

The Effectiveness of Giving Tumeric Tamarind in Reducing Menstrual Pain (Dismenoroe) in Young Girls at Mts Al-Muqowamah

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ABSTRACT

Menstruation is a natural process for women, including young women. Data at MTs Al Muqowamah found that there were 213 young women who had menstruated, and 133 young women who experienced dysmenorrhea. This study aims to determine the effectiveness of giving turmeric acid to reduce menstrual pain (dysmenorrhoea) in young women at MTs Al-Muqowamah. This study used a pre-experimental demham design with one group pretest-posttest design. One-group pre-post test design to obtain menstrual pain data before and after the intervention. The number of samples in this study were 42 young women who met the inclusion criteria. The instrument used for data collection used a questionnaire and then the data were analyzed using the Wilcoxon test. The characteristics of menstrual pain (dysmenorrhoea) in young women before being given turmeric acid drinks included severe pain (69%) and after the intervention included moderate pain (57.1%). The results of the Wilcoxon test showed the effectiveness of giving turmeric acid to reduce menstrual pain (dysmenorrhoea) in young women at MTs Al-Muqowamah with a p value of 0.000.

INTRODUCTION

Adolescents are residents aged 10-19 years, whereas according to Regulation of the Minister of Health Number 25 of 2014 it is explained that adolescents are residents aged 10-18 years. Meanwhile, according to the Population and Family Planning Agency (BKKBN) that adolescents are in the age range of 10-24 years with unmarried status. According to the 2010 Population Census, the age group of 10-19 years in Indonesia was 43.5 million or around 18% of the total population. (RI Ministry of Health, 2017). Adolescence or Adolescence is a period of developmental transition between childhood and adulthood that goes through many changes both biological, cognitive and socio-economic. (Santrock, 2017). According to Rohan (2017) Changes during adolescence are not only physical changes, but also experience functional development, especially the reproductive organs. Adolescence is a period of maturation of the human reproductive organs and is often called puberty. In young women, puberty is marked by the presence of menarche or the first menstruation. (Fitriiningtyas, 2017)

Menstruation is a natural process for women, menstruation is the process of decaying the inner lining of the uterus (endometrium) which comes out through the vagina along with blood. (Princess, 2018). Many women experience problems during menstruation, one of which is menstrual pain or dysmenorrhea. The word dysmenorrhea (Dysmenorrhoe) comes from ancient Greek (Greek) which comes from the word dys which means difficult, painful, abnormal. The word meno means month and rrhea means flowing. So that dysmenorrhea can be interpreted as menstrual flow that is difficult or painful during menstruation. Dysmenorrhea is characterized by cramps in the lower abdomen, where this pain varies from mild to severe. The severity of menstrual pain is directly related to the length of menstruation and the amount of blood during menstruation. Menstruation is almost always followed by heartburn or pain. (Adlin, 2020)

According to data from the World Health Organization (WHO) in 2017, 1,769,425 people (90%) experienced dysmenorrhea, with 10-16% of them experiencing severe dysmenorrhea. This is supported by research that has been conducted in various countries, where the incidence of menstrual pain (dysmenorrhea) in the world is very high. On average, more than 50% of women in every country experience dysmenorrhea. The prevalence of dysmenorrhea in the United States in 2012 in women aged 12-17 years was 59.7%, with a degree of illness of 49% mild dysmenorrhea 37%, moderate dysmenorrhea 12%, severe dysmenorrhea 23.6% which resulted in sufferers not attending school. In 2012, 75% of young women in Egypt experienced dysmenorrhea, 55.3% mild dysmenorrhea, 30% moderate dysmenorrhea and 14.8% severe dysmenorrhea. A study conducted in India found that the prevalence of moderate dysmenorrhea was 30.37% and mild dysmenorrhea was 63.29%. In the same year in Japan the incidence of dysmenorrhea was 46% and 27.3% of sufferers were absent from school.

The incidence (prevalence) of dysmenorrhea in Indonesia is no less high than in other countries in the world, with dysmenorrhea reaching 60-70% of

women in Indonesia. The prevalence of dysmenorrhea sufferers in Indonesia is as much as 64.5% with most cases found in adolescents, namely 17-24 years old. The incidence of primary type dysmenorrhea was 54.89% of women while the remaining 45.11% were secondary types. (Silaen, 2019). Menstrual pain (dysmenorrhea) can hinder adolescents' daily activities, interfere with learning concentration or even force sufferers to rest so they cannot participate in the learning process. Efforts that are often made to overcome dysmenorrhea are to take drugs regularly. But the nature of these drugs only relieves pain, so that sufferers will be addicted to drugs in the long term. If consumed continuously will have a negative impact on health. Continuous use of pharmacological drugs can cause side effects such as gastric disturbances, anemia, and even cause psychological mental effects that make sufferers suggestive and cannot escape from drugs. They feel that in order not to experience menstrual pain, they have to take medication. Apart from using drugs, pain can also be reduced by adequate rest, regular exercise, massage and warm compresses. In addition, menstrual pain can also be treated using herbal plants. Some plant ingredients are believed to reduce pain, namely turmeric, tamarind, cinnamon, cloves, ginger. (Widya Nengsih, 2020)

Data according to the IOT (Traditional Medicine Industry) and IKOT (Small Industry of Traditional Medicine) from 4,187 there were 40% of people using turmeric as a treatment and 10% of people consuming turmeric to reduce menstrual pain. (Rosi Kurnia Sugiharti, 2021). One herbal product that is commonly consumed and is an alternative for young women who want to reduce menstrual pain is a drink of sour turmeric. Tamarind turmeric drink is one of the drinks that is prepared with the main ingredients of turmeric and tamarind. Naturally, turmeric (*Curcuma Longa*) is believed to contain phenolic compounds that can function as antioxidants, are useful as analgesics, anti-inflammatory, antimicrobial, and blood purifiers. The active compound found in turmeric is curcumin. Tamarind (*Tamarindus Indica*) also has an active ingredient, namely anthocyanin which functions as an anti-inflammatory and antipyretic. The content of curcumin in turmeric and anthocyanins in tamarind will inhibit the cyclooxygenase (COX) reaction thereby inhibiting or reducing the occurrence of inflammation so that it will reduce or even inhibit uterine contractions which cause menstrual pain. Tamarind turmeric is a very efficacious drink to reduce pain during menstruation. (Ayu Wulandari, 2018)

Research conducted by Teguh Asroyo, Tiya Putri Nugraheni, and Meta Ayu Masfiroh (2019), with the title "The Effect of Giving Turmeric Tamarind as a Therapy for Dysmenorrhea on Reducing Pain Scale", with a total of 48 respondents, found that the average pain scale before being given therapy was 6.27 and after being given turmeric tamarind, the average pain scale decreased to 2.85. The results of this study indicate that the tamarind turmeric drink greatly influences the pain scale in dysmenorrheal female students. Research by Veolina Imran and Etriyanti (2020) with the title "The Effect of Giving Turmeric (Curcumin) Acid (*Tamarindus Indica*) Boiled Water on the Intensity of Menstrual Pain (Disminore) in Class X Students of MAN 2 Padang in 2020", the results were obtained before being given turmeric boiled water tamarind in 16

female students experienced moderate levels of dysmenorrheal pain. After being given turmeric and tamarind cooking water, 16 female students experienced mild dysmenorrhea. This shows that there is an effect of giving sour turmeric boiled water on the intensity of menstrual pain in class X MAN 2 Padang students.

This is supported by research conducted by Rosi Kurnia Sugiharti and Dina Febriana (2021), with the title "The Habit of Drinking Jamu Turmeric Asam in Overcoming Dismenor Complaints in Young Women", the results show that young women who do not have the habit of consuming tamarind and turmeric herbs have the possibility of experiencing primary dysmenorrhea is greater than that of young women who have a habit of consuming tamarind and turmeric herbs. The initial survey that the researchers conducted on June 20 2022 at MTs Al-Muqowamah, that out of the number of teenage girls who had menstruated as many as 213 people, there were 133 girls who experienced dysmenorrhea. Based on the data above, the researcher is interested in conducting research on "Effectiveness of Giving Turmeric Tamarind in Reducing Menstrual Pain (Dismenoroe) in Young Girls at MTs Al-Muqowamah in 2022".

IMPLEMENTATION AND METHODS

This research method uses Pre-Experimental Design, where the research design uses a quasi-experimental method. The research design used was one group pretest-posttest design. Data collection was carried out using primary data, namely data obtained from the results of the questionnaire. The research instrument was a questionnaire in the form of data sheets and pain scale measurement sheets *Faces Pain Rating Scale*. The sample in this study were some of the young women who experienced menstrual pain, where the sample calculation used the Lemeshow formula and obtained a sample number of 42 people. The sampling technique is simple random sampling. The analytical method used is univariate and bivariate analysis *Wilcoxon Signed Rank Test*.

RESULTS AND DISCUSSIONS

Table 1. Characteristics of Young Women at MTs Al-Muqowamah in 2022

Riw. Gynec	n	%
Yes	0	0
Not	42	100
Menstrual Length		
≤7 days	17	40.5
>7 days	25	59.5
Menstrual Pain		
Yes	42	100
Not	0	0
Menstrual Pain Time		
Before Menstruation	8	19.05
During Menstruation	34	80.95

Length of Pain		
1 day	0	0
2 days	0	0
3 days	14	33.3
>3 days	28	66.7
Actions taken		
Left	31	73.8
Warm compress	5	11.9
Inhale	6	14.3
Take medicine	0	0
Drink herbs	0	0

The data in table 1 shows that out of the 42 young women studied, none of the respondents had a gynecological history, most of the respondents had menstrual periods of more than 7 days (59.5%), all respondents during menstruation felt menstrual pain (100%), menstrual pain Most of these were felt during menstruation (80.95%), most of the respondents felt menstruation with a duration of more than 3 days (66.7%), when menstrual pain was mostly ignored by respondents (73.8%).

Table 2. Frequency Distribution of Characteristics of Menstrual Pain (Dysmenoroe) before Consumption of Turmeric and Tamarind in Young Girls at MTs Al-Mugowamah

Pain Level	Frequency (f)	Percentage (%)
No Pain	0	0
Mild pain	0	0
Moderate Pain	13	31.0
Severe Pain	29	69.0
Amount	42	100

From the data in table 2, it can be seen that the level of menstrual pain in young women before being given intervention was mostly severe pain, namely 29 people (69.0%) and moderate pain, 13 people (31%). Then the level of pain that was studied on the third day after being given turmeric acid can be seen in the following table:

Table 3. Frequency Distribution of Menstrual Pain Characteristics (Dysmenoroe) after Consumption of Tamarind Turmeric in Young Women MTs Al-Mugowamah

Pain Level	Frequency (f)	Percentage (%)
No Pain	0	0
Mild pain	18	42.9
Moderate Pain	24	57.1
Severe Pain	0	0
Amount	42	100

From the data in Table 3, it can be seen that the level of menstrual pain in young women after being given the intervention was mostly moderate pain, namely 24 people (57.1%) and mild pain, 18 people (42.9%).

Table 4. Descriptive Statistics on the Characteristics of Menstrual Pain (Dysmenoroe) in Young Girls at MTs Al-Muqowamah

Painful	Min-Max	Means	SD
Pre Test	5-9	7.05	1.147
Posttest	2-6	3.76	1.22

The data in table 4 shows that menstrual pain (dysmenoroe) in young women before being given an intervention in the form of consumption of turmeric acid, the lowest is 5 and the highest is 9 points, the average is 7.05 points or is included in the severe pain category, whereas after being given an intervention for 3 days, the lowest was 2 points and the highest was 6 points, the average menstrual pain decreased to 3.76 or included in the category of moderate pain.

Table 5. The Effectiveness of Giving Tamarind Turmeric to Reduce Menstrual Pain (Dysmenoroe) in Young Women at Mts Al-Muqowamah

		N
Post_Test - Pre_Test	Negative Ranks	39a
	Positive Ranks	0b
	ties	3c
	Total	42
P value	0.000	

Data in table 5 from the Wilcoxon test results obtained data that the Negative Rank was 39, meaning that the scale of menstrual pain in young women decreased after being given turmeric acid for 3 days as many as 39 people, a positive rank of 0, meaning that there was no level of menstrual pain in respondents who experienced an increase, and Ties cesarean 3, meaning that the scale of menstrual pain in young women is constant or does not change as many as 3 people. From the statistical results, the sign value is 0.000, meaning giving tamarind turmeric is effective in reducing menstrual pain (dysmenoroe) in young women at MTs Al-Muqowamah.

Based on the results of the study, the average menstrual pain (dysmenorhoe) in young women before being given the intervention was 7.05 pont, while after being given the intervention it was 3.76. If categorized, tThe level of menstrual pain in young women before being given the intervention was mostly severe pain (69.0%) and after the intervention most of it was moderate pain (57.1%). Looking at these data, it can be stated that all young women at MTs Al Muqowamah feel menstrual pain, but most experience severe pain. This indicates that the respondents experienced severe cramps in the lower abdomen, pain spread to the thighs and waist, no appetite, nausea, body weakness, not strong activity, unable to concentrate.

The severe pain experienced by the respondent was caused by excessive contractions. The increased adrenaline hormone causes the body's muscles to tense up including the uterine muscles and can cause pain during menstruation. According to researchers, pain can be caused by increased levels of prostaglandins and psychological factors such as stress, excessive physical activity, and the influence of poor food consumption. This is in accordance with Puji (2018) which states that the body reacts when experiencing stress. The first sign that indicates a state of stress is a reaction that appears, namely the tightening of the body's muscles filled with stress hormones which causes blood pressure, heart rate, body temperature, and respiration to increase. The body will produce excess adrenaline, estrogen, progesterone and prostaglandins.

Pain during menstruation (dysmenorrhea) that occurs 24 hours before or during menstruation. Andarmoyo (2013) mentions menstrual pain can occur before or during menstruation lasts up to the first 12 hours of menstruation. The pain that is felt will vary for each individual, from mild to severe. If menstrual pain (dysmenorrhea) has reached a severe level, further therapy will be needed from a doctor. Individuals who experience menstrual pain (dysmenorrhea) to a severe level are usually already at the stage of interfering with daily activities or even being unable to do their job. Menstrual pain (dysmenorrhea) is felt in the lower abdominal area and then spreads to the back and even the entire back.

Every young woman has different perceptions and reactions to pain, mild, moderate or severe, the intensity of pain is known if someone has experienced it. After giving turmeric tamarind for three days, the pain experienced by adolescents decreased to moderate (57.1%), in this case the respondents experienced kram in the lower abdomen, spreading to the waist, decreased appetite, disturbed activity, difficulty concentrating. This decrease can be caused by the presence of the natural ingredients in the drink, turmeric tamarind, curcumin and anthocyanins which will work to inhibit the cyclooxygenase (COX) reaction thereby inhibiting or reducing the occurrence of inflammation (Almada, 2012) so that it will reduce or even inhibit uterine contractions (Thaina, 2012).

Based on this description, it can be stated that menstrual pain occurs due to an increase in prostaglandin production. This increase will result in uterine contractions and vasoconstriction of blood vessels, so the blood flow to the uterus decreases so that it does not get an adequate supply of oxygen, causing pain. After the intervention was carried out, the respondent's pain scale decreased as a result of the natural ingredient content of the tamarind turmeric drink which inhibited or reduced inflammation.

Based on the results of the study, it was found that 39 female adolescents experienced a decrease in menstrual pain after being given turmeric acid drink for 3 days, there was no level of menstrual pain, 3 female adolescents experienced an increase in menstrual pain. Statistical results using Wilcoxon obtained a sign value of 0.000, which means aThere is the effect of giving tamarind turmeric on reducing menstrual pain (dysmenorrhea) in Mts Al-Muqowamah students in 2022.

Based on this description it can be stated that the administration of turmeric tamarind is effective in reducing menstrual pain (dysmenorrhoea) in young women means kTamarind has benefits that can reduce menstrual pain. There was a decrease in the level of menstrual pain after being given the tamarind turmeric drink because the tamarind turmeric drink contains active compounds curcumin and anthocyanins which function as menstrual pain relievers.

Tamarind turmeric drink is a traditional drink made from turmeric and tamarind which contains curcumin and anthocyanin compounds which can function as menstrual pain relievers. Afiah (2017) stated that tamarind turmeric drink is a drink whose main ingredients come from turmeric and tamarind. Turmeric is naturally believed to contain phenolic compounds as antioxidants, useful as analgesics, anti-inflammatory, antimicrobial, and blood purifiers. The active compound found in turmeric is curcumin. Tamarind also has active ingredients, namely anthocyanins, which function as anti-inflammatory and antipyretic. More specifically, it can be explained that the curcumin content in turmeric and anthocyanins in tamarind will inhibit the cyclooxygenase (COX) reaction thereby inhibiting or reducing the occurrence of inflammation so that it will reduce or even inhibit uterine contractions which cause menstrual pain.

The research was carried out in accordance with the findings from previous research such as that of Winarso's research (2013) concerning the effect of drinking turmeric acid on reducing the level of primary dysmenorrhea pain in female students of Madrasah Tsanawiyah Negeri Jatinom Klaten, the results of respondents who did not experience dysmenorrhea after drinking turmeric acid were 38.6%, which is included in the category of mild pain 47.7% and respondents with moderate pain level 13.6%. So that it can be concluded that H_0 is accepted, which means that there is an effect of drinking tamarind turmeric on reducing the level of dysmenorrheal pain in MTsN Jatinom Klaten students.

Based on research conducted by Safitri (2013), regarding the effect of sour turmeric drinks on reducing the primary menstrual pain scale, using the duration of the posttest pain scale measurement 15 minutes after the respondent was given treatment, the results showed that of all respondents who experienced menstrual pain, there were respondents who did not experience a change or decrease in pain after being given treatment. So in this study the researchers added the time duration to 30 minutes. In line with Leli's research, (2017) concerning the effect of tamarind turmeric on the management of menstrual pain in class XI students of SMA Negeri 1 Sugihwaras, it was found that students who consumed tamarind turmeric tended to experience mild menstrual pain, because tamarind turmeric has benefits that can reduce menstrual pain. There was a decrease in the level of menstrual pain after being given the tamarind turmeric drink because the tamarind turmeric drink contains active compounds curcumin and anthocyanins which function as menstrual pain relievers.

Based on this description it can be stated that tamarind turmeric is useful as an analgesic which can reduce menstrual pain in adolescents. Turmeric contains curcuminoids which are a type of antioxidant, have anti-inflammatory properties that can inhibit or reduce inflammation thereby reducing or even inhibiting uterine contractions. Tamarind is a fruit that has high antioxidant levels and will increase its antioxidant levels when combined with other spices.

CONCLUSIONS AND RECOMMENDATIONS

Menstruation is a natural process for women, including young women. Data at MTs Al Miqowamah found that there were 213 young women who had menstruated, and 133 young women who experienced dysmenorrhea. This study aims to determine the effectiveness of giving turmeric acid to reduce menstrual pain (dysmenorrhoea) in young women at MTs Al-Muqowamah. This study used a pre-experimental demham design with one group pretest-posttest design. One-group pre-post test design to obtain menstrual pain data before and after the intervention. The number of samples in this study were 42 young women who met the inclusion criteria. The instrument used for data collection used a questionnaire and then the data were analyzed using the Wilcoxon test. The characteristics of menstrual pain (dysmenorrhoea) in young women before being given turmeric acid drinks included severe pain (69%) and after the intervention included moderate pain (57.1%). The results of the Wilcoxon test showed the effectiveness of giving turmeric acid to reduce menstrual pain (dysmenorrhoea) in young women at MTs Al-Muqowamah with a p value of 0.000.

Based on the results of the research and discussion regarding the effectiveness of giving tamarind turmeric to reduce menstrual pain (dysmenoroe) in young women at MTs Al-Muqowamah, it can be concluded as follows:

1. The characteristic description of menstrual pain (dysmenoroe) in young women at MTs Al-Muqowamah before being given turmeric acid drink included severe pain (69%) and after the intervention included moderate pain (57.1%).
2. There is the effectiveness of giving turmeric acid to reduce menstrual pain (dysmenoroe) in young women at MTs Al-Muqowamah with a p value of 0.000.

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