

BUKTI KORESPONDENSI ARTIKEL TERAKREDITASI SINTA 2

Judul artikel : Slow Stroke Back Massage on Postpartum Anxiety: A Quasy
Experimental Study

Nama Jurnal/Vol/Tahun : Jurnal Berita Ilmu Keperawatan/ vol.18.no. 2/2025

Resume Proses Korespondensi :

No	Waktu	Proses Korespondensi
1	18 Januari 2025	Submit artikel ke jurnal berita Ilmu Keperawatan dan mendapatkan notifikasi email submit
2	25 Januari 2025	Revisi dari reviewer 1
3	12 Maret 2025	Revivi dari reviewer 2
4.	26 Maret 2025	Upload pasca revisi dari masukan reviewer 1 dan 2
5	3 Mei 2025	Ada tambahan revisi dan upload ulang
6	10 April 2025	Upload ulang revision dari reviewer 1 dan 2
7.	30 April 2025	Ada revisi diminta menambahkan mitra dari luar negeri
8.	5 mei 2025	Dapat notifikasi untuk pembayaran dan upload Bayar
9.	19 Mei 2025	Diminta mengirimkan data Author (Author Statement)
10.	21 Mei 2025	Artikel Accepted dan mendapatkan LoA Keluar
11.	4 Juli 2025	Revisi terkait turnitin
12.	5 Juli 2025	mengupload revisi pasca Turnitin
13.	23 Juli 2025	Jurnal Publish

Respon Reviewer

Reviewer 1	
Comment 1	This section can provide reasons for choosing the slow stroke back message method.
Response	Management of postpartum anxiety can be addressed through non-pharmacological interventions such as Slow Stroke Back Massage (SSBM)
Comment 2	The pronoun you should be replaced with, for example, women
Response	This intervention can make women feel comfortable and relaxed, potentially reducing anxiety symptoms. The study aims to determine the effect of slow-stroke back massage on postpartum anxiety.
Comment 3	His is an important part, use strategic clues by using the right words, for example: The study aims to

Response	The study aims to determine the effect of slow-stroke back massage on postpartum anxiety.
Comment 4	The pronoun “this” is not clear what it refers to. It should be written clearly, for example: This study used quasi-experimental design ...
Response	The study aims to determine the effect of slow-stroke back massage on postpartum anxiety. This study used a quasi-experimental design with a one-group pretest-posttest approach. The sampling technique used total sampling with 76 women in the postpartum period.
Comment 5	This should be provided long-term to prevent international readers from being familiar with common abbreviations in Indonesia. Information about SOPs should be separated. For example: The intervention was conducted based on slow stroke back massage protocol developed by reseacher.
Response	The intervention was carried out for 3 days with a duration of 10 minutes each session. The research instrument used the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire.
Comment 6	The citation method should be consistent.
Response	Anxiety is often overlooked and goes undiagnosed. If this continues, it can lead to postpartum psychological disorders (Ariany, 2021)
Comment 7	The citation method should be consistent.
Response	The administration of back massage intervention in the postpartum period has shown a decrease in depressive symptoms when compared to standard care (Wibowo, 2022).
Comment 8	This information should be placed in the method section.
Response	Researchers selected the Slow Stroke Back Massage intervention because it is easy for anyone to perform, can be done at home with support from a spouse or family member, and is cost-effective for reducing anxiety in postpartum mothers. This study aimed to determine the effect of slow-stroke back massage on postpartum anxiety.
Comment 9	The abbreviation does not correspond to the full name
Response	Based on the results of the study, it can be concluded that Slow Stroke Back Massage can effectively reduce anxiety in postpartum women. Slow stroke back massage is an accessible intervention that can be performed by anyone, at any time, without financial cost. This technique promotes relaxation, reduces tension in the back area, and increases endorphin levels, contributing to improved emotional well-being. We recommend that slow stroke back massage be integrated into maternal and child health services as a standard intervention for postpartum care. Healthcare providers should be trained in this technique to support mothers during the critical postpartum period.

Reviewer 2																			
Comment 1	How about the suggestion based on this result?																		
Response	SSBM should be integrated into standard postpartum care protocols to help mothers manage anxiety during this critical period.																		
Comment 2	What’s the difference this research from previous one?																		
Response	What distinguishes the current research from previous studies is our focus on applying SSBM specifically to address anxiety symptoms in the early postpartum period using a standardized protocol with clear timing and duration parameters. While previous studies have examined various forms of massage therapy in postpartum care, our research specifically investigates SSBM's effect on anxiety using validated measurement tools in the Indonesian context.																		
Comment 3	Please add the details of instruments, how to give a score? Validity and reliability																		
Response	The independent variable of the study was a slow-stroke back massage, while the dependent variable was anxiety in postpartum women. The research instrument used was the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire, which is a 20-item self-report assessment device that measures anxiety levels based on scoring in four categories: cognitive, autonomic, motor, and central nervous system symptoms. Each item is scored on a 4-point scale (1-4), with total scores ranging from 20 to 80. Scores of 20-44 indicate normal anxiety levels, 45-59 mild to moderate anxiety, 60-74 moderate to severe anxiety, and 75-80 severe anxiety. The ZSAS has been validated with an internal consistency (alpha) of 0.82 and a test-retest reliability of 0.71.																		
Comment 4	How to prove assumption of the Wilcoxon test?																		
Response	Data analysis used the Wilcoxon test because the variables analyzed used categorical data.																		
Comment 5	Does it mean that no one who is categorized as severe anxiety? It can still be written																		
Response	<table><tr><th colspan="3">Table 3. Anxiety after Slow Stroke Back Massage Treatmen in Postpartum</th></tr><tr><th>Anxiety</th><th>f</th><th>%</th></tr><tr><td>Mild Anxiety</td><td>69</td><td>90.8</td></tr><tr><td>Moderate Anxiety</td><td>7</td><td>9.2</td></tr><tr><td>Severe Anxiety</td><td>0</td><td>0</td></tr><tr><td>Total</td><td>76</td><td>100.0</td></tr></table> <p>Based on table 3, it shows that most of the anxiety after the treatment of Slow stroke Back Massage in the postpartum with mild anxiety is as many as 69 respondents (90.8%).</p>	Table 3. Anxiety after Slow Stroke Back Massage Treatmen in Postpartum			Anxiety	f	%	Mild Anxiety	69	90.8	Moderate Anxiety	7	9.2	Severe Anxiety	0	0	Total	76	100.0
Table 3. Anxiety after Slow Stroke Back Massage Treatmen in Postpartum																			
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Severe Anxiety	0	0																	
Total	76	100.0																	

Comment 6	It's quite confuse, the result of anxiety level shows as categorical data, but in this analysis shows as the median? Please check the assumption of using Wilcoxon test?					
Response	<p>Table 4. The Effect of Slow Stroke Back Massage on Postpartum Anxiety</p> <table> <tr> <th>Variable</th><th><i>p value</i></th></tr> <tr> <td>Anxiety before the intervention</td><td rowspan="2">0,000</td></tr> <tr> <td>Anxiety after the intervention</td></tr> </table> <p>Based on Table 4, it can be seen that anxiety before the intervention and after the intervention is 46.00 with a <i>p value</i> 0.000 (≤ 0.05), meaning that there is an effect of <i>Slow Stroke Back Massage</i> on postpartum anxiety.</p>	Variable	<i>p value</i>	Anxiety before the intervention	0,000	Anxiety after the intervention
Variable	<i>p value</i>					
Anxiety before the intervention	0,000					
Anxiety after the intervention						

Bukti Konfirmasi Submit Artikel

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Dwi Astuti:

Thank you for submitting the manuscript, "Slow Stroke Back Massage on Postpartum Anxiety: A Quasy Experimental Study " to Jurnal Berita Ilmu Keperawatan. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

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Slow Stroke Back Massage on Postpartum Anxiety: A Quasy Experimental Study

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Abstract: The postpartum period is very susceptible to anxiety due to the transition process to parenthood and hormonal changes during childbirth and postpartum. Management is carried out by providing Slow Stroke Back Massage. This intervention can make you comfortable and relaxed so that anxiety can be resolved. This article is to determine the effect of Slow Stroke Back Massage on postpartum anxiety. This belongs quasi-experimental research using, one group pretest-posttest design. The sampling technique used a total sampling of 76 postpartums. The intervention was carried out for 3 days with a duration of 10 minutes. The research instrument used SOP Slow Stroke Back Massage and the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire. Data analysis was done using Wilcoxon test. The result of this study stated that there is an effect of giving slow stroke back massage on anxiety in postpartum p value ($0.000 < 0.05$). It can be shortly said that giving Slow Stroke Back Massage can reduce postpartum anxiety

Keywords: anxiety, postpartum, slow stroke back massage

INTRODUCTION

The postpartum period is a process of adaptation to physical and psychological changes. Psychologically, a mother will feel psychiatric symptoms after giving birth. In reality, not all mothers show a picture of happy emotions. Symptoms are mood swings, feeling sad, crying frequently, loss of appetite, and anxiety (Moradi et al., 2017). Anxiety is often overlooked and goes undiagnosed. If this continues, it can lead to postpartum psychological disorders (Saidah Ariany, 2021). The reason why pregnant women, childbirth, and postpartum women are vulnerable to anxiety disorders is because there are still women who are not physically and mentally ready to become a mother. Anxiety is usually experienced in the first week of birth. This is because in the first week of *postpartum* autonomic nervous activity is in an unstable state (Jahdi et al., 2016).

Based on data from WHO (2021), the prevalence of postpartum blues in the world is 30-75% and this lasts for 3-4 days and peaks on the fifth day of postpartum. While the prevalence of postpartum anxiety in Asian countries is quite high and varies between 26-85% of postpartum women. (Rachmah et al., 2021). Based on *Riskesdas* data in 2022, the prevalence of postpartum anxiety is between 50-70%. The prevalence of mental disorders such as depression and anxiety disorders in the postpartum was 19.8% (Janna & Nurul Fadhilah Gani, Hasnah, 2023). About 14 million people out of Indonesia's population, mothers experience anxiety after childbirth as much as 22.4% (WHO, 2019).

Massage is one way to relax mothers, because touch has its own magic which is very useful for relieving fatigue in the body, improving blood circulation, stimulating the body to release toxins, and improving mental health (Dheirani et al., 2024). The massage technique helps mothers feel fresher, relaxed, and comfortable. This happens because massage stimulates the body to release endorphin compounds which are natural pain relievers (Nahamin et al., 2016). One of the efforts to overcome postpartum anxiety is to do *Slow Stroke Back Massage* (SSBM). *Massage* in women at the beginning of the

postpartum period is able to reduce anxiety and promote relaxation. The administration of *back massage intervention* in the postpartum period showed a decrease in *depressive symptoms* when compared to standard care (Thomas Ari Wibowo, 2022).

Slow Stroke Back Massage, is a massage technique by massaging the patient's back area using the palm of the hand, especially the thumb, in a circular motion (Pratiwi et al., 2021). The massage movement is carried out 60 times for 10 minutes in each session and is carried out for 3 consecutive days (Thomas Ari Wibowo, 2022). This technique is easy for anyone to do, and it is relatively inexpensive and can provide good benefits to the client's physiology and psychology. Stimulation carried out mainly in the thoracic nerve area 10-11-12 to lumbar 1 provides a pleasant sensation and fights discomfort or anxiety (Lalita et al., 2023). The way *Slow Stroke Back Massage* (SSBM) works is to activate the faster transmission of *A-beta* sensory nerve fibers as neurotransmitters, thereby reducing the transmission of pain transmitted through small diameter C and *A-delta* fibers while closing the ray gate for the transmission of pain impulses so that anxiety does not occur (Thomas Ari Wibowo, 2022), (Sihaloho et al., 2020). Health services for *postpartum* mothers need to be carried out in order to achieve an optimal life for both mothers and babies, one form of service to maximize the stability of the mother's mental health condition is to provide *back massage* intervention as an effort to prevent anxiety (Lalita et al., 2023). Researchers try to provide the *Slow Stroke Back Massage* intervention because it is easy for anyone to do, and can be done alone at home with the closest people to the husband, or other family members to reduce anxiety in postpartum mothers. This study aimed is to determine the effect of slow stroke back massage on postpartum anxiety.

METHOD

This is a quasy experimental study using one group pretest posttest design. The study later on was carried out in February-April 2024 at the Mayong II Jepara Health Center. The population in this study is postpartum mothers who give birth at Puskesmas Mayong II. The samples were 76 respondents using total sampling technique. The inclusion criteria for this study are postpartum on days 1 to 7, No injury to the area to be massaged, namely the back, no complications in the postpartum, and willing to be a respondent. The exclusion criteria are having rib or vertebra fractures, burns, reddish areas on the skin, or open wounds in the back area, swelling or tumors, the presence of hematomas or bruises, hot temperatures on the skin, and the presence of skin diseases. The Independent variable of the study was Slow Stroke Back Massage meanwhile the dependent variable of the study was anxiety in postpartum mothers. The research instrument used a questionnaire about Zung anxiety Self-rating Anxiety Scale (ZSAS) and SOP Slow Stroke Back Massage. Before conducting the research, respondents first carried out informed consent by explaining the procedure to be carried out. Then the respondent fills out an identity sheet. Before and after the intervention was carried out, pretest-posttest was carried out to find out the level of anxiety of the respondents. Slow Stroke Back Massage intervention is carried out 1 time a day within 10 minutes for 3 consecutive days in the thoracic area 10 to 12 and lumbar 1. Data analysis using the Wilcoxon test. This research has been conducted at the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024.

RESULTS

Table 1. Characteristics of Respondents

Variable	f	%
Age		
<20 years	3	3.9
20-35 year	67	88.2
>35year	6	7.9
Education		
Elementary School	18	23.7
Junior High school	27	35.5
Senior High School	18	23.7

University	13	17.1
Parity		
Primipara	17	22.4
Multipara	54	71.1
Grandemultipara	5	6.6
Occupation		
House wife	31	40.8
Civil servant	10	13.2
Private	35	46.1
Total	76	100

Table 1. It shows that judging from the characteristics of the most respondents aged 20-35 years old is 67 people (88.2%), junior high school education (SMP) is 27 people (35.5%), has the most multipara parity of 54 people (71.1%). The most respondents were employed by private as many as 35 people (46.1)

Table 2. Anxiety before the treatment of Slow Stroke Back Massage in the postpartum

Anxiety	f	%
Mild Anxiety	16	21.1
Moderate Anxiety	48	63.2
Severe Anxiety	12	15.8
Total	76	100.0

Based on the table. 2 Most of the anxiety before the treatment of Slow Stroke Back Massage in the postpartum with moderate anxiety was as many as 48 respondents (63.2%).

Table 3. Anxiety after Slow Stroke Back Massage Treatment in Postpartum

Anxiety	f	%
Mild Anxiety	69	90.8
Moderate Anxiety	7	9.2
Total	76	100.0

Based on table 3, it shows that most of the anxiety after the treatment of Slow stroke Back Massage in the postpartum with mild anxiety is as many as 69 respondents (90.8%).

Table 4. The Effect of Slow Stroke Back Massage on Postpartum Anxiety

Variable	Median	Min	Max	p value
Anxiety before the intervention	63,00	45	78	0,000
Anxiety after the intervention	46,00	45	64	

Based on Table 4, it can be seen that anxiety before the intervention has a median nilia of 63.00 and after the intervention is 46.00 with a p value 0.000 (≤ 0.05), meaning that there is an effect of *Slow Stroke Back Massage* on postpartum anxiety.

DISCUSSION

Based on the characteristics of the respondents, most mothers have multipara parity. Postpartum mothers often need more practical information on how to breastfeed, hold, calm and care for a newborn. Mothers who are looking forward to the birth of their second child and so on have different worries

from mothers who are looking forward to the birth of their first child Anxiety here is a person's emotional reaction related to something outside of him and his defense mechanism in facing problems(Nahamin et al., 2016). In this case, the emotional response without a specific object that is subjectively experienced and communicated interpersonally, confusion, worry about something that will happen with an unclear cause and is associated with feelings of uncertainty and helplessness(Lombogia, 2020)(Bamijoko-Okungbaye, 2020).

Postpartum maternal anxiety is often overlooked and not properly addressed. Many mothers struggle on their own in the moments after giving birth. They feel that something is wrong but they themselves do not know what is happening. The role of health workers is very influential in overcoming anxiety in postpartum mothers. In this case, health workers are responsible for providing care, education and providing support to postpartum mothers. The role of health workers can give mothers the confidence to continue to be positive in carrying out their new roles(Wan Anita, Lita Nafratilova, 2023). In line with Elizabeth's research, et al. (2023) explained that the combination of aromatherapy and back massage has been proven to significantly reduce maternal depressive symptoms postpartum. This treatment helps in promoting relaxation, pain relief, and not having trouble sleeping during the postpartum period(Lalita et al., 2023).

Massage is a systematic touch and manipulation of the body's soft tissues that is increasingly being used as an adjunct therapy to relieve stress and to improve relaxation and well-being during pregnancy and as an alternative form of pharmacological or invasive analgesia during childbirth, and postpartum. Massage has been shown to be beneficial for pregnant women with anxiety, depression, leg and back pain, and has shown significant benefits in pain perception during labor, as well as in the postpartum period(Saidah Ariany, 2021).

The Slow Stroke Back Massage (SSBM) stimulus that affects the peripheral nervous system will be passed to the hypothalamus through the spinal cord pathway. The hypothalamus responds to the stimulus by releasing endorphins and reduces cortisol by releasing corticotropin(Widyawati et al., 2022). activities reduce sympathetic nerve activity and increase parasympathetic nerve activity. The production of endorphins will stimulate the production of hormones, namely serotonin and dopamine, which can reduce anxiety and cause a relaxation response (Setiawan et al., 2023).

In line with the research results of Zahra Moladi, et al (2017) explained The arithmetic mean and standard deviation of fatigue severity were 48.25 ± 7.46 in control group, (before the intervention) and 51.15 ± 9.61 in intervention group, that shows there is no statistically significant difference between the two groups ($P < 0.001$). After performing the massage process, the fatigue severity mean was 47.25 ± 8.32 in the control group and 40.32 ± 13.98 in the interaction group and the difference was statistically significant ($P < 0.000$)(Moradi et al., 2017).

Massage will reduce emotions, reduce feelings of nervousness, and provide a good balance in the activity of the parasympathetic nervous system and the sympathetic nervous system(Elkheshen et al., 2017). According to researchers, massage can provide therapeutic benefits in a variety of ways. body systems such as the integument, musculoskeletal, cardiovascular, lymphatic and nervous. The implications of this study can be applied to patients because Slow Stroke Back Massage is a non-pharmacological procedure that is easy to do, and minimal complications make SSBM easily accepted by patients because the benefits can be felt immediately. The researcher's analysis is based on the results obtained where massage given to postpartum mothers can provide a sense of calm and comfort during breastfeeding so as to increase the posterior pituitary response to produce the hormone oxytocin which can increase the letdown reflex and breast milk production. Loving masasse affects stress levels and prolactin hormone levels for primipara postpartum mothers.

Massage stimulates the body so that it releases the hormone endorphine which is a natural pain reliever. Endorphine hormones can also create a feeling of comfort and pleasure so as to reduce the anxiety that mothers feel. Postpartum maternal anxiety can inhibit the release of colostrum, and can even affect the growth of the baby(Wan Anita, dan Lita Nafratilova, 2023). The mechanism of action of massage in reducing depression. Massage swipes including Slow Stroke Back Massage which is given slowly with slow movements and with a harmonious rhythm can trigger the breakdown of uric acid

and calcium crystals that accumulate in the blood and slow down blood circulation so that blood circulation becomes smooth and increases and is more optimal in carrying nutrients and oxygen to the rest of the body (Tannous et al., 2015). In addition, massage can also stretch the body's auto-muscles and can provide stimulation to the nerves where then the nerves will forward the received stimulus to the hypothalamus, then after the hypothalamus receives the stimulus the hypothalamus will signal the body to reduce or temporarily stop the production of stress-causing hormones such as cortisol, adrenaline and norepinephrine and increase the production of hormones that can cause a sense of comfort such as endorphins, dopamine, oxytocin and serotonin which can cause a feeling of relaxation and comfort in the body so that the depression experienced by patients can be reduced or decreased (Saidah Ariany, 2021) (Patonengan et al., 2023).

In line with research by Jahdi F, et al (2020) explained that the mean age of the mothers was 22 years. There were no significant between-group differences in age ($P = 0.333$), education ($P = 0.427$), and medication during labor and the postpartum period ($P = 0.412$). There was no statistically significant difference between the mean anxiety scores of the experimental (6.66 ± 35.48) and control groups (9.05 ± 37.42) before the intervention ($P = 0.268$). Immediately after the massage and the next morning, there was a significant between-group difference in the anxiety scores ($P < 0.001$) (Jahdi, F., Mehrabadi, M., Mortazavi, F. & Haghani, 2020).

The limitations of this study do not examine other factors that can still affect postpartum mothers' anxiety such as family support, especially husbands. This study didn't employ randomization in recruiting and assigning the participants and involved a small sample size. This study can only provide new insights about physical touch to overcome anxiety in postpartum mothers using the slow stroke back massage technique.

CONCLUSION

Based on the results of the study, it can be concluded that Slow Stroke Back Massage can reduce anxiety in the postpartum. Slow stroke back massage can be done by anyone, anytime and does not cost anything. Slow stroke back massage can make people relax, tension in the back area and can increase endorphin hormones so that a person becomes happy. Further study may concern on slow stroke back massage which can be integrated into maternal and child health services (KIA)

ACKNOWLEDGMENT

The authors would like to thank the staff of the Faculty of Health Sciences, Universitas Muhammadiyah Kudus, Kudus, Indonesia, for their support of this study.

AUTHOR CONTRIBUTION

We encourage authors to provide statements outlining their individual contributions or roles to the manuscript. Author 1 contributes to the collection, processing, and presentation of data. Author 2 contributes in the preparation of articles.

ETHICAL APPROVAL AND CONSENT

Ethical approval was obtained from the Ethics Committee of the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024.. Informed consent was obtained from all individual participants included in the study, in accordance with the Declaration of Helsinki.

FUNDING SOURCES

This study received no external funding.

CONFLICT OF INTEREST

The authors hereby declare that there's no conflict of interest in this study, either to any institutions or individuals

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions. However, they are available from the corresponding author on reasonable request and with permission from Universitas Muhammadiyah Kudus.

PROTOCOL REGISTRATION

This study was not registered.

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Slow Stroke Back Massage on Postpartum Anxiety: A Quasy Experimental Study

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Abstract: The postpartum period is very susceptible to anxiety due to the transition process to parenthood and hormonal changes during childbirth and postpartum. Management of postpartum anxiety can be addressed through non-pharmacological interventions such as Slow Stroke Back Massage (SSBM). This intervention can make women feel comfortable and relaxed, potentially reducing anxiety symptoms. The study aims to determine the effect of slow-stroke back massage on postpartum anxiety. This study used a quasi-experimental design with a one-group pretest-posttest approach. The sampling technique used total sampling with 76 women in the postpartum period. The intervention was carried out for 3 days with a duration of 10 minutes each session. The research instrument used the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire. Data analysis was performed using the Wilcoxon test. The results of this study showed that there is an effect of slow stroke back massage on anxiety in postpartum women with a p-value ($0.000 < 0.05$). It can be concluded that slow-stroke back massage can reduce postpartum anxiety. SSBM should be integrated into standard postpartum care protocols to help mothers manage anxiety during this critical period.

Keywords: anxiety, postpartum, slow stroke back massage

INTRODUCTION

The postpartum period is a process of adaptation to physical and psychological changes. Psychologically, a mother will feel psychiatric symptoms after giving birth. In reality, not all mothers show a picture of happy emotions. Symptoms are mood swings, feeling sad, crying frequently, loss of appetite, and anxiety (Moradi et al., 2017). Anxiety is often overlooked and goes undiagnosed. If this continues, it can lead to postpartum psychological disorders (Ariany, 2021). The reason why pregnant women, childbirth, and postpartum women are vulnerable to anxiety disorders is because there are still women who are not physically and mentally ready to become a mother. Anxiety is usually experienced in the first week of birth. This is because in the first week of postpartum autonomic nervous activity is in an unstable state (Jahdi et al., 2016).

Based on data from WHO (2021), the prevalence of postpartum blues in the world is 30-75% and this lasts for 3-4 days and peaks on the fifth day of postpartum. While the prevalence of postpartum anxiety in Asian countries is quite high and varies between 26-85% of postpartum women. (Rachmah et al., 2021). Based on Riskesdas data in 2022, the prevalence of postpartum anxiety in Indonesia was between 50% and 70%. The prevalence of mental disorders such as depression and anxiety disorders in the postpartum period is 19.8% (Janna & Nurul Fadhilah Gani, Hasnah, 2023). About 14 million people out of Indonesia's population, mothers experience anxiety after childbirth as much as 22.4% (WHO, 2019).

Massage is one effective way to help mothers relax, as touch has unique therapeutic benefits for relieving fatigue in the body, improving blood circulation, stimulating the body to release toxins, and improving mental health (Dheirani et al., 2024). The massage technique helps mothers feel fresher, relaxed, and comfortable. The massage technique helps mothers feel fresher, relaxed, and comfortable. This occurs because massage stimulates the body to release endorphin compounds, which are natural pain relievers (Nahamin et al., 2016). One promising approach to address postpartum anxiety is the implementation of Slow Stroke Back Massage (SSBM). Massage intervention for women in the early postpartum period has demonstrated the ability to reduce anxiety and promote relaxation. The administration of back massage intervention in the postpartum period has shown a decrease in depressive symptoms when compared to standard care (Wibowo, 2022).

What distinguishes the current research from previous studies is our focus on applying SSBM specifically to address anxiety symptoms in the early postpartum period using a standardized protocol with clear timing and duration parameters. While previous studies have examined various forms of massage therapy in postpartum care, our research specifically investigates SSBM's effect on anxiety using validated measurement tools in the Indonesian context.

Slow Stroke Back Massage, is a massage technique by massaging the patient's back area using the palm of the hand, especially the thumb, in a circular motion (Pratiwi et al., 2021). The massage movement is carried out 60 times for 10 minutes in each session and is carried out for 3 consecutive days (Wibowo, 2022). This technique is easy for anyone to do, and it is relatively inexpensive and can provide good benefits to the client's physiology and psychology. Stimulation carried out mainly in the thoracic nerve area 10-11-12 to lumbar 1 provides a pleasant sensation and fights discomfort or anxiety (Lalita et al., 2023). The way *Slow Stroke Back Massage* (SSBM) works is to activate the faster transmission of *A-beta* sensory nerve fibers as neurotransmitters, thereby reducing the transmission of pain transmitted through small diameter C and *A-delta* fibers while closing the ray gate for the transmission of pain impulses so that anxiety does not occur (Thomas Ari Wibowo, 2022), (Sihaloho et al., 2020). Health services for *postpartum* mothers need to be carried out in order to achieve an optimal life for both mothers and babies, one form of service to maximize the stability of the mother's mental health condition is to provide *back massage* intervention as an effort to prevent anxiety (Lalita et al., 2023). Researchers selected the *Slow Stroke Back Massage* intervention because it is easy for anyone to perform, can be done at home with support from a spouse or family member, and is cost-effective for reducing anxiety in postpartum mothers. This study aimed to determine the effect of slow-stroke back massage on postpartum anxiety.

METHOD

This is a quasi-experimental study using a one-group pretest-posttest design. The study was carried out from February to April 2024 at the Mayong II Jepara Health Center. The population in this study consisted of postpartum mothers who gave birth at Puskesmas Mayong II. The sample comprised 76 respondents selected using a total sampling technique.

The inclusion criteria for this study were women in postpartum days 1 to 7, no injury to the area to be massaged (back region), no complications in the postpartum period, and willingness to participate as a respondent. The exclusion criteria were having rib or vertebra fractures, burns, reddish areas on the skin, open wounds in the back area, swelling or tumors, presence of hematomas or bruises, elevated skin temperature, and the presence of skin diseases.

The independent variable of the study was a slow-stroke back massage, while the dependent variable was anxiety in postpartum women. The research instrument used was the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire, which is a 20-item self-report assessment device that measures anxiety levels based on scoring in four categories: cognitive, autonomic, motor, and central nervous system symptoms. Each item is scored on a 4-point scale (1-4), with total scores ranging from 20 to 80. Scores of 20-44 indicate normal anxiety levels, 45-59 mild to moderate anxiety, 60-74 moderate

to severe anxiety, and 75-80 severe anxiety. The ZSAS has been validated with an internal consistency (alpha) of 0.82 and a test-retest reliability of 0.71.

The intervention was conducted based on a standardized slow-stroke back massage protocol. Before conducting the research, informed consent was obtained from all participants after explaining the procedure. Participants then completed an identity sheet. Pretest and posttest assessments were conducted to measure anxiety levels before and after the intervention. The Slow Stroke Back Massage intervention was performed once daily for 10 minutes over 3 consecutive days. The massage was carried out with 60 slow, rhythmic strokes per session, focusing on the thoracic area (10 to 12) and lumbar 1. Data analysis used the Wilcoxon test because the variables analyzed used categorical data. This research received ethical approval from the Ethics Committee of the University of Muhammadiyah Kudus with approval number 65/Z-7/KEPK/UMKU/I/2024.

RESULTS

Table 1. Characteristics of Respondents

Variable	f	%
Age		
<20 years	3	3.9
20-35 year	67	88.2
>35year	6	7.9
Education		
Elementary School	18	23.7
Junior High school	27	35.5
Senior High School	18	23.7
University	13	17.1
Parity		
Primipara	17	22.4
Multipara	54	71.1
Grandemultipara	5	6.6
Occupation		
House wife	31	40.8
Civil servant	10	13.2
Private	35	46.1
Total	76	100

Table 1. It shows that judging from the characteristics of the most respondents aged 20-35 years old is 67 people (88.2%), junior high school education (SMP) is 27 people (35.5%), has the most multipara parity of 54 people (71.1%). The most respondents were employed by private as many as 35 people (46.1)

Table 2. Anxiety before the treatment of Slow Stroke Back Massage in the postpartum

Anxiety	f	%
Mild Anxiety	16	21.1
Moderate Anxiety	48	63.2
Severe Anxiety	12	15.8
Total	76	100.0

Based on the table. 2 Most of the anxiety before the treatment of Slow Stroke Back Massage in the postpartum with moderate anxiety was as many as 48 respondents (63.2%).

Table 3. Anxiety after Slow Stroke Back Massage Treatment in Postpartum

Anxiety	f	%
Mild Anxiety	69	90.8
Moderate Anxiety	7	9.2
Severe Anxiety	0	0
Total	76	100.0

Based on table 3, it shows that most of the anxiety after the treatment of Slow stroke Back Massage in the postpartum with mild anxiety is as many as 69 respondents (90.8%).

Table 4. The Effect of Slow Stroke Back Massage on Postpartum Anxiety

Variable	<i>p value</i>
Anxiety before the intervention	
Anxiety after the intervention	0,000

Based on Table 4, it can be seen that anxiety before the intervention and after the intervention is 46.00 with a *p value* 0.000 (≤ 0.05), meaning that there is an effect of **Slow Stroke Back Massage** on postpartum anxiety.

DISCUSSION

Based on the characteristics of the respondents, most mothers in this study had multipara parity. Postpartum mothers often need practical information on how to breastfeed, hold, calm, and care for a newborn. Mothers anticipating the birth of their second or subsequent child typically have different concerns compared to first-time mothers. Anxiety in this context represents a person's emotional reaction related to external factors and their defense mechanism in facing problems (Nahamin et al., 2016). Specifically, it manifests as an emotional response without a specific object that is subjectively experienced and communicated interpersonally, characterized by confusion, and worry about uncertain future events, and is associated with feelings of uncertainty and helplessness (Lombogia, 2020)(Bamijoko-Okungbaye, 2020).

Postpartum maternal anxiety is often overlooked and not properly addressed. Many mothers struggle alone in the immediate postpartum period. They sense that something is wrong but cannot identify what is happening. Health professionals play a crucial role in addressing anxiety in postpartum mothers by providing care, education, and support. Their involvement can give mothers the confidence to maintain a positive outlook in adapting to their new roles (Wan Anita, Lita Nafratilova, 2023). In line with Elizabeth's research et al. (2023), the combination of aromatherapy and back massage has been proven to significantly reduce maternal depressive symptoms postpartum. This treatment helps promote relaxation, alleviate pain, and improve sleep quality during the postpartum period (Lalita et al., 2023).

Massage is a systematic touch and manipulation of the body's soft tissues that is increasingly being used as an adjunct therapy to relieve stress and improve relaxation and well-being during pregnancy. It also serves as an alternative to pharmacological or invasive analgesia during childbirth and the postpartum period. Massage has shown benefits for pregnant women with anxiety, depression, and leg and back pain, and has demonstrated significant advantages in pain perception during labor and in the postpartum period (Saidah Ariany, 2021).

The Slow Stroke Back Massage (SSBM) stimulus affects the peripheral nervous system and is transmitted to the hypothalamus through the spinal cord pathway. The hypothalamus responds to this stimulus by releasing endorphins and reducing cortisol by releasing corticotropin (Widyawati et al., 2022). These activities reduce sympathetic nerve activity and increase parasympathetic nerve activity.

The production of endorphins stimulates the production of hormones, namely serotonin and dopamine, which can reduce anxiety and induce a relaxation response (Setiawan et al., 2023).

Consistent with the research results of Zahra Moladi, et al, (2017) the arithmetic mean and standard deviation of fatigue severity were 48.25 ± 7.46 in the control group (before intervention) and 51.15 ± 9.61 in the intervention group, showing no statistically significant difference between the two groups initially ($P < 0.001$). After performing the massage process, the fatigue severity mean was 47.25 ± 8.32 in the control group and 40.32 ± 13.98 in the intervention group, with the difference being statistically significant ($P < 0.000$) (Moradi et al., 2017).

Massage reduces emotional tension, alleviates feelings of nervousness, and provides a good balance in the activity between the parasympathetic and sympathetic nervous systems (Elkhesheh et al., 2017). According to our analysis, massage provides therapeutic benefits across various body systems including the integumentary, musculoskeletal, cardiovascular, lymphatic, and nervous systems. The clinical implications of this study are significant, as Slow Stroke Back Massage is a non-pharmacological procedure that is easy to implement with minimal complications, making it readily acceptable to patients who can immediately experience its benefits.

Our analysis of the results suggests that massage given to postpartum mothers can provide a sense of calm and comfort during breastfeeding, thereby increasing the posterior pituitary response to produce oxytocin, which can enhance the letdown reflex and breast milk production. Loving massage affects stress levels and prolactin hormone levels, particularly for first-time mothers.

Massage stimulates the body to release endorphins, which are natural pain relievers. Endorphins also create feelings of comfort and pleasure, reducing maternal anxiety. Postpartum maternal anxiety can inhibit the release of colostrum and potentially affect infant growth (Wan Anita, dan Lita Nafratilova, 2023). The mechanism of massage in reducing depression involves slow, rhythmic movements that can trigger the breakdown of uric acid and calcium crystals that accumulate in the blood and impede circulation. This improves blood flow and optimizes the delivery of nutrients and oxygen throughout the body (Tannous et al., 2015).

Additionally, massage can stretch the body's muscles and stimulate the nerves, which then transmit signals to the hypothalamus. Upon receiving these signals, the hypothalamus instructs the body to reduce or temporarily halt the production of stress hormones such as cortisol, adrenaline, and norepinephrine, while increasing the production of comfort-inducing hormones like endorphins, dopamine, oxytocin, and serotonin. This creates a feeling of relaxation and comfort, potentially reducing depression experienced by patients (Saidah Ariany, 2021) (Patonengan et al., 2023).

Our findings align with research by Jahdi F, et al (2020) which found that while there were no significant between-group differences in age ($P = 0.333$), education ($P = 0.427$), and medication during labor and postpartum ($P = 0.412$), and no statistically significant difference between the mean anxiety scores of the experimental (35.48 ± 6.66) and control groups (37.42 ± 9.05) before intervention ($P = 0.268$), there was a significant between-group difference in anxiety scores immediately after massage and the following morning ($P < 0.001$) (Jahdi, F., Mehrabadi, M., Mortazavi, F. & Haghani, 2020).

The limitations of this study include not examining other factors that could affect postpartum mothers' anxiety, such as family support, especially from husbands. Additionally, this study did not employ randomization in recruiting and assigning participants and involved a relatively small sample size. This research provides new insights about the benefits of physical touch, specifically using the slow stroke back massage technique, to address anxiety in postpartum mothers, but further research with more robust methodologies is warranted.

CONCLUSION

Based on the results of the study, it can be concluded that Slow Stroke Back Massage can effectively reduce anxiety in postpartum women. Slow stroke back massage is an accessible intervention that can be performed by anyone, at any time, without financial cost. **This technique promotes relaxation, reduces tension in the back area, and increases endorphin levels**, contributing to improved emotional well-being. We recommend that slow stroke back massage be integrated into

maternal and child health services as a standard intervention for postpartum care. Healthcare providers should be trained in this technique to support mothers during the critical postpartum period. Future studies should incorporate randomized controlled designs with larger sample sizes and explore the integration of SSBM with other complementary therapies for comprehensive postpartum care

ACKNOWLEDGMENT

The authors would like to thank the staff of the Faculty of Health Sciences, Universitas Muhammadiyah Kudus, Kudus, Indonesia, for their support of this study.

AUTHOR CONTRIBUTION

Author 1 contributed to the collection, processing, and presentation of data. Author 2 contributed to the preparation of the articles.

ETHICAL APPROVAL AND CONSENT

Ethical approval was obtained from the Ethics Committee of the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024. Informed consent was obtained from all individual participants included in the study, in accordance with the Declaration of Helsinki.

FUNDING SOURCES

This study received no external funding.

CONFLICT OF INTEREST

The authors hereby declare that there's no conflict of interest in this study, either to any institutions or individuals

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions. However, they are available from the corresponding author on reasonable request and with permission from Universitas Muhammadiyah Kudus.

PROTOCOL REGISTRATION

This study was not registered.

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Abstract: The postpartum period is very susceptible to anxiety due to the transition process to parenthood and hormonal changes during childbirth and postpartum. Management is carried out by providing Slow Stroke Back Massage. This intervention can make you comfortable and relaxed so that anxiety can be resolved. This article is to determine the effect of Slow Stroke Back Massage on postpartum anxiety. This belongs quasi-experimental research using one group pretest-posttest design. The sampling technique used a total sampling of 76 women in postpartum periods. The intervention was carried out for 3 days with a duration of 10 minutes each session. The research instrument used SOP Slow Stroke Back Massage and the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire. Data analysis was done using Wilcoxon test. The result of this study stated showed that there is an effect of giving slow stroke back massage on anxiety in postpartum p value ($0.000 < 0.05$). It can be shortly said that giving Slow Stroke Back Massage can reduce postpartum anxiety. Recommendation:....

Keywords: anxiety, postpartum, slow stroke back massage

INTRODUCTION

The postpartum period is a process of adaptation to physical and psychological changes. Psychologically, a mother will feel psychiatric symptoms after giving birth. In reality, not all mothers show a picture of happy emotions. Symptoms are mood swings, feeling sad, crying frequently, loss of appetite, and anxiety (Moradi et al., 2017). Anxiety is often overlooked and goes undiagnosed. If this continues, it can lead to postpartum psychological disorders. (Saidah Ariany, 2021). The reason why pregnant women, childbirth, and postpartum women are vulnerable to anxiety disorders is because there are still women who are not physically and mentally ready to become a mother. Anxiety is usually experienced in the first week of birth. This is because in the first week of postpartum autonomic nervous activity is in an unstable state (Jahdi et al., 2016).

Based on data from WHO (2021), the prevalence of postpartum blues in the world is 30-75% and this lasts for 3-4 days and peaks on the fifth day of postpartum. While the prevalence of postpartum anxiety in Asian countries is quite high and varies between 26-85% of postpartum women (Rachmah et al., 2021). Based on *Riskesdas* data in 2022, the prevalence of postpartum anxiety in Indonesia is between 50-70%. The prevalence of mental disorders such as depression and anxiety disorders in the postpartum ~~is was~~ 19.8% (Janna & Nurul Fadhilah Gani, Hasnah, 2023). About 14 million people out of Indonesia's population, mothers experience anxiety after childbirth as much as 22.4% (WHO, 2019).

Massage is one way to relax mothers, because touch has its own magic which is very useful for relieving fatigue in the body, improving blood circulation, stimulating the body to release toxins, and improving mental health (Dheirani et al., 2024). The massage technique helps mothers feel fresher, relaxed, and comfortable. This happens because massage stimulates the body to release endorphin compounds which are natural pain relievers (Nahamin et al., 2016). One of the efforts to overcome

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postpartum anxiety is to do *Slow Stroke Back Massage* (SSBM). *Massage* in women at the beginning of the *postpartum* period is able to reduce anxiety and promote relaxation (.....). The administration of *back massage* intervention in the *postpartum* period showed a decrease in *depressive symptoms* when compared to standard care (Thomas Ari Wibowo, 2022).

Slow Stroke Back Massage, is a massage technique by massaging the patient's back area using the palm of the hand, especially the thumb, in a circular motion (Pratiwi et al., 2021). The massage movement is carried out 60 times for 10 minutes in each session and is carried out for 3 consecutive days (Thomas Ari Wibowo, 2022). This technique is easy for anyone to do, and it is relatively inexpensive and can provide good benefits to the client's physiology and psychology. Stimulation carried out mainly in the thoracic nerve area 10-11-12 to lumbar 1 provides a pleasant sensation and fights discomfort or anxiety (Lalita et al., 2023). The way *Slow Stroke Back Massage* (SSBM) works is to activate the faster transmission of *A-beta* sensory nerve fibers as neurotransmitters, thereby reducing the transmission of pain transmitted through small diameter C and *A-delta* fibers while closing the gate for the transmission of pain impulses so that anxiety does not occur (Thomas Ari Wibowo, 2022), (Sihaloho et al., 2020). Health services for *postpartum* mothers need to be carried out in order to achieve an optimal life for both mothers and babies, one form of service to maximize the stability of the mother's mental health condition is to provide *back massage* intervention as an effort to prevent anxiety (Lalita et al., 2023). Researchers try to provide the *Slow Stroke Back Massage* intervention because it is easy for anyone to do, and can be done alone at home with the closest people to the husband, or other family members to reduce anxiety in *postpartum* mothers. This study aimed is to determine the effect of slow stroke back massage on *postpartum* anxiety.

METHOD

This is a quasy experimental study using one group pretest posttest design. The study later on was carried out in February-April 2024 at the Mayong II Jepara Health Center. The population in this study is *postpartum* mothers who give birth at Puskesmas Mayong II. The samples were 76 respondents using total sampling technique. The inclusion criteria for this study are *postpartum* on days 1 to 7, No injury to the area to be massaged, namely the back, no complications in the *postpartum*, and willing to be a respondent. The exclusion criteria are having rib or vertebra fractures, burns, reddish areas on the skin, or open wounds in the back area, swelling or tumors, the presence of hematomas or bruises, hot temperatures on the skin, and the presence of skin diseases. The Independent variable of the study was *Slow Stroke Back Massage* meanwhile the dependent variable of the study was anxiety in *postpartum* mothers. The research instrument used a questionnaire about Zung anxiety Self-rating Anxiety Scale (ZSAS) and SOP *Slow Stroke Back Massage*. Before conducting the research, respondents first carried out informed consent by explaining the procedure to be carried out. Then the respondent fills out an identity sheet. Before and after the intervention was carried out, pretest-posttest was carried out to find out the level of anxiety of the respondents. *Slow Stroke Back Massage* intervention is carried out 1 time a day within 10 minutes for 3 consecutive days in the thoracic area 10 to 12 and lumbar 1. Data analysis using the Wilcoxon test. This research has been conducted at the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024.

RESULTS

Table 1. Characteristics of Respondents

Variable	f	%
Age		
<20 years	3	3.9
20-35 year	67	88.2
>35year	6	7.9
Education		
Elementary School	18	23.7
Junior High school	27	35.5

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Senior High School	18	23.7
University	13	17.1
Parity		
Primipara	17	22.4
Multipara	54	71.1
Grandemultipara	5	6.6
Occupation		
House wife	31	40.8
Civil servant	10	13.2
Private	35	46.1
Total	76	100

Table 1. It shows that judging from the characteristics of the most respondents aged 20-35 years old is 67 people (88.2%), junior high school education (SMP) is 27 people (35.5%), has the most multipara parity of 54 people (71.1%). The most respondents were employed by private as many as 35 people (46.1)

Table 2. Anxiety before the treatment of Slow Stroke Back Massage in the postpartum

Anxiety	f	%
Mild Anxiety	16	21.1
Moderate Anxiety	48	63.2
Severe Anxiety	12	15.8
Total	76	100.0

Based on the table. 2 Most of the anxiety before the treatment of Slow Stroke Back Massage in the postpartum with moderate anxiety was as many as 48 respondents (63.2%).

Table 3. Anxiety after Slow Stroke Back Massage Treatment in Postpartum

Anxiety	f	%
Mild Anxiety	69	90.8
Moderate Anxiety	7	9.2
Total	76	100.0

Based on table 3, it shows that most of the anxiety after the treatment of Slow stroke Back Massage in the postpartum with mild anxiety is as many as 69 respondents (90.8%).

Table 4. The Effect of Slow Stroke Back Massage on Postpartum Anxiety

Variable	Median	Min	Max	p value
Anxiety before the intervention	63,00	45	78	0,000
Anxiety after the intervention	46,00	45	64	

Based on Table 4, it can be seen that anxiety before the intervention has a median nilia of 63.00 and after the intervention is 46.00 with a *p value* 0.000 (≤ 0.05), meaning that there is an effect of *Slow Stroke Back Massage* on postpartum anxiety.

DISCUSSION

Based on the characteristics of the respondents, most mothers have multipara parity. Postpartum mothers often need more practical information on how to breastfeed, hold, calm and care for a newborn.

Mothers who are looking forward to the birth of their second child and so on have different worries from mothers who are looking forward to the birth of their first child. Anxiety here is a person's emotional reaction related to something outside of him and his defense mechanism in facing problems (Nahamin et al., 2016). In this case, the emotional response without a specific object that is subjectively experienced and communicated interpersonally, confusion, worry about something that will happen with an unclear cause and is associated with feelings of uncertainty and helplessness (Lombogia, 2020) (Bamijoko-Okungbaye, 2020).

Postpartum maternal anxiety is often overlooked and not properly addressed. Many mothers struggle on their own in the moments after giving birth. They feel that something is wrong but they themselves do not know what is happening. The role of health workers is very influential in overcoming anxiety in postpartum mothers. In this case, health workers are responsible for providing care, education and providing support to postpartum mothers. The role of health workers can give mothers the confidence to continue to be positive in carrying out their new roles (Wan Anita, Lita Nafratilova, 2023). In line with Elizabeth's research, et al. (2023) explained that the combination of aromatherapy and back massage has been proven to significantly reduce maternal depressive symptoms postpartum. This treatment helps in promoting relaxation, pain relief, and not having trouble sleeping during the postpartum period (Lalita et al., 2023).

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The Slow Stroke Back Massage (SSBM) stimulus that affects the peripheral nervous system will be passed to the hypothalamus through the spinal cord pathway. The hypothalamus responds to the stimulus by releasing endorphins and reduces cortisol by releasing corticotropin (Widyawati et al., 2022). Activities reduce sympathetic nerve activity and increase parasympathetic nerve activity. The production of endorphins will stimulate the production of hormones, namely serotonin and dopamine, which can reduce anxiety and cause a relaxation response (Setiawan et al., 2023).

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Massage stimulates the body so that it releases the hormone endorphine which is a natural pain reliever. Endorphine hormones can also create a feeling of comfort and pleasure so as to reduce the anxiety that mothers feel. Postpartum maternal anxiety can inhibit the release of colostrum, and can even affect the growth of the baby (Wan Anita, dan Lita Nafratilova, 2023). The mechanism of action of massage in reducing depression. Massage swipes including Slow Stroke Back Massage which is given

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CONCLUSION

Based on the results of the study, it can be concluded that Slow Stroke Back Massage can reduce anxiety in the postpartum. Slow stroke back massage can be done by anyone, anytime and does not cost anything. Slow stroke back **massage** can make people relax, tension in the back area and can increase endorphin hormones so that a person becomes happy. Further study may concern on slow stroke back massage which can be integrated into maternal and child health services (**KIA**).

ACKNOWLEDGMENT

The authors would like to thank the staff of the Faculty of Health Sciences, Universitas Muhammadiyah Kudus, Kudus, Indonesia, for their support of this study.

AUTHOR CONTRIBUTION

We encourage authors to provide statements outlining their individual contributions or roles to the manuscript. Author 1 contributes to the collection, processing, and presentation of data. Author 2 contributes in the preparation of articles.

ETHICAL APPROVAL AND CONSENT

Ethical approval was obtained from the Ethics Committee of the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024.. Informed consent was obtained from all individual participants included in the study, in accordance with the Declaration of Helsinki.

FUNDING SOURCES

This study received no external funding.

CONFLICT OF INTEREST

The authors hereby declare that there's no conflict of interest in this study, either to any institutions or individuals

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions. However, they are available from the corresponding author on reasonable request and with permission from Universitas Muhammadiyah Kudus.

PROTOCOL REGISTRATION

This study was not registered.

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Slow Stroke Back Massage on Postpartum Anxiety: A Quasy Experimental Study

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Abstract: The postpartum period is very susceptible to anxiety due to the transition process to parenthood and hormonal changes during childbirth and postpartum. Management is carried out by providing Slow Stroke Back Massage. This intervention can make you comfortable and relaxed so that anxiety can be resolved. This article is to determine the effect of Slow Stroke Back Massage on postpartum anxiety. This belongs quasi-experimental research using, one group pretest-posttest design. The sampling technique used a total sampling of 76 postpartums. The intervention was carried out for 3 days with a duration of 10 minutes. The research instrument used SOP Slow Stroke Back Massage and the Zung Self-rating Anxiety Scale (ZSAS) anxiety questionnaire. Data analysis was done using Wilcoxon test. The result of this study stated that there is an effect of giving slow stroke back massage on anxiety in postpartum p value ($0.000 < 0.05$). It can be shortly said that giving Slow Stroke Back Massage can reduce postpartum anxiety.

Keywords: anxiety, postpartum, slow stroke back massage

INTRODUCTION

The postpartum period is a process of adaptation to physical and psychological changes. Psychologically, a mother will feel psychiatric symptoms after giving birth. In reality, not all mothers show a picture of happy emotions. Symptoms are mood swings, feeling sad, crying frequently, loss of appetite, and anxiety (Moradi et al., 2017). Anxiety is often overlooked and goes undiagnosed. If this continues, it can lead to postpartum psychological disorders (Saidah Ariany, 2021). The reason why pregnant women, childbirth, and postpartum women are vulnerable to anxiety disorders is because there are still women who are not physically and mentally ready to become a mother. Anxiety is usually experienced in the first week of birth. This is because in the first week of *postpartum* autonomic nervous activity is in an unstable state (Jahdi et al., 2016).

Based on data from WHO (2021), the prevalence of postpartum blues in the world is 30-75% and this lasts for 3-4 days and peaks on the fifth day of postpartum. While the prevalence of postpartum anxiety in Asian countries is quite high and varies between 26-85% of postpartum women. (Rachmah et al., 2021). Based on *Riskesdas* data in 2022, the prevalence of postpartum anxiety is between 50-70%. The prevalence of mental disorders such as depression and anxiety disorders in the postpartum was 19.8% (Janna & Nurul Fadhilah Gani, Hasnah, 2023). About 14 million people out of Indonesia's population, mothers experience anxiety after childbirth as much as 22.4% (WHO, 2019).

Massage is one way to relax mothers, because touch has its own magic which is very useful for relieving fatigue in the body, improving blood circulation, stimulating the body to release toxins, and improving mental health (Dheirani et al., 2024). The massage technique helps mothers feel fresher, relaxed, and comfortable. This happens because massage stimulates the body to release endorphin compounds which are natural pain relievers (Nahamin et al., 2016). One of the efforts to overcome postpartum anxiety is to do *Slow Stroke Back Massage* (SSBM). *Massage* in women at the beginning of the

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postpartum period is able to reduce anxiety and promote relaxation. The administration of back massage intervention in the postpartum period showed a decrease in depressive symptoms when compared to standard care(Thomas Ari Wibowo, 2022).

Slow Stroke Back Massage, is a massage technique by massaging the patient's back area using the palm of the hand, especially the thumb, in a circular motion(Pratiwi et al., 2021). The massage movement is carried out 60 times for 10 minutes in each session and is carried out for 3 consecutive days(Thomas Ari Wibowo, 2022). This technique is easy for anyone to do, and it is relatively inexpensive and can provide good benefits to the client's physiology and psychology. Stimulation carried out mainly in the thoracic nerve area 10-11-12 to lumbar 1 provides a pleasant sensation and fights discomfort or anxiety (Lalita et al., 2023). The way Slow Stroke Back Massage (SSBM) works is to activate the faster transmission of A-beta sensory nerve fibers as neurotransmitters, thereby reducing the transmission of pain transmitted through small diameter C and A-delta fibers while closing the ray gate for the transmission of pain impulses so that anxiety does not occur (Thomas Ari Wibowo, 2022),(Sihaloho et al., 2020). Health services for postpartum mothers need to be carried out in order to achieve an optimal life for both mothers and babies, one form of service to maximize the stability of the mother's mental health condition is to provide back massage intervention as an effort to prevent anxiety(Lalita et al., 2023). Researchers try to provide the Slow Stroke Back Massage intervention because it is easy for anyone to do, and can be done alone at home with the closest people to the husband, or other family members to reduce anxiety in postpartum mothers. This study aimed is to determine the effect of slow stroke back massage on postpartum anxiety.

METHOD

This is a quasy experimental study using one group pretest posttest design. The study later on was carried out in February-April 2024 at the Mayong II Jepara Health Center. The population in this study is postpartum mothers who give birth at Puskesmas Mayong II. The samples were 76 respondents using total sampling technique. The inclusion criteria for this study are postpartum on days 1 to 7, No injury to the area to be massaged, namely the back, no complications in the postpartum, and willing to be a respondent. The exclusion criteria are having rib or vertebra fractures, burns, reddish areas on the skin, or open wounds in the back area, swelling or tumors, the presence of hematomas or bruises, hot temperatures on the skin, and the presence of skin diseases. The Independent variable of the study was Slow Stroke Back Massage meanwhile the dependent variable of the study was anxiety in postpartum mothers. The research instrument used a questionnaire about Zung anxiety Self-rating Anxiety Scale (ZSAS) and SOP Slow Stroke Back Massage. Before conducting the research, respondents first carried out informed consent by explaining the procedure to be carried out. Then the respondent fills out an identity sheet. Before and after the intervention was carried out, pretest-posttest was carried out to find out the level of anxiety of the respondents. Slow Stroke Back Massage intervention is carried out 1 time a day within 10 minutes for 3 consecutive days in the thoracic area 10 to 12 and lumbar 1. Data analysis using the Wilcoxon test. This research has been conducted at the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/I/2024.

RESULTS

Table 1. Characteristics of Respondents

Variable	f	%
Age		
<20 years	3	3.9
20-35 year	67	88.2
>35year	6	7.9
Education		
Elementary School	18	23.7
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University	13	17.1
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DISCUSSION

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CONCLUSION

Based on the results of the study, it can be concluded that Slow Stroke Back Massage can reduce anxiety in the postpartum. Slow stroke back massage can be done by anyone, anytime and does not cost anything. Slow stroke back massage can make people relax, tension in the back area and can increase endorphin hormones so that a person becomes happy. Further study may concern on slow stroke back massage which can be integrated into maternal and child health services (KIA)

ACKNOWLEDGMENT

The authors would like to thank the staff of the Faculty of Health Sciences, Universitas Muhammadiyah Kudus, Kudus, Indonesia, for their support of this study.

AUTHOR CONTRIBUTION

We encourage authors to provide statements outlining their individual contributions or roles to the manuscript. Author 1 contributes to the collection, processing, and presentation of data. Author 2 contributes in the preparation of articles.

ETHICAL APPROVAL AND CONSENT

Ethical approval was obtained from the Ethics Committee of the University of Muhammadiyah Kudus with the number 65/Z-7/KEPK/UMKU/1/2024.. Informed consent was obtained from all individual participants included in the study, in accordance with the Declaration of Helsinki.

FUNDING SOURCES

This study received no external funding.

CONFLICT OF INTEREST

The authors hereby declare that there's no conflict of interest in this study, either to any institutions or individuals

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions. However, they are available from the corresponding author on reasonable request and with permission from Universitas Muhammadiyah Kudus.

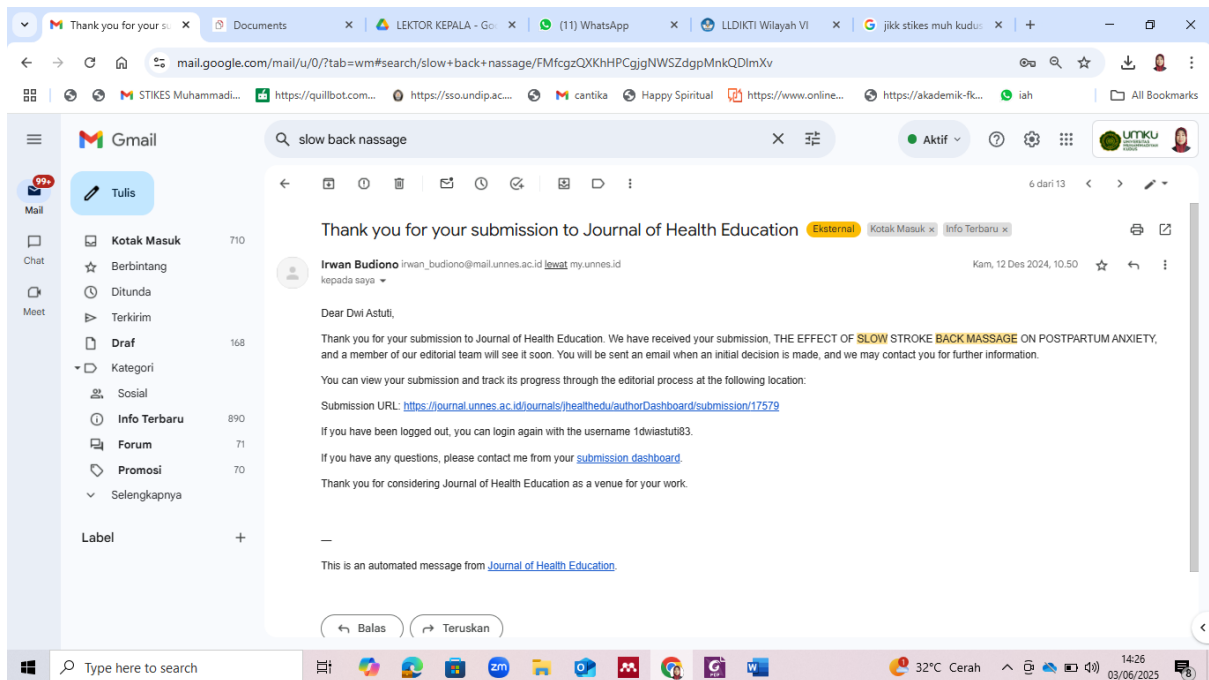
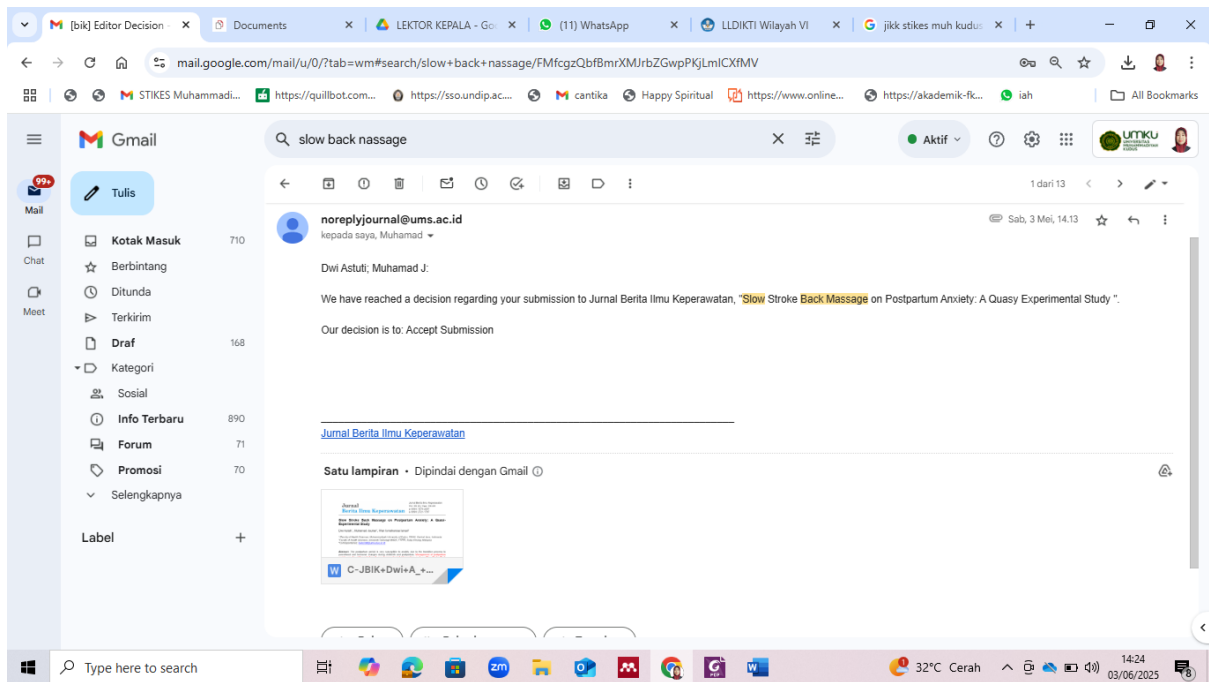
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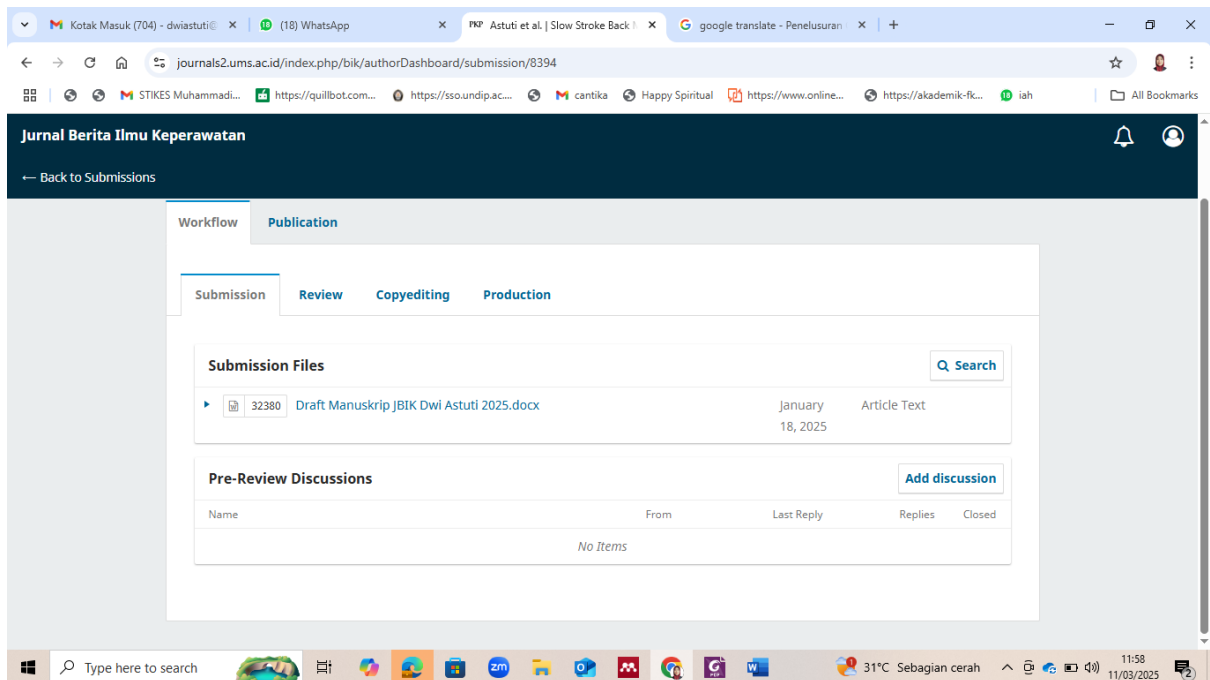
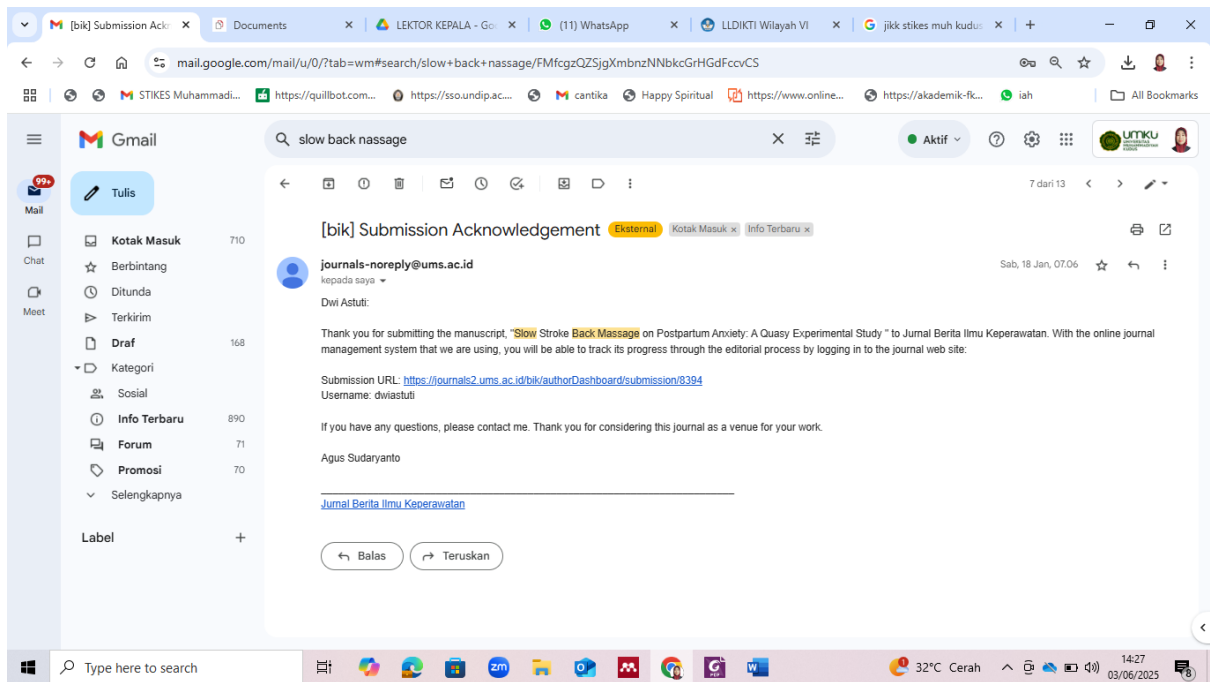
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