

ASSOCIATION BETWEEN KNOWLEDGE AND DYSMENORRHEA MANAGEMENT BEHAVIOR AMONG ADOLESCENT GIRLS AT SMAN 6 LHOKSEUMAWA, INDONESIA

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ABSTRACT

Dysmenorrhea is the most common menstrual disorder among adolescent girls, characterized by menstrual cramps that usually begin within the first 24 hours of menstruation and subside by the second or third day. Dysmenorrhea can adversely affect adolescents by reducing learning capacity, increasing school absenteeism, impairing concentration, interfering with academic performance, and limiting social interactions. Knowledge plays an important role in shaping adolescents' behavior in managing dysmenorrhea. This study aimed to examine the relationship between knowledge and dysmenorrhea management behavior among adolescent girls at SMAN 6 Lhokseumawe. This observational analytic study employed a cross-sectional design with a total sampling technique involving 114 eligible adolescent girls who met the inclusion criteria. Statistical analysis revealed a significant relationship between knowledge and dysmenorrhea management behavior ($p = 0.026$). Adolescent girls with higher levels of knowledge demonstrated more appropriate behaviors in managing dysmenorrhea. These findings indicate that improving adolescents' knowledge through accurate and reliable health information may promote appropriate self-management practices for dysmenorrhea.

Keywords: *Adolescent Girls; Dysmenorrhea; Knowledge; Management Behavior.*

INTRODUCTION

Adolescence is a transitional period from childhood to adulthood characterized by significant biological, psychological, social, and cognitive changes. One of the most important biological changes experienced by

adolescent girls is puberty, a process of sexual maturation marked by accelerated physical growth, the development of secondary sexual characteristics, and the onset of reproductive function. The first menstrual period (menarche) is considered one of the primary indicators of reproductive maturity in adolescent girls (Wulandari *et al.*, 2018)

Menstruation is a physiological process involving the shedding of the endometrial lining accompanied by vaginal bleeding as a result of the absence of fertilization. This process occurs cyclically each month throughout a woman's reproductive years, except during pregnancy and menopause. Although menstruation is a normal physiological process, it is often accompanied by various complaints, one of the most common being dysmenorrhea (Wulandari *et al.*, 2018).

Globally, the prevalence of dysmenorrhea remains high. Sima *et al.* (2022) reported that the prevalence of dysmenorrhea varies considerably across European countries, ranging from 8.8% in Bulgaria to 94% in Finland. Other studies have reported prevalence rates of 71.6% in Egypt and 73.83% in India. In the United States, dysmenorrhea is one of the leading causes of school absenteeism among adolescent girls, with prevalence rates ranging from 29% to 44% among women of reproductive age (Indrayani *et al.*, 2021)

In Indonesia, the prevalence of dysmenorrhea also remains high, at approximately 64.25%, comprising 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea. Primary dysmenorrhea is most commonly experienced by adolescents and young women, with a prevalence ranging from 60% to 76% (Rachmawati, 2020). Meanwhile, data on the prevalence of dysmenorrhea in Aceh Province remain limited due to the low level of public awareness in seeking healthcare for menstrual pain. Consequently, the actual prevalence of dysmenorrhea in the province has not been accurately determined (Aceh Provincial Health Office, 2019).

Dysmenorrhea is defined as pain in the lower abdomen that occurs before or during menstruation as a result of uterine contractions triggered by increased prostaglandin production. The pain typically begins within the first 24 hours of menstruation and gradually subsides by the second or third day of the menstrual cycle (Rahmawati *et al.*, 2023). Dysmenorrhea is the most common menstrual disorder among adolescent girls and women of reproductive age, making it a significant reproductive health problem that requires appropriate attention

Dysmenorrhea not only causes pain but also has a substantial impact on the quality of life of adolescent girls. Mahfujiah and Santi (2024) reported that dysmenorrhea reduced learning ability in 88.3% of adolescents, resulted in school absenteeism in 80%, impaired learning concentration in 66.8%, caused difficulties in completing household tasks in 21%, and limited social interactions in 31.7% of cases. If left untreated or inadequately managed, dysmenorrhea may also increase the risk of reproductive health disorders, including endometriosis and polycystic ovary syndrome (PCOS).

Dysmenorrhea can be managed through both pharmacological and non-pharmacological approaches. Pharmacological management includes the use of analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs), whereas non-pharmacological management involves light physical exercise, relaxation techniques, adequate rest, and the application of warm compresses to the lower abdomen to reduce pain intensity (Misliani *et al.*, 2019).

However, several studies have shown that most adolescent girls do not manage dysmenorrhea appropriately. Triningsih and Mas'udah (2018) reported that 91.8% of adolescent girls chose not to use medication to relieve menstrual pain. Instead, most relied on rest (96.6%) or simply waited for the pain to resolve spontaneously (76.9%). These findings suggest that many adolescent girls still have limited knowledge regarding appropriate dysmenorrhea management.

Knowledge is one of the predisposing factors that plays a crucial role in shaping health behavior. According to Lawrence Green's theory, health behavior is influenced by predisposing, enabling, and reinforcing factors, with knowledge serving as the foundation for making informed health-related decisions. Adolescent girls who have adequate knowledge about the causes, symptoms, and management of dysmenorrhea are more likely to adopt appropriate management strategies, including both pharmacological and non-pharmacological approaches. Conversely, limited knowledge may lead adolescents to ignore menstrual pain, practice inappropriate self-management, or delay seeking medical care when the pain becomes more severe. Such conditions may interfere with academic performance, reduce quality of life, and have adverse long-term consequences for reproductive health (Wulandari *et al.*, 2018).

Despite the high prevalence of dysmenorrhea and its adverse effects on adolescents' daily activities and quality of life, evidence regarding the relationship between knowledge and dysmenorrhea management behavior among adolescent girls in Lhokseumawe remains limited. Therefore, this study was conducted to examine the association between knowledge and dysmenorrhea management behavior among adolescent girls at SMAN 6 Lhokseumawe, Indonesia. The findings of this study are expected to provide evidence for the development of school-based reproductive health education programs aimed at improving adolescents knowledge and promoting appropriate dysmenorrhea management practices.

METHODS

This study employed an analytical observational design with a cross-sectional approach. In this design, the independent variable (knowledge) and the dependent variable (dysmenorrhea management behavior) were measured simultaneously to examine the association between the two variables. The

study was conducted at SMAN 6 Lhokseumawe and included a total of 114 female students who experienced dysmenorrhea

Data were collected using a questionnaire to assess respondents' knowledge of dysmenorrhea. Dysmenorrhea management behavior was measured using a Likert scale. Univariate analysis was performed using descriptive statistics and presented as frequencies and percentages. Bivariate analysis was conducted using the Chi-square (χ^2) test to examine the association between knowledge and dysmenorrhea management behavior. Statistical significance was set at $p < 0.05$. All statistical analyses were

RESULTS AND DISCUSSION

Result Research

Table 1.
Frequency Distribution of Knowledge Level and Dysmenorrhea Management Behavior Among Adolescent Girls at SMAN 6 Lhokseumawe, Indonesia

Characteristics	f	%
Knowledge Level		
Good	64	56,1
Moderate	22	19,3
Poor	28	24,6
Dysmenorrhea Management Behavior		
Positif	55	48,2
Negatif	59	51,8

Table 1. Shows the distribution of respondents based on their knowledge level and dysmenorrhea management behavior. More than half of the respondents (56.1%) had a good level of knowledge regarding dysmenorrhea, while 19.3% had a moderate level of knowledge and 24.6% had poor knowledge. Regarding dysmenorrhea management behavior, slightly more than half of the respondents (51.8%) demonstrated negative management behavior, whereas 48.2% exhibited positive management behavior. These findings indicate that although most respondents had good knowledge about dysmenorrhea, appropriate dysmenorrhea management behavior was still relatively low

Table 2.
Association Between Knowledge Level and Dysmenorrhea Management Behavior Among Adolescent Girls at SMAN 6 Lhokseumawe, Indonesia

No	Knowledge Level	Dysmenorrhea Management Behavior				Total		P= value	α
		Positif	%	Negatif	%	F	%		
1.	Good	38	59,4	26	40,6	64	100		
2.	Moderate	7	31,8	15	68,2	22	100	0,026	0,05
3.	Poor	10	35,7	18	64,3	28	100		

Table 2. Shows that the majority of adolescent girls with good knowledge (59.4%) demonstrated positive dysmenorrhea management behavior. In contrast, adolescent girls with moderate and poor knowledge were more likely to exhibit negative dysmenorrhea management behavior. The results of the Chi-square test showed a *p*-value of 0.026, which was lower than the predetermined significance level ($p < 0.05$). This finding indicates a statistically significant association between knowledge level and dysmenorrhea management behavior among adolescent girls.

DISCUSION

Association Between Knowledge and Dysmenorrhea Management Behavior

Based on the univariate analysis, more than half of the respondents (56.1%) had a good level of knowledge regarding dysmenorrhea, followed by respondents with moderate and poor levels of knowledge. These findings indicate that the majority of adolescent girls had an adequate understanding of dysmenorrhea. However, nearly one-quarter of the respondents still had poor knowledge, highlighting the need for continuous reproductive health education to improve adolescents' understanding of dysmenorrhea and its appropriate management.

Knowledge is considered an important factor influencing health behavior. In the present study, adolescent girls with good knowledge of dysmenorrhea were more likely to demonstrate appropriate dysmenorrhea management behavior. A better understanding of the definition, causes, symptoms, and management of dysmenorrhea may increase adolescents' awareness and enable them to adopt appropriate self-management practices, such as applying warm compresses, using pain-relieving medication appropriately, engaging in light physical exercise, and seeking medical attention when necessary.

Conversely, adolescent girls with poor knowledge may be more likely to adopt inappropriate dysmenorrhea management practices, such as allowing menstrual pain to persist without proper management, routinely consuming carbonated beverages in the belief that they relieve pain, using ineffective or

inappropriate methods, or excessively limiting their daily activities. Therefore, adequate knowledge may contribute to the development of healthier and more adaptive behaviors in managing dysmenorrhea.

According to Notoatmodjo (2018), knowledge is one of the primary factors influencing an individual's health-related decision-making. Adequate knowledge can stimulate the development of new health behaviors. This process begins with awareness, in which individuals recognize information or stimuli related to a particular health issue and become interested in it. They then evaluate the information, consider appropriate responses, and ultimately adopt behaviors that they perceive to be beneficial. Consequently, individuals are more likely to develop and maintain appropriate health behaviors when they possess sufficient knowledge (Notoatmodjo, 2018).

The findings of the present study are consistent with those reported by Mardiyah and Rizal (2024), who found that adolescents with good knowledge of dysmenorrhea generally demonstrated positive dysmenorrhea management behavior. Adequate knowledge enables adolescents to better understand appropriate management strategies, thereby improving their ability to manage dysmenorrhea independently through non-pharmacological approaches.

The findings of Handayani and Sari (2021) further support the results of the present study. They reported that approximately 55% of women of reproductive age experienced dysmenorrhea and that adolescents with a better understanding of dysmenorrhea were more likely to adopt appropriate management strategies, including the use of nonsteroidal anti-inflammatory drugs (NSAIDs), light physical exercise, and relaxation techniques, all of which have been shown to effectively reduce menstrual pain. Similarly, Meylawati and Anggraeni (2021) found that adolescent girls with good knowledge demonstrated greater curiosity and a better understanding of dysmenorrhea, which contributed to more appropriate dysmenorrhea management practices.

CONCLUSION

This study demonstrated a statistically significant association between knowledge level and dysmenorrhea management behavior among adolescent girls at SMAN 6 Lhokseumawe ($p = 0.026$). Adolescent girls with better knowledge were more likely to demonstrate appropriate dysmenorrhea management behavior. However, despite the relatively high proportion of respondents with good knowledge, more than half still exhibited negative management behavior, indicating that knowledge alone may not be sufficient to promote appropriate health practices.

These findings highlight the importance of strengthening school-based reproductive health education programs to improve both knowledge and appropriate dysmenorrhea management behavior.

Future studies are recommended to investigate other factors, such as family support, attitudes, access to health information, and cultural beliefs, that may influence dysmenorrhea management behavior among adolescents.

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REFERENCES

- Dinkes Aceh. (2019). Profil Kesehatan Aceh. Dk, 53(9), 1689–1699
- Handayani, T.Y. & Sari, D.P. (2021) ‘Hubungan Pengetahuan dan Sikap Remaja dalam Mengatasi Dismenorea’, *Medihealth : Jurnal Ilmu Kesehatan dan Sains* [Preprint]. Available at: <https://jurnalmbp.org/index.php/Medihealth/article/view/4/6>
- Indrayani, T., Astiza, V., & Widowati, R. (2021). Pengaruh Akupresur Terhadap Intensitas Nyeri Dismenore Pada Remaja Putri Di Wilayah Rw.03 Kelurahan Margahayu Utara Kecamatan Babakan Ciparay Kota Bandung. *Journal for Quality in Women’s Health*, 4(1), 94–103. <https://doi.org/10.30994/jqwh.v4i1.109>
- Mahfujiah, F., & Santi, A. B. G. (2024). Pengaruh Pemberian Minuman Kunyit Asam Dan Massage Effleurage Menggunakan Minyak Aroma Therapy Terhadap Penurunan Intensitas Nyeri Dismenorea Primer Pada Remaja: Studi Kasus Pada Remaja Putri Dengan Dismenorea. *Journal Of Midwifery*, 12(1), 98–103
- Mardiyah, M, S. & Rizal, A.,(2024) Hubungan Pengetahuan Remaja dengan Perilaku Penanganan Dismenore. *Jurnal Kesehatan Tambusai*, 5(2), 5722-5729
- Meylawati, L.E. & Anggraeni, F. (2021) ‘Hubungan Tingkat Pengetahuan Dan Sikap Dalam Mengatasi Dismenorea Primer Pada Remaja’, *Jurnal Wacana Kesehatan*, 6(1), p. 33. Available at: <https://doi.org/10.52822/jwk.v6i1.171>
- Misliani, A., Mahdalena, & Firdaus, S. (2019). Penanganan Dismenore Cara Farmakologi dan Nonfarmakologi. *Jurnal Citra Keperawatan*, 7(1), 23-32.
- Notoatmodjo, S. (2018). Promosi Kesehatan dan Perilaku Kesehatan. Edisi revisi. Jakarta: Rineka Cipta
- Rahmawati, S., Wardhani, U. C., & Muharni, S. (2023). Pengaruh Massage Effleurage Terhadap Nyeri Dismenorea Pada Remaja Di Mts Al

- Muttaqin Sungai Ungar Karimun. *ARMADA : Jurnal Penelitian Multidisiplin*, 1(8), 796–802.
- Sima, R. M., Sulea, M., Radosa, J. C., Findeklee, S., Hamoud, B. H., Popescu, M., Gorecki, G. P., Bobirca, A., Bobirca, F., Cirstoveanu, C & Ples, L., (2022) *The Prevalence, Management and Impact of Dysmenorrhea on Medical Students' Lives A- Multicenter Study.*: healthcare, Basel, Switzerland, Vols.10(1), 157.
- Triningsih, R. W., & Mas'udah, E. K. (2018.). Studi Literatur Mengurani Dismenore Penanganan Komplementer
- Wulandari, A., Hasanah, O & Woferst, R., (2018) Gambaran Kejadian dan Manajemen Dismenore pada Remaja Putri di Kabupaten Lima Puluh Kota Pakanbaru. *JOM FKp*, Vol. 5 No. 2