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Education and Management of Dysmenorrhea in Adolescent Girls with Turmeric and Tamarind as Complementary Therapy

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ABSTRACT

Dysmenorrhea is a health problem frequently experienced by women and can disrupt daily activities, especially on the first to third day of menstruation. Limited knowledge and experience regarding menstruation prevent many women from recognizing the causes and how to properly manage menstrual pain. Therefore, education is needed regarding the treatment of dysmenorrhea, including the use of complementary therapies such as consuming turmeric and tamarind as alternatives to help reduce menstrual pain. This study used a descriptive exploratory approach. The sample size was 30 female students from Doko 3 Blitar Junior High School, taken by accidental sampling. The instrument used was a questionnaire to measure knowledge. The results showed that 20 (67%) respondents had sufficient knowledge, 6 (20%) respondents had good knowledge, and 4 (13%) had poor knowledge. After being provided with education, there was an increase in good knowledge in 27 respondents (90%) and sufficient knowledge in 3 respondents (10%). This educational activity successfully increased the understanding and readiness of young women in managing dysmenorrhea pain through the application of non-pharmacological therapies.

Keywords : Disminore, Teenage Girls, Complementary Therapy, Sour Turmeric

Background

Dysmenorrhea is abdominal pain caused by uterine cramps that occur during menstruation. The pain is caused by the onset of menstruation and lasts from several hours to several days until it reaches its peak. Dysmenorrhea pain generally occurs 1-3 years after menarche, which is during adolescence or at the age of 15-18 years. Most women complain of this condition, but not many know how to treat it (1). There is a lack of understanding about how to properly manage menstrual pain, especially among teenagers who are experiencing menstruation for the first time. During early puberty, adolescent girls often experience confusion because they do not understand the physiological changes occurring in their bodies, including the causes of menstrual pain. This condition indicates an unaddressed health problem and the need for rapid intervention in the form of education and simple management to control dysmenorrhea.

The World Health Organization (WHO) states that the incidence of dysmenorrhea worldwide is very high, with an average of more than 50% of women in every country experiencing dysmenorrhea (2). In the United States, nearly 90% of women experience dysmenorrhea, while in Sweden, 72% of women experience dysmenorrhea, with 10-15% of them experiencing severe dysmenorrhea, which renders them unable to perform any activities (3). Southeast Asia is also different, with the incidence rate in Malaysia reaching 69.4%, Thailand 84.2%, and in Indonesia the incidence of dysmenorrhea is 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea (4). The high prevalence of dysmenorrhea among adolescents indicates that this condition remains a significant reproductive health issue, requiring educational interventions, early detection, and increased awareness of menstrual pain management in order to minimize its impact on adolescents' activities and quality of life.

Seeing this problem, it can be overcome in other ways, such as by utilizing traditional plants. Traditional medicines, such as turmeric, which is commonly used as an ingredient in food recipes, have proven to have benefits, properties, and contents that are good for health because they do not cause side effects unless used excessively. A community service program focused on increasing knowledge through an educational approach is needed (5).

Naturally, turmeric is an active ingredient that functions as an antioxidant, anti-inflammatory, and analgesic. Tamarind (“*asam jawa”*) has active ingredients such as antioxidants, anti-inflammatories, and menstrual pain relievers. Curcuminoids are phytochemical compounds that act as antioxidants, anti-

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hepatotoxic, anti-inflammatory, and anti-rheumatic agents. The potential of turmeric and tamarind drink with a 5% turmeric extract formula has a fairly high antioxidant activity of 0.123%, vitamin C of 0.688 mg/100 g, and is preferred because it has a slightly clear yellowish-brown color. The 12 benefits of turmeric and tamarind have been proven using statistical methods. All studies concluded that herbal medicine is highly effective in reducing dysmenorrhea pain, and they recommend consuming the herbal remedy before and during menstruation (6). Education about complementary therapy using turmeric and tamarind is expected to raise awareness, foster motivation to live healthily, and serve as a first step for participants to manage menstrual pain independently without taking medication.

The use of media in health education facilitates the process of conveying information because it attracts more attention. PowerPoint, as a medium for health promotion, remains a popular choice due to its comprehensive and attractive features, such as the ability to process text, insert images, audio, and animation, making it concise and visually appealing. PowerPoint has been proven to increase students' interest and motivation to learn, which ultimately improves their learning outcomes (3).

With this program, adolescent girls in particular are expected to gain a deeper understanding of reproductive health, especially regarding dysmenorrhea. Through structured educational activities, participants will not only obtain accurate information about the causes, prevention, and treatment of dysmenorrhea, but also improve their skills in applying healthy dietary patterns that support hormonal balance. Additionally, the use of turmeric and tamarind herbal therapy as a form of complementary therapy is expected to be a safe, accessible, and effective alternative for reducing menstrual pain. Overall, this program is expected to make a tangible contribution to reducing the incidence of dysmenorrhea among adolescent girls and promoting the development of sustainable healthy lifestyle behaviors.

Methods

This study used a descriptive research design. The sample size was 30 junior high school students in Doko sub-district, Blitar regency, selected using accidental sampling. All respondents were educated about dysmenorrhea and how to manage it. Before and after the education, the researcher assessed the respondents' knowledge using a questionnaire. The results will be analyzed by comparing the knowledge scores before and after the education..

Result

Table 1. Level of Knowledge About Desminorea

Category	Pre Test		Post Test	
	Frequency	Percentage	Frekuensi	Percentage
Good	6	20%	27	90%
Fair	20	67%	3	10%
poor	4	13%	0	0%
Total	30	100%	30	100%

From Table 1 above, the pre-test results show that 20 people (67%) had adequate knowledge, and 6 people (20%) had good knowledge about desminore. The post-test results show a significant increase in knowledge, with 27 people (90%) having good knowledge and 3 people (10%) having adequate knowledge about desminore.

Discussion

From Table 1 above, the pretest results showed that 20 people (67%) had sufficient knowledge, and 6 people (20%) had good knowledge about desminore. The post-test results showed a significant increase in knowledge, with 27 people (90%) categorized as having good knowledge and 3 people (10%) categorized as having adequate knowledge about dysmenorrhea. This proves the effectiveness of using PowerPoint for presentations in learning. This study also shows that students prefer learning through presentations using PowerPoint and that students also feel that interactive multimedia has a greater impact on increasing motivation than conventional media (7).

The medium used in this counseling session was PowerPoint, as it presents information in a more interesting, clear, and easy-to-understand manner. The PowerPoint contained core material on the

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definition of dysmenorrhea, its causes, signs and symptoms, triggering foods, complications, and ways to prevent and reduce dysmenorrhea by consuming turmeric. The choice of PowerPoint as the medium is considered highly effective for participants, especially adolescents, because it combines text, images, graphics, animations, and videos in a single display, making the material more lively and less boring. Its attractive design and illustrations make it easier for participants to remember the important points conveyed. However, education using direct demonstration methods to identify types of medicinal plants such as turmeric and lemongrass, recognize their bioactive content, and practice how to process them is considered very effective in increasing the knowledge and skills of the audience (8).

During the education session, participants were taught that menstrual pain can be reduced in various natural ways, such as consuming turmeric, which has anti-inflammatory properties, performing acupressure to relax muscles, and adopting healthy daily habits such as regular exercise. Maintaining a sleep pattern and consuming nutritious foods also emphasizes the importance of limiting foods such as high-salt foods that cause bloating, fatty and fried foods that increase inflammation, and caffeinated and carbonated drinks that can trigger cramps and mood swings. Offal, certain seafood, certain nuts, and sweet or carbonated drinks. In addition to providing information, this education also aims to encourage behavioral changes, such as getting into the habit of regular light exercise, such as walking, yoga, or stretching to relax the muscles. Maintaining adequate and regular sleep patterns is also important because fatigue can worsen cramps (9). The results of the Wilcoxon Signed Ranks Test statistical test showed that the average value before being given turmeric and tamarind herbal medicine was 3.2188 and the standard deviation value was 1.03906 while the average value after being given turmeric and tamarind herbal medicine was 1.4062 and the standard deviation value was 0.66524. The results of the study obtained from the analysis with the Wilcoxon Signed Ranks Test statistical test obtained a significant value = 0.000 meaning p <0.05 meaning there is potential for giving turmeric and tamarind herbal medicine to the intensity of menstrual pain in adolescent girls. After treatment using the Bourbanis 0-10 assessment scale, and after the measurement we know the potential of turmeric and tamarind herbal medicine to the intensity of menstrual pain in adolescent girls has decreased and feels more comfortable after being given turmeric and tamarind herbal medicine (10). Another study combined warm compresses with turmeric and tamarind herbal medicine to reduce dysmenorrhea pain in adolescent girls. The warm compresses were effective in relaxing abdominal muscle tension during dysmenorrhea, and the turmeric and tamarind herbal medicine provided a refreshing sensation and contained analgesic compounds (11). Traditional health services are one of the choices for people in seeking treatment or overcoming their health problems. Traditional health services have long been known since ancient times until now (12).

A good level of knowledge will lead to positive behavior in dealing with dysmenorrhea. This is due to the high level of curiosity among adolescents when experiencing menstrual pain, which encourages them to seek information through easily accessible media and advice from those closest to them or health workers (13). conveyed that the more positive the attitude, the better the management of dysmenorrhea. The results also showed that respondents with good knowledge had adequate and insufficient management of dysmenorrhea. Identify that adolescent girls use various methods to treat dysmenorrhea based on their experiences, including warm compresses, acupressure, and turmeric herbal medicine, so that they can be encouraged and their interest in receiving information can be increased, thereby enabling them to change their behavior for the better (14). Other research results say that there is a relationship between attitude and the management of dysmenorrhea pain (15).

Conclusions and Recommendations

It can be concluded that the majority of adolescent girls experience dysmenorrhea pain with the main complaints being abdominal cramps, dizziness, and nausea, which can potentially interfere with concentration and learning activities at school. The implementation of this community service activity has proven to be effective in increasing adolescent girls' knowledge about the definition of dysmenorrhea, prevention efforts, classification, and proper diet management when facing menstruation. In addition, this activity also succeeded in increasing Understanding and readiness of adolescent girls in managing dysmenorrhea pain through the application of non-pharmacological therapies, particularly the use of turmeric as a safe and easy-to-apply complementary therapy alternative.

The results after the counseling session showed that a good level of knowledge leads to positive behavior in dealing with dysmenorrhea. This is because adolescents experience a strong sense of curiosity when they experience dysmenorrhea, which encourages them to seek information through easily

accessible media and counseling from friends, close family, or health workers.

It is recommended that future community service activities be supplemented with long-term evaluations to assess adolescents' compliance in implementing dysmenorrhea management interventions and changes in the intensity of menstrual pain experienced, so that the effectiveness of the interventions can be evaluated comprehensively and continuously.

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