E-ISSN: 2987-209X
International Journal of Midwifery and Health Sciences
Vol. 1,Issue 3 (2023)

Tamarind Turmeric Drink on Menstrual Pain among Adolescence Girls

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Submissiondate:19-11-2023;Date of received: 27-11-2023;Publication date: 30-11-2023

Abstract

Background: During the menstruation, most of women experience menstrual disorder starting from light, medium, to sever pain. One of the ways to overcome the pain is drinking tamarind turmeric decoction.
Objective: The research aims to determine the effect of tamarind turmeric decoction to decrease the pain level of dysmenorrheal pain among female students of Ciruas Junior High School 3, in Serang, Banten.
Methodology: This was experimental research with quasy eksperimen (pre dan post test design. The research used paired-Test with the rate significance p= 0.000. There were 40 respondents who suffer from dysmenorrheal pain as the samples. The tamarind turmeric decoction was consumed one glass a day or 220 ml a day for to days.
Result: Before drinking tamarind turmeric decoction, the pain level was 14 experienced mild pain (35%), 24 experience medium pain (60%), and experience 2 severe pain (5%). After drinking it, the pain level as 28 experience mild pain (70%), 12 experience medium pain (30%). The result shows that there was a decrease of pain level after the intervention. The result of statistical test was p=0,000 (p<0,05). It shows that there was a significant effect of consuming tamarind turmeric decoction to decrease dysmenorrheal pain level among female students of Ciruas Junior High School 3, Serang, Banten.
Conclusion and Suggestion: Tamarind turmeric decoction helps reducing dysmenorrheal pain. Female student needs to consume the decoction to overcome the menstrual pain.

Keywords: tamarind, turmeric, drink, menstruation, pain.

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Introduction

Adolescence is a period of transition from children to adults, not just in the sense psychological, but also physical. In fact, the physical changes that occur are symptoms primary in adolescent growth[1]. Between physical changes that have the greatest influence on adolescent mental development is growth body (body gets longer and taller), and the reproductive organs begin to function (marked with menstruation in women). Some teenagers experiencing problems during menstruation, experiencing dysmenorrhea[2].

According to incident data, it was 1,769,425 people (90%) of women who experience dysmenorrhea where 10-15% experience severe menstrual pain causing women to be unable to do so any activity[3]. Research in Sweden, 80% teenagers aged 19-21 years experienced menstrual pain, 15% limit their daily activities when menstruation and need medication for reduces menstrual pain, 8-10% do not follow or enter school and almost 40% financial and Women's quality of life has an adverse impact[4].

Dysmenorrhea is pain during menstruation caused by excessive amounts of prostaglandin F2α in menstrual blood, which stimulates uterine hyperactivity and uterine muscle spasms[5]. Menstrual pain is normal, but can be excessive if influenced by psychological and physical factors, such as stress, shock, narrowing of blood vessels, chronic illness, lack of blood and declining body condition.

Adolescent women in Southeast Asia. It is estimated that up to 80% of people experience menstrual pain women so that it interferes with their daily activities and causes 50% of teenagers who are still school can't attend school and don't carry out daily activities[6]. So as The incidence of menstrual pain in Indonesia is sufficient high, namely 54.89% of primary menstrual pain and 9.36% secondary menstrual pain[3]. According to the findings of a study by Sharma et al (2008) of the number of adolescent respondents who are still in school, 35% usually said teenagers do not follow the lessons at school during menstrual pain and 5% said coming to school but only sleeping in the classroom[7].

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Several nonpharmaceutical techniques to treating menstruation discomfort have emerged. Homeopathy (e.g., belladonna and chamomilla), biofeedback, acupuncture, relaxation techniques, massage, youthful water drinking, aromatherapy (e.g., rose oils), and the use of particular herbal medicines are some of them[8].

Herbal products which is an alternative for female students Want to reduce menstrual pain is a drink tamarind turmeric. Tamarind turmeric drink is a drink whose main ingredient comes from turmeric and acid[9]. Natural content of turmeric drink acids, curcumine and anthocyanins will work in inhibiting the cyclooxygenase (COX) reaction thereby inhibiting uterine contractions. The curcumine content in turmeric and anthocyanins in tamarind will inhibit it cyclooxygenase (COX) reaction so inhibit or reduce inflammation and will reduce or even hinder Uterine contractions that cause menstrual pain.

A group of women who experience primary dysmenorrhea overcome and cure menstrual pain by taking medication regularly. However, the nature of these drugs only relieves pain, so sufferers will experience drug dependence in the long term. If consumed continuously it will have a negative impact on health. The use of pharmacological drugs causes side effects such as stomach disorders, anemia, and what is worse is the mental and psychological impact that makes the sufferer suggestible and unable to get away from the drugs. They feel that to not experience menstrual pain they have to take medication Data according to IOT (Traditional Medicine Industry) and IKOT (Small Traditional Medicine Industry) from 4.187 shows that 40% of people use turmeric as a treatment and 10% of people consume turmeric to reduce pain during menstruation (Leli et al, 2011).

Since this intervention has not been implemented in SMP N 3 Ciruas Serang Regency Banten Province, the researchers interested to identify the effect of tamarind tumeric on menstrual pain among female students in SMP N 3 Ciruas Serang Regency Banten Province in 2018.

Method

Method should be structured as follows:

1. Research design

The design of this study is a quasy experimental design with control group.

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2. *Setting and samples*

The population of this study was female students of class XII which consisted of 150 students who had got menstruation. 40 students were recruited as the sample by accidental sampling technique. They were divided into experiment (20) and control group (20).

3. *Intervention (applies to experimental studies)*

The intervention is tamarin turmeric drink which was made by the researcher. It is composed with ½ kg turmeric, ¼ kg palm sugar, ½ kg tamarind, 2 liters water, a teaspoon of salt. The herbs were blended and the extract was used. The herbs then were boiled with water until boiling. After the temperature is cold, it was administered to the respondents.

4. *Measurement and data collection*

The VAS (Visual Analog Scale) was used to assess the menstrual pain before and after intervention in the experiment and control group. The experimental group received routine care and tamarind turmeric drink, while the control group received only routine care.

5. *Data analysis;*

Data were analyzed by univariate and bivariate analysis. The normality test was performed to choose the appropriate statistic.

Results

Table 1

The Menstrual Pain Levels in the Experiment and Control Group before Intervention

	Pain Levels	Control Group		Pain Levels	Experiment group	
		f	%		f	%
1.	No pain	-	-	Not present	-	-
2.	Mild	11	55	Mild	3	14
3.	Moderate	9	45	Moderate	15	24
4.	Severe	-	-	Severe	2	2
	Total	20	100		20	40

Based on table 1, out of the 20 respondents in the control group, the majority of respondents 11 experienced mild menstrual pain (55%). In addition, the majority of respondents experienced moderate level menstrual pain in the experimental group (75%).

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Table 2

The Menstrual Pain Levels in the Experiment and Control Group after Intervention

	Pain Levels	Control Group		Pain Levels	Experiment group	
		f	%		f	%
1.	No pain	11	55	Not present	3	15
2.	Mild	2	10	Mild	9	45
3.	Moderate	7	35	Moderate	8	40
4.	Severe	-	-	Severe	-	-
	Total	20	100		20	100

Based on table 1, out of the 20 respondents in the control group, the majority of respondents experienced no menstrual pain (55%). In addition, the majority of respondents experienced mild level menstrual pain in the experimental group (45%).

Table 3

The Differences of Menstrual Pain before and After Intervention in Experimental Group

No	Menstrual Pain	Mean	SD	T	*p*
1.	Nyeri Haid *Pre-test*	4.23	1.577	18.449	0.000
2.	Nyeri Haid *Post-test*	1.90	1.799		

Based on table 3 above, it shows that the mean of menstrual pain before the intervention is 4.23 and after the intervention was given is 1.90. So, it can be concluded that the results of the Ho hypothesis is rejected, means that statistically there is a statistically significant difference between the mean menstrual pain before and after the intervention (p=0.000 t=18.449).

Table 4

The Differences of Menstrual Pain After Intervention between Experiment and Control Group

No	Menstrual Pain	Mean	SD	T	*p*
3.	Experiment *Group*	2.3	1.559	3.243	0.000
4.	Control *Group*	1.5	1.906		

Based on table 4.4 above, it shows that out of the 20 respondents in the

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experimental group, he average of menstrual pain is 2.3. In addition, the average of menstrual pain score in the control group is 1.5. From the results of statistical tests we can conclude that there is a significant difference between the average menstrual pain between the experimental and control groups (p=0.002 t=3.243).

Discussion

Based on the research results, it can be concluded that of the total number of female students after being given intervention in the control and experimental groups, 40 respondents, the majority of respondents who did not experienced menstrual pain were 14 respondents, those who experienced mild menstrual pain were 11 respondents, while those who experienced moderate menstrual pain were 15 respondents. The results of statistical tests using the Wilcoxon Signed Rank-test statistical test obtained a value of p=0.000 (p<0.05), this shows that drinking tamarind for respondents who experienced dysmenorrhea pain during menstruation reduced the degree of pain. Based on these results, it can be concluded that there was a decrease in the average intensity of menstrual pain after administering tamarind turmeric decoction in the experimental and control groups. The average pain intensity in both groups decreased, this happened because the pain felt by the respondents was intermittent.

Based on the research results, it is known that the average menstrual pain before and after the intervention of giving tamarind turmeric boiled water in adolescent girls experienced a decrease in menstrual pain. This research is in accordance with research conducted by (Winarto, 2004) where boiled turmeric acid is a drink that is very efficacious for reducing pain during menstruation (menstrual pain)[10]. Turmeric acid is prepared with the main ingredients of turmeric and tamarind. One of them can be processed into tamarind turmeric stew. This sour turmeric decoction has many health benefits and is often used in various traditional medicines. Tamarind turmeric decoction has antioxidant activity because it contains phenolic compounds. Also useful as an analgesic, anti-inflammatory, antioxidant, antimicrobial, and blood cleanser. Likewise, tamarind which contains flavonoids functions as a pain reliever and sweat reliever.

Tamarind is one that has high antioxidant levels and its antioxidant levels will increase when combined with other spices. Research shows that giving turmeric drinks mixed with acid can reduce the scale of menstrual pain for (Makiyah & Anggraeni,

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2023)[11]. The anti-oxidant properties of tamarind fruit can be increased if combined with other spices, such as turmeric, which functions to improve blood circulation so that it can prevent blood vessel contractions during menstrual pain. Turmeric has been proven to contain the highest level of curcumin (yellow dye) and has pharmacological capabilities as anti-bacterial, anti-inflammatory, anti-oxidant, anti-cancer, anti-HIV and anti-parasite.

Menstrual pain is a normal thing that happens to every woman, but not all women experience the same menstrual pain, sometimes some feel mild, moderate to severe menstrual pain and some even faint and there are also those who don't feel menstrual pain. There are many ways to reduce pain during menstruation, including according to research (Leli et al, 2011), apart from medication, pain can also be reduced with adequate rest, regular exercise, massage and warm compresses[12].

From the bivariate results, it was found that there was a significant difference between the mean intensity of menstrual pain in the experimental group and the control group after administration of boiled turmeric water. The results of this study are in accordance with research (Anindita, 2010), which shows that there is an influence of the habit of consuming boiled water from tamarind turmeric on complaints of menstrual pain in young women in the municipality of Surakarta[13]. The effect of this habit on complaints of menstrual pain is that in this case it reduces complaints of menstrual pain in young women and shows a positive relationship between variables as indicated by the results of calculating the Odds Ratio. A study found that the mean pain score in tamarind turmeric drink group (Mean= 27.32; SD = 1.38) was lower than the mean pain score in the ginger warm compresses (Mean = 33.68; SD = 1.38), and it was statistically significant (p= 0.148)**[14].**

This is in accordance with research of *Leli et al.,* (2011) regarding the effect of tamarind turmeric on the treatment of menstrual pain in class XI female students at SMA Negeri 1 Sugihwaras[12]. It was found that female students who consumed tamarind turmeric tended to experience a decrease in menstrual pain. So it can be concluded that Ho is accepted, which means there is an effect of tamarind turmeric on menstrual pain in class XI female students at SMA Negeri 1 Sugihwaras. Therefore, adolescent girls need to consume boiled water from tamarind turmeric during menstruation, which aims

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to reduce pain during menstruation. Apart from consuming boiled water from tamarind turmeric, you can also get adequate rest, regular exercise, massage and warm compresses. Apart from that, menstrual pain can also be treated using herbal plants including tapak liman, white ginger, turmeric and sidaguri.

Limitation

The limitation of this study are, the short study period which is onlu 30 days and the small sample size. There is no specific criteria for the age of students. Future study is needed to explore more about this intervention in more specific criteria of respondents and large sample size.

Conclusion

This study found that there is a statistically significant difference between the mean menstrual pain before and after the intervention (p=0.000 t=18.449) and there is a significant difference between the average menstrual pain between the experimental and control groups (p=0.002 t=3.243). Thus, the tamarin tummeric drink is effective to reduce menstrual pain among adolescent girls.

Ethical Considerations

This study has gained approval from the Universitas Nasional and SMP N 3 Ciruas Serang Regency Banten Province.

Acknowledgment

This study acknowledges Universitas Nasional who provided partial funding for the publication fee.

Conflict of Interest

There is no conflict of interest in conducting this study.

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