2018). *Pengaruh kompres hangat terhadap intensitas nyeri persalinan kala I fase aktif di BPM Kota Palembang tahun 2018* [Tesis, Poltekkes Kemenkes Palembang].
- Saleha, S. (2023). Efektivitas pijat oksitosin mengurangi nyeri persalinan. *Prosiding Simposium Kesehatan Nasional*, 2(1), 187–191.
- Sari, D. P., Rufaida, Z., & Lestari, S. W. P. (2018). *Nyeri persalinan* (E. D. Kartiningrum, Ed.). Mojokerto: STIKes Majapahit Mojokerto.
- Utari, A.-G. D., & Futriani, E. S. (2022). Efektivitas deepback massage dan effleurage massage terhadap penurunan intensitas nyeri persalinan kala I fase aktif di BPM Katmi tahun 2022. *Pendidikan dan Konseling*, 4(4).

Wijaya, M., Bewi, D. W. T., & Rahmiati, L. (2018). Pengaruh pijat oksitosin terhadap nyeri dan kemajuan persalinan pada ibu bersalin di Puskesmas Garuda. *Ilmiah Bidan*, 3(3).

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