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The Effect Of Temulawak And Ginger Herbal Drinks On Reducing Menstrual Pain In Adolescent Girls At UPT Puskesmas Tirtayasa In 2024

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ABSTRACT
Dysmenorrhea is a common physical disorder experienced by women during menstruation, characterized by pain or cramps in the lower abdomen that often radiate to the thighs and lower back. Approximately 50% of women worldwide experience dysmenorrhea, with a prevalence reaching 90% according to WHO data, where 11-15% suffer from severe dysmenorrhea. This study aims to examine the effect of consuming temulawak (Curcuma xanthorrhiza) and ginger herbal drinks on reducing menstrual pain in adolescent girls at UPT Puskesmas Tirtayasa, Serang-Banten, in 2024. The research employs a case study design, using primary data obtained through observation. The study compares the effects of temulawak herbal drink on reducing menstrual pain in adolescent girls with those given ginger herbal drink. The sample consists of two adolescent girls experiencing menstruation and menstrual pain. Interventions were conducted by comparing the administration of temulawak and ginger herbal drinks as non-pharmacological therapies. Data were collected using observation sheets and analyzed descriptively. The findings, gathered through observation sheets, indicate that non-pharmacological therapy in the form of consuming ginger and temulawak herbal drinks, combined with interventions using both types of herbal drinks, effectively reduces the intensity of menstrual pain in adolescent girls. Those who consumed a combination of ginger and temulawak herbal drinks experienced a significant reduction in the intensity of menstrual pain.

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INTRODUCTION

Adolescence is a transitional phase from childhood to adulthood, characterized by various physical and psychological changes (WHO, 2023). One such change is menstruation, the process of shedding the uterine lining (endometrium) accompanied by bleeding, which occurs monthly except during pregnancy (Keumalahayati et al., 2018). This recurring menstruation forms a menstrual cycle and is a key indicator of puberty in adolescent girls (Manalu et al.,

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2020). However, many women often experience discomfort or severe pain known as dysmenorrhea. This pain, which typically arises 2–3 years after menarche, affects about 80% of young women under the age of 25. The pain is usually localized in the lower abdomen and may radiate to the thighs and lower back (Nurfadillah et al., 2021).

According to WHO, the prevalence of dysmenorrhea is quite high, with around 50% of women worldwide experiencing it. A study showed that in the UK, 10% of adolescents frequently miss school for 1–3 days each month due to dysmenorrhea. In the United States, the prevalence of primary dysmenorrhea among women aged 12–17 years reaches 59.7%, with 49% experiencing mild pain, 37% moderate pain, and 12% severe pain (World Health Organization, 2018). In Indonesia, the prevalence of dysmenorrhea is 64.25%, comprising 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea (Miraturrofi'ah, 2020). Research in Manado indicates that 54.5% of adolescents have poor knowledge about dysmenorrhea, affecting their behavior in managing menstrual pain (Fatmawati & Rejeki, 2021).

The causes of dysmenorrhea include excessive prostaglandin production, which triggers strong uterine contractions and arteriolar vasospasms. Psychological factors such as anxiety also play a role. Many adolescents perceive menstrual pain as a normal condition, despite its negative impact on daily activities, such as fatigue, reduced concentration, and decreased productivity. This pain can disrupt the quality of life and affect economic and educational aspects, such as school absenteeism (Yolandiani et al., 2020). To manage menstrual pain, the use of natural ingredients such as ginger and temulawak has proven effective and has minimal side effects (Nasikhatun et al., 2021). Active compounds in ginger, such as gingerol and shogaol, exhibit antioxidant activity that helps reduce inflammation (Awalia, 2023). Meanwhile, curcumin in temulawak acts as an anti-inflammatory and analgesic agent (Miraturrofi'ah, 2020). Research (Aprilia, 2022) suggests that consuming herbal drinks made from ginger and temulawak, often recommended by parents in Langsa, can reduce menstrual disturbances and refresh the body.

In a preliminary study, two adolescents observed over five days were found to lack understanding of how to manage menstrual pain. Based on these findings, the researcher was motivated to conduct a case study on the effect of consuming herbal drinks made from temulawak and ginger on reducing menstrual pain in adolescent girls. This study aims to analyze the impact of administering temulawak and ginger-based herbal drinks on reducing the intensity of menstrual pain in adolescent girls visiting UPT Puskesmas Tirtayasa, Serang, Banten.

METHODS

This study employed the Study Case Literature Review (SCLR) method, which involves identifying, evaluating, and interpreting research findings relevant to a specific topic or phenomenon. This method integrates primary research, namely individual studies, with a literature review as a form of secondary research to synthesize various findings. The study was designed with two intervention groups: one group received ginger herbal remedies, while the other was given temulawak herbal remedies. The subjects of the study were

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adolescent girls experiencing primary dysmenorrhea, with the impact of the intervention measured by comparing pain scale levels before and after treatment.

The research was conducted in August 2024 at UPT Puskesmas Tirtayasa, Tirtayasa Subdistrict, Serang Regency, Banten. The target subjects were two adolescent girls who experienced menstrual pain during menstruation and visited the healthcare facility. The study adopted a descriptive design, utilizing findings from previous research to evaluate changes in pain levels before and after the intervention.

The research instrument used was an observation sheet based on the Numerical Rating Scale (NRS), with a scale ranging from 0 to 10 to measure pain intensity. A score of 0 indicates no pain, scores of 1–3 indicate mild pain, scores of 4–6 indicate moderate pain, scores of 7–9 indicate severe pain, and a score of 10 indicates very severe pain. The study focused on observing the reduction in menstrual pain levels among adolescent girls following the administration of temulawak and ginger herbal remedies.

RESULTS AND DISCUSSION

Results of Midwifery Care

Table 1. Comparison of Midwifery Care Outcomes Between Case 1 and Case 2

Intervention	Ginger Herbal Drink	Temulawak Herbal Drink
Day	1	2
Menstrual Pain Intensity Score	5 (Moderate Pain)	2 (Mild Pain)

The results of midwifery care demonstrate differences in the levels of menstrual pain intensity among adolescents receiving ginger herbal interventions compared to those receiving temulawak herbal interventions. Based on the table, adolescents given ginger herbal drink experienced a pain intensity score of 5 (moderate pain) on the first day, which decreased to 2 (mild pain) on the second day and 0 (no pain) on the third day. Meanwhile, adolescents given temulawak herbal drink also reported a pain intensity score of 5 (moderate pain) on the first day, which decreased to 3 (mild pain) on the second day and ultimately reached 0 (no pain) on the third day. These findings indicate the effectiveness of both interventions in reducing menstrual pain, with a similar pattern of pain intensity reduction observed.

The Effect of Ginger Herbal Drink on Reducing Menstrual Pain in Adolescent Girls at Tirtayasa Health Center in 2024

The study findings reveal that menstrual pain intensity in adolescents given ginger herbal drink decreased over three days. On the first day, the pain intensity was scored at 5 (moderate pain), which decreased to 2 (mild pain) on the second day and 0 (no pain) on the third day. These results align with research conducted by Keumalahayati et al. (2018), which reported a significant reduction in menstrual pain intensity after ginger herbal intervention. It can thus be concluded that ginger can be utilized for the management of primary dysmenorrhea.

The chemical components in ginger, particularly its anti-inflammatory and analgesic properties, contribute to its effectiveness in reducing pain during menstruation (Sartika et al., 2020). Ginger and temulawak herbal drinks can alleviate dysmenorrhea in young women.

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Fatmawati & Rejeki (2021) highlighted that knowledge regarding the benefits of red ginger drink among female students at Imelda University, Medan, was below 50%. Red ginger is believed to relieve menstrual pain due to its warming effect, anti-inflammatory, and analgesic properties, which inhibit the enzyme cycle of cyclooxygenase, thereby reducing prostaglandin release that causes inflammation (Hartati et al., 2024). Additionally, red ginger can prevent uterine contractions that lead to menstrual pain (Putri, 2024).

Based on the researcher's assumption, significant pain reduction in adolescents experiencing primary dysmenorrhea over three days of ginger herbal intervention is attributed to ginger's anti-inflammatory and analgesic properties, proving its efficacy in alleviating menstrual pain.

The Effect of Temulawak Herbal Drink on Reducing Menstrual Pain in Adolescent Girls at Tirtayasa Health Center in 2024

The study findings show a reduction in menstrual pain intensity among adolescents with primary dysmenorrhea who were given temulawak herbal drink. On the first day, the pain intensity score was 5 (moderate pain), which decreased to 3 (mild pain) on the second day and further reduced to 0 (no pain) on the third day. Research by Harmawati et al. (2018) also reported the effects of temulawak herbal drink in reducing menstrual pain among adolescent girls at SMA Negeri 1 Selesai in 2019. Similarly, Fransiska et al. (2023) found a positive effect of temulawak herbal drink in alleviating menstrual pain.

Temulawak contains physiologically active compounds such as curcuminoids, essential oils, and phytochemicals like alkaloids, which act as analgesics to alleviate menstrual pain (Sari et al., 2022). According to Fauziyah & Zuhrotun (2019), the alkaloid compounds, particularly morphine, have analgesic properties that reduce menstrual pain when temulawak herbal drink is consumed. Curcuma zanthorrhiza is also utilized as a natural food coloring and an ingredient in traditional herbal medicine (Utami, 2012). Curcumin in temulawak is well-known for its anti-tumor, antioxidant, and pain-relieving properties (Lia et al., 2024).

A study by Amilia et al. (2024) concluded that temulawak extract effectively reduces dysmenorrhea pain among adolescent girls in Gilangharjo Village, Pandak, Bantul, Yogyakarta. Researchers assume that the decrease in pain scores in adolescents with primary dysmenorrhea after consuming temulawak herbal drink is due to its active chemical compounds, particularly curcuminoids and essential oils, which function as pain relievers.

Comparison of Ginger Herbal Drink and Temulawak Herbal Drink in Reducing Menstrual Pain in Adolescent Girls at Puskesmas Tirtayasa in 2024

The findings indicate that adolescents given ginger herbal drink intervention experienced a faster reduction in pain scale compared to those given temulawak herbal drink intervention, based on a comparison of pain scales before and after the respective interventions. The difference in pain scale reduction between respondents treated with ginger herbal drink and those treated with temulawak herbal drink reflects the effectiveness of the interventions.

According to research by Imaniar (2017), ginger is as effective as mefenamic acid and ibuprofen in reducing menstrual pain complaints. Ginger contains compounds beneficial for alleviating menstrual pain (Fadhil et al., 2024). Red ginger, a variant of ginger, has a high

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content of essential oils (Paujiah et al., 2023), with essential oil levels reaching approximately 2.58-3.9% of its dry weight (Fadhil et al., 2024). The gingerol content in red ginger can block prostaglandins, thereby reducing pain and nausea during menstruation (Sayuti & Rushita, 2022). A similar study by Rosida et al. (2023) on the effects of red ginger drink on menstrual pain reduction concluded that menstrual pain significantly hinders the activities of female students at Universitas Imelda Medan, with 81.0% reporting disrupted activities. The study revealed that red ginger drink effectively reduces menstrual cramps or dysmenorrhea, with 69.0% of 29 students reporting pain relief. This highlights the significant impact of red ginger in mitigating menstrual pain.

Research by Widaryanti et al. (2024) demonstrated that temulawak herbal drink also effectively reduces menstrual pain, with a P-value > 0.05. After consuming temulawak herbal drink, most adolescent girls reported a reduction in pain from moderate to mild or even no pain, with 60% experiencing mild pain and 35% reporting no pain. The active compound curcumin and desmethoxycurcumin in temulawak is known to alleviate menstrual pain through its anti-inflammatory properties. According to the researchers' assumptions, the difference in pain scale reduction between adolescents experiencing primary dysmenorrhea treated with ginger herbal drink and those treated with temulawak herbal drink is due to the unique components in each. Ginger contains complex compounds such as laleoresin, gingerol, shogaol, and zingerone, which possess antioxidant activity surpassing that of vitamin E. These antioxidants support cell and tissue repair, mitigating inflammation. In contrast, the rhizome of temulawak contains curcumin, which functions as an anti-inflammatory agent (Pane et al., 2021).

CONCLUSION

The research findings regarding the administration of temulawak and ginger herbal drinks in reducing menstrual pain indicate a reduction in pain intensity among adolescent girls after the intervention. Adolescents who were given ginger herbal drink experienced a decrease in pain from a score of 5 (moderate pain) on the first day to a score of 2 (mild pain) on the second day, and reached a score of 0 (no pain) on the third day. Meanwhile, those who were given temulawak herbal drink also showed a reduction in pain intensity, from a score of 5 (moderate pain) on the first day to a score of 3 (mild pain) on the second day, and a score of 0 (no pain) on the third day. Based on these results, it is evident that the adolescents who received ginger herbal drink experienced a faster reduction in menstrual pain intensity compared to those who received temulawak herbal drink.

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