



## THE EFFECT OF KUASPADU HERBAL DRINK (TURMERIC, TAMARIND, GOTU KOLA, AND HONEY) ON MENSTRUAL PAIN REDUCTION IN FEMALE ADOLESCENTS

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### ABSTRACT

Kuaspadu herbal drink, consisting of turmeric, tamarind, gotu kola, and honey, is a traditional Indonesian remedy commonly used as an alternative treatment for various ailments. The combination of ingredients has anti-inflammatory and analgesic properties. Turmeric contains curcumin, which may inhibit the excessive release of prostaglandins in uterine tissue, reducing uterine contractions. Tamarind has flavonoids with analgesic effects, gotu kola contains triterpenoids that improve blood circulation and relax the uterus, and honey has flavonoids similar to those found in mefenamic acid, providing a natural pain-relief effect. This study aimed to determine the effect of Kuaspadu herbal drink on reducing menstrual pain in female adolescents. This research used a quasi-experimental design with a one-group pre-test and post-test approach. A total of 52 female adolescent participants were involved. Each participant was given 150 ml of Kuaspadu herbal drink every morning after breakfast for three consecutive days during menstruation. The level of menstrual pain was measured before and after the intervention. Data were analyzed using the Wilcoxon signed-rank test. The statistical analysis showed a significant decrease in menstrual pain after consuming Kuaspadu herbal drink, with a p-value of 0.000 ( $p < 0.05$ ). This indicates that the herbal drink had a positive effect in reducing menstrual pain among the participants. Kuaspadu herbal drink is effective in reducing menstrual pain in female adolescents and can be considered a natural alternative for managing dysmenorrhea.

Keywords: adolescents; herbal drink; menstrual pain

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## INTRODUCTION

Menstruation is a bleeding process that signifies the reproductive organs have matured and are functioning properly. Menstruation is a physiological (normal) uterine bleeding that occurs regularly every month (menstrual cycle). Generally, the normal menstrual cycle in women ranges from 28 to 35 days, with a menstrual period lasting between 3 to 7 days. A woman's menstrual cycle is considered abnormal if it occurs less than 21 days apart or more than 40 days apart (Kusnaningsih, 2020). According to data from the World Health Organization (WHO) in 2020, there were 1,769,425 (90%) women experiencing menstrual pain (dysmenorrhea), with 10-16% suffering from severe menstrual pain (dysmenorrhea). The global prevalence of menstrual pain (dysmenorrhea) is remarkably high, with an average of more than 50% of women affected (Herawati, 2021). In Indonesia, the prevalence of menstrual pain (dysmenorrhea) is 107,673 individuals (64.25%), consisting of 59,671 individuals (54.89%) experiencing primary dysmenorrhea and 9,496 individuals (9.36%) experiencing secondary dysmenorrhea (Herawati, 2021).

The prevalence of dysmenorrhea in Indonesia is 64.52%, consisting of 54.89% primary dysmenorrhea (menstrual pain occurring without abnormalities in the genital organs, often found in women who have never been pregnant) and 9.36% secondary dysmenorrhea (menstrual pain accompanied by anatomical abnormalities of the genital organs). Primary dysmenorrhea is experienced by 60-75% of adolescent girls, with three-quarters of them experiencing mild to severe pain, and the remaining quarter experiencing severe pain (Ministry of Health of the Republic of Indonesia, 2017). The use of herbal medicine (jamu) in Indonesia remains popular to this day. Currently, jamu is not only made at home but is also available as packaged products widely sold across Indonesia. While packaged jamu offers practicality, homemade jamu is often considered more reliable in terms of hygiene and safety, as it does not contain chemical additives. Parts of plants commonly used for jamu include leaves, fruits, bark, roots, seeds, rhizomes, and sap. An example of the use of rhizomes in jamu is the turmeric plant (*Curcuma longa*) (Putu Peby Rahayuningtyas, 2020). In addition to being used as a seasoning, turmeric is also empirically used as an herbal remedy. Turmeric contains active compounds such as curcumin and essential oils (Muliani, 2015).

Naturally, turmeric is believed to have active ingredients that function as analgesics, antipyretics, and anti-inflammatory agents. Furthermore, turmeric drinks are described as having minimal side effects when used to reduce pain in primary dysmenorrhea (Muliani, 2015). Research by Suciani et al. (2014) also states that consuming boiled turmeric and tamarind can reduce the intensity of dysmenorrhea pain. Based on a preliminary survey conducted by the researcher on 52 female students at SMP IT Suhairiyah Binjai Baru in 2024, it was found that all 52 students had experienced menstrual pain. The methods they used to manage the pain included taking painkillers, resting/sleeping, and some used warm oil or water application. None of the students managed menstrual pain by consuming homemade herbal remedies (jamu). This study aimed to determine the effect of Kuaspadu herbal drink on reducing menstrual pain in female adolescents.

**METHOD**

This research used a quasi-experimental design with a one-group pre-test and post-test approach to examine the effect of Kuaspadu herbal drink on menstrual pain reduction. The population in this study consisted of female adolescents at a senior high school in Indonesia who experienced primary dysmenorrhea. The sample was selected using purposive sampling, with inclusion criteria such as: (1) experiencing menstrual pain, (2) not consuming other pain relief medications during the study, and (3) willing to participate voluntarily. Based on these criteria, the total sample size was 52 participants. Each participant was given 150 ml of Kuaspadu herbal drink (containing turmeric, tamarind, gotu kola, and honey) every morning after breakfast for three consecutive days during menstruation. Data collection was conducted using the Numeric Rating Scale (NRS) to measure the level of menstrual pain. Pain intensity was recorded before (pre-test) and after (post-test) the intervention

**RESULT**

Table 1.  
Respondent Characteristics

Characteristics	f	%
Age		
11-12 Years	24	46,2
13-14 Years	22	42,3
15 Years	6	11,5
Class		
VII SMP	24	46,2
VIII SMP	17	32,6
XI SMP	11	21,2

Table 1, it is shown that the majority of respondents are aged 11-12 years, comprising 24 individuals (46.2%), followed by those aged 13-14 years, comprising 22 individuals (42.3%), while the minority are aged 15 years, with 6 individuals (11.5%). In terms of grade level, the majority are in Grade 7, with 24 individuals (46.2%), followed by Grade 8, with 17 individuals (32.6%), and the minority are in Grade 9, with 11 individuals (21.2%).

Table 2.  
Menstrual Pain Before and After Treatment with Kuaspadu Herbal Remedy (Turmeric, Tamarind, Gotu Kola, and Honey)

Pain Level	Before Treatment		After Treatment	
	f	%	f	%
0 No Pain	0	0	0	0,0
1-3 Mild Pain	0	0	49	94,2
4-6 Moderate Pain	52	100	3	5,8
7-9 Severe Pain	0	0	0	0,0
10 Intens Pain	0	0	0	0,0
Total	52	100	52	100

Table 3.  
The Effect of Kuaspadu Herbal Remedy (Turmeric, Tamarind, Gotu Kola, and Honey) on Reducing Menstrual Pain in Female Adolescents

Pain Level	Treatment		Rangking Changes	P Value
	Pretest	Posttest		
	f	f	f	
0 No Pain	0	0	Negative Rangking	49 <sup>a</sup> 0,000
1-3 Mild Pain	0	49	Positive Rangking	0 <sup>b</sup>
4-6 Moderate Pain	52	3	Ties	3 <sup>c</sup>
7-9 Severe Pain	0	0	Total	52
10 Intens Pain	0	0		

Based on the analysis using the Wilcoxon test, it was found that there was a reduction in pain levels in adolescents after consuming Kuaspadu Herbal Remedy for menstrual pain. After consuming the Kuaspadu Herbal Remedy, the majority of respondents (49) experienced mild pain levels (1-3), while a minority (3) experienced moderate pain levels (4-6).

## DISCUSSION

Based on the research conducted at SMP IT Suhairiyah Binjai Baru, it was found that the majority of respondents were aged 11-12 years, totaling 24 individuals (46.2%). The majority of respondents were aged 13-14 years, totaling 22 individuals (42.3%), and the minority of respondents were aged 15 years, totaling 6 individuals (11.5%). Pain is a subjective sensory and emotional experience that is unpleasant and is associated with actual or potential tissue damage, or describes the condition of such damage (Tamsuri, 2017). Pain with low intensity to superficial pain triggers a reaction or response to a perceived harmful event. Stimulation of the sympathetic branches in the autonomic nervous system causes physiological responses. If the pain persists and becomes more intense and deeper, it usually involves visceral organs and can lead to changes in vital signs (Potter & Perry, 2015).

According to Potter & Perry (2015), the pain scale using the Numerical Rating Scale (NRS) is categorized as follows: no pain (0), mild pain (1-3) which can be tolerated, moderate pain (4-6) that is bothersome and requires effort to endure, severe pain (7-10) which is extremely disturbing and intolerable, causing grimacing, screaming, or even shouting. According to a study conducted by Gunawati (2021), a higher number of respondents experienced menarche at <12 years, with 32 individuals (34%), compared to those with menarche at ≥12 years, with 62 individuals (66%).

Another study by Sophia (Purba et al., 2013) on students at SMK Negeri 10 Medan found that 83.7% of respondents who experienced dysmenorrhea had menarche at  $\leq 12$  years, 83.3% at 13-14 years, and 53.8% at  $\geq 14$  years. Meanwhile, 16.3% of respondents who did not experience dysmenorrhea had menarche at  $\leq 12$  years, 16.7% at 13-14 years, and 46.2% at  $\geq 14$  years. The study also showed a significant relationship between the age of menarche and dysmenorrhea, with a p-value of 0.031 ( $p < 0.05$ ).

Based on the research results, it can be concluded that before being given the Kuaspadu herbal remedy to female adolescents, the majority complained of pain that was bothersome and required effort to tolerate. However, after being given the Kuaspadu herbal remedy, most adolescents still complained of pain but were able to tolerate it. This indicates that consuming the Kuaspadu herbal remedy can reduce menstrual pain in female adolescents. This effect is due to the active ingredients in turmeric (Curcumin), Tamarind (Anthocyanin), Gotu Kola, and Honey, which work by inhibiting the Cyclooxygenase (COX) reaction, thereby reducing or preventing inflammation and uterine contractions (Anindita, 2015).

The findings of this study are consistent with the research conducted by Saputri et al. (2020), which concluded that the intensity of menstrual pain in female adolescents before being given the Kuaspadu herbal remedy was predominantly in the moderate pain category, with a pain scale of 4-6 (moderate pain). The administration of Kuaspadu herbal remedy significantly reduces dysmenorrhea in female adolescents. After testing, it was also found that the administration of Kuaspadu herbal remedy effectively reduces dysmenorrhea in female adolescents at SMP IT Suhairiyah Binjai Baru in 2024. This is due to the presence of curcumin in turmeric, anthocyanins in tamarind, and the active ingredients in Gotu Kola and honey. These compounds serve as anti-inflammatory agents. Curcumin in turmeric can reduce histamine levels and increase cortisol production from the adrenal glands. The anti-inflammatory mechanism of curcumin is through the inhibition of prostaglandin production, mediated by the inhibition of cyclooxygenase enzyme activity. Meanwhile, anthocyanins in tamarind act as anti-inflammatory agents, along with tannins, saponins, sesquiterpenes, alkaloids, and phlobotannins, which affect the autonomic nervous system and, in turn, can reduce uterine contractions and act as analgesic agents (Novi and Ayu, 2015).

According to the researcher's assumption, the results of the study indicate the effectiveness of administering the Kuaspadu herbal remedy (Turmeric, Tamarind, Gotu Kola, and Honey) in reducing menstrual pain. The benefits of the Kuaspadu herbal remedy are useful for women worldwide, especially at SMP IT Suhairiyah Binjai Baru. The administration of Kuaspadu herbal remedy has been proven effective in reducing menstrual pain. This is due to the medicinal properties of the ingredients used in the preparation of Kuaspadu, which are easily found. For example, turmeric, which contains curcumin, can inhibit the excessive release of prostaglandins through uterine tissue to prevent contractions and thus reduce dysmenorrhea. Tamarind, which contains flavonoids, can reduce dysmenorrhea and has analgesic properties. Gotu Kola, which contains triterpenoids, can revitalize blood vessels to the brain and instruct the uterus to avoid contractions. Honey contains flavonoids, similar to those in mefenamic acid, and these flavonoids in honey help control the smooth muscles of the uterus, thus reducing menstrual pain. Therefore, adolescents can consume Kuaspadu herbal remedy once a day for 3 days, at a dosage of 150 ml, to reduce menstrual pain.

## CONCLUSION

Based on the research results, it can be observed that the majority of respondents are aged 11-12 years, with 24 individuals (46.2%). The majority of respondents are aged 13-14 years, with 22 individuals (42.3%), while the minority are aged 15 years, with 6 individuals (11.5%). Based on grade level, the majority of respondents are in grade 7, with 24 individuals (46.2%). The majority of respondents are in grade 8, with 17 individuals (32.6%), while the minority are in grade 9, with 11 individuals (21.2%). The menstrual pain scale after the administration of the Kuaspadu herbal remedy at SMP IT Suhairiyah Binjai Baru in 2024 showed that the majority had a pain scale of 1-3 (mild pain), with 49 individuals (93.7%), and the minority had a pain scale of 4-6 (moderate pain), with 3 individuals (6.3%). The Wilcoxon test results showed  $p = 0.000 < \alpha = 0.05$ , meaning that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. This indicates that the administration of the Kuaspadu herbal remedy (Turmeric, Tamarind, Gotu Kola, and Honey) has an effect on reducing menstrual pain in female adolescents at SMP IT Suhairiyah Binjai Baru in 2024.

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