

The Relationship Between Self-Management of Pain Due to Dysmenorrhea and Learning Activities Among Students at Universitas Muhammadiyah Karanganyar

Ahmad Muslimin^{1*}, Yuli Susanti¹, Sinta Aprilia¹

¹Anesthesiology Nursing, Health and Education, Universitas Muhammadiyah Karanganyar

*E-mail: ahmadumuka@gmail.com

Abstract: *Dysmenorrhea is a common occurrence in women during menstruation that can interfere with activities, especially among college students. Pain caused by dysmenorrhea hinders participation in classroom activities, triggering physical and psychological problems. These problems cause students' academic performance to decline. The purpose of this study was to determine the relationship between pain management due to dysmenorrhea and student learning activities. This study was conducted using a quantitative method with a cross-sectional approach. Sampling was conducted using random sampling of 82 female students at Universitas Muhammadiyah Karanganyar. Data collection was conducted in September 2025. The study showed that 55 (67.1%) students were in the moderate category of self-management of pain due to dysmenorrhea, and 49 (59.8%) students reported that their learning activities were not disrupted during dysmenorrhea. The bivariate analysis results showed a p-value of 0.065. There was no relationship between self-management of pain due to dysmenorrhea and the learning activities of students at Universitas Muhammadiyah Karanganyar. Future researchers should add variables such as the scale and intensity of pain on different days during menstruation as independent variables and using a larger sample size.*

Keywords: *Dysmenorrhe, learning activities, menstruation, pain self-management*

INTRODUCTION

Dysmenorrhea is a common occurrence in women during menstruation that causes discomfort. Dysmenorrhea can interfere with activities on the first to third days of (Yilmaz & Sahin, 2020). Dysmenorrhea is divided into two types, namely primary dysmenorrhea and secondary dysmenorrhea. Primary dysmenorrhea is pain that occurs during menstruation without any pathological abnormalities in the female reproductive organs, while secondary dysmenorrhea is menstrual pain caused by abnormalities in the female reproductive organs (López-Liria et al., 2021). Primary dysmenorrhea occurs before menstruation, lasting 12 to 72 hours, with symptoms of pain and cramping in the lower abdomen (Kirmizigil & Demiralp, 2020).

The incidence of dysmenorrhea during menstruation in women is reported to be around 17% to 90%. Based on research data, menstruation occurs in young women around 34% and young adults 94%. It is also reported that 17% to 80% of women who experience dysmenorrhea feel discomfort. These results differ from the prevalence of dysmenorrhea among Indonesian women, which shows that primary dysmenorrhea reaches 54.98% and secondary dysmenorrhea reaches 9.39% (Fitria & Haqqattiba'ah, 2020). The occurrence of dysmenorrhea can cause several disruptions to daily activities due to the discomfort experienced during the episode (Rahmah, 2024).

The discomfort experienced also has a psychological impact, which can reduce concentration in learning activities, leading to lower academic productivity. Students who experience dysmenorrhea often have difficulty managing their study time and participating in academic activities (Utami et al., 2022). Additionally, students experiencing dysmenorrhea are unable to participate in learning activities and often miss classes (Halitopo, 2022). This indicates that individual ability is crucial in managing

pain during dysmenorrhea to minimize discomfort during menstruation. The ability to manage pain or self-management of pain in dysmenorrhea can have a positive impact on pain management, thereby increasing productivity during learning activities (Lutfiandini *et al.*, 2020).

Students with high self-management skills in managing dysmenorrhea are better able to maintain their learning activities in class despite experiencing dysmenorrhea. Conversely, students with low self-management skills tend to feel disturbed due to discomfort during menstrual pain (Lestari *et al.*, 2025). Based on the above issues, the researcher was interested in determining the relationship between self-management of pain due to dysmenorrhea and student learning activities.

METHODS

The research method used was quantitative, aiming to identify the relationship between self-management of pain due to dysmenorrhea and student learning activities. This study used a cross-sectional design. The sampling technique used in this study was random sampling of female students from both regular and special regular classes, with a total of 82 respondents at Universitas Muhammadiyah Karanganyar. Data collection was conducted in September 2025. The analysis of this study used the Chi-Square test, because the data measured was categorical data in the form of ordinal and ordinal data. The pain self-management measurement instrument was adapted from Cherlys Tin Lutfiandini (2019), so its validity and reliability have already been tested by previous researchers. As for the measurement of learning activities, an instrument by Amaliya Alimuddin (2017) was used, which includes scales for assessing disrupted and undisturbed learning activities among students during dysmenorrhea

RESULTS AND DISCUSSION

A. RESULTS

1. Respondent Characteristics

The results of the study on respondent characteristics show that the largest number of respondents were in the 18-21 age group, totaling 56 (68%), followed by the 22-35 age group, totaling 16 (19.5%), with the oldest student being 53 years old. The first time respondents experienced menstruation in this study was found to be at the age of 14 for 23 (28%) and at the age of 9 for 1 (1.2%) student, with the lowest age being 9 and the highest being 17.

Table 1. Characteristics of Study respondents (n=82)

| Variable | Freq. | % | Min | Max |
|--|-------|-------|-----|-----|
| Age | | | 17 | 53 |
| 15-17 years | 1 | 1.5% | | |
| 18-21 years | 56 | 68.3% | | |
| 22-35 years | 16 | 19.5% | | |
| 36-55 years | 9 | 11.0% | | |
| Age First Menstruations (years) | | | 9 | 17 |
| 9 years | 1 | 1.2% | | |
| 10 years | 5 | 6.1% | | |
| 11 years | 6 | 7.3% | | |
| 12 years | 17 | 2.7% | | |
| 13 years | 14 | 17.0% | | |
| 14 years | 23 | 28.0% | | |
| 15 years | 10 | 12.2% | | |
| 16 years | 5 | 6.1% | | |
| 17 years | 1 | 1.2% | | |

2. Univariate Analysis

Self-management of pain due to dysmenorrhea describes how respondents manage pain due to dysmenorrhea. The results showed that self-management of pain due to dysmenorrhea experienced by respondents was mostly in the moderate category, with 55 (67.1%) respondents, and 8 (9.8%) students in the low category.

Table 2. Self-management of pain due to dysmenorrhea (n=82)

| Level of Self-Management of Pain | Freq | Percentage |
|----------------------------------|------|------------|
| High | 19 | 23,2% |
| Currently | 55 | 67,1% |
| Low | 8 | 9,8% |

Table 3. Learning activities (n=82)

| Student Learning Activities | Freq | Percentage |
|-----------------------------|------|------------|
| Disturbed | 33 | 40,2% |
| Not Disturbed | 49 | 59,8% |

The results of univariate analysis on the learning activity variable show that the majority of respondents felt undisturbed when undergoing learning activities on campus while experiencing dysmenorrhea, with 49 (59.8%) students reporting undisturbed and 23 (40.2%) students reporting disturbed by dysmenorrhe.

3. Bivariate Analysis

The results of bivariate analysis on the variable of pain self-management show that respondents with pain self-management when experiencing dysmenorrhea were less likely to experience disturbances during learning activities, regardless of whether they were in the low, medium, or high pain self-management category, with a p-value of 0.065, proving that there is no relationship between pain self-management due to dysmenorrhea and student learning activities.

Table 4. Pain self-management (n=82)

| Pain Self Management | Student Learning Activities | | P-value |
|----------------------|-----------------------------|---------------|---------|
| | Disturbed | Not Disturbed | |
| Low | 2 | 6 | 0.065 |
| Moderate | 27 | 28 | |
| High | 4 | 15 | |

B. DISCUSSION

1. Self-Management of Pain Due to Dysmenorrhea

The results of the study show that the majority of students fall into the moderate category in terms of pain management caused by dysmenorrhea. The results indicate that some respondents sometimes use non-pharmacological therapies such as deep breathing relaxation, distraction, and warm compresses, as well as pharmacological therapies such as pain medication. Effective pain self-management is very important in reducing pain intensity so that it can improve student well-being. Management can be done with pharmacology and non-pharmacology (Windayanti *et al.*, 2021). Proper treatment can alleviate the symptoms caused by dysmenorrhea pain. Additionally, social and psychological approaches also influence pain management during dysmenorrhea, enabling learning activities to be addressed alongside symptoms of stress and anxiety. This requires a multidimensional approach encompassing pain management, psychological support, and increased awareness of methods to address

dysmenorrhea to ensure students can engage in teaching and learning activities optimally (Aurora *et al.*, 2023).

An emerging approach in non-pharmacological pain management for dysmenorrhea is through relaxation techniques such as yoga. Research indicates that yoga exercises can reduce pain intensity by stimulating the body to release endogenous opioids, namely endorphins, which play a role in pain inhibition (Retnosari *et al.*, 2023). Additionally, yoga as a non-pharmacological intervention has been proven effective in improving mental and physical health and helping students manage pain (Dahlia *et al.*, 2023). Another approach involves massage, which is recognized in the management of dysmenorrhea pain. This gentle massage is implemented as part of pain management, combining educational interventions to help alleviate pain. Studies indicate that the combination of health education and massage can enhance students' awareness of how to manage dysmenorrhea independently (Anggraeni *et al.*, 2024).

Other non-pharmacological pain management methods, such as warm compress therapy, have also been proven to be effective interventions in relieving menstrual pain. Several studies have shown that the use of warm compresses can reduce discomfort by reducing abdominal muscle spasms (Ramadhani *et al.*, 2024). Meanwhile, the consumption of herbal medicines such as turmeric and tamarind decoction has also gained attention due to its effectiveness in reducing menstrual pain, highlighting the importance of a holistic approach to pain management (Hidayah, 2022).

2. Student Learning Activities

The results of the study show that the majority of students feel that their learning activities are not disrupted by their menstrual experiences. This may be due to the students' desire to focus on their learning activities. By focusing on their studies, students can attend lectures and achieve maximum study results. The desire to study is carried out in order to achieve learning objectives (Putri & Sari, 2025). These research results are not in line with the research by Anggraini *et al.* that dysmenorrhea can interfere with learning activities such as disrupting concentration, reducing motivation to study, and increasing absenteeism in class (Anggraeni *et al.*, 2020).

The results of the study show that when students experience dysmenorrhea, they often cannot focus during class and exhibit physical symptoms such as nausea and headaches, which lead to ineffective learning activities (Wiyarsi *et al.*, 2024). The intensity of pain experienced during dysmenorrhea reduces their quality of life, especially in education, which interferes with their understanding of concepts in class when the material is explained by the lecturer. Dysmenorrhea not only affects students physically, but also psychologically, such as an increase in anxiety levels, which further affects their ability to concentrate during the learning process (Dewi *et al.*, 2021).

3. The Relationship between Self-Management of Pain Due to Dysmenorrhea and Student Learning Activities

The results of the study indicate that there is no relationship between self-management of pain due to dysmenorrhea and student learning activities. The analysis results show a p-value of 0.065, which means that there is no relationship between the two variables, namely variable X and Y. Nevertheless, an effect size analysis using Cramér's V yielded a value of 0.015, which falls into the "weak" category. This indicates that although the relationship between variables X and Y is not statistically significant, there is still a tendency toward a relationship of some strength between pain self-management and learning activities among college students. The results of this study indicate that pain self-management due to dysmenorrhea cannot yet be proven to have a significant relationship with learning activities, but still provide an indication of a weak relationship pattern.

These findings are consistent with the results of a study by Sandy *et al.* (2019), which noted that the dysmenorrhea experienced by college students can interfere with their academic activities (Sandy *et al.*, 2019). Other researchers also mention that individuals experiencing dysmenorrhea tend to limit their activities, including learning activities. When experiencing dysmenorrhea, their activities are disrupted, preventing them from attending classes during learning sessions. Additionally, it can lead to a decline in quality of life, resulting in reduced concentration and motivation to learn during the learning process (Bt *et al.*, 2017).

Pain management during dysmenorrhea can be done using several strategies to reduce the impact of the pain felt, which affects students' abilities. Imran's research results state that students who implement good pain self-management strategies during dysmenorrhea using non-pharmacological methods can report good learning outcomes (Imran, 2022). This finding is influenced by the relationship between students' self-management and their belief in their ability to complete their tasks as students, which plays a role in their academic achievement. This is consistent with the findings of Yudistira *et al.*, who found that self-efficacy is related to students' interest in learning and following the regulations of their university (Yudhistira *et al.*, 2020).

Yudistira *et al.* explain in their research findings that when students feel confident in their ability to effectively manage pain during dysmenorrhea, they are able to maintain their focus on learning. In addition, good pain self-management also affects other mental and physical aspects. This aligns with Marlina's findings, which state that management skills contribute to optimal academic achievement among students, such as time management and planning positive actions (Marlina, 2023). Similarly, when students experience dysmenorrhea during their menstrual cycle while attending classes, effective pain management can lead to good academic performance. In agreement with Heru, this highlights the importance of adhering to university regulations regarding academics. This understanding encompasses academic situations and self-regulation, which influence learning strategies (Haru, 2024).

Research by Yazidsyah and Harahap shows that there is a significant relationship between academic situations and self-regulated learning, with results indicating situations that support and improve the quality of student learning (Yazidsyah & Harahap, 2023). Students who have effective pain management can easily adapt to the learning environment in the classroom. The tendency for pain management among students can be caused by cultural factors and a lack of self-care for their health. This becomes an obstacle in selecting strategies for pain management during dysmenorrhea (Acheampong *et al.*, 2019). Additionally, the pain management implemented can influence potential factors leading to dysmenorrhea risks due to ineffective coping patterns (Pang & Veloo, 2024).

In line with other studies that show the impact of dysmenorrhea on students' academic engagement. Menstrual pain hinders students' participation and academic (Hasford *et al.*, 2023). In addition, the severity of the pain experienced reduces attendance and concentration (Ameade *et al.*, 2018). Students with dysmenorrhea often experience stress due to difficulties focusing on their studies and physical condition. This necessitates attention to psychological and environmental aspects that can alleviate the management of symptoms and stress they experience (Rafique & AlSheikh, 2018).

CONCLUSIONS

Based on the results of the study, the majority were in the 18-21 age group (68.3%), and the first times students experienced menstruation was lowest at the age of 9 and highest at the age of 17. Self-management of pain during dysmenorrhea was mostly in the moderate category, and the majority of students' learning activities were not disrupted during learning. There was no relationship between self-management of pain due to dysmenorrhea and student learning activities.

REFERENCES

- Acheampong, K., Baffour-Awuah, D., Ganu, D., Appiah, S., Pan, X., Kaminga, A. C., & Liu, A. (2019). Prevalence and Predictors of Dysmenorrhea, Its Effect, and Coping Mechanisms Among Adolescents in Shai Osudoku District, Ghana. *Obstetrics and Gynecology International*, 2019, 1–7. <https://doi.org/10.1155/2019/5834159>
- Ameade, E. P. K., Amalba, A., & Mohammed, B. S. (2018). Prevalence of Dysmenorrhea Among University Students in Northern Ghana; Its Impact and Management Strategies. *BMC Women S Health*, 18(1). <https://doi.org/10.1186/s12905-018-0532-1>
- Anggraeni, R., Lismidiati, W., & Harjanto, T. (2020). Hubungan Nyeri Menstruasi Dengan Konsentrasi Belajar Pada Siswi SMA Negeri Di Wilayah Cangkringan. *Jurnal Keperawatan Klinis Dan Komunitas (Clinical and Community Nursing Journal)*, 2(2), 140. <https://doi.org/10.22146/jkkk.56586>
- Anggraeni, S., Nurayuda, N., & Kamalia, R. (2024). Pengaruh Pendidikan Kesehatan Dan Effleurage Massage Terhadap Penurunan Nyeri Dismenore. *Holistik Jurnal Kesehatan*, 18(4), 457–465. <https://doi.org/10.33024/hjk.v18i4.145>
- Aurora, T. R., Hendryanny, E., & Rasjad, A. R. (2023). Kecemasan Dapat Mempengaruhi Kualitas Tidur. *Bandung Conference Series Medical Science*, 3(1). <https://doi.org/10.29313/bcsms.v3i1.6290>
- Bt, D., Afessa, N., Temesgen, M., Yw, S., Kassaye, M., Sieru, S., Gizachew, S., & Ketsela, K. (2017). *Journal of Women ' s Health Care Prevalence of Dysmenorrhea and its Effects on School Performance : A Cross- sectional Study*. 6(2), 1–6. <https://doi.org/10.4172/2167-0420.1000361>
- Dahlia, D., Fathona, W., & Haerunisa, H. (2023). Efektifitas Senam Dismenore Berbasis Murratal Ar-Rahman Dalam Mengurangi Dismenore Pada Remaja Putri. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 14(1), 193–203. <https://doi.org/10.26751/jikk.v14i1.1644>
- Dewi, D. P., Sandayanti, V., & Sani, N. (2021). Hubungan Tingkat Kecemasan Dan Dismenore Dengan Konsentrasi Belajar Mahasiswa. *Jurnal Psikologi Malahayati*, 3(2). <https://doi.org/10.33024/jpm.v3i2.4068>
- Fitria, F., & Haqqattiba'ah, A. (2020). Pengaruh Akupresur dengan Teknik Tuina terhadap Pengurangan Nyeri Haid (Dismenore) pada Remaja Putri. 73–81. <https://doi.org/10.26699/v7i1.ART.p073>
- Halitopo, Y. (2022). The relationship of the dysmenorrhea a in students with learning activities. 10(5).
- Haru, F. D. J. M. E. (2024). Upaya Meningkatkan Regulasi Diri Pada Mahasiswa. *Jurnal Alternatif Wacana Ilmiah Interkultural*, 12(02). <https://doi.org/10.60130/ja.v12i02.135>
- Hasford, K. E., Amponsah, S. K., & Yawson, A. E. (2023). Dysmenorrhea Among University of Ghana Medical and Dental Students: Prevalence and Management Options. *Postgraduate Medical Journal of Ghana*, 12(1), 2–7. <https://doi.org/10.60014/pmjpg.v12i1.306>
- Hidayah, N. (2022). Efektivitas Rebusan Kunyit Asam Jawa Terhadap Dismenorea Primer. *Jurnal Endurance*, 6(3), 666–672. <https://doi.org/10.22216/jen.v6i3.670>
- Imran, I. (2022). Patterns of Dysmenorrhea and Self-Management Strategies Among University Students. *PJMHS*, 16(7), 312–314. <https://doi.org/10.53350/pjmhs22167312>
- Kirmizigil, B., & Demiralp, C. (2020). Effectiveness of functional exercises on pain and sleep quality in patients with primary dysmenorrhea: a randomized clinical trial. *Archives of Gynecology and Obstetrics*, 302(1), 153–163. <https://doi.org/10.1007/s00404-020-05579-2>

- Lestari, W., Tampubolon, N. R., Tampubolon, M. M., & Riau, U. (2025). *Self-Efficacy Of Adolescent Girls In Dealing Primary Dysmenorrhea*. 12(February), 27–31.
- López-Liria, R., Torres-Álamo, L., Vega-Ramírez, F. A., García-Luengo, A. V., Aguilar-Parra, J. M., Trigueros-Ramos, R., & Rocamora-Pérez, P. (2021). Efficacy of Physiotherapy Treatment in Primary Dysmenorrhea: A Systematic Review and Meta-Analysis. *International Journal of Environmental Research and Public Health*, 18(15). <https://doi.org/10.3390/ijerph18157832>
- Lutfiandini, C. T., Kusumaningrum, T., Ketut, N., & Armini, A. (2020). *Pain Self-management in Adolescent with Dysmenorrhea*. 6(2), 66–73.
- Marlina, J. (2023). Self-Management: Aspek Penting Dalam Meningkatkan Prestasi Akademik Mahasiswa. *Jurnal Alternatif Wacana Ilmiah Interkultural*, 12(01). <https://doi.org/10.60130/ja.v12i01.115>
- Pang, H.-P., & Veloo, A. (2024). The Relation Between Learning Engagement and Academic Self-Efficacy Toward Academic Achievement Among University Students. *Qubahan Academic Journal*, 4(2), 170–183. <https://doi.org/10.48161/qaj.v4n2a512>
- Putri, I., & Sari, R. P. (2025). Hubungan Tingkat Nyeri Disminore Primer Dengan Aktivitas Belajar Pada Santriwati Di Pondok Pesantren Daarul Ahsan Kabupaten Tangerang. 21(1). <https://doi.org/10.5455/mnj.v1i2.644>
- Rafique, N., & AlSheikh, M. H. (2018). Prevalence of Menstrual Problems and Their Association With Psychological Stress in Young Female Students Studying Health Sciences. *Saudi Medical Journal*, 39(1), 67–73. <https://doi.org/10.15537/smj.2018.1.21438>
- Rahmah, S. (2024). Pengaruh Nyeri Haid Terhadap Aktivitas Belajar Remaja Putri Kelas Xi Di Madrasah Aliyah Hidayatullah Martapura Tahun 2024.
- Ramadhani, N., Suprihatin, E., & Anugrahini, H. N. (2024). Efektifitas Kompres Hangat Dan Senam Disminore Terhadap Nyeri Menstruasi Pada Mahasiswa Poltekkes Surabaya. *Nersbaya*, 18(2), 74–82. <https://doi.org/10.36568/nersbaya.v18i2.128>
- Retnosari, E., Putri, D., & Alifia, D. (2023). Pengaruh Senam Yoga Terhadap Intensitas Nyeri Disminorhea. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 14(1), 92–101. <https://doi.org/10.26751/jikk.v14i1.1605>
- Sandy, S. Della, Kusumasari, V., & Sari, D. N. A. (2019). Hubungan Intensitas Nyeri Disminore Dengan Aktivitas Belajar Pada Remaja Putri Uisa 15-18 Tahun Di SMA 1 Banguntapan Yogyakarta. 1(2), 48–56.
- Utami, F. K., Khoiriyah, W. N., Yuhakky, F., Nisa, H., Studi, P., & Masyarakat, K. (2022). *perempuan, terutama terkait status hormon reproduksi untuk mengetahui berbagai risiko*. 7(3), 167–178.
- Windayanti, H., Khayati, Y. N., Veftisia, V., Widyaningsih, A., Dewi, M. K., Izzah, L. F., Mulyani, M., Aprilia, N., Sabwan, I. K., & Sari, L. A. (2021). Yoga Untuk Mengurangi Nyeri Haid Primer Pada Remaja Putri. *Indonesian Journal of Community Empowerment (Ijce)*, 3(2), 93. <https://doi.org/10.35473/ijce.v3i2.1186>
- Wiyarsi, S., Iskandar, M., & Suriyah, M. (2024). Penyuluhan Tentang Senam Disminorea Sebagai Upaya Mengatasi Nyeri Haid Pada Remaja Puteri Di SMAN 1 Pebayuran. *Jurnal Kreativitas Pengabdian Kepada Masyarakat (Pkm)*, 7(4), 1814–1821. <https://doi.org/10.33024/jkpm.v7i4.14003>
- Yazidsyah, R., & Harahap, A. C. P. (2023). Hubungan Antara Situasi Akademik Dengan Self-Regulated Learning Pada Mahasiswa Bimbingan Konseling Pendidikan Islam. *Jurnal Bimbingan Dan Konseling Ar-Rahman*, 9(1), 91. <https://doi.org/10.31602/jbkr.v9i1.11583>

- Yilmaz, B., & Sahin, N. (2020). The Effects of a Dysmenorrhea Support Program on University Students Who Had Primary Dysmenorrhea: A Randomized Controlled Study. *Journal of Pediatric and Adolescent Gynecology*, 33(3), 285–290. <https://doi.org/10.1016/j.jpag.2019.12.008>
- Yudhistira, S., Deasyanti, D., & Muzdalifah, F. (2020). Analisis Model Pengaruh Goal Orientation, General Self-Efficacy Dan Jenis Kelamin Terhadap Self-Regulated Learning Dalam Pembelajaran Jarak Jauh. *Jurnal Muara Ilmu Sosial Humaniora Dan Seni*, 4(2), 358–367. <https://doi.org/10.24912/jmishumsen.v4i2.8849.2020>