



Empowering The Community Through a Herbal Medicine-Based Movement in Pengotan Village, Bali

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Abstract: This community service activity aimed to increase public awareness, knowledge, and skills in utilizing herbal medicinal plants as an alternative for family health maintenance and as a potential source of local economic development. The program was carried out in collaboration with Pengotan Village, Bangli Regency, Bali, involving 50 PKK mothers as participants. It was implemented by a team of lecturers from Kartini Bali Health Polytechnic, who also served as facilitators and resource persons. The activity consisted of six stages: initial observation, provision of tools and materials, pretest, counseling sessions on herbal medicinal plants, posttest, and an evaluation and follow-up stage to assess improvements in participants' knowledge. Descriptive analysis was used to examine increases in knowledge, planting and processing skills, and understanding of product marketing. The results showed an increase in participants' knowledge of herbal medicinal plants by 76.06%, skills in planting and processing by 76.24%, and knowledge of marketing methods by 78.86%. After the program, participants demonstrated initiative in using herbal medicine to treat minor illnesses within their families and began utilizing home gardens to grow herbal plants. Furthermore, the village government plans to establish a business group for PKK mothers to strengthen the local economy. The follow-up of this activity is expected to involve collaboration between the village, health centers, and the community to enhance the sustainable use of herbal medicinal plants for health improvement.

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Introduction

The use of herbal plants as an integral part of medicine has been practiced for thousands of years and continues to evolve to this day. In Indonesia, the use of traditional medicine is part of the nation's culture, utilized by the community as one of the efforts to address health issues. In Indonesia, the use of herbal medicine is still very popular. A survey involving 7,699 respondents who use the Alodokter application showed that approximately 45% of respondents choose to use herbal remedies, although not all of them are officially registered with the Indonesian Food and Drug Administration (BPOM RI). Additionally, data shows that 59.12% of Indonesians use herbal medicine, and 95.6% of users state that this treatment is effective (Sudewi et al., 2020).

The Ministry of Health, through the Directorate General of Health Services, sent a circular to governors, regents/mayors throughout Indonesia to utilize traditional medicine for health maintenance, disease prevention, and healthcare. Director General of Health Services, Dr. Bambang Wibowo, stated that the Ministry of Health has established the Indonesian



Traditional Medicine Formulary (FROTI) through the Minister of Health Decree number HK.01.07/Menkes/187/2017, which was compiled based on health disorders commonly found in the community. The 2021-2024 Health System Transformation, with its vision of creating a healthy, productive, independent, and just society, is supported by 6 main categories. One outcome is strengthening the health system and drug and food control. The third main category is transforming the health security system, which includes: increasing the resilience of the pharmaceutical and medical device sectors and strengthening emergency response resilience (Reiza Adiyasa, 2021).

The use of traditional medicine must still adhere to its instructions, including having a distribution permit from the Indonesian Food and Drug Administration (BPOM). Some examples of medicinal plants include red ginger, ginger, turmeric, galangal, kencur, lemongrass, garlic, cinnamon, moringa leaves, katuk leaves, guava, lemon, lime, and black cumin. In addition, traditional medicine also has benefits, including for boosting the immune system, treating high blood pressure and diabetes, reducing cough, flu, and sore throat symptoms, and increasing breast milk production (Julia Mahadewi et al., 2024).

Herbal medicine has been used for centuries as an alternative and complementary approach to maintaining health. With its natural content, medicinal plants have been proven to provide benefits such as boosting the immune system, preventing disease, and having fewer side effects compared to synthetic drugs (Farida et al., 2024). Additionally, the use of herbal medicine also supports the economic aspect by boosting the traditional medicine industry and plant-based health products (Indah Yulia Ningsih, 2016), (Nhestricia et al., 2024)

Based on the results of the preliminary study conducted by the team, the economic structure of Pengotan Village is dominated by the agricultural sector. This is evident from the percentage of land use for agricultural businesses, which is 50%, with the majority of the population relying on the agricultural sector for their livelihood. Agriculture is the main business activity for rural communities, with citrus fruits and vegetables as the main products. However, knowledge and awareness of cultivating herbal plants for health and economic benefits are still limited. The government has also provided healthcare facilities and medical personnel to make it easier for people to access healthcare services. The North Bangli Public Health Center, located in Pengotan Village, has a Traditional Health Services (Yankestrad) program. Thru this PKM activity, the target partners, namely the 50 PKK mothers in Pengotan village, can serve as a model for the community not only in the field of health but also in improving the community's economy. This herbal plant has health benefits, but the local community does not utilize agricultural land or home gardens to grow this herbal medicine, and it even grows wild in the yards or fields of the residents of Pengotan Village. Some types of herbal medicinal plants that grow wild in Pengotan Village are ginger, turmeric, lemongrass, betel leaves, and aloe vera (Sanjiwani Agatha Ruth Mahawikan et al., 2022) dan (Reiza Adiyasa, 2021). Based on this, the activity aims for the partners to innovate in processing and managing herbal medicinal plants for health and improving the local community's economy (Sulaiman et al., 2025).

Method

The approach methods and the application of technology and innovation implemented in the community service activities are as follows:

- 1) Phase 1: Observation and Analysis



This stage is carried out to gather information in the field to gain an understanding of the problems and solutions. Several activities are conducted at this stage, including discussions with the head of Pengotan village and target partners to gather information related to existing priority issues.

2) Phase 2: The Preparation Of Tools And Materials For The Activity

This stage aims to prepare the tools and materials for the service activity, including stationery, questionnaires, and other supporting tools to facilitate the Community Partnership Empowerment (PKM) activity. This activity was carried out in Pengotan Village, Bangli Regency, and the discussion room at the Kartini Bali Health Polytechnic.

3) Phase 3

A Pretest Questionnaire was distributed to PKK mothers, who are the target partners, regarding their knowledge of the benefits and types of herbal medicinal plants for health and economic improvement. This was done for one day and took place in the hall of the Pengotan Village Office.

4) Phase 4: There Is Counseling About Herbal Medicinal Plants And Their Benefits For Health

This stage includes counseling activities related to herbal medicinal plants and their benefits for health, which are carried out for 1 day in the hall of the Pengotan Village Office.

5) Phase 5

A Posttest Questionnaire is distributed to PKK mothers, who are the target partners, regarding their knowledge of the benefits and types of herbal medicinal plants for health, which is carried out for 1 day and held in the hall of the Pengotan Village Office.

6) Phase 6: The Practice Of Planting Herbal Medicinal Plants

This stage will involve the practice of planting herbal medicine in the yard of the Pengotan Village Office as a demonstration before the herbal medicine seedlings are given to the PKK mothers, who will then directly practice planting herbal medicine in their home yards.

7) Phase 7: The Training On Managing Herbal Medicines And Marketing Techniques For Herbal Medicine Products

This activity aims to increase the knowledge and skills of PKK mothers in processing herbal medicinal plants and how to market the products.

8) The Final Stage: Evaluation and Follow-up

This is the final stage of evaluating all activities carried out, identifying the obstacles encountered, and preparing the necessary follow-up actions to overcome these obstacles. After analyzing the data using descriptive analysis to describe the increase in knowledge about herbal medicinal plants, skills in growing and processing herbal medicinal plants, and knowledge in marketing their products, the following results were obtained: an increase in target partners' knowledge about herbal medicinal plants with a percentage of 76.06%, an increase in skills in growing and processing herbal medicinal plants with a percentage of 76.24%, and knowledge about marketing methods with a percentage of 78.86%. Based on these results, the next activities to be carried out are (1) discussing with partners and PKK mothers for assistance in using drying and pressing machines, (2) preparing follow-up actions to overcome the obstacles encountered by coordinating with the village authorities, including website maintenance by adding a special feature for herbal plant products, (3) monitoring the formation of PKK mothers' business groups in processing and marketing herbal medicinal plant products, and (4) preparing final reports,



journal publications, mass media publications, and uploading activity videos to the Kartini Bali Health Polytechnic YouTube channel.

Results and Discussion

1) Phase 1: Observation and Analysis

This stage is carried out as part of the initial visit to the village and is an important step in implementing community service activities. This activity aims to gain a comprehensive overview of the real conditions of the village where the service is located, while also establishing initial communication with local stakeholders such as the village head, village officials, community leaders, and the program's target groups. The initial survey was conducted using a participatory and observational approach to directly identify community problems, potential, and needs. During this process, the service team collected quantitative and qualitative data through interviews, focus group discussions (FGDs), and observations of the village environment and facilities. The main focus of the survey includes socioeconomic conditions, education, health, local potential (such as medicinal plants, MSMEs, agriculture, and culture), as well as the challenges faced by the community in their daily lives. Additionally, this initial visit also serves as a moment to build trust and explain the purpose, objectives, and planned activities of the community service to be carried out. Additionally, the team also explained that one of the goals of this activity is to provide education on non-pharmacological treatments for health (Amanpour et al., 2023). Tim presented the collaborative and sustainable approach used, ensuring that the community is not just an object, but also an active subject in every stage of the activity. This activity was carried out at the Pengotan village office, Bangli Regency.



Figure 1. PKM Team Meeting with Pengotan Village Head

2) Phase 2: The Preparation Of Tools And Materials For The Activity

The provision of tools and materials is one of the important components in supporting the smooth and successful implementation of community service activities. This stage is carried out after the results of the initial survey and mapping of community needs are clearly and structurally obtained. The preparation is carried out based on careful planning and is adjusted to the type of service activity to be implemented, whether educational, skills training, outreach, or technology and innovation-based empowerment. The tools and materials provided include various technical necessities relevant to the program topic, such as agricultural tools, herbal product processing equipment, materials for skills training, educational media (leaflets, posters, videos), and other training and field activity supplies.



3) Phase 3: A Pretest Questionnaire

The pretest questionnaire distribution activity is an important part of the initial stage of community service implementation, which focuses on the utilization of herbal medicinal plants and their marketing strategies. The main objective of this activity is to measure the initial knowledge level, understanding, and needs of the community regarding the topic before any intervention or training is conducted. The pretest questionnaire was designed systematically and contextually to align with the characteristics of the target population. The questionnaire consists of 20 questions covering basic knowledge about the types and benefits of herbal medicinal plants for health. This activity was attended by 50 respondents from PKK mothers and was held in the village hall of Pengotan.

4) Phase 4: There Is Counseling About Herbal Medicinal Plants And Their Benefits For Health

Counseling on herbal medicinal plants is one of the core activities in the implementation of community service programs aimed at increasing community knowledge, awareness, and skills in utilizing local potential to maintain and improve health independently. The material presented by the resource person or practitioner with expertise in the health field covers the types of herbal medicinal plants, the content of herbal medicines, the benefits of herbal medicines, and simple processing methods at home.

The source of the research findings by Amanpour et al., 2023 states that the study found evidence supporting pharmacological activity in many species, such as anti-inflammatory, antimicrobial, and antioxidant effects. Strong clinical evidence is still limited to a few plants, namely ginger and turmeric. Another source mentions from Lopresti et al., 2022 that curcumin extract improves pain scores in osteoarthritis patients. Another benefit of ginger is that it significantly reduces nausea scores compared to placebo in some trials; the effect on vomiting is more variable. Safety is relatively good at low to moderate doses, as shown in the study by (Lete & Allué, 2016).

This outreach activity not only serves as a medium for knowledge transfer but also as a platform to raise public awareness about the importance of returning to natural remedies, maintaining health from home, and developing local potential into sustainable economic and health solutions. Through this activity, it is hoped that the community can apply the knowledge gained in their daily lives and become agents of change in promoting an independent and sustainable herbal-based health movement in their respective environments.



Figure 2. Herbal Medicine Counseling by the Team



5) Phase 5: A Posttest Questionnaire

The distribution of the posttest questionnaire is one of the important stages in evaluating the success of community service activities, particularly those focused on the utilization of herbal medicinal plants and the development of their marketing strategies. This activity is carried out after the extension, training, or other empowerment activities have been completed.

The main purpose of the posttest questionnaire is to measure the participants' improvement in knowledge, changes in attitude, and understanding of the material that was delivered during the service process. Additionally, this questionnaire also serves to assess the extent to which participants are able to independently understand basic concepts regarding herbal medicinal plants and herbal product marketing strategies. The questionnaires were distributed directly to participants who had completed the series of activities. The service team ensured that all respondents understood the instructions for filling out the questionnaires, both in writing and through technical assistance.

6) Phase 6: The Practice Of Planting Herbal Medicinal Plants

Growing herbal medicinal plants in the home garden is a tangible form of a healthy, economical, and independent lifestyle. Besides health benefits, this activity also supports family resilience, the preservation of local culture, and has the potential to be a household-based economic solution. With easy care and little capital, every household can take simple steps towards sustainable and natural health. The plants given were of 5 types: red ginger, white turmeric, red lemongrass, red betel, and aloe vera.

According to Lely et al., 2021, red betel leaf ethanol extract inhibits the growth of *Staphylococcus aureus*, *Candida albicans*, and bacteria that cause oral/vaginal infections. And this activity comes from eugenol and caviol, which damage microbial cell walls. Additionally, according to Wahyuningsih et al., 2025, (Lely et al., 2021) red betel leaves contain flavonoids and polyphenols that work to combat free radicals and reduce cellular inflammation. Another study by Surjushe et al., 2008 states that aloe vera gel accelerates skin regeneration, increases collagen, and reduces inflammation. Meanwhile, Han & Parker, 2017 showed that lemongrass can reduce the production of prostaglandins and nitric oxide, providing a natural pain-relieving effect.

7) Phase 7: Of The Training On Managing Herbal Medicines And Marketing Techniques For Herbal Medicine Products:

Training in herbal medicine processing and marketing techniques is one of the strategic efforts in community empowerment, especially amidst the growing interest in natural remedies and healthy lifestyles. This activity not only impacts the improvement of community knowledge and skills but also opens up new economic opportunities based on local potential. The resource person for this training is from the staff of Puskesmas I Bangli Utara.



Figure 3. Distribution of Plants to Respondents



8) The Final Stage: Evaluation And Follow-Up

Evaluation and follow-up activities are an important part of ensuring the success and sustainability of community service programs, especially those focused on the use of herbal medicinal plants. The evaluation results show an increase in community knowledge and enthusiasm for using medicinal plants as an alternative health solution. Some participants have started actively planting herbal plants around their homes and expressed interest in developing simple processing methods for herbal products.

As an effort to ensure program sustainability, the service team formulated follow-up steps involving the community and local stakeholders, including: forming TOGA (Family Medicinal Plants) groups as a forum for learning together, sharing experiences, and collectively producing herbal plants; coordinating with the village government and Puskesmas to support the sustainability of the movement to utilize medicinal plants as part of a community-based health program; and gradually utilizing social media and digital marketing, especially for people interested in making herbal products a family economic opportunity. Based on the following questionnaire and checklist results:

Table 1. Recapitulation of Respondents' Knowledge and Skills Test Results

Indicator	Average Pretest	Average Posttest	Maximum Score	Percentage Increase (%)
Knowledge of herbal plants	62,4	91	100	76,06
Skills in the practice of growing herbal medicinal plants, land utilization, and managing herbal medicinal plants.	92,6	212,6	250	76,24
Knowledge of how to market products	45,4	64,8	70	78,86

Based on the frequency distribution table above, the average pretest score for respondents' knowledge about herbal medicinal plants is 62.4, and the average posttest score is 91 with a maximum score of 100. Therefore, the percentage increase in respondents' knowledge about herbal medicinal plants is 76.06%. The average pretest score for respondents' skills in the practice of growing herbal medicinal plants and land use is 92.6, and the average posttest score is 212.6 with a maximum score of 250. Therefore, the percentage increase in respondents' skills in the practice of growing herbal medicinal plants and land use is 76.24%. The average pretest score for respondents' knowledge about product marketing methods is 45.4, and the average posttest score is 64.8 with a maximum score of 70. Therefore, the percentage increase in respondents' knowledge about product marketing methods is 78.86%.

Table 1. Statistical Results of Pretest and Posttest Data

Jenis Tes	N	Range	Minimum	Maximum	Mean	Std. Deviasi
Pretest	50	45	55	100	80,00	8,864
Posttest	50	30	70	100	88,60	6,064

The results of the descriptive statistical test on pretest and posttest scores are presented in Table 1, which shows that the average score for the pretest is 80.00 and the posttest has an average score of 88.60. This indicates that there is a difference in the average scores of respondents based on pretest and posttest values, in the form of an increase in scores, or in other words, there is an increase in the knowledge of PKK mothers as participants in the GEMA HERBAL socialization about the natural properties and benefits of



herbal medicinal plants (lemongrass, aloe vera, white turmeric, ginger, and betel leaves) and herbal plant product marketing strategies.

Conclusion

The conclusions from the community service activities in Pengotan Village are:

- 1) A good increase in knowledge about herbal medicinal plants among 76.06% of the community.
- 2) A good level of knowledge and skills among the community in the practice of planting herbal medicinal plants and land utilization, with a good category and a percentage of 76.24%.
- 3) A good increase in knowledge about product marketing and how to market herbal plant products among 78.86% of the community.

Recommendation

Recommendations for parties involved in community service activities conducted in Pengotan village are: (1) for the village government: to form an entrepreneurial group for the PKK mothers so that the program can be sustainable, (2) for healthcare workers: to monitor and supervise the correct use of simple herbal remedies by the community, and (3) for universities: every service activity must be research-based community service, so that the herbal movement activities are not just practice, but also generate empirical data on the benefits of medicinal plants for public health.

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References

- Amanpour, S., Javar, M. A., Sarhadinejad, Z., Doustmohammadi, M., Moghadari, M., & Sarhadynejad, Z. (2023). A systematic review of medicinal plants and herbal products' effectiveness in oral health and dental cure with health promotion approach. In *Journal of Education and Health Promotion* (Vol. 12, Issue 1). Wolters Kluwer Medknow Publications. https://doi.org/10.4103/jehp.jehp_1297_22
- Farida, N., Ngawit, I. K., & Jupri, A. (2024). Weeds Ethnobotanical Studies: Use of Midicinal Plant as A Self-Medication by The Community of Bayan Traditional Village, North Lombok District, West Nusa Tenggara. *Jurnal Penelitian Pendidikan IPA*, 10(11), 8640–8654. <https://doi.org/10.29303/jppipa.v10i11.7231>
- Han, X., & Parker, T. L. (2017). Lemongrass (*Cymbopogon flexuosus*) essential oil demonstrated anti-inflammatory effect in pre-inflamed human dermal fibroblasts. *Biochimie Open*, 4, 107–111. <https://doi.org/10.1016/j.biopen.2017.03.004>
- Indah Yulia Ningsih. (2016). *MODUL SAINTIFIKASI JAMU KEAMANAN JAMU TRADISIONAL*.
- Julia Mahadewi, Ayu Trisna Yanti, Eva Ditayani Antara, & Oka Cahyadi. (2024). *Perlindungan Konsumen Terhadap Beredarnya Obat Herbal Yang Tidak Terdaftar Di Denpasar*. 18(9).



- Lely, N., Arifin, H., Aldi, Y., & Wahyuni, F. S. (2021). Anti-inflammatory effects of methanol extract, hexane, ethyl acetate, and butanol fraction of piper crocatum ruiz & pav leaves on lipopolysaccharide-induced RAW 264.7 Cells. *Pharmacognosy Journal*, 13(6), 1341–1346. <https://doi.org/10.5530/PJ.2021.13.169>
- Lete, I., & Allué, J. (2016). The effectiveness of ginger in the prevention of nausea and vomiting during pregnancy and chemotherapy. In *Integrative Medicine Insights* (Vol. 11, pp. 11–17). Libertas Academica Ltd. <https://doi.org/10.4137/IMI.S36273>
- Lopresti, A. L., Smith, S. J., Jackson-michel, S., & Fairchild, T. (2022). An investigation into the effects of a curcumin extract (Curcugen®) on osteoarthritis pain of the knee: A randomised, double-blind, placebo-controlled study. *Nutrients*, 14(1). <https://doi.org/10.3390/nu14010041>
- Nhestrucica, N., Utami, N. F., Sulistiyono, F. D., Riswana, D. P., & Putra, A. D. (2024). *JPMI (Jurnal Pengabdian Masyarakat Inovatif) Empowerment of Micro/ Small/ Medium Enterprises in Making Traditional Herbal from Family Medicinal Plants as an Effort to Achieve SDGs*.
- Reiza Adiyasa, M. (2021). Pemanfaatan obat tradisional di Indonesia: distribusi dan faktor demografis yang berpengaruh. *Jurnal Biomedika Dan Kesehatan*, 4(3). <https://doi.org/10.18051/JBiomedKes.2021>
- Sanjiwani Agatha Ruth Mahawikan, S., Abdul, A., & Ariastuti, R. (2022). *PERSEPSI MASYARAKAT TERHADAP EFEKTIVITAS PENGGUNAAN JAMU DALAM MENINGKATKAN IMUNITAS SELAMA PANDEMI COVID-19*.
- Sudewi, N. K. A. P. A., Budiarta, I. N. P., & Ujianti, N. M. P. (2020). Perlindungan Hukum Badan Pengawas Obat Dan Makanan (BPOM) Terhadap Peredaran Produk Jamu Yang Mengandung Bahan Kimia Obat Berbahaya. *Jurnal Analogi Hukum*, 2(2), 246–251. <https://doi.org/10.22225/ah.2.2.1928.246-251>
- Sulaiman, A. I., Prastyanti, S., Sari, L. K., Rofik, A., & Yamin, M. (2025). Community Empowerment in Developing Family Medicinal Plants to Realize a Green Economy Based on Local Wisdom. *Journal of Management World*, 2025(4), 54–65. <https://doi.org/10.53935/jomw.v2024i4.1158>
- Surjushe, A., Vasani, R., & Saple, D. G. (2008). ALOE VERA: A SHORT REVIEW. In *Indian J Dermatol* (Vol. 53, Issue 4).
- Wahyuningsih, M. S. H., Najiyati, I., Wastutiningsih, S. P., Purwono, S., & Padmawati, R. S. (2025). Improving literacy about the cultivation and utilization of family medicinal plants in Blunyahrejo Village, Yogyakarta City. *Journal of Community Empowerment for Health*, 8(2), 61. <https://doi.org/10.22146/jcoemph.82763>