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Education on the Benefits of Red Ginger (*Zingiber officinale*) to Overcome Menstrual Pain in Adolescent Girls in Gembleb Trenggalek

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Abstract

This community service program aimed to educate adolescent girls in Dusun Gembleb, Trenggalek, on the benefits of red ginger (Zingiber officinale) as a natural remedy for alleviating menstrual pain. Menstrual pain, or dysmenorrhea, is a common health issue affecting a significant number of adolescent girls, often leading to disruption in daily activities. While conventional pain relief medications are commonly used, their long-term side effects can be detrimental. Red ginger, known for its anti-inflammatory and analgesic properties, offers a safer alternative. The program, held on May 3, 2025, at the Gembleb Village Office, included educational sessions on the medicinal properties of red ginger, practical demonstrations on how to prepare red ginger tea, and discussions on its health benefits. The methodology employed in this endeavor is a participatory approach that emphasizes direct interaction between facilitators and participants, specifically targeting young women aged 12 to 18 years who reside in Gembleb Village. The results showed a significant improvement in participants' understanding of red ginger's therapeutic effects, as evidenced by pre-test and post-test comparisons. This initiative successfully raised awareness about alternative treatments and empowered the community to utilize locally available resources for health improvement.

INTRODUCTION

Menstrual pain, also referred to as dysmenorrhea, represents a prevalent health concern among adolescent females. This condition can significantly interfere with daily functioning, reduce overall quality of life, and negatively impact the ability to concentrate on educational activities (Gutman, G., 2022). Research indicates that approximately 50–90% of adolescent girls experience menstrual pain of varying severity. This pain is commonly managed through the use of analgesic medications such as non-steroidal anti-inflammatory drugs (NSAIDs); however, long-term use may lead to side effects, including digestive disturbances and kidney damage (Jenabi, E. , 2020).

Red ginger (*Zingiber officinale*) is recognized for its active compounds (Prasetyawan, F., 2025), compounds like gingerol and shogaol exhibit inherent anti-inflammatory and analgesic properties. (Songvut, P., 2024). Studies demonstrate that red ginger may aid in alleviating

menstrual pain through mechanisms akin to those of NSAIDs, albeit with a lower risk of adverse effects (Por, C. S., 2022). The utilization of this herbal plant is particularly relevant in traditional medicine, especially in rural areas such as Dusun Gembleb, Trenggalek, which has abundant natural resources for the development of medicinal plants. Dusun Gembleb is characterized by a population that predominantly relies on traditional medicine to address health complaints. However, a significant barrier to the effective use of red ginger in alleviating menstrual pain is the limited awareness among the community, particularly among adolescent girls, regarding its benefits (Zhang, S., 2022). The lack of access to scientifically-based health information leads many individuals to opt for treatment methods that may not be safe or effective (Hendra, R. J., 2022).

Preliminary observations and interviews with several adolescent girls in Dusun Gembleb reveal that the majority experience menstrual pain that interferes with their daily activities. Nevertheless, they tend to rely on pain relief medications without being cognizant of their potential side effects (Zahra, 1., 2025). Conversely, red ginger is abundantly available in this region, yet it remains underutilized as an alternative therapy (Haroen, U., 2024). In light of these issues, there is a pressing need for interventions aimed at educating adolescent girls about the benefits of red ginger as a natural solution for menstrual pain . This educational initiative seeks to enhance their understanding of safe, evidence-based herbal plant usage while promoting the optimal utilization of local resources (Juariah, S., 2023) . Thus, this community service program aims to positively impact the health and well-being of adolescent girls in Dusun Gembleb, Trenggalek.

METODELOGY

The community service activity was conducted on Saturday, May 3, 2025, at the Gembleb Village Office in Trenggalek. The methodology employed in this endeavor is a participatory approach that emphasizes direct interaction between facilitators and participants, specifically targeting young women aged 12 to 18 years who reside in Gembleb Village. The objective of this approach is to provide a comprehensive understanding of the benefits and methods of using red ginger (*Zingiber officinale*) as a natural alternative for alleviating menstrual pain (Setyobudi, R., 2025). The implementation process of this activity consists of several interconnected phases, namely outreach, training, interactive discussion, and evaluation to assess changes in participants' knowledge and attitudes.

The initial phase commenced with an outreach session regarding menstrual pain, or dysmenorrhea, which is a prevalent health issue among young women. This session aimed to impart fundamental knowledge concerning the causes, impacts, and various methods for managing menstrual pain. During this outreach, the side effects of chemical medications, particularly pain relievers such as NSAIDs, were also discussed, highlighting their potential long-term health implications when used excessively. As an alternative, participants were introduced to red ginger, which is abundant in active compounds such as gingerol and shogaol, known for their anti-inflammatory and analgesic properties. This outreach was delivered using presentation media, posters, and easily understandable booklets to ensure effective information dissemination.

The activity proceeded with training on the processing of red ginger. In this session, participants received practical knowledge regarding the preparation of red ginger into herbal beverages that could be utilized to alleviate menstrual pain. Participants were taught step-by-step procedures for preparing red ginger infusions, both in the form of ginger tea and by incorporating additional ingredients such as honey to enhance flavor. This hands-on training allowed participants to actively engage in the preparation process, facilitating their understanding and mastery of independently processing red ginger. Furthermore, appropriate

doses and usage methods were communicated to ensure that the benefits could be realized without causing adverse side effects.

Activity progressed to a discussion and question-and-answer session, providing participants with the opportunity to pose inquiries and delve deeper into the material presented. The purpose of this discussion was to explore participants' initial knowledge regarding menstrual pain and the use of red ginger, as well as to address any doubts or misconceptions that may have arisen. During this session, faculty members and students serving as facilitators offered further explanations regarding the health benefits of traditional medicinal plants and discussed how to integrate the use of red ginger into daily life as a natural therapy for menstrual pain. Additionally, participants were encouraged to share their experiences in dealing with menstrual pain and the solutions they have previously employed.

The final phase of the activity involved evaluation. This evaluation utilized pre-test and post-test methods to measure participants' increased knowledge regarding the benefits of red ginger in managing menstrual pain. The pre-test was administered prior to the commencement of the outreach, while the post-test was conducted after the entire material had been presented. This approach aimed to assess the extent of participants' understanding of the information provided and the degree of knowledge transformation following their participation in this activity. The evaluation results will serve as a basis for assessing the success of the activity and will inform future community service endeavors.

Support the sustainability of this program, participants are provided with information regarding the importance of maintaining a healthy lifestyle. This includes nutritious dietary intake, regular physical exercise, and adequate sleep as preventive measures against health issues, particularly menstrual pain. It is anticipated that this educational outreach will enhance participants' awareness of the significance of natural remedies and holistic health care. Additionally, it is hoped that following this activity, participants will not only comprehend the use of red ginger but also disseminate this information among their friends and family, thereby allowing the positive impact of this community service initiative to extend to a broader community.

This community service activity is expected to make a significant contribution to the increase of knowledge and skills among adolescent girls in Dusun Gembleb regarding traditional medicine that is based on scientific evidence. By employing participatory methods, this initiative aims not only to provide information but also to foster a deeper awareness and understanding among participants about the importance of selecting safe and effective treatments. The implementation of these methods is expected to encourage adolescent girls in Desa Gembleb to make informed choices regarding therapies that align with their health conditions, while also utilizing the natural resources available in their surroundings, such as red ginger, to enhance their quality of life. Furthermore, this initiative is anticipated to strengthen the relationship between higher education institutions and the community, particularly in regard to the empowerment of community health based on local resources.

RESULT AND DISCUSSION

The community service activity conducted on Saturday, May 3, 2025, at the Gembleb Village Office in Trenggalek was aimed at educating adolescent girls on the benefits and practical use of red ginger (*Zingiber officinale*) as a remedy for menstrual pain. This initiative comprised several stages, including a counseling session on menstrual pain and herbal therapy, hands-on training in red ginger processing, interactive discussions, and evaluations through pre-tests and post-tests. This section will elaborate on the outcomes derived from each phase of the activity, along with an analysis and discussion of the implications and impacts resulting from the implementation of this program.

Result

This program was attended by 50 young women from Dusun Gembleb, Trenggalek. Before the activities commenced, a pre-test was conducted to assess participants' knowledge regarding menstrual pain and the use of traditional medicinal plants, particularly red ginger. Results from the pre-test revealed that the majority of participants (70%) had limited understanding of the causes and impacts of menstrual pain, as well as the benefits of using medicinal plants for managing it. Additionally, most participants appeared to rely more heavily on chemical medications such as NSAIDs (Non-Steroidal Anti-Inflammatory Drugs) without fully understanding the potential long-term side effects.

Following an educational session on the causes and management of menstrual pain, along with the benefits of red ginger, significant improvements were observed in participants' comprehension. The session was designed to be interactive, incorporating media such as posters, leaflets, and visual presentations to facilitate better understanding. Furthermore, detailed explanations were provided on active compounds in red ginger, like gingerol and shogaol, which function as natural anti-inflammatory and analgesic agents. This information captivated the participants' interest, as many were unaware that red ginger could serve as a safer alternative to chemical medications.

Figure 1. Education of Red Ginger

The red ginger processing workshop also received positive feedback from participants. They were taught how to prepare red ginger infusions as a remedy for menstrual pain. This hands-on session allowed participants to engage directly in making red ginger beverages, equipping them with practical skills while boosting their confidence in utilizing accessible natural ingredients. Observations indicated that many participants became more inclined to explore herbal therapy after learning its easy and practical application at home.

Figure 2. Educatin of Menstrual pain

Interactive discussions held during the activity further contributed to the shift in participants' understanding. Many posed questions about alternative methods for relieving menstrual pain beyond chemical medications and expressed curiosity about the benefits of red ginger in traditional medicine. Some participants also shared personal experiences on managing menstrual pain, reflecting how they previously relied on chemical medications without much consideration. These discussions highlighted a growing interest in adopting natural remedies to minimize the risks associated with long-term use of chemical drugs.

Upon concluding the educational session, workshop, and discussion, a post-test evaluation was administered to measure participants' knowledge improvement. The post-test revealed a significant increase in awareness regarding red ginger's benefits as a natural alternative for menstrual pain relief. The proportion of participants who understood red ginger's active compounds and their mechanisms rose from 30% to 85%. Additionally, comprehension of NSAID usage and its potential side effects improved considerably, with participants showing greater awareness of the long-term risks posed by chemical medications. Most notably, 90% of participants expressed their intention to try red ginger as a natural therapeutic option for managing menstrual pain.

Discussion

The community service activity demonstrated that education and outreach about natural remedies can significantly improve adolescents' understanding of safe and effective alternative therapies. The results of this initiative align with previous research, which highlights that many young women are unaware of the benefits of traditional medicinal plants, such as red ginger, for managing menstrual pain. Studies have shown that red ginger has potential as a natural therapy to alleviate menstrual discomfort, working through mechanisms similar to NSAIDs but with fewer side effects (Ozgoli, G., 2009). These findings are consistent with participants' responses, which indicated enhanced understanding and increased interest in using red ginger after receiving proper education. Despite the interest shown by participants in trying red ginger, certain challenges remain in its implementation. One significant barrier is the entrenched habits and preferences within society, particularly the widespread reliance on chemical medications, which are more easily accessible and familiar to most people. Therefore, more intensive efforts are needed to provide deeper understanding to the community, especially adolescents, about the importance of choosing evidence-based therapies while minimizing the use of chemical drugs that carry higher risks.

Figure 3. Photo With Participants

The abundant availability of red ginger in Dusun Gembleb should serve as a major asset in expanding the use of herbal therapies. Greater utilization of red ginger could not only address health issues like menstrual pain but also raise public awareness about responsibly harnessing natural resources. Developing red ginger-based products such as ginger tea, capsules, or other processed items could offer more practical alternatives and opportunities for local marketability. This approach would not only contribute to community economic empowerment but also promote the advantages of local medicinal plants to a broader audience.

The success of this activity was also driven by the participatory methods employed, which actively engaged participants in the learning process. Previous research has shown that such approaches are more effective in enhancing community understanding and skills compared to one-way conventional counseling methods (Wang, L., 2004). By involving participants directly in the training, they gained not only theoretical knowledge but also practical skills that could be immediately applied in their daily lives. This community service program successfully achieved its goals of raising knowledge and awareness among young women in Dusun Gembleb about natural remedies and the use of red ginger as an alternative treatment for menstrual pain. However, to ensure the program's sustainability and effectiveness, it is crucial to conduct long-term evaluations and continue regular outreach to reinforce the adoption of red ginger in everyday life.

CONCLUSION

The community service activity conducted on May 3, 2025, at the Gembleb Village Office in Trenggalek successfully achieved its objective of enhancing young women's knowledge about menstrual pain and alternative remedies, particularly the use of red ginger (*Zingiber officinale*). Results from pre-test and post-test evaluations demonstrated a significant improvement in participants' understanding of the benefits of red ginger as a natural remedy for menstrual pain. Prior to the educational session, most participants possessed limited information about menstrual pain and herbal treatments. Following the dissemination and training sessions, 85% of participants exhibited a deeper comprehension of the active compounds in red ginger and its mechanisms as an anti-inflammatory and analgesic agent.

During the activity, participants displayed considerable enthusiasm in practicing how to prepare red ginger infusions, a process designed to be simple and replicable at home. The interactive discussions, enriched with participants' personal experiences, further enhanced the session by fostering interest in adopting natural therapies as an alternative for managing

menstrual pain. This program demonstrated that, with an appropriate approach and knowledge empowerment, traditional medicinal plants like red ginger can be introduced as effective and safe solutions. This initiative succeeded in providing impactful education to young women in Gembleb Village, Trenggalek, raising their awareness of the importance of selecting safe and evidence-based therapeutic options. Additionally, the program highlighted the potential for local medicinal plants to contribute to community health improvements while offering prospects for economic empowerment through broader-scale processing of red ginger. With further evaluations and ongoing educational efforts, it is anticipated that red ginger use may become a primary choice for alleviating menstrual pain among the local population.

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