

TURMERIC TAMARIND TONIC EFFECT ON DYSMENORRHEA IN PREMARITAL WOMEN

Eni Farida¹, Sunarsih^{2*}, Ledy Octaviani Iqmy³

^{1,2,3} Midwifery Study Program, Malahayati University
Correspondensi email sunarsih@malahayati.ac.id

ABSTRAK : EFEK TONIKUM KUNYIT ASAM TERHADAP DYSMENORRE PADA WANITA PRANIKAH

Latar Belakang: Dismenore merupakan salah satu masalah ginekologi yang paling banyak diderita oleh wanita berbagai usia, dialami oleh 30-50% wanita usia subur, dan 10-15% diantaranya kehilangan kesempatan kerja dan mengganggu aktivitas belajar di sekolah dan kehidupan keluarga. . Beberapa cara dapat meredakan gejala nyeri haid, salah satunya dengan menggunakan produk herbal yang biasa dikonsumsi dan familiar di masyarakat, yaitu tonikum kunyit asam.

Tujuan: Penelitian ini bertujuan untuk mengetahui pengaruh pemberian tonikum kunyit asam pada wanita pranikah dengan dismenore di wilayah kerja Puskesmas Makartitama Kecamatan Gedung Aji Baru Kabupaten Tulang Bawang.

Jenis penelitian: Penelitian kuantitatif ini menggunakan desain penelitian eksperimen semu. Populasi penelitian ini adalah 38 responden yang mengalami dismenore, dengan sampel diambil sebanyak 30 responden secara purposive sampling. Variabel penelitian ini adalah tonikum kunyit asam dan dismenore. Penelitian ini dilaksanakan di wilayah kerja Puskesmas Makartitama, Kecamatan Gedung Aji Baru, Kabupaten Tulang Bawang, pada tanggal 15 Maret sampai dengan 15 Juli 2022. Pengumpulan data menggunakan lembar observasi, sedangkan analisis dilakukan secara univariat dan bivariat (Wilcoxon uji).

Hasil: Diketahui rerata dismenore pada wanita pranikah adalah 5,4 sebelum diberikan tonikum kunyit asam dan 2,9 setelah diberikan tonikum kunyit asam.

Kesimpulan: Tonik asam kunyit berpengaruh pada wanita pranikah dengan dismenore di wilayah kerja Puskesmas Makartitama Kecamatan Gedung Aji Baru Kabupaten Tulang Bawang (p-value = 0,000).

Rekomendasi: Disarankan kepada wanita pranikah dapat mengkonsumsi tonikum kunyit asam sebagai terapi komplementer dalam mengurangi dismenore.

Kata kunci: Dismenore, Tonik Asam Kunyit, Wanita Pranikah

ABSTRACT

Background: Dysmenorrhea is one of the most common gynecological problems suffered by women of various ages, experienced by 30-50% of women of reproductive age, and 10-15% of them lose job opportunities and interfere with learning activities at school and family life. Several ways can relieve the symptoms of menstrual pain, one of which is by using herbal products commonly consumed and familiar to the community, i.e., turmeric tamarind tonic.

Purpose: This study aims to determine the effect of turmeric tamarind tonic on premarital women with dysmenorrhea in Puskesmas Makartitama working area, Gedung Aji Baru Sub-district, Tulang Bawang Regency.

Research type: This quantitative research used a quasi-experimental research design. The population of this study was 38 respondents who experienced dysmenorrhea, with samples taken from as many as 30 respondents by purposive sampling. This study's variables were turmeric tamarind tonic and dysmenorrhea. This research was conducted in Puskesmas Makartitama working area, Gedung Aji Baru Sub-district, Tulang Bawang Regency, from March 15 to July 15, 2022. The data were collected using observation sheets, while the analysis was carried out by univariate and bivariate (Wilcoxon test).

Results: It was revealed that the mean dysmenorrhea in premarital women was 5.4 before being given turmeric tamarind tonic and 2.9 after being given turmeric tamarind tonic.

Conclusion: Turmeric tamarind tonic affects premarital women with dysmenorrhea in Puskesmas Makartitama working area, Gedung Aji Baru Sub-district, Tulang Bawang Regency (p-value = 0.000).

Recommendation: It is suggested that premarital women can consume turmeric tamarind tonic as a complementary therapy in reducing dysmenorrhea.

Keywords: Dysmenorrhea, Premarital Women, Turmeric Tamarind Tonic

INTRODUCTION

Menstruation refers to the periodic expulsion of blood and body cells from the vagina from the wall of a woman's uterus. Typically, menstruation begins between 10 and 13 years of age, depending on several factors, including the woman's health, nutritional status, and weight relative to height. Menstruation also occurs once a month until the woman reaches the age of 45-50 years (Manuaba et al., 2013).

Generally, many women complain of pain that lasts 2-3 days, starting the day before the beginning of menstruation. Pain during menstruation (dysmenorrhea) is felt by every woman differently; some are slightly disturbed, but others are so disturbed that they cannot carry out daily activities and have to rest and even have to be absent from school (Vidayati, 2019).

Dysmenorrhea, or painful menstruation, is one of the most common gynecological problems experienced by women of all ages. The incidence of dysmenorrhea in the world is exceptionally large. On average, more than 50% of women experience it. From the study results, the percentage of dysmenorrhea was around 60% in the United States, 72% in Sweden, and 55% in Indonesia. Research in the United States also revealed that dysmenorrhea was experienced by 30-50% of women of reproductive age, and 10-15% of them lost job opportunities and interfered with learning activities at school and family life (Kurniawati, 2020).

In Indonesia, the incidence of dysmenorrhea is estimated at 55% of women of reproductive age who are tormented by pain during menstruation. The prevalence of menstrual pain (dysmenorrhea) ranges from 45-95% among women of reproductive age. While generally harmless, it is often bothersome in women who experience it. The degree of pain experienced by each woman also differs; some are still able to work (occasionally while grimacing), and others cannot (Proverawati, 2013).

Moreover, dysmenorrhea has a major impact on many women because its occurrence can affect women's quality of life-related to health. As a result, dysmenorrhea is also responsible for considerable economic losses due to drug costs, medical care, and decreased productivity. In addition, dysmenorrhea makes women unable to carry out normal activities; for example, students who experience dysmenorrhea cannot concentrate on studying and learning motivation decreases because of the pain they feel (Masruroh, 2019).

The most common occurrence of dysmenorrhea in daily life is that a person will experience impaired ability to concentrate (75%) and

changes in normal physical activity (60%). In this case, increased uterine contractions cause dysmenorrhea pain, characterized by lower abdominal pain and nausea before and during menstruation, which occurs regularly and periodically (Irawan, 2018).

Aritonang said that several ways can relieve the symptoms of menstrual pain, pharmacological and non-pharmacological. Pharmacological drugs often used are analgesics and anti-inflammatories, such as mefenamic acid, ibuprofen, and others. However, using pharmacological drugs causes side effects, such as stomach upset and decreased blood flow (anemia). Meanwhile, for non-pharmacological treatment, many things can be performed to reduce pain in primary dysmenorrhea, for example, using warm compresses, regular exercise, and consuming herbal products that have been trusted for their efficacy (Aritonang, 2020).

Asroyo, 2020 said that herbal products or phytopharmaceuticals are currently the main alternatives for premarital women (WUS) who want to reduce pain without side effects. One of the herbal products commonly consumed and familiar in the community to reduce menstrual pain is turmeric tamarind tonic (Asroyo, 2020). It is a drink made with turmeric as the main ingredient. Naturally, turmeric is believed to contain active ingredients that can function as analgesic, antipyretic, and anti-inflammatory. In addition, it was explained that turmeric tamarind tonic as a pain reliever in primary dysmenorrhea had minimal side effects (Sari, 2020).

In this regard, curcumin will inhibit the cyclooxygenase (COX-2) reaction, hindering or reducing inflammation; thus, it will reduce or even inhibit uterine contractions. In addition, curcumenol as an analgesic will inhibit the release of excessive prostaglandins through the uterine epithelial tissue and inhibit uterine contractions, thereby reducing the occurrence of dysmenorrhea (Safitri, 2018).

For this reason, this study aims to determine the effect of turmeric tamarind tonic on premarital women with dysmenorrhea in Puskesmas Makartitama working area, Gedung Aji Baru Sub-district, Tulang Bawang Regency

RESEARCH METHOD

This quantitative research used a quasi-experimental research design. The population in this study was premarital women who experienced dysmenorrhea, with as many as 38 respondents, and a sample of 30 was obtained by purposive sampling. The study was conducted from March 15 to July 15, 2022, in Puskesmas Makartitama working area,

Gedung Aji Baru Sub-district, Tulang Bawang Regency.

The independent variable in this study was turmeric tamarin tonic, while the dependent variable was the incidence of dysmenorrhea. Data collection was carried out directly using a test instrument (dysmenorrhea pain observation sheet) and SOP for giving turmeric tamarind tonic. The bivariate analysis employed the Wilcoxon Signed Ranks test.

The intervention procedure includes measuring the pain scale on the first day of menstruation using the *Numering Rating Scale* (NRS), the next step is giving 100 cc of turmeric tamarin tonic 1 x a day for 3 days. The researcher measured the pain again on the 3rd day after the respondent consumed the turmeric tamarin tonic

RESEARCH RESULTS

Table 1
Characteristics of Premarital Women

Variable	Category	Number	Percentage
Age	< 20 and > 35 years old	8	26.7
	20-35 years old	22	73.3
BMI	< 18.5	5	16.7
	18.5-24.9	22	73.3
	25-29.9	3	10.0
Menstrual Cycle	28-30 days	17	56.7
	30-35 days	11	36.7
	< 28 and >35 days	2	6.7

Based on Table 1, for the highest characteristics, from 30 respondents, 22 (73.3%) were found with the age of 20-35. A total of 22

respondents (73.3%) had a BMI of 18.5-24.9, and 17 (56.7%) had a menstrual cycle of 28-30 days.

Univariate Analysis

Table 2
Dysmenorrhea in Premarital Women Before and After Giving Turmeric Tamarind Tonic

Dysmenorrhea	Mean	SD	Min	Max	N
Before	5.4	0.504	5	6	30
After	3.0	0.788	2	4	30

Table 2 presents that the mean dysmenorrhea in premarital women was 5.4 before being given turmeric tamarind tonic and 3.0 after being given turmeric tamarind tonic. It indicates that the pain of dysmenorrhea in premarital women decreased from a strong, deep, and stabbing pain to a tolerable one.

Bivariate Analysis

From Table 3, the mean difference was 2.4. Also, the statistical test results using the Wilcoxon test obtained a p-value = 0.000 ($\alpha = 0.05$). It denotes the effect of giving turmeric tamarind tonic to premarital women with dysmenorrhea.

Table 3
The Effect of Turmeric Tamarind Tonic on Premarital Women with Dysmenorrhea

Dysmenorrhea	Mean	Mean Difference	SD	p-value	n
Before	5.4	2.4	0.898	0.000	30
After	3.0				

DISCUSSION

Mean Dysmenorrhea in Premarital Women Before and After Giving Turmeric Tamarind Tonic

In this study, before being given the turmeric tamarind tonic, the mean dysmenorrhea in premarital women was 5.4, and after being given the turmeric tamarind tonic, it was 3.0. It indicates that dysmenorrhea pain in premarital women decreased from strong, deep, and stabbing pain to tolerable pain.

In line with Handayani's (2018) research, ten respondents' pain scales before being given a turmeric tamarind tonic drink showed a mean value of 5.20, the lowest value of 2, the highest value of 8, and the standard deviation of 1.619.

In this case, dysmenorrhea occurs due to uterine muscle contractions that cause blood flow to the uterus to be disrupted, causing severe pain or cramping in the lower abdomen. Dysmenorrhea also occurs when women experience menstrual cycles. This pain can occur at the time before, during, and until the end of menstruation. However, continuous pain results in the inability to move (Zuraidah et al., 2022).

Therefore, drug therapy and complementary medicine are often used to treat dysmenorrhea. Complementary medicine, such as herbs, yoga, relaxation, psychotherapy, massage, hypnosis, acupressure, and acupuncture, have been widely used. Specifically, the most common herbs used to treat dysmenorrhea are turmeric, ginger, fennel, cinnamon, and aloe vera. Many adolescents agree to overcome dysmenorrhea by resting or sleeping, taking medicine or herbs, and using hot compresses. Some who experience dysmenorrhea still use alternative therapies such as herbal medicine or compressing their stomachs using a hot water bottle. Herbal medicine or drinks are also believed by some adolescents as a solution to treat dysmenorrhea. Here, the herbal medicine consumed by adolescents is turmeric tamarind tonic as a non-pharmacological method, which is safe and easy to obtain to treat dysmenorrhea without side effects (Kartilah, 2020; Priyadi, 2018; Sanghi, 2019; Gustian, 2022).

In the opinion of the researchers, from the study results, the range of pain obtained before turmeric tamarind tonic therapy was 5.4, meaning that menstrual pain was in the moderate category. The pain felt was also a normal menstrual pain state. In addition, menstrual pain that occurred in respondents was physiological menstrual pain in women, not a pathological condition. According to researchers, during menstruation, many women generally complain of pain that lasts 1-2 days, starting the day before. Moreover, pain during menstruation (dysmenorrhea) experienced by every

woman differs; some are slightly disturbed, but others are so disturbed that they cannot carry out daily activities, which makes them have to rest or even be forced to be absent from work. For this reason, the management of menstrual pain with non-pharmacological therapy is expected to provide changes for the better, such as improving and reducing the pain and mood of patients with menstrual pain. Thus, health workers can take non-pharmacological actions to help adolescents, one of which is relieving pain.

According to researchers, turmeric tamarind tonic is a drink processed with the main ingredient of turmeric. Naturally, turmeric is believed to contain active ingredients that can function as analgesic, antipyretic, and anti-inflammatory. In addition, it was explained that turmeric tamarind tonic as a pain reliever in primary dysmenorrhea had minimal side effects. In this case, curcumin will work in inhibiting the cyclooxygenase (COX-2) reaction, thereby inhibiting or reducing inflammation. Eventually, it will reduce or even inhibit uterine contractions. Also, curcumenol as an analgesic will inhibit the release of excessive prostaglandins through the uterine epithelial tissue and hinder uterine contractions, thereby reducing the occurrence of dysmenorrhea.

The Effects of Turmeric Tamarind Tonic on Premarital Women with Dysmenorrhea

Based on the statistical test results using the Wilcoxon test, there was a mean difference of 2.4. In addition, the statistical test results using the Wilcoxon test obtained a p-value = 0.000 ($< \alpha = 0.05$), indicating the effect of giving turmeric tamarind tonic to premarital women with dysmenorrhea.

It aligns with Marsaid's (2017) research that, based on the Wilcoxon Matched Pairs statistical test, the results obtained a p-value of $0.000 < \alpha (0.05)$, so H_0 was rejected, and H_a was accepted. In other words, turmeric tamarind tonic extract effectively reduced dysmenorrhea in adolescent girls in Tambang Village, Pudak Sub-district, Ponorogo Regency.

In addition, pain during menstruation can cause discomfort, so treatment is needed, which can be done pharmacologically and non-pharmacologically. Herbal products or phytopharmaceuticals are currently the main alternatives for young women who want to reduce pain without side effects. One of the herbal products commonly consumed and familiar in the community to reduce menstrual pain is turmeric tamarind tonic. It is a drink made with turmeric as the main ingredient. Naturally, turmeric is believed to contain active ingredients that can function as analgesic,

antipyretic, and anti-inflammatory. In addition, it was explained that turmeric tamarind tonic as a pain reliever in primary dysmenorrhea had minimal side effects (Triratnawati, 2013).

In this study, the turmeric tamarind tonic is a drink whose main ingredients are turmeric and tamarind. Naturally, turmeric is believed to contain phenolic compounds as antioxidants, useful as analgesics, anti-inflammatory, antimicrobial, and blood purifiers. The active compound in turmeric is curcumin. Tamarind also has anthocyanin active ingredients that function as anti-inflammatory and antipyretic. Also, the antioxidant properties of tamarind fruit can be enhanced when combined with other spice ingredients, such as turmeric. The turmeric here improves blood circulation to prevent the occurrence of constriction of blood vessels when dysmenorrhea occurs. In turmeric tamarind tonic, the combination of turmeric and acid provides greater antioxidant activity (Novarina, 2019).

Moreover, turmeric tamarind tonic has basic properties as analgesic and anti-inflammatory. Curcumin is an active agent in turmeric that acts as an anti-inflammatory and antipyretic. Meanwhile, curcumenol is an analgesic. In addition, tamarind fruit has natural active agents' anthocyanins, anti-inflammatory and antipyretic. Tamarind fruit also contains tannins, saponins, sesquiterpenes, alkaloids, and phlebotomine to reduce nervous system activity. Furthermore, the most important biochemical mechanism inhibited by curcumin is the influx of calcium ions into uterine epithelial cells. If this inhibition of ion influx is carried out into uterine epithelial cells, uterine contractions can be reduced or even eliminated so that primary dysmenorrhea does not occur (Wardani, 2019).

According to researchers, giving turmeric tamarind tonic can reduce pain from severe to moderate to mild levels. Curcumin content in turmeric and anthocyanins in tamarind will inhibit the inflammatory process, which acts as an inhibitor of the cyclooxygenase (COX) enzyme, thereby inhibiting or reducing inflammation; thus, it will reduce or even inhibit uterine contractions that cause menstrual pain. In addition, curcumenol as an analgesic will inhibit the release of excessive prostaglandins through the uterine epithelial tissue and hinder uterine contractions, thereby reducing the occurrence of dysmenorrhea.

One of the benefits of curcumin, essential oils, anthocyanins, and tannins in the turmeric tamarind tonic drink is to block the production of prostaglandins, in this case, i.e., F2a (PGF2a), which causes the amount of the hormone prostaglandin to decrease so that the intensity of pain felt in

adolescents experiencing dysmenorrhea began to decrease. Also, it acts as a muscle relaxant that is contracting. By relaxing the muscles, the pressure decreases so that it can automatically reduce the pain felt as the muscles are not tense.

Based on the study results, overall, there was a decrease in menstrual pain, but there was a difference in pain reduction for each respondent, between 2-4 points. It was because of differences in the respondents' body mass index, aside from differences in age, weight, TB, BMI, and menstrual cycles.

Respondents' body mass index could also affect the menstrual pain scale and decrease menstrual pain after being given turmeric tamarind tonic therapy. A normal body mass index will more quickly benefit the therapy given in reducing the menstrual pain scale in respondents. It can be seen in the study results that four respondents had a normal BMI, there was a decrease in pain scale by 4 points, and it was the largest decrease in pain scale compared to a BMI of less or more.

According to researchers, moreover, being overweight can cause primary dysmenorrhea since excessive fat tissue can cause pressure on the blood vessels by fatty tissue in the reproductive organs in the body with excess body weight. Thus, the blood that should flow during the menstrual process is disrupted, and dysmenorrhea arises. In underweight, in addition to affecting the growth of body organ functions, menstrual disorders will also occur because the luteal phase requires more nutrients. Women with poor nutritional status (underweight) cannot fulfill these nutrients.

However, this study did not examine all the activities of premarital women at home, so it could not discuss eating patterns and habits carried out during menstrual pain at homes, such as rest and physical activity. The brief time was also a limitation of the researchers, and the different menstrual cycles of the respondents made the research results not the same.

CONCLUSION

There is an effect of turmeric tamarind tonic on premarital women with dysmenorrhea

SUGGESTION

Turmeric tamarind tonic is an herbal preparation with properties to reduce dysmenorrhea pain. Thus, health workers must educate the public to use it as a complementary therapy in reducing dysmenorrhea pain because it is easy, inexpensive, and has no significant side effects.

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