

Original Paper

Harnessing Heritage: Educating Communities on the Benefits of Traditional Spices in Bogor Regency

Futri Zamnis Mareta¹, Ismail Razak², Yuaniko Paramitra^{3*}

^{1,2,3} Management Study Program, Faculty of Economics, Krisnadwipayana University, Jakarta

Corresponding author: Yuaniko Paramitra (nicoyp@unkris.ac.id)

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Abstract

The use of herbal plants as medicine is one of the efforts to improve public health. The purpose of this community service is to provide counseling on traditional medicinal plants based on local wisdom to the community in Babakanraden Village, Bogor Regency. This counseling is expected to be able to identify the types of medicinal plants, especially those that are widely available in the Babakanraden Village environment. Counseling participants received material exposure through written and picture media about the types of traditional medicinal plants and several traditional medicinal concoctions. Based on the pre-test and post-test scores of the participants, there was a difference in scores of 19%. These results indicate that the participants' knowledge increased after being given counseling. In the future, the people of Babakanraden Village, Bogor Regency, can apply knowledge about traditional medicine, especially that based on local wisdom, as an effort to be independent in preventing disease. The managerial implications of this counseling activity show the importance of the active role of village stakeholders, especially local government officials and public health institutions, in designing and implementing local wisdom-based education programs in a sustainable manner.

Keywords: plants, traditional medicine, based on local wisdom.

JEL Classification: I81, O13, Q56

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1. Introduction

Indonesia is known as a megabiodiversity country that has abundant biological wealth, including traditional herbs and medicinal plants that have been used since the time of our ancestors (Ministry of Health of the Republic of Indonesia, 2017). The use of medicinal plants is part of local wisdom that has been passed down from generation to generation and is a form of adaptive response of the community to the environment (Widiarti, Bachri, & Husaini, 2019). This local wisdom not only functions as a health solution but also becomes a cultural identity that is inherent in the lives of rural communities (Haholongan et al., 2024)(Nurrani, 2019).

The application of traditional herbal medicine based on herbs such as ginger, temulawak, and meniran is a common practice in various regions, including in West Java, where the population is mostly Javanese and is accustomed to relying on herbal plants as a form of initial treatment (Ministry of Health of the Republic of Indonesia, 2019). Herbal medicine, as a form of traditional medicine, has been widely recognized by the Indonesian people because its benefits have been empirically proven and are safe to use (Ministry of Health of the Republic of Indonesia, 2017). In fact, the results of national research conducted by the Center for Research and Development of Medicinal Plants and Traditional Medicines show that there are more than 33,000 traditional herbal remedies based on 2,800 species of medicinal plants that have been used by the Indonesian people (BPOM, 2020).

However, the main obstacle to the utilization of medicinal plants lies in the lack of technical knowledge of the community regarding the type, dosage, and proper procedure for use (Pratiwi, Saputri, & Nuwarda, 2018). Some groups still practice the use of traditional medicine carelessly without paying attention to interactions with modern medical drugs, which risk causing side effects or even toxic effects (Shi & Klozt, 2017). These circumstances have become even more complex, considering that vulnerable groups such as children, pregnant women, and the elderly have a higher sensitivity to the active components in medicinal plants (Gouws & Hamman, 2020).

Extension activities are an important instrument in bridging this knowledge gap. Counseling based on local wisdom not only conveys medical information but also reawakens public awareness of the potential of local culture as part of preventive efforts in the health sector (Widiarti et al., 2019). This counseling is also in line with the modern health promotion approach that emphasizes community empowerment through community-based education (Ministry of Health of the Republic of Indonesia, 2017).

Babakanraden Village in Cariu District, Bogor Regency, is a strategic location for implementing this kind of program. The social and cultural characteristics of its people, who are still closely related to the tradition of natural medicine, have great potential to develop local-based health independence (Nurrani, 2019). Most people in this area work as farmers and have direct access to herbal plants that grow around them (Ministry of Health of the Republic of Indonesia, 2015).

Through counseling on the efficacy and use of traditional spice plants, the community can obtain valid and practical information while also raising awareness of the importance of maintaining health naturally (Ministry of Health of the Republic of Indonesia, 2017). With the increase in knowledge measured through pre-test and post-test, this counseling is expected to be able to build a healthy and independent lifestyle among village communities (BPOM, 2020). This strategy also contributes to the preservation of local culture and strengthening the micro economy based on village potential, in line with sustainable development goals (Danapriatna et al., 2023)(Widiarti et al., 2019).

Community problems will be revealed if supported by reliable data. Data serves as the basis for analysis to understand real conditions in the field so that the interventions or solutions offered are more targeted. In the context of community service, the existence of accurate and relevant data is crucial for formulating programs that are in accordance with local needs and potential. Without data, the approach taken will only be assumptive and risk not having a significant impact. Therefore, data collection and analysis are important initial steps in developing an effective and sustainable empowerment strategy.

2. Method

This activity is aimed at the community in Babakanraden Village, Cariu District, Bogor Regency. The village's population is dominated by farmers. This counseling was delivered to the community of hamlet 3 of Babakanraden village, who are expected to become agents of educational information to families and the wider community in the village.

This extension activity was carried out in Hamlet 3, Babakanraden Village, Cariu District, Bogor Regency. This location was chosen because most of the population works as farmers and has direct access to medicinal plants that grow in their environment. The purpose of this activity is to increase community knowledge about the use of traditional medicinal plants based on local wisdom.

The method of implementing the activity consists of five main stages as follows:

1. Preparation:
 - Initial observation of the location and coordination with village officials.
 - Preparation of extension materials in the form of (a) introduction to traditional medicine, (b) identification of local medicinal plants, (c) processing of simple potions, and (d) side effects and safety of use.
 - Preparation of visual aids such as posters, PowerPoint media, native plants and examples of herbal concoctions.
2. Pre-test:
 - Participants work on basic knowledge questions about medicinal plants and their uses before the extension is given.
 - Aims to measure the level of initial understanding.
3. Extension and Demonstration:
 - Presentation of materials by the implementing team (lecturers and students of Krisnadwipayana University).
 - The counseling is delivered interactively using a combination of visual media and direct practice.
 - Demonstration of making simple traditional herbal medicine (jamu) from local ingredients such as ginger, temulawak, and turmeric.
4. Discussion and Q&A:
 - Participants are given the opportunity to ask questions and discuss the benefits, how to consume them, and warnings about using medicinal plants.
 - The goal is to strengthen participants' understanding and clarify common misperceptions.
5. Post-test and Evaluation:
 - Participants work on the same questions as the pre-test to see the increase in knowledge.
 - Qualitative evaluation is carried out through observation of participant enthusiasm, discussion participation, and participants' intention to apply the knowledge gained.

3. Results

The extension activity on the use of traditional spices based on local wisdom was carried out on February 1, 2023, at the Babakanraden Village Hall, Cariu District, Bogor Regency. Residents of Hamlet 3, Babakanraden Village, attended this activity, with most participants consisting of housewives, community leaders, and representatives of village youth. The entire series of activities was carried out while still implementing health protocols.

To measure the effectiveness of the activity quantitatively, pre-test and post-test instruments were used containing 10 multiple-choice questions regarding basic knowledge of medicinal plants and traditional spices. The number of participants who took both tests was 30 people. The average pre-test score was 56.3 (out of a total score of 100), while the average post-test score increased to 75.3. Thus, there was an increase in the average score of 19 points or equivalent to an increase of 33.7% from the initial condition.

Table 1. Average Pre-Test and Post-Test Scores

Test Types	Average Score	Percentage Increase
Pre-Test	56,3	-
Post-Test	75,3	33,7%

Statistical analysis using paired t-test showed that the increase in score was significant at the 95% confidence level (p-value <0.05). These results indicate that the counseling succeeded in significantly increasing participants' understanding.

In addition to the cognitive aspect, the affective and psychomotor aspects were also measured through participant observation and focus group discussions. As many as 80% of participants stated that they were interested in starting to plant herbs in their yards, and 73% of participants stated that they would share the information obtained with family and neighbors. As a follow-up, 10 participants voluntarily formed small groups to practice mixing simple herbal medicines routinely.

Thus, the success of this activity was measured quantitatively through an increase in knowledge scores and qualitatively through changes in participants' attitudes and intentions. This situation strengthens the value of the benefits of PKM activities holistically and in a targeted manner.

The counseling began with a pre-test to measure the level of participants' initial knowledge regarding medicinal plants and traditional herbs. After that, the material was delivered by the implementing team consisting of lecturers and students of Krisnadwipayana University. The material was delivered communicatively using PowerPoint media, posters, illustrations of medicinal plants, and examples of fresh herbal concoctions that are commonly consumed by the community. The participants were very enthusiastic, as seen from the many questions and responses that arose during the question-and-answer session.

The types of spice plants introduced in this activity include ginger, temulawak, turmeric, kencur, African leaves (*Vernonia amygdalina*), and meniran (*Phyllanthus niruri*). Participants were introduced to the physical characteristics of plants, their properties, and simple processing methods at home. In addition, important information was provided about dosage, side effects, and special attention to vulnerable groups such as children and pregnant women.

In the practical session, participants were shown how to mix simple herbal medicine made from ginger, temulawak, and turmeric. They were also given a mini pocketbook containing information about local medicinal plants that can be planted in the yard. After the counseling, participants completed the post-test again. The results showed a 19% increase in knowledge, which means that the counseling activity succeeded in increasing participants' understanding of the benefits and use of medicinal plants safely and appropriately.

In addition to the knowledge aspect, this counseling also had a positive impact on the participants' attitudes and intentions in applying the knowledge they had gained. Several participants expressed their desire to start planting spices in their yards and share information with their family members. Based on direct observation and the results of group discussions, this activity has run well and effectively and received a positive response from residents.



Figure 1 Presentation of material to participants and 2 Photo session with counseling participants

4. Discussion and Benefits

This outreach activity illustrates that community knowledge of traditional medicinal plants still needs to be improved, especially in terms of safe and scientifically based utilization. The pre-test and post-test results showed a 19% increase in knowledge, which shows the effectiveness of the educational method used. This is in line with previous findings that community-based education has an important role in improving public health literacy, especially in rural areas.

The outreach material presented visually and interactively made it easier for participants to understand the characteristics of medicinal plants and how to process them. Active discussions during the activity also reflected the high enthusiasm of participants for this topic. In addition, the presence of competent speakers and a contextual approach to local culture reinforced the message that traditional medicine can be a viable alternative if it is done properly. The practice of making herbal medicine directly also provided a memorable real experience for participants so that it was easier to apply in everyday life. This finding emphasizes the importance of a community empowerment program based on local potential to increase health awareness and resilience to self-medication.

This outreach activity provides significant benefits for both the community and the implementation team. For the people of Babakanraden Village, this activity increases knowledge and skills in recognizing, utilizing, and mixing traditional medicinal plants available in the surrounding environment. With this understanding, the community can reduce dependence on synthetic drugs and begin to implement a healthy lifestyle based on local wisdom.

This counseling also sparked the enthusiasm to plant spice plants in the yard and share information with family and neighbors. Meanwhile, for the implementing team, this activity is a means to apply knowledge in real practice, improve communication skills, education, and community empowerment, and, in general, contribute to the preservation of local culture and strengthen village health resilience based on sustainable natural resources.

The PKM activities carried out in Babakanraden Village showed a significant contribution to increasing public health literacy based on local wisdom, especially regarding the use of traditional medicinal plants. Compared to similar activities that generally only focus on the theoretical introduction of medicinal plants, this activity is more comprehensive because it combines an educational approach with direct practice, such as making herbal concoctions and distributing pocketbooks. The interactive method of delivering material, accompanied by visualization and active discussion, has been proven to increase participants' knowledge by 19% based on the results of the pre-test and post-test. This condition is different from most other extension activities that are one-way and do not touch on the application aspect. In addition, the involvement of local

communities, especially housewives and community leaders, shows success in building active participation, which is an added value compared to similar programs that do not involve the community in depth. By integrating educational, cultural, and empowerment aspects, this PKM activity makes a real contribution to building the health independence of rural communities and preserving local knowledge in a sustainable manner.

5. Conclusion

Based on the results of counseling activities on traditional medicine, local wisdom can increase the knowledge of the people of Babakanraden Village, Cariu District, Bogor Regency. This increase in knowledge is expected to encourage positive attitudes and actions in the use of traditional medicine based on local wisdom. Participants can provide information widely to increase the knowledge of families and communities around Babakanraden Village, Cariu District, Bogor Regency so that the health status of the community will increase. Suggestions for the future are that there needs to be assistance in making traditional medicine, especially based on local wisdom, as an effort to be independent in preventing diseases in the people of Babakanraden Village, Cariu District, Bogor Regency.

This PKM activity has made a real contribution to increasing the understanding and skills of the community, especially small and micro business actors, in utilizing technology and digital innovation for business development. The implementation of this activity proves that an education-based approach and direct assistance can improve the digital literacy and operational efficiency of the target community. Implications for the community include increasing business competitiveness, optimal use of technology, and growing awareness of the importance of innovation in economic activities. From a managerial perspective, this program provides insight into the importance of planning based on real community needs, cross-sector coordination, and the implementation of adaptive and responsive project management to field dynamics. Managers of similar programs can use this activity model as a reference in developing intervention strategies that are data-based and oriented toward real results.

Recommendations

For subsequent activities, similar PKMs should develop a sustainable mentoring model involving local partners as facilitators or agents of change to ensure the program's impact is sustainable. Long-term evaluation of the activities' results is also needed to measure their effectiveness and sustainability.

In addition, it is recommended that subsequent activities expand the scope of the target area and community segments and integrate the use of more interactive and inclusive digital platforms. From a managerial perspective, it is necessary to strengthen the monitoring and evaluation system based on key performance indicators and increase the capacity of the implementing team through project management and cross-cultural communication training so that similar programs can be replicated with optimal results.

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