THE EFFECT OF GIVING ACID TURMERIC ON REDUCING DYSMENORRHEA IN ADOLESCENT WOMEN

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ABSTRACT
Dysmenorrhea is menstrual pain felt by women during menstruation. The pain felt is usually accompanied by dizziness, nausea, and vomiting before menstruation. Pain during menstruation is caused by uterine muscle spasms. The aim is to determine the effect of tamarind turmeric on changes in the pain scale in young women in Tambe Village, Bolo District, Bima Regency. The research design used in this research is the One Group Pre-Test-Post Test Design. The research subjects were teenagers in the working area of Bima Health Center who met the inclusion criteria. The sample was determined using purposive sampling. Data was obtained from the questionnaire sheet univariately and bivariately. Bivariate analysis in the form of frequency distribution is presented in table form using the Wilcoxon test. The effect of giving tamarind turmeric on reducing dysmenorrhea pain in young women in Tambe Village, Bolo District, Bima Regency in 2023, obtained a value of $p = 0.000$.

Keywords: Adolescents, Dysmenorrhea, Tamarind Turmeric.

INTRODUCTION
Adolescent reproductive health services are a series of activities aimed at to teenagers maintain healthy reproduction. That’s why young women require health knowledge about the reproductive system, menstruation, and changes in their bodies (Afrioza, S., & Srimulyati, 2022). Dysmenorrhea is a complaint that women often experience during menstruation. Pain is felt in the lower abdomen, sometimes accompanied by dizziness, weakness, nausea, and vomiting, usually occurring during menstruation or before menstruation. Pain during menstruation is caused by uterine muscle spasms (Dhita, 2019). Dysmenorrhea is pain felt in the lower abdomen or cramps before menstruation that lasts 2-3 days, starting the day before menstruation starts (Andriana, N., & Aldriana, 2018). Dysmenorrhea is divided into two types, primary dysmenorrhea and secondary dysmenorrhea. In the United States, the prevalence of pain menstruation is estimated at 45-90%, then in India, it was 75% and in Egypt, it is estimated that the prevalence rate is 75%. Especially in Indonesia, the pain rate primary type of menstruation was 54.8% and the type secondary was 9.36% (Widiatami, T., Widyawati, M. N., & Admini, 2019). Dysmenorrhea often occurs in women between the ages of 20 and 25, in up to 61% of unmarried women (Reeder, 2020). Based on 2020 World Health Organization (WHO) data, the incidence of dysmenorrhea in women is 1,769,425 (90%), with 10-16% suffering from severe dysmenorrhea. The incidence of dysmenorrhea in the world is very high. On average, more than 50% of women suffer from it (Herawati R., 2021).

Puberty is marked by the arrival of the first menstrual period (menarche), namely the period of Early menstruation before teenage girls enter the reproductive period. Menstruation is the regular discharge of blood from the womb. Menstruation occurs because the egg cells female are not fertilized. This matter causes the endometrium or lining of The uterine wall to thicken and eventually expel menstrual blood.
through the ducts reproduction (Ani, Aji, et al., 2022). Menstruation comes repeatedly every month, which is called the menstrual cycle. Normal menstruation is 28 days, however, some women have cycles of irregular menstruation. When Teenagers usually experience painful menstruation in the stomach or what is usually called dysmenorrhea (Romlah, S. N., Fadilah, F., Haryanto, S., Rahmi, J., & Juniar, 2021).

There are several ways to relieve symptoms of dysmenorrhea, namely by pharmacological methods and non-pharmacological. Some herbal plants can reduce pain. One of them is Turmeric has analgesic properties, antipyretic, and anti-inflammatory (Sugiharti, R. K., & Febriana, 2021). Tamarind contains the active ingredient, namely anthocyanin which can treat and relieve pain menstruation by inhibiting the reaction cyclooxygenase (COX) which produces prostaglandins that cause menstrual pain (Rezkiyanti, A., & Rusli, 2022).

Therefore, this problem can be overcome by using traditional plants. Traditional medicine, for example, sour turmeric, which is usually one of the ingredients in food recipes, turns out to have benefits, properties, and ingredients that are good for health because it does not cause side effects unless used excessively (Hembing, 2019). Turmeric is rich in essential oils which can prevent excessive stomach acid from being released and reduce excessive bowel movements. Likewise, tamarind (tamarind) has active ingredients as anti-inflammatory, antipyretic, and sedative (Nair, 2019). Incidence of menstrual pain worldwide world according to the American Family Physician still very much, the percentage of pain menstruation in the world on average is more than 50% ranging from 15.8- to 89.5% of women in every country experience menstrual pain. In the United States, the prevalence of pain menstruation is estimated at 45-90%, then in India, it was 75% and in Egypt, it is estimated that the prevalence rate is 75%. Especially in Indonesia, the pain rate primary type of menstruation was 54.8% and the type secondary was 9.36% (Widiatami, T., Widyawati, M. N., & Admini, 2019)

Based on the background above, researchers are interested in researching "The Effect of Giving Tamarind Turmeric on Reducing Menstrual Pain (Dysmenorrhea) in Adolescent Girls in Tambe Village, Bolo District, Bima Regency in 2023.

**METHOD**

The research design used in This research is a quasi-experiment. This research uses this type of design one-group pretest-posttest design, namely revealing cause and effect by involving a group of subjects. The subject group was observed before the intervention and then observed again after the intervention.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Pre Test</th>
<th>Intervention</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>O</td>
<td>I</td>
<td>O1</td>
</tr>
</tbody>
</table>

Information:
K: Subject
O: Observation before administering turmeric tamarind drink
I: Intervention (by giving tamarind turmeric drink)
O1: Observation after giving turmeric tamarind drink

The population in this study were all teenage girls in Tambe Village, Bolo District, Bima Regency who experienced menstruation, namely 34 teenagers. The sample used was 20 teenagers aged 12-15 years. The sampling technique used was purposive sampling. In this study, the researcher determines the sample that will be used in the research according to the inclusion and exclusion criteria, these criteria are as follows:

a. Inclusion Criteria
1) Adolescents who already know the estimated menstrual cycle look at the menstrual date in the last 3 months.
2) Adolescents who experience dysmenorrhea during menstruation on the first day
3) Teenagers aged 12-15 years
4) Teenagers who are willing to become respondents.
b. Exclusion Criteria
1) Adolescents who take analgesic drugs during dysmenorrhea
2) Adolescents who have gynecological diseases.

The data collection tools used to assess the pain scale in this study were NRS (numerical rating scale) and observation sheets. This research was carried out in Tambe Village, Bolo District, Bima Regency in July 2023.

RESULTS

Table 1. Frequency distribution of respondents based on the level of dysmenorrhea in young women before being given turmeric acid

<table>
<thead>
<tr>
<th>Pain Level</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Pain</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Moderate Pain</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Severe Pain</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 1 above, shows that the level of dysmenorrhea pain in young women before intervention was given, the majority of respondents experienced severe pain, namely 9 people (45%), while 6 people (30%) experienced moderate pain and 6 respondents experienced mild pain. as many as 5 people (25%).

Table 2. Frequency distribution of respondents based on the level of dysmenorrhea in young women after being given turmeric acid

<table>
<thead>
<tr>
<th>Pain Level</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Pain</td>
<td>5</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>Moderate Pain</td>
<td>13</td>
<td>65.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Severe Pain</td>
<td>2</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Based on table 2 above, shows the level of dysmenorrhea pain in young women after being given intervention, the majority of respondents experienced mild pain, namely 13 people (65%), while 2 respondents experienced moderate pain (10%) and respondents who did not experience pain as many as 5 people (25%).

Table 3. Effect of Giving Tamarind Turmeric on Reducing Dysmenorrhea Pain Before and After Giving Tamarind Turmeric to Young Women

<table>
<thead>
<tr>
<th>Pain Change Variables</th>
<th>n</th>
<th>Mean</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Intervention</td>
<td>20</td>
<td>3.15</td>
<td></td>
</tr>
<tr>
<td>After Intervention</td>
<td>20</td>
<td>2.80</td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 3, the results of the Wilcoxon signed rank test showed that the p-value = 0.000 < α = 0.005, so H0 is rejected. H1 is accepted so that there is an effect of giving tamarind turmeric on reducing dysmenorrhoea pain in young women in Tambe Village, Bolo District, Bima Regency in 2023.

DISCUSSION

Based on the research results, show that in the level of dysmenorrhoea pain in young women, before intervention was given, the majority of respondents experienced severe pain namely 9 people (45%), while 6 respondents experienced moderate pain (30%) and 6 respondents experienced mild pain 5 people (25%).

The results of this study are in line with research carried out by (Weni Sartiwi & and Hasriani, 2020) with the title "Giving Boiled Water Sour Turmeric (Curcumin Tamarindus Indica) Against the Intensity of Menstrual Pain (Dysmenorrhea)".obtained the average results of the pain scale before given water boiled with tamarind turmeric is 5.00 standard deviation value 0.632. The lowest score is from menstrual pain is 4 and score highest is 6.

Menstrual pain usually occurs due to excessive release of a certain prostaglandin, prostaglandin-F2 from the endometrial cells of the uterus. Prostaglandin-F2 is a powerful stimulant of myometrial smooth muscle contraction and uterine blood vessel constriction. Lack of oxygen in the uterus during
menstruation causes severe pain, especially on the first to third day (Corwin, 2019).

According to (Harry Oxom WRF, 2018), low daily activities during menstruation and low levels of exercise will increase the incidence of dysmenorrhea. In the uterus, there is a disruption of blood circulation and decreased oxygen. As a result, the uterus contracts, causing pain.

Based on the research results, show that in the level of dysmenorrhoea pain in young women after being given intervention, the majority of respondents experienced mild pain, namely 13 people (65%), while 2 respondents experienced moderate pain (10%) and 2 respondents who did not experience pain 5 people (25%).

The results of this study are in line with research carried out by (Weni Sartiwi & Hasriani, 2020) with the title "Giving Boiled Water Sour Turmeric (Curcumin Tamarindus Indica) Against the Intensity of Menstrual Pain (Disminorrhea)". obtained the average results of the pain scale after being given boiled water with tamarind turmeric with was 1.63 standard deviation value of 0.957. The lowest score from menstrual pain is 0 and the highest score is 3.

Dysmenorrhea is pain felt in the lower abdomen or cramps before menstruation that lasts 2-3 days, starting the day before menstruation (Andriana, N., & Aldriana, 2018). In the intervention group given tamarind turmeric, changes occurred which can be seen in Table 2. This is because turmeric is a natural anti-inflammatory medicine or pain reliever during menstruation. Tamarind turmeric can suppress the release of prostaglandins and leukotriins in the endometrium which causes strong contractions resulting in pain called dysmenorrhoea or menstrual pain.

From the research results, the results of the Wilcoxon signed rank test showed that the p-value = 0.000 < α = 0.005, so H0 was rejected. 1 was accepted so that there was an effect of giving tamarind turmeric on reducing dysmenorrhoea pain in young women in Tambe Village, Bolo District, Bima Regency in 2023. Research results that (Wulandari, 2022) said, turmeric (curcumine) is as effective as mefenamic acid (mefenamic acid) and ibuprofen for reducing pain in women with menstrual pain or primary menstrual pain. Tamarind turmeric is a natural medicine that contains pain relievers during menstruation. Apart from that, tamarind turmeric also helps improve blood flow, especially during menstruation. Turmeric contains curcumin will inhibits the cyclooxygenase reaction (COX-2), so it can reduce the occurrence of inflammation and can inhibit uterine contractions. As an analgesic, curcumin can inhibit the release of prostaglandins excess through the uterine epithelial tissue and will inhibit uterine contractions thus reducing the occurrence of dysmenorrhea (Sutrisno, Herawati, V. D., & Muna, 2022). It contains natural ingredients turmeric drinks can reduce dysmenorrhea complaints. Curcumin in turmeric and the anthocyanins in tamarind will work in inhibiting the cyclooxygenase reaction thereby inhibiting inflammation and will reduce uterine contractions (Asroyo, T., Nugraheni, T. P., & Masfiroh, 2019). The natural ingredients contained in sour turmeric drinks can reduce complaints of primary dysmenorrhea in their way. Curcumin and anthocyanins will work to inhibit the cyclooxygenase reaction, thereby inhibiting or reducing inflammation, thereby reducing or even inhibiting uterine contractions. The mechanism of inhibiting uterine contractions through curcumin is by reducing the influx of calcium ions (Ca2+) into calcium channels in uterine epithelial cells. The content of tannins, saponins, sesquiterpenes, alkaloids, and phlebotomies will affect the autonomic nervous system so that it can influence the brain to reduce uterine contractions and as an analgesic agent, curcumonenol will inhibit excessive prostaglandin release (Almada, 2020).

**CONCLUSION**

Regarding the level of dysmenorrhea pain in young women before being given the intervention, the majority of respondents experienced severe pain, namely 9 people (45%), after being given the intervention, the majority of respondents experienced mild pain,
namely 13 people (65%). The results of the research show that the p-value = 0.000 < α = 0.005, so H0 is rejected. H1 is accepted so that there is an effect of giving tamarind turmeric on reducing dysmenorrhoea pain in young women in Tambe Village, Bolo District, Bima Regency in 2023.

REFERENCES


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