e-ISSN 3090-3327
Journal of Nursing Vol 1 (1) November 2024, page 7-15
Received 21 November; Revised 25 November; Accepted 25 November 2024

Effleurage massage and sanyinjiao point acupressure on reducing dysmenorrhea

Anita Indra Afriani, Dwi Listiani, Sa'adah Mujahidah*, Dewi Mayangsari. Vita Triani Adi Puteri, Dwi Sulistiyowati

Department of Obstetrics, Faculty of Nursing and Health Sciences, Universitas Karya Husada Semarang, Indonesia
* Corresponding Author: saadah.mujahidah16@gmail.com

ABSTRACT

Introduction: Dysmenorrhea, often known as menstrual discomfort, is one of the complications that might arise as a result of the menstrual cycle which adolescents experience. One of the many approaches that can be utilized to treat dysmenorrhea is a combination of effleurage massage and acupressure applied to the sanyinjiao point (SP 6). **Objectives**: To find out if effleurage massage and sanyinjiao point acupressure can help female students with primary dysmenorrhea was the point of this study. **Methods:** This investigation implemented a quasi-experimental methodology that included a control group and pre-and post-tests. Incidental sampling was implemented. The 26-person sample was divided into two groups: the first group received effleurage massage (n = 13), and the second group received acupressure at the sanyinjiao point (SP 6) (n = 13). The NRS was employed to evaluate dysmenorrhoea pain, and the paired T-test and Mann-Whitney tests were implemented. **Results**: The findings indicated a significant difference in the degree of primary dysmenorrhea discomfort before and after the effleurage massage intervention among female students p-value of 0.000. A significant difference exists in the intensity of primary dysmenorrhea pain before and after acupressure at the sanyinjiao point (SP 6) among female students p-value of 0.000. **Conclusion**: Effleurage massage and acupressure at the sanyinjiao point (SP 6) effectively alleviate dysmenorrhea discomfort with a p-value of 0.017.

KEYWORDS: Acupressure, Dysmenorrhea, Effleurage Massage, Menstruation, Sanyinjiao Point

INTRODUCTION

Dysmenorrhea is a prevalent gynecological issue affecting women of diverse ages, significantly disrupting their activities and often necessitating rest due to symptoms stemming from abnormalities in the pelvic cavity (Küçükkaya & Başgöl, 2024; Zheng et al., 2024). Women with dysmenorrhea create tenfold more prostaglandins than those without, and prostaglandins induce heightened uterine contractions. Additional etiologies of dysmenorrhea are observed in women with specific conditions, including endometriosis, pelvic infections, uterine neoplasms, appendicitis, gastrointestinal diseases, and renal abnormalities (Sunyoto, 2014).

Seventy to ninety percent of dysmenorrhea instances manifest throughout adolescence, potentially resulting in emotional turmoil, tension, and worry. Emotional conflicts, tensions, and worry will impair their abilities and competencies. Skills encompass a wide range, including personal skills such as self-awareness and critical thinking, social skills, academic skills, and vocational skills(Correyero-León et al., 2024; Djimbula et al., 2022; González-Mena et al., 2024; Horman et al., 2021).

Dysmenorrhea can be addressed by many treatments that effectively alleviate and eliminate menstrual discomfort. Dysmenorrhea treatment can be approached through pharmacological and non-pharmacological therapies. Pharmacological therapy may include analgesics such as paracetamol, mefenamic acid, and aspirin. (Adzkia & Kartika, 2020; Jatnika et al., 2022). The administration of these pharmaceuticals may result in adverse effects detrimental to the body, such as gastric or peptic ulcers, which are prevalent side effects. These conditions may be accompanied by secondary anemia resulting from gastrointestinal hemorrhage and compromised platelet function. In contrast, non-pharmacological interventions, including effleurage massage and acupressure at the sanyinjiao point (SP 6), demonstrate considerable efficacy in alleviating menstrual pain (Adzkia & Kartika, 2020; Djimbula et al., 2022; González-Mena et al., 2024; Horman et al., 2021; Jatnika et al., 2022)

Effleurage massage is a non-pharmacological technique deemed beneficial in alleviating pain. Effleurage is a massage technique characterized by calm, rhythmic, gentle pressure applied distally or downward. It is designed to enhance blood circulation, exert pressure, warm the abdominal muscles, and promote physical and mental relaxation. It is a safe and uncomplicated method that requires minimal tools, incurs no significant costs, has no adverse effects, and can be performed independently or with assistance (Jama & Azis, 2020; Khairunnisa, 2024; Nursangadah et al., 2021). Another benefit of effleurage massage is its ability to induce relaxation, alleviate muscle tension, and diminish stress hormones, thereby calming the mind and facilitating a return to a primitive state, which promotes the release of oxytocin and subsequently floods the system with endorphins that mitigate pain(Khairunnisa, 2024; Veronica & Oliana, 2022)

Effleurage massage therapy is based on the Gate Control Theory. The pain fibers transmitting the pain input to the brain are smaller and convey sensations more slowly than the larger touch fibers. Simultaneous stimulation of touch and pain results in the touch sensation reaching the brain, inhibiting pain perception by closing the neural gates(Adawiyah et al., 2024; Alpiah et al., 2024; Jama & Azis, 2020).

Acupressure techniques serve as an alternative to alleviate dysmenorrhea symptoms, as they have been demonstrated to elevate endorphin levels in the brain, hence providing natural pain relief. The acupressure sanyinjiao point (SP 6) is a significant acupoint that intersects the spleen, liver, and kidney channels. It is situated on the spleen meridian, four fingerbreadths above the ankle, posterior to the tibia's border. This location is readily accessible and may be managed independently without the aid of medical personnel. Sanyinjiao Point is utilized to enhance spleen function, restore Yin and Yang balance, improve blood, liver, and kidney health, and promote blood circulation and supply (Dewi et al., 2024; Jatnika et al., 2022; Sulistiyowati et al., 2024).

The sanyinjiao point (SP 6) in acupressure can alleviate dysmenorrhea by influencing the release of endorphins, peptide molecules derived from beta-lipoprotein in the pituitary gland. This release affects the pain perception areas in the brain. The sensitive nervous system regulates endorphin release, and acupressure stimulation prompts the endocrine system to release an appropriate quantity of endorphins based on the body's requirements (Jatnika et al., 2022).

Based on insights gathered from interviews with researchers at the School Health Unit. Analgesic medications have been employed to alleviate or eradicate menstruation discomfort. All (100%) female students at PP Assyyafiiyah Kendal Vocational High School reported a lack of knowledge regarding effleurage massage and the sanyinjiao point acupressure (SP 6). Forty female students suffering from monthly dysmenorrhea were detected; ten participants reported incapacitation, dizziness, and episodes of vomiting. They also stated that if dysmenorrhea remained unaddressed, it would affect their

activities. This study sought to evaluate the efficacy of effleurage massage and sanyinjiao point acupressure in alleviating primary dysmenorrhea among female students.

METHODS

Design

This research is a quasy experiment research. The research design used Pre and Post-test with control group design.

Research Questions

How effective is the use of massage effleurage and akupresure sanyinjiao point (SP 6) in reducing dysmenorrhea?

Sample and Settings

The subjects of this study were exclusively adolescent girls from PP Assyyafiiyah Kendal Vocational High School. The sampling technique employed is accidental sampling, comprising a total of 26 respondents divided into two intervention groups: effleurage massage (n = 13) and a control group receiving sanyinjiao point acupressure (SP 6) (n = 13).

Variables

The independent variable in this study is the provision of massage effleurage and acupressure sanyinjiao point (SP 6), while the dependent variable is the level of dysmenorrhea.

Instruments

The Numeric Rating Scale (NRS) was used in this study.

Data Collections

The PP Assyyafiiyah Kendal Vocational High School was the location for this study, carried out between November 15, 2019, and January 14, 2020.

Data Analysis

The data analysis was performed using the Paired T-Test and the Mann-Whitney Test, with a P<0.05 significance level.

Ethical Consideration

As of September 17, 2019, this research has been deemed to have successfully passed the ethical review test administered by the Ethics Committee of Stikes Karya Husada Semarang, which was assigned the Ethical Test Number 158/KH.KEPK/KT/IX/2019.

RESULTS

Table 1. Dysmenorrhea Pain Intensity Before and After Effleurage Massage Action

Pain intensity	Before efflurage massage		After efflurage massage		P-Value
	n	%	n	%	
No pain	-	-	3	23.1	
Mild pain	2	15.4	5	38.5	
Moderate pain	5	38.5	5	38.5	0.000
Severe pain	6	46.2	-	-	
Unbearable pain	-	-	-	-	

Journal of Nursing Vol 1 (1) November 2024, page 7-15
Received 21 November; Revised 25 November; Accepted 25 November 2024

Total	13	100	13	100
Mean	5.92		2.54	
Standard Deviation	2.397		2.259	
Min	2		0	
Max	9		6	

According to Table 1, the pain intensity reported by respondents before effleurage massage was classified as severe pain in 46.2% after effleurage massage, the pain level in the group was reduced by 38.5% moderate pain, and no one suffered from severe pain. Participants receiving effleurage massage reduced the mean degree of dysmenorrhea discomfort from 5.92 to 2.54 or a decrease of 3.38. The paired t-test produced a p-value of 0.000 below 0.05, signifying a statistically significant difference in pain levels pre- and post-effleurage massage.

Table 2. Dysmenorrhea Pain Intensity Before And After SP6 Acupressure Treatment

Pain intensity	Before SP6 acupressure treatment		After SP6 acupressure treatment		P-Value
	n	%	n	%	
No pain	-	-	2	15.4	0.000
Mild pain	3	23.1	3	23.1	
Moderate pain	4	30.8	7	53.8	
Severe pain	6	46.2	1	7.7	
Unbearable pain	-	-	-	-	
Total	13	100	13	100	
Mean	5.85		3.54		
Standard Deviation	2.444		2.367		
Min	2		9		
Max	0		7		

Table 2 shows that before receiving SP6 acupressure, the pain level among the respondents was classified as severe pain at 46.2%. After SP6 acupressure, pain intensity was reduced among the group, and 7.7% suffered from severe pain. Participants who received acupressure at the sanyinjiao point (SP 6) reduced dysmenorrhea discomfort from 5.85 to 3.54, reflecting a decrease of 2.31. The paired t-test yielded a p-value of 0.000, which is below the threshold of 0.05. This indicates a marked difference in primary dysmenorrhea pain intensity before and during acupressure at the sanyinjiao point (SP6).

Table 3 Effectiveness of Effleurage Massage and Acupressure Sanyinjiao point (Sp 6) on Dysmenorrhea Reduction

Group	N	Mean Rank	P-Value
Effleurage Massage	13	16.96	0.017
Acupressure Sanyinjiao point (SP 6)	13	10.04	

Table 3 shows that the mean rank value of dysmenorrhea pain intensity in the Effleurage Massage intervention group is 16.96, while in the sanyinjiao point acupressure intervention group (SP 6) is 10.04. Statistical analysis using the Mann-Whitney test resulted in a ρ value of 0.017 which is less than 0.05. This shows the effectiveness of effleurage massage and acupressure at the sanyinjiao point (SP 6) in reducing primary dysmenorrhea in female students of PP Assyyafiiyah Kendal vocational high school.

DISCUSSION

The findings indicated that the mean severity of respondents' dysmenorrhea pain before effleurage massage was 5.92 (moderate pain). Young women endure

dysmenorrhea, classified as mild pain, which mildly disrupts daily activities and necessitates low dosages of analgesics for alleviation. According to the notion that women with dysmenorrhea create prostaglandin at levels ten times higher than those without dysmenorrhea, prostaglandin induces heightened uterine contractions. Dysmenorrhea, or menstrual pain, arises from elevated levels of prostaglandins in the endometrium, influenced by progesterone during the luteal phase of the menstrual cycle. Prostaglandin levels peak at the onset of menstruation, leading to intense myometrial contractions, vasoconstriction, ischemia, endometrial disintegration, haemorrhage, and pain. The mean pain severity of responders' dysmenorrhea following effleurage massage was 2.54, indicating modest pain. Minor discomfort experienced by adolescent girls does not disrupt daily activities and may resolve with rest. This suggests that following the effleurage massage technique, there is a reduction in the severity of primary dysmenorrhea pain.

According to the hypothesis, effleurage massage is an efficient non-pharmacological treatment for pain reduction. Effleurage is a massage technique characterized by a serene, rhythmic application of gentle pressure directed distally or downward. Its objectives include enhancing blood circulation, applying pressure and warmth to the abdominal muscles, and promoting physical and mental relaxation. This method is safe, uncomplicated, requires minimal tools, incurs no costs, has no adverse effects, and can be performed independently or with assistance. Another benefit of effleurage massage is its ability to induce relaxation, alleviate muscle tension, diminish stress hormones, calm the mind, and release oxytocin (Adawiyah et al., 2024; Alpiah et al., 2024; Jama & Azis, 2020; Khairunnisa, 2024).

The paired t-test findings indicate that the p-value (P= 0.000) is less than the significance level (α= 0.05), leading to the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho). Consequently, there exists a disparity in the intensity of primary dysmenorrhea discomfort before and during the application of effleurage massage among female students at PP Assyyafiiyah Kendal Vocational High School. The research findings from 13 female students from PP Assyyafiiyah Kendal Vocational High School indicated that all participants had a reduction in the level of dysmenorrhea pain following effleurage massage but with variable degrees of effectiveness. This demonstrates that effleurage massage can diminish the severity of dysmenorrhea pain.

Effleurage massage treatments can physiologically diminish pain levels, aligning with the gate control theory, which posits that pain sensations can be modulated or obstructed by mechanisms within the central nervous system. This idea posits that sensations will be obstructed when a door is shut. The researcher asserts that responders experience menstruation discomfort due to elevated amounts of prostaglandins in the bloodstream. During menstruation, the uterus contracts more forcefully, which can result in pain; the production of prostaglandins triggers these contractions. Prostaglandins are compounds produced by the uterine lining, with levels rising before menstruation (Adzkia & Kartika, 2020; Jama & Azis, 2020; Jatnika et al., 2022; Nursangadah et al., 2021).

Women suffering from dysmenorrhea exhibit prostaglandin levels 5-13 times higher than those without. Prostaglandins enhance uterine activity and stimulate pain-excitatory terminal nerve fibers. Elevating prostaglandin levels and heightened myometrial sensitivity elevate intrauterine pressure to 400 mm Hg, resulting in intense myometrial contractions. It is concluded that uterine-produced prostaglandins contribute to myometrial hyperactivity. Prostaglandin-induced myometrial contractions diminish blood flow, leading to ischemia of myometrial cells and resulting in spasmodic discomfort (Horman et al., 2021; Sunyoto, 2014).

The findings indicated that the mean level of dysmenorrhea pain reported by respondents before Sanyinjiao Point Acupressure (sp 6) was 5.8, categorizing it as moderate discomfort. Young women endure moderate dysmenorrhea, characterized by pain that mildly disrupts daily activities and necessitates low dosages of analgesics for relief. Moderate dysmenorrhea in adolescent females is attributed to a tenfold rise in prostaglandin levels compared to women without dysmenorrhea. According to the notion, women with dysmenorrhea create prostaglandin at levels ten times higher than those without dysmenorrhea, and prostaglandin induces heightened uterine contractions. Dysmenorrhea, or menstrual pain, arises from elevated levels of prostaglandins in the endometrium, influenced by progesterone during the luteal phase of the menstrual cycle. Prostaglandin levels peak at the onset of menstruation, resulting in intense myometrial contractions and vasoconstriction, which leads to ischemia, endometrial disintegration, bleeding, and pain. (Adzkia & Kartika, 2020; Djimbula et al., 2022; Jama & Azis, 2020; Jatnika et al., 2022; Veronica & Oliana, 2022).

The findings indicated that the mean level of dysmenorrhoea pain among responders following sanyinjiao point acupressure (SP 6) was 3.54, categorized as mild discomfort. Minor discomfort experienced by adolescent girls does not disrupt daily activities and may resolve with rest. This indicates that following the application of acupressure at the sanyinjiao point (SP 6), the severity of primary dysmenorrhea pain is reduced. The reduction in dysmenorrhoea pain intensity among female students following acupressure at the sanyinjiao point (SP 6) is attributed to the stimulation of acupressure points, which influences endorphin generation in the body. The neurological system regulates the release of endorphins. Nerve tissue is responsive to pain and external stimuli, and when stimulated using acupressure treatments, it signals the endocrine system to release the requisite amount of endorphins. The acupressure point Sp-6 (Sanyinjiao) is crucial for alleviating menstrual cramps, regulating the menstrual cycle, managing pain, and enhancing vitality since it effectively mobilizes qi (energy) and blood (Xue). It also facilitates qi generation (Dewi et al., 2024; Jatnika et al., 2022; Sulistiyowati et al., 2024).

The results of the paired t-test indicate that the p-value (P = 0.000) is less than the significance level (α = 0.05), leading to the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho). Consequently, there exists a disparity in the intensity of primary dysmenorrhea discomfort before and during acupressure at the sanyinjiao point (SP 6). The research findings from 13 female students at PP Assyyafiiyah Kendal Vocational High School indicated that all participants experienced a reduction in dysmenorrhoea pain intensity following acupressure at the sanyinjiao point (SP 6) but with variable degrees of pain severity. This demonstrates that the acupressure sanyinjiao point (SP 6) can alleviate dysmenorrhea pain. The findings indicated that the mean reduction in dysmenorrhoea pain intensity before and after effleurage massage was 3.38, whereas the mean decrease in pain intensity before and after acupressure at the sanyinjiao point (SP 6) was 2.31. This indicates that the reduction in dysmenorrhoea pain intensity is more pronounced following effleurage massage than acupressure at the sanyinjiao point (SP 6), suggesting that effleurage massage is more effective in alleviating primary dysmenorrhoea. The mean rank value for effleurage massage is 16.96, whereas the mean rank for sanyinjiao point acupressure (SP 6) is 10.04. The results of the Mann-Whitney test indicated that the p-value (P=0.017) is less than the significance level (α=0.05), so the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. Consequently, effleurage massage and acupressure at the Sanyinjiao Point (SP 6) are beneficial in alleviating dysmenorrhea among female students at PP Assyyafiiyah Kendal Vocational High School.

The study results indicate that all participants observed a reduction in dysmenorrhoea pain intensity following effleurage massage and acupressure at the sanyinjiao point (SP 6). The phenomenon occurs as effleurage massage can inhibit pain based on gate control theory and endorphin hypothesis. Effleurage massage inhibits pain inputs to the brain and elevates endorphin levels in the body, reducing pain intensity. The sanyinjiao acupressure point (SP 6) directly stimulates the muscles and nerves in the targeted area, leading to the release of various chemical mediators, including calcitonin gene-related peptide (CGRP), which induces vasodilation of blood vessels, thereby facilitating the pain healing process. Additionally, it produces extra segmental effects as the action potential from the acupressure point travels from the cornu dorsal to the brainstem (Meiranny et al., 2022; Wang et al., 2023).

A pain inhibition mechanism exists at this level, specifically within the periaqueductal grey region, with serotonin neurons and many opioid receptors. Acupressure may stimulate this system and elevate endorphin levels, which function as endogenous morphine, hence inducing overall analgesia irrespective of the specific point of application. This place is situated three cun above the inner ankle. Current indications for eligible diseases include disorders of the stomach and spleen, abdominal tension, diarrhoea, gastric discomfort, urological and gynaecological conditions, abdominal pain, and sleeplessness. This point uniquely intersects the three yin meridians of the feet (Lilis & Dayah, 2020; Putri et al., 2023; Wang et al., 2023).

The Sanyinjiao point is the convergence of the liver, spleen, and kidney meridians. It is grounded in the tenets of Traditional Chinese Medicine (TCM). Acupressure at the sanyinjiao point enhances spleen function and restores the equilibrium of Yin, blood, liver, and kidney, thereby improving blood supply and circulation, which can alleviate dysmenorrhea pain (Dewi et al., 2024; Meiranny et al., 2022; Sulistiyowati et al., 2024; Wang et al., 2023). This study concludes that acupressure and muscle stretching exercises are equally beneficial in alleviating dysmenorrhea intensity. The most significant reduction was observed in the acupressure group, indicating that acupressure may serve as a safe and side-effect-free alternative for alleviating menstruation pain.

Strengths and Limitations

One limitation of this study is that the researchers did not test for any confounding variables. Additionally, the researchers did not use any biomarker tests to determine whether or not there is a decrease in prostaglandin hormones and whether or not there is an increase in endorphin hormones when evaluating the reduction in dysmenorrhea.

Implications for Practice

Future scholars are expected to conduct more in-depth investigations and use spiritual, social, and cultural complicating elements.

CONCLUSIONS

Effleurage massage and acupressure at the sanyinjiao point (SP 6) significantly alleviated dysmenorrhea, with a p-value of 0.017. Effleurage massage and acupressure might be employed to preempt dysmenorrhea.

Conflict of Interest Statement

None

Funding Source

None

Author Acknowledgement

We want to thank the female students at PP Assyyafiiyah Kendal Vocational High School for their willingness to participate.

REFERENCES

Adawiyah, A., Lisca, S. M., & Rini, A. S. (2024). Pengaruh Relaksasi Nafas Dalam Dan Massage Effleurage Terhadap Penurunan Nyeri Dismenore Pada Remaja Putri Di Puskesmas Pulo Ampel Kab. Serang Banten Tahun 2024. *Journal of Innovation Research and Knowledge*, *4*(3), 1399–1406.

Adzkia, M., & Kartika, I. R. (2020). Hipnoterapi Untuk Menurunkan Nyeri Dismenore: Tinjauan Pustaka. *Real in Nursing Journal*, *3*(2), 115–122.

Alpiah, D. N., Boroh, Z., & Nasution, D. C. (2024). Pengaruh Massage Effleurage Terhadap Penurunan Intensitas Nyeri Dismenore Pada Remaja Putri. *Jurnal Fisioterapi Binawan*, *2*(01).

Correyero-León, M., Calvo-Rodrigo, J., Alvarado-Omenat, J. J., Llamas-Ramos, R., Martínez-Terol, M. C., & Llamas-Ramos, I. (2024). Transcutaneous Tibial Nerve Stimulation for Pain Management in Women with Primary Dysmenorrhea: A Randomized Clinical Trial. *Biomedicines*, *12*(9). https://doi.org/10.3390/biomedicines12092093

Dewi, A. K., Mujahidah, S., Rahayu, H., & Mayangsari, D. (2024). Effectiveness of the combination of pelvic rocking and acupressure Sp 6 techniques with a combination of rebozo and counterpressure techniques on the duration of labor in the first stage in primiparous. *LINK Journal of Health Science*, *1*(1), 30–36. https://journal.linkpub.id/index.php/LJHS/article/view/6

Djimbula, N., Kristiarini, J. J., & Ananti, Y. (2022). Efektivitas Senam Dismenore dan Musik Klasik Terhadap Penurunan Dismenore Pada Remaja. *Jurnal Ilmiah Kesehatan Sandi Husada*, *11*(1), 288–296.

González-Mena, Á., Leirós-Rodríguez, R., & Hernandez-Lucas, P. (2024). Treatment of Women With Primary Dysmenorrhea With Manual Therapy and Electrotherapy Techniques: A Systematic Review and Meta-Analysis. *Physical Therapy*, *104*(5). https://doi.org/10.1093/ptj/pzae019

Horman, N., Manoppo, J., & Meo, L. N. (2021). Faktor-faktor yang berhubungan dengan kejadian dismenore primer pada remaja puteri di Kabupaten Kepulauan Sangihe. *Jurnal Keperawatan*, *9*(1), 38–47.

Jama, F., & Azis, A. (2020). Pengaruh Massase Effleurage Abdomen Terhadap Penurunan Dismenore Primer Pada Remaja Putri. *Window of Nursing Journal*, 1–6.

Jatnika, G., Badrujamaludin, A., & Yuswandi, Y. (2022). Pengaruh terapi akupresur terhadap intensitas nyeri dismenore. *Holistik Jurnal Kesehatan*, *16*(3), 263–269.

Khairunnisa, F. C. (2024). Penerapan Terapi Massage Effleurage Untuk Menurunkan Dismenore Pada Remaja. *Bengawan Nursing Journal*, *2*(1), 29–35.

Küçükkaya, B., & Başgöl, Ş. (2024). The effect of listening to music and drawing on coping with dysmenorrhea complaints in nursing students: randomized controlled trial. *BMC Women's Health*, *24*(1). https://doi.org/10.1186/s12905-024-03398-0

Lilis, D. N., & Dayah, M. (2020). The Effectiveness Comparison Between Mefenamic Acid And Acupuncture Point Of San Jiao Yin (SP6) On Dysmenorrhea Pain Reduction. *International Journal of Public Health and Clinical Sciences*, *7*(6), 49–57.

Meiranny, A., Rahmawati, A., & Sofa, A. N. (2022). Literature Review: Mengkaji Pengaruh Akupresur Terhadap Penurunan Intensitas Nyeri Dismenorea. *Scientific Proceedings of Islamic and Complementary Medicine*, *1*(1), 15–24.

Nursangadah, S., Rohmayanti, R., & Hidayah, N. (2021). Aplikasi massage effleurage menggunakan minyak aromaterapi mawar untuk mengurangi dismenore. *Borobudur Nursing Review*, *1*(1), 43–52.

Putri, E., Rahmawati, D. T., & Hermiati, D. (2023). Efektivitas Teknik Akupresur Untuk Mengurangi Nyeri Dismenorea Pada Remaja Putri Di Pesantren Pancasila Kota Bengkulu. *KEMASKIA: Jurnal Ilmu Kesehatan*, *1*(2), 186–190.

Sulistiyowati, D., Mayangsari, D., Mujahidah, S., & Afriani, A. I. (2024). the Benefits of Rebozo Technique and Spleen 6 Acupressure on the Duration of Labor in Multiparous Mothers. *Jurnal Smart Kebidanan*, *11*(1), 43–50. https://doi.org/10.34310/gxskq489

Sunyoto, P. (2014). Buku Lengkap Kesehatan Organ Reproduksi Wanita (Cet. 1). *Saufa: Jogyakarta*.

Veronica, S. Y., & Oliana, F. (2022). Pengaruh Massage Effleurage Terhadap Penurunan Nyeri Dismenore Primer pada Remaja Putri di IAI Agus Salim Metro Lampung. *Journal of Current Health Sciences*, *2*(1), 19–24.

Wang, X., Yang, J., Liu, J., Yang, Y., Zhang, Z., & Xie, P. (2023). Acupuncture at Sanyinjiao SP6 for patients with primary dysmenorrhea: Protocol for a systematic review and meta-analysis. *MedRxiv*, 2009–2023.

Zheng, Q., Huang, G., Cao, W., & Zhao, Y. (2024). Comparative effectiveness of exercise interventions for primary dysmenorrhea : a systematic review and network meta - analysis. *BMC Women's Health*. https://doi.org/10.1186/s12905-024-03453-w