

Impact of Health Education on Improving Knowledge of Dysmenorrhea Among Nursing Students

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Abstract

Dysmenorrhea, characterized by menstrual pain, is a common condition experienced by many young women, typically manifesting as cramping and localized in the lower abdomen. The intensity of dysmenorrhea is often influenced by the duration and volume of menstrual flow. One effective strategy to improve understanding of this condition is through Health Education. This study aims to assess the impact of Health Education on the knowledge of dysmenorrhea among female nursing students at Muhammadiyah University Klaten, particularly those in their third year of the S1 Nursing program. The research utilized a Quasi-Experimental design with a one-group pre-test/post-test structure. Health Education sessions were conducted via Zoom, and 10 students participated in the study. Knowledge levels were evaluated using pre- and post-test questionnaires. Before the Health Education intervention, 70% of the participants had limited knowledge about dysmenorrhea, while following the education session, knowledge levels increased significantly to 86.7%. The findings indicate a substantial improvement in the participants' understanding of dysmenorrhea and strategies for managing menstrual pain.

Keywords: *Health Education, menstrual pain management, health education*

INTRODUCTION

Menstruation is a natural physiological process experienced by adolescent girls through to adulthood, typically occurring between the ages of 10 and 16 and continuing until around 45-50 years. This monthly cycle involves hormonal changes in the ovaries and uterus, which are influenced by factors such as health status, nutrition, and hormonal fluctuations (Barbu et al., 2021). Hormonal changes often cause physical discomfort, including tension, bloating, and pain in the lower abdomen and breasts, which can vary from mild to severe. Many women experience these symptoms before or during menstruation, which can have significant physical and psychological effects (Hannan et al., 2024).

One of the most common menstrual-related issues is dysmenorrhea, characterized by pain or cramping, usually localized in the lower abdomen. The severity of dysmenorrhea can vary from mild discomfort to severe pain and is often correlated with the volume and duration

of menstrual flow. Dysmenorrhea affects a large proportion of young women globally, with studies showing that between 16.8% and 81% of young women experience this condition (Jareebi et al., 2025). In Indonesia, the prevalence of dysmenorrhea has been reported at 64.25% (Situmorang et al., 2024), with an estimated 90% of Indonesian women suffering from menstrual pain but failing to seek medical attention (Sari & Novriyanti, 2023).

Dysmenorrhea not only causes physical discomfort but also leads to psychological issues, such as mood swings, fatigue, difficulty concentrating, changes in appetite, and disrupted sleep (Staňková et al., 2024). These symptoms can significantly affect daily activities, particularly for young women, and are often accompanied by anxiety and stress. Adolescents, in particular, are more likely to experience severe dysmenorrhea, which further exacerbates their emotional and physical well-being.

Research by Nyoman Chandrima (2017) found that prior to health education on dysmenorrhea, the respondents' knowledge level was relatively low (63.4%), but after receiving health promotion, the majority had an improved understanding, with 70% showing a good knowledge level. Despite its high prevalence, many young women, especially in developing countries, lack adequate knowledge about dysmenorrhea and other menstrual disorders. Raising awareness and providing information on normal and abnormal menstrual symptoms are crucial to encouraging women to seek medical advice when necessary.

At Muhammadiyah University in Klaten, interviews with third-year nursing students revealed that six out of ten students often experience dysmenorrhea. This condition disrupts their academic performance, causing some to miss lectures due to pain, while others struggle to concentrate. To alleviate their symptoms, many resort to over-the-counter pain medications or apply rubbing oil to the lower abdomen.

Health education plays a vital role in improving individuals' understanding of health issues and empowering them to manage their health more effectively. Through structured learning, health education can enhance knowledge, attitudes, and behaviors related to health, ultimately leading to better physical and mental well-being. This study aims to assess the level of knowledge about menstrual pain and dysmenorrhea among female undergraduate nursing students at Muhammadiyah University, Klaten, and to evaluate the impact of health education on improving their understanding of these issues.

METHOD

This research utilized a Quasi-Experimental design with a one-group pre-post test structure to evaluate the impact of Health Education on dysmenorrhea knowledge among third-year nursing undergraduate students (Cresswell, 2012). The Health Education session focused on providing information about dysmenorrhea and menstrual pain management. The intervention was conducted via Zoom and lasted for one day. A total of 10 female students from the third-year nursing program at Muhammadiyah University, Klaten, participated in this study.

The Health Education session aimed to enhance participants' understanding of menstrual pain, its causes, and effective coping strategies. Data were collected through a pre-test conducted before the session and a post-test administered immediately after the session. The pre-test assessed the students' baseline knowledge, while the post-test measured the increase in knowledge following the educational intervention. For data processing, the stages of editing and scoring were applied to ensure the quality and accuracy of the responses. Random sampling was used to select the participants, ensuring that the group was representative of the broader student population. To analyze the data, the Wilcoxon signed-

rank test was employed. This non-parametric test is suitable for comparing paired data and was used to assess the difference in knowledge levels before and after the Health Education session. All statistical analyses were performed using a computer application program. The following stages of the research process are outlined in Figure 1.

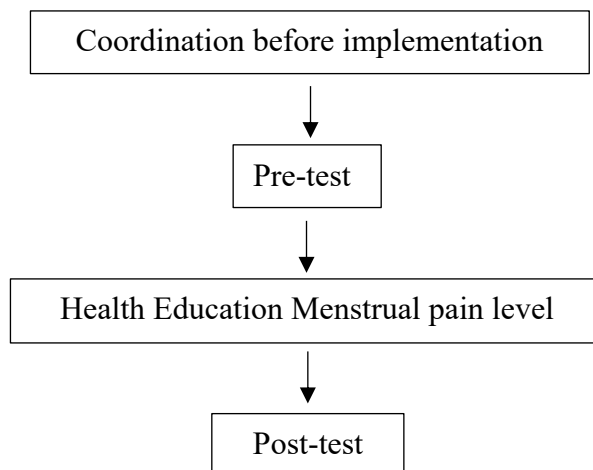


Figure 1. Research Process

RESULTS

On June 1, 2022, a Health Education session was conducted for third-year nursing students at Muhammadiyah University Klaten through Zoom, aimed at increasing their knowledge about dysmenorrhea and its management. The session began with a pre-test questionnaire containing 19 questions assessing the students' understanding of dysmenorrhea, its causes, and methods for managing menstrual pain. The questionnaire aimed to gauge the participants' baseline knowledge, where a score above 60% indicated good knowledge and below 60% indicated unfavorable knowledge.

Pre-test Results

The pre-test results indicated that a significant portion of the students had limited knowledge about dysmenorrhea prior to the educational session. As shown in Table 2, 70% of respondents (7 out of 10) demonstrated a poor level of knowledge, while 30% (3 respondents) were categorized as having good knowledge. This suggests that, before the intervention, most participants lacked adequate understanding of the causes and management of menstrual pain, which aligns with previous findings indicating that dysmenorrhea awareness among young women is often low (Amir et al., 2022).

Table 1: Frequency Distribution of Students' Knowledge About Dysmenorrhea Before Health Education

Response	Frequency (F)	Percentage (P)
Well	7	70%
Not Good	3	30%
Total	10	100%

The questionnaire results also highlighted that some misconceptions persisted among students regarding dysmenorrhea, such as the causes and non-pharmacological pain relief methods. This underlines the importance of targeted educational interventions to address gaps in knowledge and correct misinformation.

Educational Intervention

Following the pre-test, the Health Education session was conducted using a lecture and discussion method. The content covered essential information on dysmenorrhea, including the physiological mechanisms, types (primary and secondary), and common management strategies such as the use of warm compresses, proper sleep, and physical activity. Warm compresses, as a non-pharmacological treatment, were emphasized for their effectiveness in alleviating menstrual pain by improving blood circulation and reducing muscle tension (Idarahyuni et al., n.d.; Dewi, 2014).

The warm compress method is a safe and effective approach, providing comfort by expanding blood vessels and reducing inflammation in the affected area. Research supports the therapeutic benefits of this method, showing that it can significantly reduce menstrual pain by improving blood flow to the endometrial tissue (Padilah Siregar et al., 2021). This practical, low-cost technique is easy to implement and provides students with an accessible strategy for managing dysmenorrhea.

Post-test Results

After the educational intervention, the students completed a post-test to evaluate changes in their knowledge. The results, shown in Table 3, demonstrated a significant improvement in the participants' understanding of dysmenorrhea. 86.7% of respondents (8 out of 10) scored in the good knowledge category, while only 13.3% (2 respondents) remained in the poor knowledge category.

Table 3: Frequency Distribution of Students' Knowledge About Dysmenorrhea After Health Education

Response	Frequency (F)	Percentage (P)
Well	8	86.7%
Not Good	2	13.3%
Total	10	100%

These results indicate a 16.7% increase in knowledge, from 70% in the pre-test to 86.7% in the post-test, suggesting that the Health Education session was successful in improving the participants' knowledge about dysmenorrhea. This improvement supports the idea that targeted Health Education interventions can effectively increase awareness and empower individuals to better manage common health issues like dysmenorrhea (Amir et al., 2022).

Discussion

The pre-test and post-test results clearly illustrate the effectiveness of the Health Education session in enhancing knowledge about dysmenorrhea among nursing students. Prior to the intervention, many students had a limited understanding of menstrual pain, its causes, and appropriate management techniques. However, following the educational session, there was a notable improvement in their knowledge, particularly regarding non-

pharmacological methods such as warm compresses. This aligns with previous studies that emphasize the importance of health education in improving awareness and encouraging healthier lifestyle choices (Chughtai & Tanweer, 2022).

The increase in knowledge among the students is a testament to the success of the Health Education activity, which utilized a combination of lecture-based instruction and discussion. By providing accurate, evidence-based information about dysmenorrhea and its management, the session empowered students with practical knowledge that could not only benefit their personal health but also enable them to educate others in the future (Matsushita et al., 2020). Furthermore, the use of non-pharmacological interventions like warm compresses aligns with current recommendations for managing dysmenorrhea, providing students with accessible and safe alternatives to pain medications. Given the positive impact of the intervention, similar educational programs could be beneficial in other settings, such as community health programs or high schools, to raise awareness and promote effective management of menstrual pain.

In conclusion, this study highlights the critical role of Health Education in enhancing knowledge about common health issues like dysmenorrhea. The significant improvement in students' knowledge following the intervention underscores the importance of such educational activities in preparing nursing students to be more effective healthcare providers and advocates for menstrual health.

CONCLUSION

In conclusion, this study demonstrates the significant impact of Health Education on increasing the knowledge of dysmenorrhea among third-year nursing students at Muhammadiyah University Klaten. The pre-test results showed that a majority of the students had limited knowledge about menstrual pain and its management. However, after the educational session, there was a clear improvement, with 86.7% of participants achieving good knowledge levels. The Health Education session, which focused on both the causes and effective non-pharmacological interventions such as warm compresses, successfully addressed knowledge gaps and misconceptions. These findings highlight the importance of health education in enhancing awareness and empowering individuals to manage common health issues like dysmenorrhea effectively.

Based on the results of this study, it is recommended that Health Education interventions on dysmenorrhea be incorporated into nursing curricula and other academic settings to improve the knowledge and management of menstrual pain among students. Educating young women, particularly in developing countries, about the physiological aspects of menstruation and available pain relief strategies is crucial in fostering better self-care practices. Furthermore, similar educational programs could be expanded to community health settings, targeting a broader population, to raise awareness and encourage more women to seek medical help when experiencing severe menstrual pain. Integrating these educational initiatives could play a key role in improving overall menstrual health awareness and reducing the negative physical and psychological impacts of dysmenorrhea.

REFERENCES

Barbu, R. M., Ciobîcă, A., Stana, B. A., Popescu, I. R., & Bild, W. (2021). Neurohormonal and pharmacological regulation of oestrogen, progesterone, luteinizing hormone and follicle stimulating hormone over the menstrual cycle – the possible relevance of

- angiotensin ii. *Farmacia*, 69(1), 82–89. <https://doi.org/10.31925/farmacia.2021.1.11>
- Chandrima, F. A. (2017). *A survey on knowledge and awareness of dysmenorrhea among the female students of East West University*. East West University.
- Chughtai, A., & Tanweer, A. (2022). Improving research capacity of practising dietitians through interactive sessions: evidence from a pilot study. *Journal of Biological Education*, 56(1), 77–84. <https://doi.org/10.1080/00219266.2020.1756897>
- Cresswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Pearson.
- Hannan, K., Li, X., Mehta, A., Yenokyan, G., Payne, J. L., Shea, A. A., & Hantsoo, L. (2024). Mood symptoms and gut function across the menstrual cycle in individuals with premenstrual syndrome. *Hormones and Behavior*, 166. <https://doi.org/10.1016/j.yhbeh.2024.105634>
- Jareebi, M. A., Almrayisi, S. A., Otayf, D. A. H., Alneel, G. A., Zughaibi, A. H., Mobarki, S. J., Oberi, I. A., Alzahrani, H. A., Aldhowaihi, S. A., Alramadhan, Z. A., Ryani, M. A., Bahri, A. A., Abutalib, N. H., Makein, N. M., & Alqassim, A. Y. (2025). Dysmenorrhea Among Women Living in Saudi Arabia: Prevalence, Determinants, and Impact. *Life*, 15(1). <https://doi.org/10.3390/life15010108>
- Matsushita, S., Wong, B., Kanumalla, R., & Goldstein, L. (2020). Osteopathic manipulative treatment and psychosocial management of dysmenorrhea. *Journal of the American Osteopathic Association*, 120(7), 479–482. <https://doi.org/10.7556/jaoa.2020.076>
- Sari, Y. M., & Novriyanti, N. (2023). Menstrual Health Problems of Women Indigenous Peoples around Protected Forest Area in Sumatra, Indonesia, and Plants' Usefulness to Treat It. *Journal of Mother and Child*, 27(1), 1.
- Situmorang, H., Sutanto, R. L., Tjoa, K., Rivaldo, R., & Adrian, M. (2024). Prevalence and risk factors of primary dysmenorrhoea among medical students: a cross-sectional survey in Indonesia. *BMJ Open*, 14(10), e086052.
- Staňková, K., Hricová, A., & Mrhálek, T. (2024). The influence of dysmenorrhea on women's emotions and experiences. *Kontakt*, 26(4), 376–382. <https://doi.org/10.32725/kont.2024.043>