

Healthy Herbal Teenagers: Reproductive Health Improvement Strategies at SMK Bhakti Asih

Harmatuti, Putri Yasyfa Aurelia

Politeknik Bhakti Asih Purwakarta, Indonesia

Correspondence: harmatuti@polbap.ac.id

KEYWORDS	ABSTRACT
healthy teenagers, herbs, reproductive health, health education	Adolescent reproductive health is a critical aspect of community health development, as low knowledge and unhealthy lifestyles can lead to various problems, including anemia, dysmenorrhea, and hormonal imbalances. Despite the importance of health education, interventions targeting adolescents in vocational schools remain limited. This study aimed to evaluate the effectiveness of the Healthy Herbal Teenagers program in improving reproductive health knowledge and reducing menstrual pain among students at SMK Bhakti Asih. A quasi-experimental design with a pretest-posttest approach was applied, involving 60 female students. The program combined educational sessions, the use of herbal plants, and mentoring to promote healthy lifestyle practices. Data analysis showed a 40% increase in students' reproductive health knowledge and a 35% reduction in menstrual pain complaints following the intervention. These results indicate that integrating herbal-based education with practical mentoring can effectively enhance adolescents' awareness, knowledge, and healthy behaviors. The findings provide evidence for schools and community health programs to adopt similar approaches, and future research is suggested to explore long-term behavioral changes and the physiological impact of herbal interventions in adolescent reproductive health.

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INTRODUCTION

Adolescence is a critical developmental period marked by rapid physical, psychological, and social changes, including the onset of reproductive maturity. During this phase, the establishment of healthy lifestyle habits is essential for long-term well-being. However, many adolescents still lack knowledge about proper nutrition, menstrual hygiene, and reproductive health management (Choi, Nam, & Park, 2025). Consequently, health problems such as anemia, dysmenorrhea, and hormonal disorders remain prevalent among students (WHO, 2021; Kemenkes RI, 2022). Addressing these issues early can improve not only physical health but also academic performance and psychosocial development (Bahrami, Zarban, Rezapour, Agha Amini Fashami, & Ferns, 2021).

Globally, adolescent reproductive health remains a public health priority (Hesami, Khadem Haghighian, Rahbar, & Shams, 2020). The World Health Organization reports that

complications related to menstruation and reproductive disorders affect a significant proportion of adolescent girls, particularly in developing countries. In Indonesia, data from the 2022 Basic Health Research (Riskesdas) indicate that reproductive health problems among teenagers, including anemia and menstrual pain, continue to rise annually (Harfiani, Dewi, & Sari, 2025). These conditions highlight the need for school-based interventions that can increase awareness and promote preventive health behaviors (Daily, Zhang, Kim, & Park, 2015).

One potential approach to supporting adolescent reproductive health is the use of herbal medicine, which is safe, cost-effective, and culturally accepted in Indonesia. Herbal plants such as turmeric (*Curcuma longa*), ginger (*Zingiber officinale*), and red ginger are known for their anti-inflammatory and analgesic properties, which can help reduce menstrual pain and improve overall endurance (Prasetyo et al., 2020). Integrating herbal remedies with health education allows students to learn practical and accessible methods to manage their reproductive health effectively (Khosravi, Ahmadi, Fathollahi, & Borji, 2024).

The "Herbal Healthy Youth" program at SMK Bhakti Asih was designed to improve students' knowledge and healthy behavior regarding reproductive health (Fazel, Hoagwood, Stephan, & Ford, 2014). The program combines theoretical education with practical mentoring and the use of herbal plants. Through this holistic approach, students are expected to gain both the understanding and skills necessary to adopt healthy lifestyles and manage menstruation-related issues (Golbasi, Tuğut, & Erenel, 2021).

Previous studies have demonstrated the benefits of herbal interventions in reducing menstrual pain and improving adolescent health outcomes (Kim, Lee, Kim, & Yang, 2025). For example, a study by Sari et al. (2021) found that ginger supplementation significantly reduced dysmenorrhea intensity among high school girls, while Setiawati and Utami (2022) reported that school-based reproductive health education increased knowledge and improved menstrual hygiene practices. However, few studies have combined herbal interventions with structured health education programs, leaving a gap in the implementation of integrated approaches that are both educational and therapeutic.

Therefore, this study aims to evaluate the effectiveness of the "Herbal Healthy Youth" program in increasing reproductive health knowledge and reducing menstrual pain among adolescent students at SMK Bhakti Asih. The findings are expected to provide evidence for schools and community health programs to adopt holistic, herbal-based interventions, and offer a foundation for future research on long-term behavioral and physiological outcomes of such programs in adolescent reproductive health.

METHOD

This study used a quasi-experimental design with a pretest-posttest design without a control group. The study was conducted at SMK Bhakti Asih, Tasikmalaya City, from January to April 2025. The research sample consisted of 60 students selected using purposive sampling technique. Reproductive health education included counseling regarding puberty, nutrition, and cleanliness of the reproductive organs; workshops on making herbal drinks, which involved practices of preparing herbal ingredients to reduce dysmenorrhea and increase stamina; and assistance and monitoring, which involved evaluating health behavior for two months. Data

were analyzed descriptively and inferentially using a paired t-test to compare pretest and posttest results.

RESULTS AND DISCUSSIONS

The implementation of the "Herbal Healthy Youth" program at SMK Bhakti Asih showed significant improvements in students' reproductive health knowledge. Before the intervention, the average knowledge score was 55%, which increased to 77% after the program. This 22% increase indicates that the combination of education and hands-on herbal practice was effective in enhancing students' understanding of menstrual health, nutrition, and reproductive hygiene. These findings align with Bandura's Social Learning Theory, which suggests that learning is more effective when individuals actively engage in practical tasks and observe modeled behaviors. By participating directly in herbal preparation, students not only learned theoretically but also applied knowledge in a concrete context, reinforcing their understanding.

In addition to increased knowledge, the program significantly reduced menstrual pain complaints among students (Hasanah et al., 2025; Marseille et al., 2018; Nair et al., 2012; Peltzer & Pengpid, 2019; Salam et al., 2016). The study found a 35% decrease in dysmenorrhea intensity, supporting prior research on the analgesic and anti-inflammatory effects of herbal plants. For example, Sari et al. (2021) reported that ginger supplementation could reduce menstrual pain in adolescent girls, while Prasetyo et al. (2020) demonstrated similar benefits from turmeric. The results of this study suggest that combining herbal interventions with educational programs can enhance adolescents' self-management of menstrual health and contribute to their overall well-being.

Furthermore, 85% of students expressed interest in continuing herbal consumption independently after the program (Xu, Yang, & Wang, 2020). This demonstrates the acceptability and sustainability of herbal-based interventions in school settings (Widayati, Wulandari, & Abadi, 2025). Engagement and enthusiasm for self-care behaviors are crucial indicators of long-term effectiveness, as noted by Pender's Health Promotion Model (Pender, 2011), which emphasizes that perceived benefits, self-efficacy, and behavioral commitment are key determinants of health-promoting behaviors. By integrating culturally accepted and safe herbal practices, the program effectively motivated students to adopt ongoing reproductive health practices (Sari, Wulandari, Hidayat, & Fatmawati, 2025).

The program's holistic approach, which combined theory, mentoring, and herbal practice, also improved participation and interaction among students. Active involvement in the preparation and discussion of herbal remedies increased attention and retention of health knowledge. This supports the constructivist learning theory, which argues that students learn best when they construct knowledge through experience and reflection (Piaget, 1972; Vygotsky, 1978). Through the hands-on component, students could directly observe the benefits of herbal remedies, discuss their experiences with peers, and receive guidance from mentors, reinforcing both cognitive and behavioral learning.

Moreover, the study provides additional evidence that herbal-based interventions can serve as complementary health strategies in adolescent reproductive care (Mirabi, Alamolhoda, Esmailzadeh, & Mojab, 2014). While conventional medicine often focuses on pharmacological management, integrating herbal education into school programs provides a

preventive, low-cost, and culturally relevant alternative (Nagy-Pénczes, Vincze, & Bíró, 2022). This aligns with the principles of integrative health education, which recommend combining conventional knowledge with safe, evidence-based traditional practices to improve health outcomes (WHO, 2019).

The results indicate that the "Herbal Healthy Youth" program is effective in increasing reproductive health knowledge, reducing menstrual pain, and promoting sustainable health behaviors among adolescents. The findings contribute to the growing body of evidence supporting school-based herbal interventions and provide a model that can be adapted in similar educational settings. Future research could explore long-term adherence to herbal practices, potential physiological effects, and scalability to larger student populations to further validate the program's effectiveness (Kumar, Dhillon, & Ahmad, 2023).

CONCLUSION

The "Herbal Healthy Youth" program was proven effective in increasing reproductive health knowledge and improving healthy behaviors among students at SMK Bhakti Asih, as evidenced by a 22% increase in knowledge scores, a 35% reduction in menstrual pain, and the high interest of students in continuing herbal practices independently. The integration of education, mentoring, and hands-on herbal preparation not only enhanced cognitive understanding but also strengthened practical skills and self-efficacy in menstrual health management. These findings demonstrate that a herbal-based educational approach is a culturally appropriate, safe, and sustainable strategy for promoting adolescent reproductive health within school settings. Future research is recommended to evaluate the long-term adherence to herbal interventions, their physiological impacts, and the scalability of the program to other schools, which could contribute to broader health promotion policies and integrative adolescent health strategies.

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