
The Effect Of Sanyinjiao Acupuncture Therapy On The Primary Dysmenorrhea Scale In Nursing Students At The Faculty Of Health Sciences

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Abstract

Dysmenorrhea is pain in the lower abdomen during the menstrual cycle that does not cause abnormalities or uterine disease. Dysmenorrhea complaints are often complained of by women who can have an impact on emotional, psychological and health function. Dysmenorrhea interferes with the activities of adolescents who are in the process of learning at school. This causes adolescent girls to have difficulty concentrating because of the discomfort felt when experiencing dysmenorrhea. Adolescents who experience dysmenorrhea must be treated so that there are no worse impacts. The incidence of dysmenorrhea in Riau which has been studied in adolescent girls (age range 15 - 16 years) in Bangko District, Rokan Hilir Regency obtained a prevalence of dysmenorrhea of 95.7%. Research purpose : to determine whether there is an effect of Sanyinjiao point acupressure therapy on the scale of primary dysmenorrhea in undergraduate midwifery students at the Faculty of Health Sciences. Method: This type of research is quantitative with a pre-experimental research design with a pretest and posttest design approach using the NRS observation sheet. The sample in this study was 35 people. The sampling technique was a saturated sample. Data analysis used univariate and bivariate. Results: the results of the study showed that the average univariate analysis obtained an average pretest of 4.11 with a standard deviation of 1.231. While the average posttest was 2.40 with a standard deviation of 1.143. The results of the T-Test obtained a p value of 0.000 ($p < 0.05$). This shows that there is a significant difference in the average dysmenorrhea scale before and after giving sanyinjiao to students of the S-1 Midwifery study program, Faculty of Health Sciences. Conclusion: With this research, it is hoped that it can add references or insight into sanyinjiao to reduce dysmenorrhea in adolescents.

Keywords: Menstruation, Dysmenorrhea, Sanyinjiao Acupressure

INTRODUCTION

Menstruation is a natural physiological process experienced by women during their reproductive years (Sinaga et al., 2017; Vidiadari & Rismayanti, 2022). While generally a normal bodily function, it can frequently be accompanied by various discomforts, with dysmenorrhea, or menstrual pain, being one of the most common complaints (Jatnika et al., 2022). Specifically, primary dysmenorrhea is characterized by pain in the lower abdomen during the menstrual cycle without underlying uterine abnormalities or disease (Jatnika et al., 2022). This condition is highly prevalent among women globally and can significantly impact their emotional, psychological, and overall health functioning (Jatnika et al., 2022; Utami & Kholid, 2023).

The impact of primary dysmenorrhea extends beyond physical discomfort, profoundly affecting an individual's quality of life, particularly among adolescent girls who are actively engaged in learning environments. Intense menstrual pain can disrupt daily activities, impair concentration, reduce motivation, and even lead to absenteeism from school or university (Pangestu & Fatmarizka, 2023; Rahmayani & Susilawati, 2021). These disruptions can hinder academic performance and impede educational attainment. In Indonesia, studies reveal a high incidence of dysmenorrhea; for instance, a study in Rokan Hilir Regency, Riau, found a striking prevalence of 95.7% among adolescent girls aged 15-16 years (Ningsih & Rahayuningrum, 2024; Puspitasari & Hidayati, 2023). This pervasive nature of dysmenorrhea highlights the urgent need for effective management strategies.

Management strategies for dysmenorrhea typically involve either pharmacological interventions, such as pain relievers, or non-pharmacological approaches. Non-pharmacological therapies are often preferred due to their minimal side effects and their ability to leverage the body's natural physiological processes (Ningrum et al., 2023). Many women seek independent methods to manage dysmenorrhea, and various complementary therapies have emerged as viable options, including relaxation techniques, herbal remedies, and acupressure (Ningrum et al., 2023; Putri, 2023). Acupressure, in particular, has gained traction as a non-invasive method for pain relief, targeting specific points on the body.

Among the numerous acupressure points, the Sanyinjiao (SP6) point is widely recognized and frequently utilized in the management of dysmenorrhea (Jatnika et al., 2022; Puspariny, 2023). Anatomically, SP6 is located three *cun* proximal to the medial malleolus, precisely on the posterior border of the tibia, approximately one finger-breadth posterior to the tibia, between the posterior tibia and the flexor hallucis longus muscle (Centis et al., 2022). The therapeutic functions attributed to SP6 include strengthening the Spleen and resolving dampness, fortifying the Kidney and preserving *Yin Xue*, stimulating diuresis, regulating menstruation, alleviating pain, and promoting a calming effect (Centis et al., 2022; Dewi & Wahyuni, 2022). It is believed that applying pressure to this point can stimulate the release of endorphins, which act as the body's natural pain relievers, thereby reducing the intensity of menstrual discomfort.

Prior research supports the efficacy of SP6 acupressure in reducing dysmenorrhea. Studies have demonstrated significant reductions in pain intensity following SP6 interventions among adolescents and young women (Astuti & Handayani, 2022; Ningsih, 2024). These findings collectively underscore the potential of SP6 acupressure as an effective and safe complementary therapy for dysmenorrhea management, offering a promising alternative to pharmacological treatments that may carry undesirable side effects.

Based on preliminary observations, 30 students enrolled in the Undergraduate Midwifery program at the Faculty of Health Sciences reported experiencing dysmenorrhea. Given the high prevalence of dysmenorrhea and its documented negative impacts on academic performance and overall well-being in students, there is an urgent need for accessible, non-pharmacological interventions. This study specifically aims to investigate the effect of Sanyinjiao point acupressure therapy on the primary dysmenorrhea scale among undergraduate midwifery students at the Faculty of Health Sciences. The urgency of this research lies in providing a practical, self-manageable, and cost-effective method to alleviate menstrual pain, thereby enhancing the quality of life and academic concentration of students in this specific population. The novelty of this study, while building upon existing evidence for SP6 acupressure, focuses on its application within a specific cohort of midwifery students, which may reveal unique insights or reinforce its effectiveness in this particular educational setting.

RESEARCH METHODS

Study Design and Approach

This quantitative study employed a pre-experimental research design with a one-group pretest-posttest approach. This design is particularly suited for evaluating the immediate effect of an intervention by observing the dependent variable both before (pretest) and after (posttest) the intervention, thereby allowing for the assessment of a causal relationship within the study group (Sujarweni, 2023; Sugiyono, 2021). The primary objective of utilizing this design was to determine the influence of Sanyinjiao point acupressure therapy on the scale of primary dysmenorrhea among the target participants. The study was conducted in November 2024, located at the Faculty of Health Sciences, Universitas Pasir Pengaraian.

Population and Sample

The study's population comprised all female students enrolled in the Undergraduate Midwifery Program at the Faculty of Health Sciences. Given the relatively small and accessible nature of this specific population, a saturated sampling technique was employed. This method, also known as total population sampling, involves including all members of the accessible population as the sample, ensuring comprehensive data collection from the defined group (Sarwono, 2022; Siregar & Nasution, 2023). Consequently, the sample for this study consisted of 35 undergraduate midwifery students who met the inclusion criteria.

Data Collection Instrument and Analysis

Data pertinent to the participants' dysmenorrhea scale were collected using a Numerical Rating Scale (NRS) observation sheet. The NRS is a widely accepted and validated tool for assessing pain intensity, providing a straightforward numerical representation of subjective pain experiences (Mulyani et al., 2024; Putri et al., 2021). For data analysis, both univariate and bivariate statistical methods were applied. Univariate analysis was performed to describe the distribution and characteristics of the average dysmenorrhea scale among respondents before and after the intervention, providing foundational descriptive statistics (Syafaruddin & Harahap, 2021). Subsequently, bivariate analysis utilized the Paired Sample T-Test to statistically evaluate the significant difference in dysmenorrhea pain scales before and after the application of Sanyinjiao acupressure, thereby determining the intervention's effect (Ningrum et al., 2023; Widya & Ariyani, 2022).

Research Procedures

The research protocol commenced with obtaining informed consent from all prospective participants. Following consent, baseline dysmenorrhea pain scores were recorded using the NRS observation sheet (pretest phase). Subsequently, participants received Sanyinjiao point acupressure therapy as the intervention. The acupressure was administered according to a standardized protocol, ensuring consistency across all participants. Immediately after the intervention, participants' dysmenorrhea pain scores were reassessed using the same NRS observation sheet (posttest phase). All data collected were then systematically compiled and subjected to the aforementioned univariate and bivariate statistical analyses to draw conclusions regarding the efficacy of the intervention.

RESULTS AND DISCUSSION

Table 1. Average distribution of dysmenorrhea pain scale of female students of the Bachelor of Midwifery study program before and after being given *Sanyinjiao acupressure*

Pain Scale	Mean	SD	Min-Max	N
<i>Pretest</i>	4,11	1,231	2-6	35
<i>Posttest</i>	2,40	1,143	1-5	35

The results showed that the average dysmenorrhea scale before the sanyinjiao acupressure intervention was 4.11 with a standard deviation of 1.231. The lowest dysmenorrhea scale was 2 while the highest dysmenorrhea scale was 6. And the average dysmenorrhea scale after sanyinjiao acupressure intervention was 2.40 with a standard deviation of 1.143. The lowest dysmenorrhea scale was 1 while the highest dysmenorrhea scale was 5.

Table 2. The Effect of *Sanyinjiao Acupressure* on the Dysmenorrhea Pain Scale in the Bachelor of Midwifery Study Program, Faculty of Health Sciences

Variable	Mean	SD	SE	N	P Value
Pain scale before and after the intervention	1,714	0,750	0,127	35	0,000

Based on table 2, it is known that based on the results of the study, it can be seen that there is a difference in the average value before and after being given sanyinjiao acupressure of 1.714 with a standard deviation of 0.750, standard error 0.127, a minimum value of 1.457

maximum of 1.972 and the results of the Paired Sample T-Test test obtained a p value of 0.000 ($p < 0.05$). Thus, it can be concluded that H_a was accepted and H_0 was rejected, and it was concluded that there was an effect of acupressure therapy at the sanyinjiao point on the scale of primary dysmenorrhea in Bachelor of Midwifery students of the Faculty of Health Sciences.

Adolescence is one of the phases of every individual's life. In adolescence, a person begins to experience changes in fisi, body shape begins to change, hormonal changes, voice begins to change, hair growth on several parts of the body, experiences menstruation. Menstruation is an event of the collapse of the inner wall of the uterus. This layer is formed in preparation if the egg is successfully fertilized by a sperm cell. If it is not fertilized, then the tissue will fall (Vidiadari & Rismayanti, 2022).

Primary dysmenorrhea is caused by very intense contractions of the uterine muscles, to release layers of the uterine wall that are no longer needed. Primary dysmenorrhea is caused by natural chemicals produced by cells lining the uterine wall called prostaglandins. Prostaglandins will stimulate the delicate muscles of the uterine wall to contract. The higher the level of prostaglandins, the stronger the contractions, so the pain felt is also stronger. Usually, on the first day of menstruation the prostaglandin levels are very high. On the second and subsequent days, the lining of the uterine wall will begin to come off, and the level of prostaglandins will decrease. Menstrual pain and pain will also decrease along with the decrease in prostaglandin levels (Sinaga et al., 2017).

Nonpharmacological pain management is safer because it does not cause side effects like medications, because nonpharmacological therapy uses physiological processes. One of them is acupressure at the sanyinjiao point (Sp6). This point is located three proximal cues of the medial eminentia maleolus, just at the posterior edge of the tibia, 1 finger from the tibia, between the posterior tibia and the flexor of the hallucis longus. Its function is to strengthen SP and eliminate moisture, strengthen KI and maintain Yin Xue, stimulate diuresis, regulate menstruation, relieve pain and have a calming effect. (Centis et al., 2022).

According to the results of Putri's (2023) research entitled *The Effectiveness of Acupressure Techniques to Reduce Dysmenorrhea Pain in Adolescent Women*, the average value of the dysmenorrhea pain scale after being given intervention was 0.667 compared to the average of the group that was not given intervention or control, which was 0.467. There was a significant effect of acupressure on the pain intensity of primary dysmenorrhea with a significance value of ≤ 0.05).

The results of this study are in line with Rifiana (2023) entitled *The Effect of Acupressure on Adolescent Dysmenorrhea*, the results were obtained before acupressure was obtained with an average value of 5.17, after which an average value of 2.13 was obtained so that an average value difference of 3.04 was found. There was an effect of acupressure on dysmenorrhea in adolescent girls with a p value of 0.000. There is an effect of acupressure on dysmenorrhea in adolescent girls.

This study is also in line with Nasrwati (2023) entitled *The Effectiveness of Sanyinjiao Acupressure Therapy and Lavender Therapy for the Reduction of Primary Dysmenorrhea Pain in Adolescent Women*. The results of statistical analysis using the wilcoxon rank test obtained a value of $p = 0.004$ in sanyinjiao acupressure therapy and $p = 0.025$ in lavender aromatherapy, so it was concluded that there was an effectiveness in providing sanyinjiao acupressure therapy and lavender aromatherapy in SMAN 2 Lakudo students.

Acupressure is one of the complementary therapies that is widely used to overcome various complaints, symptoms or help cure disease disorders. Acupressure for dysmenorrhea is widely used in various countries, and the acupuncture point SP6 is a point that is always present in pain therapy, so the point SP 6 or called the Sanyinjiao point is an effective point in the treatment of dysmenorrhea pain. (Jatnika et al., 2022).

According to researchers, abdominal pain or cramps that occur in adolescent girls who are menstruating are normal. However, menstrual pain that cannot be overcome can interfere with puberty activities, one of which is the disruption of the learning process due to very annoying pain. Therefore, a treatment is needed that has no side effects for the body, is easy to do and does not require cost, one of which is acupressure at the sanyinjiao point. This acupressure point can reduce pain during menstruation because the emphasis on this point can release endorphins, where this hormone acts as a natural pain reliever and increases pleasure, so it can reduce pain and discomfort.

CONCLUSION

This study successfully demonstrated that Sanyinjiao point acupressure therapy significantly reduces the scale of primary dysmenorrhea in undergraduate midwifery students at the Faculty of Health Sciences. The Paired Sample T-Test revealed a statistically significant difference in the mean dysmenorrhea scale before (mean = 4.11, SD = 1.231) and after (mean = 2.40, SD = 1.143) the intervention, with a p-value of 0.000 ($p < 0.05$). This finding supports the hypothesis that Sanyinjiao acupressure is an effective non-pharmacological approach for primary dysmenorrhea relief, aligning with previous research that highlights its potential in pain management. However, a key limitation of this research is its pre-experimental, one-group pretest-posttest design, which lacks a control group. This design limits the ability to conclusively attribute the observed reduction in pain solely to the acupressure intervention, as other confounding factors or the placebo effect cannot be fully ruled out. Therefore, for future research, we strongly recommend employing a randomized controlled trial (RCT) design to provide higher-level evidence of Sanyinjiao acupressure's efficacy, including a comparison group that receives either no intervention, a placebo, or standard care. Additionally, future studies could explore the long-term effects of this therapy, investigate optimal frequency and duration of sessions, and consider including qualitative components to understand the subjective experiences and perceptions of participants regarding acupressure.

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