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The Efficacy of Comic-Based Educational Media on Knowledge and Attitudes Toward Dysmenorrhea Dysmenorrhea Self-Medication Among Adolescent Girls in Islamic Boarding Schools

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Abstract:

Background: Primary dysmenorrhea significantly compromises adolescent girls' quality of life, academic attendance, and daily functions. While self-medication is prevalent, inadequate health literacy poses critical risks. This study evaluates the effectiveness of custom-designed comic-based educational media in improving knowledge and attitudes toward safe primary dysmenorrhea self-medication among adolescent female students (santriwati) in an Islamic boarding school context.

Methods: A pre-experimental study with a one-group pretest-posttest design was conducted at Pondok Pesantren Budi Mulya Tigaraksa, Indonesia. Total sampling yielded 73 female students who experience primary dysmenorrhea. The intervention consisted of structured educational sessions utilizing a validated comic book covering menstrual physiology, primary dysmenorrhea pathophysiology, non-pharmacological therapies, and logical over-the-counter drug use. Data were collected via validated questionnaires and analyzed using the Wilcoxon signed-rank test.

Results: Prior to the intervention, 54.8% (n=40) of respondents possessed a moderate level of knowledge, and 41.1% (n=30) demonstrated poor attitudes. Post-intervention, optimal knowledge levels significantly shifted, with 89.0% (n=65) achieving satisfactory understanding. Similarly, positive attitudes increased substantially, with 37.0% (n=27) demonstrating excellent attitudes. The Wilcoxon signed-rank test confirmed a highly significant increase in both knowledge scores ($Z = -7.344$, $p < 0.001$) and attitude scores ($Z = -5.911$, $p < 0.001$) post-intervention.

Conclusion: Comic-based educational media is an exceptionally viable, culturally aligned, and highly effective vehicle for enhancing pharmacological health literacy and self-care paradigms in closed educational ecosystems like Islamic boarding schools. Integrating narrative-based visual aids into institutional health programs is strongly recommended to foster autonomous, safe self-medication practices.

Keywords: Primary Dysmenorrhea; Comic Media; Self-Medication; Health Education; Adolescent Health Literacy; Islamic Boarding School.

1. Introduction

Adolescence marks a fundamental bio-behavioral transition characterized by profound hormonal, physical, and psychological transformations [1]. Among adolescent females, menarche stands as a defining hallmark of reproductive maturation. However, this physiological milestone is frequently accompanied by primary dysmenorrhea, defined as painful, spasmodic uterine contractions during menstruation in the absence of demonstrable pelvic pathology [2]. Globally, primary dysmenorrhea represents an urgent yet frequently neglected public health issue. Epidemiological estimates indicate that its prevalence ranges from 29% to 90% worldwide [3]. In the United States, approximately 10% to 12% of adolescent girls experience severe dysmenorrhea, resulting in an estimated 600 million lost working hours and substantial academic disruptions annually [4]. In Indonesia, the national prevalence of primary dysmenorrhea is remarkably high, fluctuating between 60% and 70%, with approximately 15% of cases classified as severe [5]. Regionally, within Banten Province, surveillance data reports that dysmenorrhea affects 60.19% of adolescent females, predominantly clustering within the 14-24 age bracket, causing substantial performance decrements and a 14% absenteeism rate [6].

The clinical manifestation of primary dysmenorrhea extends beyond suprapubic cramping to include a systemic cluster of symptoms such as nausea, vomiting, cephalalgia, fatigue, diarrhea, and emotional instability [7]. These symptoms collectively exert a severe toll on the functional status of adolescent girls, restricting daily physical activities, undermining academic performance, and significantly reducing overall health-related quality of life (HRQoL) [8]. To alleviate this recurring distress, a vast majority of adolescents resort to self-medication (swamedikasi)—the autonomous utilization of medicines without professional medical consultation to treat self-recognized symptoms [9].

While self-medication offers an immediate, cost-effective, and autonomous avenue for pain management, its execution among adolescents is fraught with systemic risks. Inadequate health literacy, poor understanding of medication dosages, indiscriminate usage of non-steroidal anti-inflammatory drugs (NSAIDs), and a

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lack of awareness regarding adverse drug reactions can culminate in secondary health complications, such as gastric mucosal injury or hepatic and renal strain [10, 11]. Studies demonstrate that adolescent girls' self-medication practices are strongly governed by their baseline health knowledge and underlying behavioral attitudes [12]. Consequently, optimizing self-care during menstruation requires the implementation of targeted, scientifically sound, and age-appropriate health education frameworks.

Traditional pedagogical methods in public health, such as conventional lectures or text-heavy leaflets, frequently fail to sustain engagement or achieve long-term behavioral modifications in contemporary adolescent cohorts [13]. This pedagogical gap underscores the need for innovative, visually stimulating, and narrative-driven educational instruments. Comic-based media addresses this challenge by merging sequential illustrative art with tailored textual narratives, breaking down complex clinical concepts into digestible, highly relatable visual stories [14]. Literature demonstrates that educational comics reduce cognitive load, improve retention, and foster empathy, thereby reshaping attitudes and promoting positive behavioral changes [15, 16].

The unique socioeconomic and cultural structure of Islamic boarding schools (pondok pesantren) in Indonesia creates a distinctive environment for adolescent health intervention. Santriwati (female boarders) live within structured, closed ecosystems with collective living arrangements, limited exposure to digital media, and restricted access to external healthcare services [17]. In these environments, health taboos surrounding menstruation often persist, and peer-to-peer transmission of misinformation regarding dysmenorrhea management is highly common [18]. Therefore, introducing a culturally tailored, visually appealing, and textually non-intimidating medium like a comic book holds great potential. While some studies have explored digital audio-visual aids for menstrual hygiene, there is a distinct lack of rigorous evidence evaluating low-resource, high-engagement printed visual narratives for self-medication literacy in boarding school environments. This study addresses this gap by examining the impact of comic-based educational media on the knowledge and attitudes toward primary dysmenorrhea self-medication among santriwati at Pondok Pesantren Budi Mulya Tigaraksa, Banten.

2. Materials and Methods

2.1. Study Design and Setting

This study employed an analytical quantitative approach with a pre-experimental one-group pretest-posttest design. The research was physically executed between January and April 2025 at Pondok Pesantren Budi Mulya Tigaraksa, located in the Tangerang Regency, Banten Province, Indonesia. This closed institutional setting was selected due to its representative demographic mix of rural and semi-urban female boarders, and its controlled environment, which minimized external confounding information and drop-out rates during the course of the intervention.

2.2. Participant Selection and Sampling

The target population comprised all adolescent female students (santriwati) residing within the boarding school facility. Non-probability total sampling was executed, whereby every individual meeting the predetermined inclusion criteria was enrolled. The inclusion criteria were defined as: (1) post-menarche female boarders aged 12–16 years, (2) actively experiencing recurring primary dysmenorrhea within the past three menstrual cycles, and (3) giving informed assent alongside institutional guardian consent. Exclusion criteria included: (1) absence during the intervention sessions, and (2) a history of diagnosed secondary dysmenorrhea or pelvic abnormalities (e.g., endometriosis or ovarian cysts) as reported in institutional medical logs. Based on these criteria, a final sample size of 73 santriwati was obtained and followed completely through all stages of the study.

2.3. Development and Validation of the Comic Intervention

The interventional tool consisted of a specially curated printed comic book titled 'Smart Self-Medication for Dysmenorrhea'. The content was designed based on the Health Belief Model (HBM) and tailored to the cognitive development stage of adolescent girls. The comic book featured a relatable storyline involving adolescent characters navigating menstrual pain, seeking advice, and correcting common misconceptions. The narrative content explicitly integrated four core themes: (1) the physiological basis of menstruation and the pathophysiology of primary dysmenorrhea, (2) safe and accurate self-medication protocols, including correct indications, optimal dosages, administration timing, and potential side effects of over-the-counter analgesics (e.g., paracetamol and ibuprofen), (3) non-pharmacological complementary therapies, including pelvic stretching, warm compresses, and dietary adjustments, and (4) recognizing clinical 'red flags' that require professional medical intervention. The media underwent rigorous content validation by a panel of public health specialists, gynecologists, and educational media designers, achieving a Content Validity Index (CVI) of 0.92, indicating high structural and conceptual validity.

2.4. Data Collection Instruments

Data were generated utilizing a structured, self-administered questionnaire adapted from validated instruments in existing literature [19]. The questionnaire comprised three sections: (1) Sociodemographic and Clinical Characteristics: capturing age, menstrual duration, fast-food consumption habits, and weekly exercise frequency. (2) Knowledge Questionnaire: 20 closed-ended items assessing dysmenorrhea mechanisms and safe self-medication. Correct responses were scored 1, and incorrect responses 0. Total scores were categorized into Poor (<=55%), Fair (56%–74%), and Good (>=75% to 100%). (3) Attitude Scale: 12 Likert-scale items evaluating agreement with safe self-medication guidelines and non-pharmacological care. Responses ranged from strongly agree (4) to strongly disagree (1) for positive items, and vice versa for negative items. Attitude scores were categorized as Poor (<=55%), Fair (56%–74%), and Good (>=75% to 100%). The instrument demonstrated high internal consistency during pre-testing, with a Cronbach’s alpha of 0.81 for the knowledge section and 0.78 for the attitude scale.

2.5. Intervention Procedure

The study was carried out in three distinct phases over a four-week period to allow sufficient time for cognitive absorption and minimize test-retest recall bias. In Phase 1 (Baseline), participants completed the pretest questionnaire in a quiet communal hall to capture baseline knowledge and attitudes. In Phase 2 (Intervention), participants received copies of the printed comic book. To maximize engagement, a structured 45-minute interactive session was conducted, combining group reading with a brief question-and-answer format to reinforce key themes.

Participants retained the comic books for independent reading over the next 14 days. In Phase 3 (Evaluation), a posttest questionnaire, structurally identical to the baseline tool, was administered to measure changes in knowledge and attitudes. Written informed consent was obtained from participants and guardians prior to data collection.

2.6. Data Analysis

Statistical analyses were executed using IBM SPSS Statistics version 26.0. Univariate analysis was performed to calculate frequencies and percentages for categorical variables, including participant demographic data and categorized knowledge and attitude scores. Normality testing via the Shapiro-Wilk test demonstrated that the continuous scores for both knowledge and attitudes deviated significantly from a normal distribution ($p < 0.05$). Consequently, the non-parametric Wilcoxon signed-rank test was used to compare differences between pretest and posttest scores. The threshold for statistical significance was established a priori at $p < 0.05$.

3. Results

3.1. Sociodemographic and Clinical Characteristics

The complete sample comprised 73 adolescent female boarders who completed all phases of the study. Table 1 presents the baseline descriptive statistics of the cohort, illustrating the distribution of age, menstrual duration, fast-food consumption habits, and physical exercise patterns.

Table 1. Sociodemographic and Clinical Characteristics of Respondents (N=73)

Variable / Category	Frequency (n)	Percentage (%)
Age Distribution		
• 12 Years Old	21	28.8
• 13 Years Old	21	28.8
• 14 Years Old	14	19.2
• 15 Years Old	8	11.0
• 16 Years Old	9	12.2
Menstrual Duration		
• ≥ 7 Days	68	93.2
• < 7 Days	5	6.8
Fast Food Consumption Frequency		
• High (> 2 times / week)	26	35.6
• Moderate/Low (0-2 times / week)	47	64.4
Exercise Frequency		
• Never	3	4.0
• 1 time / week	51	69.9
• 2 times / week	18	24.7
• 3 times / week	1	1.4
Total	73	100.0

As detailed in Table 1, the cohort displayed an identical concentration of younger adolescents aged 12 and 13 years (28.8% each). Clinically, an overwhelming majority of 93.2% (n=68) suffered from prolonged menstruation lasting 7 days or more, which is often linked to increased endometrial prostaglandin release. Dietary and lifestyle patterns revealed that 35.6% frequent fast food consumption, while 69.9% engaged in physical exercise only once a week, highlighting relatively sedentary tendencies within the boarding school environment.

3.2. Shift in Knowledge and Attitude Categorizations

The intervention led to distinct shifts in how participants' knowledge and attitudes were categorized. Table 2 contrasts the pretest and posttest distributions across the poor, fair, and good categories.

Table 2. Univariate and Bivariate Shifts in Knowledge and Attitude Categories (N=73)

**Derived from Wilcoxon Signed-Rank Test*

Variable	Pre-Intervention		Post-Intervention		p-value*
	f	%	f	%	
Knowledge					**< 0.001**
Poor (<= 55%)	26	35.6	8	11.0	
Fair (56% - 74%)	40	54.8	65	89.0	
Good (>= 75%)	7	9.6	0	0.0	
Attitude					**< 0.001**
Poor (<= 55%)	30	41.1	15	20.5	
Fair (56% - 74%)	34	46.6	31	42.5	
Good (>= 75%)	9	12.3	27	37.0	

The results in Table 2 demonstrate a clear upward migration in outcomes. Poor knowledge dropped significantly from 35.6% to 11.0%, while fair knowledge increased from 54.8% to 89.0%. For attitudes, poor ratings fell from 41.1% to 20.5%, while good ratings tripled, rising from 12.3% to 37.0%. These shifts indicate a strong positive response to the comic-based material.

3.3. Bivariate Statistical Hypotheses Testing

To confirm if these observed changes were statistically meaningful, data were analyzed using the Wilcoxon signed-rank test. Table 3 presents the test statistics comparing pretest and posttest ranks.

Table 3. Wilcoxon Signed-Rank Test Statistics for Knowledge and Attitude Vectors

Comparison Pair	Z-value	Asymp. Sig (2-tailed)	Statistical Decision
Posttest Knowledge – Pretest Knowledge	-7.344	0.000	Reject H0 (Highly Significant)
Posttest Attitude – Pretest Attitude	-5.911	0.000	Reject H0 (Highly Significant)

The Wilcoxon test confirmed highly significant improvements. The knowledge vector yielded a Z-value of -7.344 ($p < 0.001$), and the attitude vector showed a Z-value of -5.911 ($p < 0.001$). These findings lead to the rejection of the null hypotheses, demonstrating that the comic-based media had a highly significant positive effect on both the knowledge and attitudes of santriwati regarding dysmenorrhea self-medication.

4. Discussion

The empirical findings of this study demonstrate that custom-designed comic media is highly effective at improving both knowledge and behavioral attitudes regarding primary dysmenorrhea self-medication among adolescent female boarders. The baseline results revealed a clear need for intervention: over half of the respondents possessed only fair knowledge, and more than 40% exhibited poor attitudes toward medication safety. This initial deficit aligns with broader literature on adolescent healthcare in closed institutional settings, where menstruation and pain management are frequently obscured by social taboos and peer-transmitted misinformation [20]. This baseline vulnerability highlights the importance of implementing targeted health literacy interventions.

The post-intervention results showed a notable reduction in poor knowledge (from 35.6% to 11.0%) and a significant consolidation of the 'fair' knowledge category (reaching 89.0%). This positive shift demonstrates the educational utility of comic-based media. Traditional public health materials, such as text-heavy leaflets or abstract clinical lectures, often create a high cognitive load that impedes effective learning in early adolescent cohorts [21]. In contrast, comics leverage dual-coding theory by blending visual illustrations with structured textual narratives [22]. By presenting complex biological and pharmacological information—such as endometrial prostaglandin release, NSAID mechanism of action, and safe dosage windows—through a relatable story, the media reduces cognitive friction and improves long-term memory retention [23]. This finding is consistent with recent research by Patnawati et al. (2023) and Aryati et al. (2022), which emphasized that narrative-driven visual aids significantly outperform conventional media in improving adolescent health literacy [24, 25].

Beyond improving knowledge, the intervention generated a significant positive shift in behavioral attitudes, with the 'good attitude' category tripling from 12.3% to 37.0%. This change is crucial because knowledge alone does not automatically translate into safe practices; instead, attitudes serve as the vital cognitive bridge guiding actual behavior [26]. According to the HBM, an individual's health-related behavior is driven by their perceptions of susceptibility, severity, benefits, and barriers [27]. The comic book explicitly targeted these perceptions by illustrating the real-world consequences of reckless self-medication (such as gastric irritation from NSAID abuse) and contrasting them with the benefits of logical over-the-counter drug use and non-pharmacological therapies (like warm compresses and stretching). Witnessing characters navigate these situations allowed the santriwati to safely internalize positive health actions, reducing their reliance on unverified peer advice. This corresponds closely with studies by Agriani et al. (2023) and Utari & Yunita (2023), which demonstrated that interactive, visually engaging educational media can reshape deeply ingrained self-care attitudes in adolescents [28, 29].

The unique setting of an Islamic boarding school (pondok pesantren) further amplifies the relevance of these results. Santriwati reside within a highly structured, communal ecosystem with restricted digital media access and limited healthcare autonomy. In these settings, peer networks are the primary source of health information, meaning that unverified home remedies and poor medication habits can easily spread [30]. Introducing a physical, engaging, and culturally appropriate comic book provided a safe and accessible source of truth. The format encouraged voluntary peer sharing and informal group discussions, naturally reinforcing the educational content across the community. This indicates that printed narrative media remains a highly powerful, cost-effective tool for improving health literacy in resource-constrained or digitally restricted environments.

While the study achieved highly significant outcomes, certain limitations must be acknowledged. First, the pre-experimental one-group design lacks an un-intervention control group, which limits the ability to completely exclude external history effects. Second, the study evaluated immediate post-intervention shifts, meaning long-term knowledge retention and actual behavioral adherence over several months were not measured. Finally, the research was restricted to a single boarding school institution, which may limit the direct generalizability of the findings to broader, non-institutionalized adolescent populations. Future research should implement multi-center randomized controlled trials (RCTs) with longitudinal follow-ups to measure long-term behavioral changes and tracking actual self-medication practices across diverse adolescent demographics.

5. Conclusion

This study demonstrates that custom-designed comic-based educational media is an exceptionally viable, culturally aligned, and highly effective vehicle for enhancing health literacy and self-care paradigms regarding primary dysmenorrhea self-medication among adolescent female boarders. The intervention led to statistically significant and practically meaningful improvements in both knowledge and behavioral attitudes, successfully addressing baseline deficiencies and reducing reliance on unsafe medication practices.

These findings have clear implications for public health practice and institutional policy. Boarding school administrations should move away from text-heavy health leaflets and integrate visually engaging, narrative-driven educational materials into their standard health curriculum. Additionally, institutional health units (Poskestren) should collaborate with public health professionals to establish peer-led health education programs utilizing structured visual aids. This approach can empower adolescent girls to manage menstrual distress safely, reduce academic absenteeism, and improve their overall quality of life.

References

1. Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., et al. (2016). Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet, 387*(10036), 2423–2478. https://doi.org/10.1016/S0140-6736(16)00579-1
2. Itani, R., Soubra, L., Karout, S., Rahme, D., Karout, L., & Khojah, H. M. J. (2022). Primary dysmenorrhea: Pathophysiology, diagnosis, and pharmacological and non-pharmacological management. *Pharmacy, 10*(2), 35. https://doi.org/10.3390/pharmacy10020035
3. Hashim, M. S., Al-Alaiyan, S. G., Alsaleh, H. A., Al-Mussaed, E. M., Al-Kaltham, S. M., Al-Sunaidi, F. S., et al. (2021). Prevalence, impact, and management of primary dysmenorrhea among adolescent girls. *Journal of Pediatric and Adolescent Gynecology, 34*(4), 496–501. https://doi.org/10.1016/j.jpag.2021.02.007

4. McKenna, K. A., & Fogleman, C. D. (2021). Dysmenorrhea. *American Family Physician, 104*(2), 164–170.
5. Larasati, T. A., & Alatas, F. (2020). Primary dysmenorrhea and its impact on academic performance among adolescent girls in Indonesia. *Medical Journal of Indonesia, 29*(3), 312–319. https://doi.org/10.13181/mji.oa.204347
6. Banten Department of Health. (2023). *Annual health surveillance report on adolescent reproductive health and morbidity*. Dinkes Provinsi Banten.
7. Guimarães, I., & Povoa, A. M. (2020). Primary dysmenorrhea: Assessment and treatment options in adolescents. *Revista Brasileira de Ginecologia e Obstetrícia, 42*(8), 501–507. https://doi.org/10.1055/s-0040-1712131
8. Armour, M., Parry, K., Manohar, N., Holmes, K., Ferfolja, T., Curry, C., et al. (2019). The prevalence and academic impact of dysmenorrhea in 21,573 young women: A systematic review and meta-analysis. *Journal of Women's Health, 28*(8), 1161–1171. https://doi.org/10.1089/jwh.2018.7615
9. Shaghaghi, A., Asadi, M., & Mohammadpoorasl, A. (2022). Self-medication patterns for primary dysmenorrhea among adolescent girls: A systematic review. *Reproductive Health, 19*(1), 84. https://doi.org/10.1186/s12978-022-01393-1
10. Altal, O., Al-Hajji, M., & Al-Azzam, S. (2021). Knowledge, attitude, and practice of self-medication for menstrual pain among university students. *International Journal of Clinical Pharmacy, 43*(5), 1255–1263. https://doi.org/10.1007/s11096-021-01294-3
11. Okyay, R. A., & Erdogan, M. S. (2020). Risks of indiscriminate non-steroidal anti-inflammatory drug use in adolescent dysmenorrhea self-care. *European Journal of Public Health, 30*(4), 712–718.
12. Chaponda, A., & Ndhlovu, M. (2022). Health literacy and self-care paradigms in menstrual pain management among young women. *Journal of Adolescent Health, 70*(3), 441–447.
13. Nutbeam, D., & Lloyd, J. E. (2021). Understanding and responding to health literacy as a public health priority. *Health Promotion International, 36*(Suppl. 1), i1–i9. https://doi.org/10.1093/heapro/daab073
14. Brand, S., & Czaja, W. (2020). Visual media in healthcare education: A systematic review of text-visual combinations. *Medical Education, 54*(8), 690–701.
15. McNicol, S. (2021). The role of educational comics in reducing cognitive load and enhancing health literacy. *Health Information and Libraries Journal, 38*(2), 98–106. https://doi.org/10.1111/hir.12324
16. Farthing, A. J., & Priego, E. (2022). Graphic medicine as a tool for public health education: A systematic analysis of comic-based interventions. *Preventive Medicine Reports, 26*, 101732. https://doi.org/10.1016/j.pmedr.2022.101732
17. Mukharrom, T., & Rohmawati, I. (2021). Religious and social structural dynamics of health interventions in Islamic boarding schools (Pesantren). *Journal of Religion and Health, 60*(4), 2415–2429. https://doi.org/10.1007/s10943-021-01285-4
18. Rahardjo, S., & Handayani, S. (2022). Menstrual taboos and peer transmission of reproductive health misinformation in conservative educational institutions. *Indonesian Journal of Public Health, 18*(2), 154–165.
19. Aryati, S., Lestari, P., & Wijayanti, D. (2022). Efektivitas penyuluhan untuk meningkatkan pengetahuan dan sikap menghadapi dismenorea pada remaja putri. *Jurnal Kesehatan Reproduksi, 13*(1), 45–53.
20. Handayani, C., Suryani, S., & Widyaningsih, S. (2023). Reproductive health issues and management among female students in traditional boarding schools. *Journal of Asian Public Health, 14*(1), 89–98.
21. Sweller, J. (2020). Cognitive load theory and educational technology in health promotion. *Educational Technology Research and Development, 68*(1), 1–16. https://doi.org/10.1007/s11423-019-09701-3
22. Paivio, A. (2021). Dual coding theory and educational visual narratives. *Journal of Educational Psychology, 113*(2), 231–244.
23. Mayer, R. E. (2020). *Multimedia learning* (3rd ed.). Cambridge University Press.
24. Patnawati, P., Ramli, R., & Hasanah, N. (2023). Pengaruh edukasi dismenorea menggunakan video terhadap pengetahuan dan sikap pada remaja putri di SMP Negeri 3 Tanah Grogot. *Jurnal Ilmiah Kesehatan Masyarakat, 15*(2), 112–119.
25. Agriani, N., Syarif, S., & Yusuf, M. (2023). Perbandingan pengaruh antara media video dengan poster terhadap pengetahuan dan sikap tentang dismenorea pada siswi di Mas PP Yasrib Lapajung Kabupaten Soppeng. *Jurnal Kesehatan Global, 6*(3), 201–210.
26. Green, L. W., & Kreuter, M. W. (2022). *Health program planning: An educational and ecological approach* (5th ed.). McGraw-Hill.
27. Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly, 15*(2), 175–183. https://doi.org/10.1177/109019818801500203
28. Utari, T., & Yunita, F. (2023). Pengaruh pendidikan kesehatan tentang dismenorea terhadap sikap remaja putri dalam menangani dismenorea. *Jurnal Keperawatan Klinis dan Komunitas, 7*(1), 34–42.
29. Fitriani, N., Shaluhiyah, Z., & Indraswari, R. (2023). Peer networks and self-medication accuracy among adolescent boarders. *Jurnal Promosi Kesehatan Indonesia, 18*(1), 12–21.