Jurnal Aisyah: Jurnal Ilmu Kesehatan

Volume 7, Issue S2, 2022, p. 161–166
ISSN 2502-4825 (print), ISSN 2502-9495 (online)

Acupressure on the xuehai point (SP10) reduces menstrual pain in students

Nikmatul Khayati[1*)], Rizka Febrianti [2], Machmudah [3], Sri Rejeki[4]

[1,2,3,4] University of Muhammadiyah Semarang

ARTICLE INFO

Article history:

Received 15 July 2021
Accepted 29 October 2022
Published 10 November 2022

Keyword:

Dysmenorrhea
Xuehai point acupressure (SP10)

A B S T R A C T

Background: Dysmenorrhea is a pain in the abdomen that is felt before the onset of menstruation until the initial period of the menstrual process. Pain occurs due to uterine ischemia. Pain during menstruation (dysmenorrhea) varies in level so that different manifestations are felt. Pain may radiate from the abdomen to the waist. Dysmenorrhea can disrupt daily activities, sleep disturbances, learning and concentration disorders, and decreased appetite. Acupressure is a non-pharmacological therapy to treat dysmenorrhea. This study aims to determine the effectiveness of acupressure on the level of menstrual pain in college students. Method: The type of research is quasi-experimental with a one-group pre-post test design. The number of samples is 18 respondents. The sampling technique is non-probability sampling with a purposive sampling approach. Each respondent measured the level of pain before and after therapy to determine the effectiveness of acupressure therapy. Result: The results showed that the level of menstrual pain after acupressure decreased by 1.444 points. With the p-value (0.000) with a significance p-value <0.05, it can be concluded that the acupressure action is effective. Acupressure on the Xuehai point (SP10) is effective against the level of menstrual pain (dysmenorrhea) significantly. Analysis: The acupressure mechanism at the Xuehai (sp10) point causes a deqi reaction (numbness, heaviness, tension) so that it stimulates the release of neurotransmitters that will enter the blood circulation which circulates throughout the body towards sensory nerves and stalked cells which can inhibit nerve impulses to the hypothalamus-pituitary. Discussion: Researchers suggest that students can apply acupressure therapy when experiencing dysmenorrhea as an alternative option to overcome the pain they feel.

Kata kunci:

Dismenore
akupresur titik Xuehai (SP10)

**) corresponding author*

Nikmatul Khayati

Department of Nursing, Faculty of Nursing and Health Science, University of Muhammadiyah Semarang
Kedungmundu No.18, Kedungmundu, Kec. Tembalang, Kota Semarang, Jawa Tengah - Indonesia 50273

Email: nikmatul@unimus.ac.id

A B S T R A K

Latar belakang: Dismenore adalah nyeri pada perut yang dirasakan sebelum dimulainya menstruasi sampai dengan awal periode proses menstruasi. Nyeri terjadi karena iskemia uterus. Nyeri saat menstruasi (dismenore) berbeda-beda tingkatannya sehingga dirasakan manifestasi yang berbeda. Nyeri dapat menyebar dari perut ke pinggang. Dismenore dapat mengganggu aktivitas sehari-hari, gangguan tidur, gangguan belajar dan konsentrasi, serta penurunan nafsu makan. Akupresur merupakan terapi nonfarmakologis untuk mengatasi dismenore. Penelitian ini bertujuan untuk mengetahui efektivitas akupresur terhadap tingkat nyeri haid pada mahasiswa. Metode: Jenis penelitian ini adalah eksperimen semu dengan desain one group pre-post test design. Jumlah sampel adalah 18 responden. Teknik pengambilan sampel adalah non-probability sampling dengan pendekatan purposive sampling. Setiap responden mengukur tingkat nyeri sebelum dan sesudah terapi untuk mengetahui efektivitas terapi akupresur. Hasil: Hasil penelitian menunjukkan bahwa tingkat nyeri haid setelah

DOI: 10.30604/jika.v7iS2.1424

akupresur mengalami penurunan sebesar 1,444 poin. Dengan p-value (0,000) dengan signifikansi p-value < 0,05 maka dapat disimpulkan bahwa tindakan akupresur efektif. Akupresur pada titik Xuehai (SP10) efektif terhadap tingkat nyeri haid (dismenore) secara signifikan. Analisis: Mekanisme akupresur pada titik Xuehai (sp10) menyebabkan reaksi deqi (mati rasa, berat, tegang) sehingga merangsang pelepasan neurotransmiter yang akan masuk ke peredaran darah yang beredar ke seluruh tubuh menuju saraf sensorik dan sel-sel penguntit yang dapat menghambat saraf impuls ke hipotalamus-hipofisis. Diskusi: Peneliti menyarankan agar mahasiswa dapat menerapkan terapi akupresur saat mengalami dismenore sebagai alternatif pilihan untuk mengatasi nyeri yang dirasakan.

INTRODUCTION

Menstruation is the shedding of the inner lining of the uterus that comes out in the form of blood through the vagina. Menstruation can cause symptoms in the form of abdominal pain or cramps that can last up to 2-3 days starting from one to two days before the start of menstruation. This uterine pain is cyclic in nature and called dysmenorrhea (Andriyani, 2013). The term dysmenorrhea is derived from the Greek words dys (illness or serious ache), meno (period), and rhea (progression). So menstrual pains is a problem with menstrual blood flow or pain (Proverawati, 2009). The onset of pain is influenced by psychological factors, menarche, endocrine/hormonal factors, and family history with the same complaint. Dysmenorrheaeach individual has different levels of pain from mild, moderate, and even severe pain. Pain that is not handled properly can cause disturbances in meeting daily needs, and changes in rest and sleep, thereby reducing learning performance and concentration (Siswandi, 2007). Efforts to reduce pain can be done by using drugs / pharmacologically or without using drugs / non-pharmacology.

Non-pharmacological therapies that can be done include regular exercise, adequate rest, distraction, relaxation, support from family, consumption of nutritious food, and stress management so as not to be anxious(Siahaan, 2012). In addition, warm compresses, and hydrotherapy by drinking enough water, doing massage, doing yoga, consuming herbs from natural ingredients, and doing acupressure. Acupressure would be a type of physical therapy that involves applying massage and activation to specific parts of the body (flow of energy lines or meridians) in order to decrease ache or change body functions (Widyaningrum, 2013).

Acupressure is a healing art and science that originated in China more than 500 years ago. This therapy uses the basic theory of balance that comes from the teachings of Taoism. Taoism teaches that all the contents of the universe and its properties can be grouped into two groups, called the Yin group and the Yang group. Acupressure is useful for increasing the body's resistance to prevent disease, cure disease, and restore (rehabilitation) (Fengge, 2012). Acupressure applied to dysmenorrhea can balance excessive hormones because basically dysmenorrhea is abdominal pain associated with hormonal imbalance (Laila, 2011).

The acupressure method at the Xuehai point (SP10) ended up causing a deqi reaction (loss of sensation, heaviness, tension), which stimulates the production of neurotransmitters to sensory neurons and stalked cells and then inhibits nerve impulses to the hypothalamus-pituitary, which access the circulation of blood and distribute all through the body, reducing pain intensity (Saputra, K & Sudirman, 2009). This is consistent with Julianti's research (2012) which found that giving acupressure therapy was effective in reducing pain intensity in adolescent girls with primary dysmenorrhea at SMK Muhammadiyah 02 Pekan Baru by 0.615 points and pain quality by 0.577 points with a p-value (α<0.05); and Efriyanthi, (2015) also found a decrease in the intensity of dysmenorrhea given acupressure therapy by 2.73 points greater than the respondents who did not receive acupressure therapy of 0.07 points.

A preliminary study conducted at the Islamic Boarding School University of Muhammadiyah Semarang, found that 200 people experienced menstrual pain (dysmenorrhea) and 10% had trouble concentrating in learning and did not even go to class due to dysmenorrhea. The number of samples is 18 respondents. depending on the explanation of the background provided above, the researcher is interested in knowing how the administration of acupressure is effective on the level of menstrual pain (dysmenorrhea) in students at the Islamic Boarding School in University of Muhammadiyah Semarang.

METHOD

The study used a quasi-experimental design as a type of research with one group pre-post test including one cohort pre-post test. The population for this study was students with primary dysmenorrhea at the Islamic Boarding School in University of Muhammadiyah Semarang with as many as 200 respondents. The sampling method used in this research is using a non-probability sampling technique with a purposive sampling approach so that the number of samples is 18 respondents.

The research was conducted at the Islamic Boarding School in University of Muhammadiyah Semarang. Tools for data collection include the observation sheets. The data was analyzed utilizing univariate analysis, normality test, and bivariate analysis (Paired-Sample T-Test). The inclusion criteria in the sample of this study were students who experienced primary menstrual pain at the Islamic Boarding School, were willing not to use pharmacological therapy in the form of analgesic drugs, and only used acupressure at the Xuehai Meridianpoint (SP10), respondents were willing to follow the research processes and procedures, students who are in good health (there are no cuts or bruises at the point where acupressure will be applied), students who live at the

Islamic Boarding School in University of Muhammadiyah Semarang.

The research process was carried out when the respondent experienced menstrual pain, the menstrual pain scale was measured before acupressure was performed using the Numeric Rating Scale (NRS) followed by giving acupressure at the Xuehai Meridian (SP10) for 15 minutes and the menstrual pain scale was measured again after the procedure. acupressure.

RESULTS AND DISCUSSION

The characteristics of the average respondent are 18 years old, the average age of menarche is 13 years and the distribution of the menstrual pain scale respondents to the age of menarche is that respondents with a pain scale of five and six have a menarche age of 15 years.

Table 1
The distribution of the average respondents based on the age of students experiencing dysmenorrhea at the Islamic Boarding School in Muhammadiyah University Semarang (n=18

	N	*Min*	*Max*	*mean*	*Std. Dev*
Respondent's age	18	17	19	18.06	,639

Table 2
The dispersion of average respondents depending on menarche age of students with dysmenorrhea at the Islamic Boarding School in University of Muhammadiyah Semarang (n=18)

	N	*Min*	*Max*	*mean*	*Std. Dev*
Age of menarche	18	12	15	13.33	,970

Table 3
Distribution of respondents based on the menstrual pain scale with age at menarche who experienced dysmenorrhea at the Islamic Boarding School in University of Muhammadiyah Semarang (n=18)

	Age of menarche (years)								Total
	F	12	F	13	F	14	F	15	
1. Scale of pain	0		1	100%	0		0		1 (100%)
2. Scale of pain	2	66.7%	1	33.3%	0		0		3 (100%)
3. Scale of pain	0		2	40%	3	60%	0		5 (100%)
4. Scale of pain	2	66.7%	1	33.3%	0		0		3 (100%)
5. Scale of pain	0		0		3	75%	1	25%	2 (100%)
6. Scale of pain	0		1	50%	0		1	50%	2 (100%)
Total	4	22.2%	6	33.3%	6	33.3%	2	11.1%	18 (100%)

Table 3 shows that respondents with the age of menarche 14 years experienced the most menstrual pain with a pain scale of 3 as many as 3 respondents and a pain scale of 5 as many as 3 respondents compared to other menarche ages. The total age of menarche who experienced menstrual pain at the age of 14 years was 6 respondents (33.3%). The results showed that the higher the age at menarche, the higher the pain scale caused.

Table 4
Distribution of the frequency of the menstrual pain scale with dysmenorrhea before and after acupressure at the Islamic Boarding School in the University of Muhammadiyah Semarang (n=18)

Pain Level	Before Treatment		After Treatment	
	Frequency	Percent	Frequency	Percent
Mean	5.11		3.67	
Std. Deviation	1.323		1,455	
Minimum	3		1	
Maximum	7		6	
Mild pain	2	11.1	9	50
Moderate pain	13	72.2	9	50
Severe pain	3	16.7		
Amount	18	100	18	100

Table 4 shows that before giving acupressure therapy most of the moderate pain levels were 13 respondents (72.2%) with an average pain scale of 5.11 and after giving acupressure therapy it was included in the category of mild pain as many as 9 respondents (50%) and moderate pain as many as 9 respondents (50%) with an average pain scale of 3.67. There was an increase in mild pain after acupressure therapy was carried out by 7 respondents and a decrease in moderate pain level after acupressure therapy was carried out by 4 respondents. Respondents who experienced mild pain remained in mild pain for as many as 2 respondents while respondents who experienced severe pain decreased to moderate pain for as many as 3 respondents.

Table 5
Acupressure's effectiveness in reducing menstrual pain (dysmenorrhea) in adolescents who experience dysmenorrhea at the Islamic Boarding School in University of Muhammadiyah Semarang (n=18)

	Paired Differences					t	df	Sig. (2-tailed)
	mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pain scale before pain scale after	1,444	,511	,121	1,190	1,699	11,985	17	0.000

Table 5 shows that by using the paired-samples t-test, the average reduction in pain scale before and after acupressure was 1.444 points with a p-value of 0.000, this could be deduced that acupressure is effective in reducing menstrual pain (dysmenorrhea) in female students at the Islamic Boarding School in University of Muhammadiyah Semarang.

The results showed that most of the respondents experienced moderate pain as many as 13 respondents (72.2%) and severe pain as many as 3 respondents (16.7%). This is in accordance with the opinion of Andriyani (2013) who said that menstrual pain (dysmenorrhea) occurs before menstruation and can last up to 2-3 days, so it can interfere with daily activities. This condition is reinforced by Prawiroharjo who states that the classification of menstrual pain (dysmenorrhea) is one of them is primary dysmenorrhea, namely menstrual pain without any pathology found in the pelvis (Prawiriharjo, 2011). The results after acupressure therapy on the level of menstrual pain (dysmenorrhea) in female students were mild pain in as many as 9 respondents (50%) and moderate pain in as many as 9 respondents (50%). Influencing factors of the occurrence of primary dysmenorrhea include hormonal changes, socio-culture, environment and support from the closest people, anxiety, and religious values (Wiknjosastro, 2007).

Hormonal changes are one of the important factors that affect the high pain scale that occurs in someone with primary dysmenorrhea, several hormones that affect menstruation are the hormone progesterone, Luteinizing Stimulating Hormone (LH), Follicle Stimulating Hormone (FSH), and the hormone estrogen (Pudiastuti, 2010). A decrease in the pain scale at the Xuehai Meridian (SP 10) causes a deqi reaction (nausea, heaviness, pain) which in turn stimulates the release of pain-inhibiting neurotransmitters through the working mechanism of acupuncture analgesia. Stimuli to the free endings of C or type I sensory nerves are transmitted to the spinal cord in the posterior horns of laminae II and V, where they synapse as the anterolateral tract (ALT) to the hypothalamus-pituitary complex. Thenstimulates stalked cells in lamina II to release enkephalins, dynorphins that cause the gate for the pain to close, thus not allowing pain stimuli from elsewhere to be transmitted to the brain. ALT rises and provides collateral to the mesencephalon and hypothalamic-pituitary complex. On its way to the mesencephalic level, it gives branches to PAG cells (which will release endorphins), nuclear rafe Magnus cells (which are at the caudal end of the medulla oblongata releasing serotonin), and to the nucleus reticularis paragiganto cellularis (which will release noradrenaline). These three transmitters will block nerve impulses that carry pain messages from other places. On the way up to the thalamus, more collaterals go to the hypothalamic-pituitary complex in the arcuate nucleus of the hypothalamus (which releases -endorphins) and to the pituitary releases -endorphins which will increase blood pressure and transport throughout the body (Saputra, K & Sudirman, 2009).

With a p-value of 0.000 0.05 obtained from the analysis of the paired-samples t-test, it can be concluded that acupressure at the xuehai point (sp10) has a significant effect between pain levels before and after acupressure therapy at Islamic Boarding School in University of Muhammadiyah Semarang. This shows that acupressure at the Xuehai point (sp10) was effective in reducing the level of menstrual pain (dysmenorrhea) and experienced a difference after acupressure was performed at the Xuehai point (sp10). Acupressure can be done with an emphasis on one point (single) or a combination (combination) which has been proven to be used to treat dysmenorrhea. Research related to single point suppression is research that has been carried out by Hasanah, (2010) from the results of this research it was discovered that there was a reduction in pain severity. of 1.03 points after being given acupressure therapy. Similarly, research conducted by Mahboobeh, (2013) and Charandabi, Alizadeh, (2011), states that acupressure can significantly reduce primary menstrual pain.

CONCLUSIONS AND SUGGESTIONS

The level of menstrual pain (dysmenorrhea) before the Xuehai point (SP 10) acupressure action at Pondok Pesantren KH Sahlan Rosjidi, Muhammadiyah University Semarang, mostly had moderate pain levels, as many as 13 respondents (72.2%) with a mean of 5.11. The level of menstrual pain (dysmenorrhea) after the xuehai point (sp10) acupressure action at the Islamic Boarding School in University of Muhammadiyah Semarang, was mild pain as many as 9 respondents (50%) and moderate pain as many as 9 respondents (50%) with an average of 3.67. There is the effectiveness of xuehai point acupressure (sp10) on the level of menstrual pain (dysmenorrhea) in female students at the Islamic Boarding School in University of Muhammadiyah Semarang with a p-value of 0.000 <0.05. The study's results suggest that respondents could increase their knowledge and apply Xuehai point acupressure (sp10) as the first treatment when experiencing menstrual pain (dysmenorrhea). Recommendations for additional material in the curriculum and literature or reading in the library as study material for xuehai point acupressure (sp10). The results of this study can be used as a development program in nursing science in the Maternity course by applying non-pharmacological therapy, namely acupressure at the Xuehai point (SP10) as a treatment for menstrual pain.

It is hoped that there will be a follow-up to conduct further in-depth research on the rate of menstruation (dysmenorrhea) in adolescents, such as the relationship between age, the incidence of menstruation, lifestyle, environment, and family history with the rate of menstruation (dysmenorrhea) in adolescents. Further research is needed on the effect of acupressure therapy on dysmenorrhea by using other acupressure points.

ETHICAL CONSIDERATIONS

Funding Statement.

The study received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of Interest Statement

We disclosures no potential conflicts of interest, financial and otherwise

REFERENCES

Andriyani, A. (2013). *Panduan Kesehatan Wanita*. Surakarta: As-Salam Publisher.

Charandabi, Alizadeh, & D. (2011). The effect of acupressure at the Sanyinjiao point (SP6) on primary dysmenorrehea in students resident in dormitories of Tabriz, Iran. *J Nurs Midwifery Res*.

Efriyanthi, I. S. (2015). Pengaruh Terapi Akupresur Sanyinjiao Point Terhadap Intensitas Nyeri Dismenore Primer Pada Mahasiswi Semester VIII Program Studi Ilmu Keperawatan Fakultas Kedokteran Universitas Udayana. *COPING Ners Journal*, *3*(2).

Fengge, A. (2012). *Terapi Akupresur Manfaat dan Pengobatan*. Yogyakarta: Crop Circle Corp.

Hasanah, O. (2010). Efektivitas terapi akupresur terhadap dismenore pada remaja di SMPN 5 dan SMPN 13 Pekanbaru. *Tesis. Tidak Dipublikasi.* http://repository.unri.ac.id/xmlui/bitstream/handle/123456789/7455/Artikel Oswati.pdf?sequence=1. Diunduh 09 Agustus 2017.

Laila, N. N. (2011). *Buku Pintar Menstruasi*. Yogyakarta: Buku Biru.

Mahboobeh, K. D. . (2013). Investigating the effect of pressure on third liver point on primary dysmenorrhea: a randomized controlled clinical trial. *Iranian Red Crescent Medical Journal.*

Proverawati, & M. (2009). *Menarche Menstruasi Pertama Penuh Makna.* Yogyakarta: Nuha Medika.

Pudiastuti, R. D. (2010). *Pentingnya Menjaga Organ Kewanitaan*. Jakarta: Indeks.

Saputra, K & Sudirman, S. (2009). *Akupunktur Untuk Nyeri dengan Pendekatan Neurosain*. Jakarta: Sagung Seto.

Siahaan, D. (2012). Penurunan Tingkat Dismenore Pada Mahasiswa Fakultas Ilmu Keperawatan Universitas Padjadjaran Dengan Menggunakan Yoga. *Jurnal Diterbitkan. Bandung: Fakultas Ilmu Keperawatan Universitas Padjadjaran.* http://jurnal.unpad.ac.id/ejournal/article/viewFile/709/755.

Siswandi, Y. (2007). *Klien Gangguan Sistem Reproduksi Dan Seksualitas.* Jakarta: EGC.

Widyaningrum, H. (2013). *Pijat refleksi & 6 terapi alternatif lainnya*. Jakarta: Media Pressindo.

Wiknjosastro, H. (2007). *Ilmu Kandungan (Edisi Kedua)*. Jakarta: Yayasan Bina Pustaka.

 ISSN 2502-4825 (print), ISSN 2502-9495 (online)