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Empowering Posyandu Cadres Through Education on Local Medicinal Plants in Sabilambo Village, Kolaka Regency

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ABSTRAK

The use of local medicinal plants as a promotional and preventive measure to maintain and support family health independence is still not optimal due to limited public knowledge regarding their benefits, processing methods, and correct and safe use. This condition was also found among the mothers of the *Sabilambo Posyandu* cadres in Kolaka Regency, who play a role in disseminating health information to the community. This community service activity aims to increase the knowledge of the mothers of the *Sabilambo Posyandu* cadres regarding the correct and safe use of local medicinal plants through education and joint practice of making herbal medicines (*jamu*). The implementation method included lectures, interactive discussions, demonstrations, and practice of making herbal medicines (*jamu sinom* and *jamu manjaku*). The results of the evaluation of the activity participants ($n=10$) showed an increase in knowledge with the percentage of correct answers from 83% in the pre-test to 98% in the post-test, which indicates an increase in participant knowledge in the good category. This activity increased the understanding of the *Sabilambo Posyandu* cadres regarding the description of medicinal plants, benefits, processing, and safe and correct use of local medicinal plants. This program is expected to support family health independence and strengthen the role of *Posyandu* cadres as agents of sustainable health education in the community through the use of local medicinal plants.

INTRODUCTION

Indonesia is a megabiodiverse country with more than 30,000 plant species, of which approximately 6,000–7,000 have been used as traditional medicinal plants. BRIN has recorded at least 2,850 species of medicinal plants documented in Indonesia, along with more than 22,000 traditional medicinal formulas (Vidhiyanti & Ahmad, 2025). The WHO reports that traditional medicine is used in 170 member states, with 67% of countries reporting that 40–99% of their populations utilize traditional medicine as part of their healthcare services (WHO, 2025). The use of traditional medicine remains very high among the Indonesian population, particularly among those with chronic illnesses. A total of 44.3% of respondents use traditional medicine, and 79.9% of them use herbal products (*jamu* and herbal medicines) (Pradipta et al., 2023).

Indonesian medicinal plants, also known as indigenous Indonesian herbs, are medicinal plants that grow and are cultivated in Indonesia and have been used for generations for health purposes. Jamu is a traditional Indonesian herbal medicine that has been practiced for centuries by the Indonesian people to maintain health and treat illnesses. Although modern medicine is becoming increasingly important in Indonesia, jamu remains very popular in both rural and urban areas (Elfahmi et al., 2014). Plants commonly used in traditional medicine include ginger, kencur, turmeric, lemongrass, temulawak, pandan leaves, pepper, and betel leaf, utilizing parts such as leaves, stems, fruits, and rhizomes/roots (Romadhonnasyah et al., 2023; Widiyanto et al., 2024).

The use of indigenous Indonesian plants as a source of traditional medicine has been regulated by the Indonesian government through Minister of Health Regulation No. 6 of 2016 on the Formulary of Indigenous Indonesian Herbal Medicines (Indonesian Ministry of Health, 2016). In addition, there is also a government policy through the Indonesian Food and Drug Administration Regulation No. 30 of 2023 on Guidelines for Efficacy Claims of Natural Medicines (BPOM RI, 2023). This policy further strengthens the role of Indonesia's local plants in supporting national health self-reliance through the development and utilization of natural medicines in accordance with regulations regarding quality, safety, and efficacy. These regulations provide a framework for quality assurance regarding the efficacy of natural product-based medicines and the safety of several types of local medicinal plants commonly used by the public. The use of medicinal plants must be based on accurate identification, proper processing, appropriate dosing, and consideration of scientific evidence and applicable regulations. Several studies indicate that the understanding of homemakers and Posyandu cadres regarding the proper and safe use of medicinal plants is still suboptimal; therefore, educational activities are needed to improve literacy and promote the rational use of medicinal plants (Nurviana et al., 2025).

Kolaka Subdistrict is the administrative center of Kolaka Regency, with a population of approximately 42,971 in 2025, resulting in a significant need for community-based health services, including Posyandu. Sabilambo Village is one of the villages in Kolaka Subdistrict, with a population of approximately 5,300, according to the publication Kolaka Subdistrict in Figures (0). Sabilambo Village is one of the villages targeted by the local government's priority health programs through the Kolaka Regency Health Office, with a focus on improving public health, preventing and controlling diseases, and reducing the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) (Dinas Kesehatan Kolaka, 2024). Based on observations conducted in early May 2025 in residential neighborhoods, various types of local plants with medicinal potential are still easily found, both in home gardens and the surrounding areas. Furthermore, preliminary interviews with the head of the local posyandu (community health post) revealed that the use of medicinal plants is not yet optimal and that residents have never received education regarding the safe use of traditional medicine. Most residents process these plants solely based on traditional knowledge passed down through generations, without scientific knowledge regarding their bioactive compounds, health benefits, proper processing techniques, or usage limitations.

Given these circumstances, there is a need for a community empowerment program through educational activities on local medicinal plants, covering their benefits, bioactive compounds, pharmacological effects based on scientific evidence, simple processing techniques for making traditional herbal remedies, and the principles of proper and safe use, targeting Posyandu volunteer mothers.

Previous community service activities have generally focused on introducing household medicinal plants (TOGA) or training in the preparation of simple herbal remedies (Mashar et al., 2025; Robbani et al., 2025; Triwibowo et al., 2025); however, they have not extensively integrated education regarding the safety aspects of medicinal plant use based on scientific evidence, the potential utilization of region-specific local plants, and the practices of making herbal beverages from medicinal plants or traditional herbal remedies. Therefore, this program introduces an innovative approach by integrating education on the use of local plants and their safety as educational content, as well as practical sessions on preparing two types of *jamu* namely, *sinom jamu* and *manjaku jamu* as examples of herbal products that can be directly applied by the community. This activity is expected to enhance the capacity of Posyandu volunteer mothers, both

as providers of basic health services and as educators and disseminators of health information to the community on an ongoing basis ([Dikarsa et al., 2025](#); [Mutia et al., 2020](#)). The objective of this activity is to provide education on the composition, benefits, and safety of using medicinal plants based on scientific information, as well as to train participants in processing medicinal plants into simple herbal remedies (jamu sinom and jamu manjaku) that are safe and hygienic.

METHOD

An educational event on medicinal plants was held in the auditorium of the Sabilambo Village Office, Kolaka Subdistrict, Kolaka Regency, on Saturday, June 6, 2026, from 8:00 a.m. to 1:00 p.m. WITA. This location was chosen because it is strategically located, easily accessible to participating partners, and equipped with facilities suitable for educational purposes. Participants in the event consisted of the event implementation team, comprising a combined group of faculty members and students from various programs of study (Bachelor of Science in Chemistry, Bachelor of Science in Pharmacy, and Associate Degree in Nursing) within the Faculty of Science and Technology at the University of Nineteen November Kolaka, totaling 14 people. The implementation team consisted of 6 faculty members and 8 students, each with the following roles: the team leader served as the activity coordinator and primary presenter; faculty members acted as content facilitators and practical session supervisors; and students served as group mentors, prepared equipment and materials, handled administrative tasks, documented the event, and assisted with the administration of pre-tests, post-tests, and evaluations. The target partners for the activity were 10 women from the Sabilambo urban village Posyandu group. The participants were active members of the Sabilambo Posyandu. They were selected in coordination with the Posyandu chairperson based on the following criteria: first, they actively participate in Posyandu activities; second, they are willing to participate in the entire series of activities; and third, they are willing to serve as health education agents for the community. These Posyandu volunteer mothers were selected because they play a crucial role as extensions of the Community Health Center (Puskesmas) and as the frontline of community health services particularly Posyandu activities ([Marufah et al., 2022](#)) and can have a positive impact on improving community health ([Muntafiah et al., 2023](#)); thus, they are expected to be able to disseminate knowledge about medicinal plants.

The activities were designed to include theoretical instruction (lectures), interactive discussions, and hands-on practice in processing medicinal plants into simple herbal remedies, as well as an assessment of participants' knowledge gain. With this design, participants not only gained information but also practical skills that can be applied in daily life and shared with the community. The activity phases consisted of: (1) Preparation and coordination phase. This phase aims to ensure that all program requirements are in place before the activity begins, including timing, location, number of participants, preparation of educational materials, and preparation of tools and ingredients for making herbal remedies, as well as coordination with the Sabilambo Village government and Posyandu cadres; (2) The educational implementation phase. This is carried out through using interactive lectures and discussions; (3) The demonstration and practice phase. In this stage, participants engage in hands-on practice guided by the community service team in making herbal remedies (sinom and manjaku), and (4) Monitoring and Evaluation Stage. Evaluation is conducted to assess the program's effectiveness through the administration of a pre-test before the outreach session and a post-test after the entire series of outreach sessions, discussions, and practical sessions is completed, using the same assessment instrument. To minimize the potential for a recall effect, participants were not provided with explanations or answer keys after the pre-test, and the post-test was administered only after all materials and practical sessions were completed, ensuring that participants answered based on the understanding gained during the activities. In addition to the pre- and post-tests, observations were made regarding participant engagement during the practical sessions, as well as discussions and feedback sessions to assess participants' understanding and responses to the presented material.

The equipment used in this activity consisted of educational materials, such as PowerPoint slides on medicinal plants and a projector. The equipment for making herbal remedies (sinom and manjaku) consists of a basin, a ladle, glasses, a cutting board, scissors, a stove, a 5-liter pot, a knife, a strainer, a stirring spoon, a gas cylinder, 250 mL glass bottles for the herbal remedies, and a scale.

The consumable ingredients include temu mangga, turmeric, ginger, tamarind, kencur, cinnamon, cardamom, brown sugar, tamarind leaves, coarse salt, rock sugar, manjakani fruit, betel leaves, and 20 liters of distilled water.

The evaluation instrument consists of pre-test and post-test question sheets containing 10 statements (true/false) covering medicinal plants and their proper and correct uses. Each correct answer is scored 10 and each incorrect answer is scored 0, so the maximum score that participants can achieve is 100. Assessment results are categorized based on the score obtained, namely $\geq 80\%$: good, 70–79.99%: fairly good, and $< 70\%$: not good (Setiyabudi et al., 2026). The evaluation instruments (pre-test and post-test questions) were designed based on the educational objectives to measure changes in participants' knowledge before and after the program. These instruments were used as tools for internal evaluation of the activity and had not undergone formal validation or readability testing prior to the activity's implementation. Therefore, the evaluation results primarily reflect changes in participants' knowledge within the context of this community service activity.

Pre-test and post-test data were analyzed descriptively by calculating the percentage of correct answers and the average scores of participants before and after the activity using Microsoft Excel. Inferential statistical analysis was not performed because the evaluation in this community service activity was intended to describe changes in participants' knowledge after the educational intervention, rather than to test hypotheses or generalize research findings. Given the limited number of participants ($n = 10$), the evaluation results were used as indicators of changes in knowledge within the context of the program's implementation.

RESULTS AND DISCUSSION

The event began with opening remarks from the head of the organizing committee, followed by greetings from the Sabilambo subdistrict government and a representative from the Research and Community Service Institute (LPPM) of Sembilambelas November University in Kolaka (Figure 1). This was followed by an awareness-raising and educational session on local medicinal plants and a hands-on workshop on preparing herbal remedies (*jamu*).

The educational program on medicinal plants and their uses began with a pre-test administered to 10 participants from the Sabilambo posyandu cadre, consisting of "statement" questions with true or false answers. The main focus of the statements was to assess the posyandu cadres' knowledge of common medicinal plants, their benefits, methods of preparation, the parts of the plants used, dosages, safety, and preservation methods. The stages of the activity and the format of the pre-test worksheet are shown in Figure 2. After the educational session was conducted, a post-test was administered using the same worksheet as the pre-test.



Figure 1. Initial documentation of activities between the implementation team and the women of the Sabilambo Posyandu Cadre

The next step is a presentation (lecture) on local medicinal plants and how to use them correctly and safely. This material was presented by pharmacy lecturer Apt. HSK, as shown in Figure 3. The educational material on medicinal plants covered the definition of medicinal plants, their benefits, active compounds, how to select good-quality medicinal plants, proper processing methods, correct and safe usage, storage methods, and precautions to avoid regarding the use of medicinal plants. In addition, various types of local plants commonly used by the community were introduced, such as chicken grass (*Peperomia pellucida*) (Mohd Sukri et al., 2025) ; patchouli (*Pogostemon cablin*) (Dellachristi et al., 2025) ; turmeric (*Curcuma longa*) (Mishra & Goel, 2020); ginger (*Zingiber officinale*) (Ahnafani et al., 2024) ; mango turmeric (*Curcuma amada*) (and several endemic/native plants of Southeast Sulawesi that have potential for development as medicinal plants due to their active compounds and biological activities (antimicrobial, anti-inflammatory, antioxidant), such as patikala (*Etlingera elatior*) (Indalifiany et al., 2022) ; songi (*Dillenia serrata*) (Sabandar et al., 2020) ; and olae (*Etlingera calophrys*) (Megawati et al., 2021) . The biological activities of these endemic plants from Southeast Sulawesi do not directly indicate clinical efficacy in humans and therefore still require validation through clinical trials.

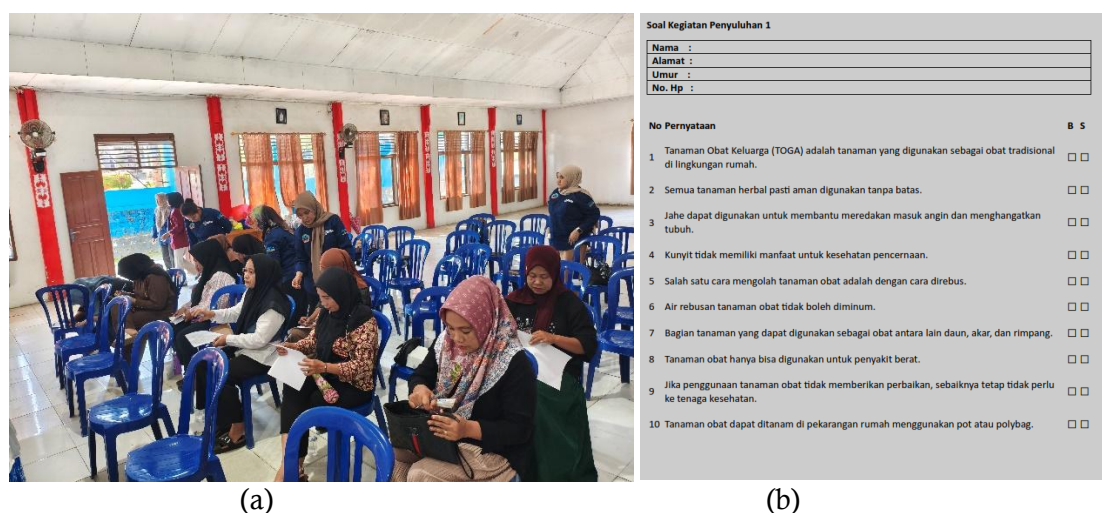


Figure 2. The pre-test administration taking place before the outreach session began (a); the pre-test worksheet (b)

The activity continued with an interactive discussion session, providing participants with the opportunity to share experiences, ask questions, and discuss the proper and safe use of medicinal plants. During this session, the speaker explained dosage, preparation methods, and storage of herbal ingredients, as well as the potential for developing medicinal plants as a means of improving family health and serving as an economic resource for the community. Several questions asked by participants to the speaker are presented in Table 1.

Table 1. Participants' questions and a summary of the experts' answers regarding medicinal plant education

Questions	Summary of the expert's response
Are sinom and manjaku herbal remedies safe for pregnant women?	Sinom and Manjaku herbal remedies cannot be deemed safe for pregnant women because, to date, there is insufficient scientific evidence regarding their safety during pregnancy. Therefore, pregnant women should not consume either of these herbal remedies without first consulting a doctor or healthcare professional. The use of medicinal plants during pregnancy requires consideration of the type of plant, dosage, method of preparation, stage of pregnancy, and the mother's health condition. Some studies have only addressed the safety of herbal ingredients, such as turmeric, for consumption by humans and animals (Soleimani et al., 2018).
What are some tips for storing herbal medicine ingredients to keep them fresh?	Store herbal medicine ingredients in a clean, dry place away from direct sunlight. For prepared herbal medicine, store it in the refrigerator and consume it within 1–3 days; store it in glass bottles or food-grade plastic bottles. Additionally, always use clean utensils when handling the ingredients or pouring the herbal medicine to prevent contamination by

How long can herbal remedies be consumed after they are made?

microorganisms, which can accelerate spoilage. Do not consume herbal remedies if their aroma, color, or taste has changed, as this may indicate that the remedy has spoiled or become contaminated (Ansari et al., 2024). Fresh herbal remedies without preservatives should be consumed immediately after preparation. If stored in the refrigerator in a clean, sealed container, they can generally be consumed within 1–4 days (48 hours). However, if stored at room temperature, they should be consumed on the same day. If the color, aroma, or taste changes, the herbal remedy should no longer be consumed (Tristantini et al., 2020)



Figure 3. Educational documentation on local medicinal plants and their proper and safe use

The next stage was a hands-on session on making herbal remedies, specifically manjaku and sinom. Manjaku is a traditional beverage that uses manjakani fruit (*Quercus infectoria*) as one of its main ingredients, combined with tamarind, turmeric, betel leaves, and palm sugar. The choice of manjakani fruit is based on its empirical use in traditional medicine to help maintain women's reproductive health. Several studies have reported that manjakani contains tannins, gallic acid, and phenolic compounds that exhibit astringent, antioxidant, antimicrobial, and anti-inflammatory properties. However, these benefits are largely based on traditional use and preclinical research; therefore, it should be used with caution and is not intended as a substitute for medical therapy (Mahboubi, 2020; Vadaga et al., 2025).

Jamu sinom is a traditional Javanese beverage made from young tamarind leaves (*sinom*) (*Tamarindus indica*), turmeric (*Curcuma longa*), tamarind, palm sugar, kencur, temu mangga, cardamom, cinnamon, and ginger. Traditionally, jamu sinom is used to help maintain digestive health, provide a refreshing sensation, and help boost the immune system. Some of its ingredients have also been reported to possess antioxidant and anti-inflammatory properties based on preclinical research (Wulandari et al., 2025). The jamu preparation process is shown in Figure 4, while the finished jamu product is shown in Figure 5.



Figure 4. Collaborative practice of making sinom and manjaku herbal remedies

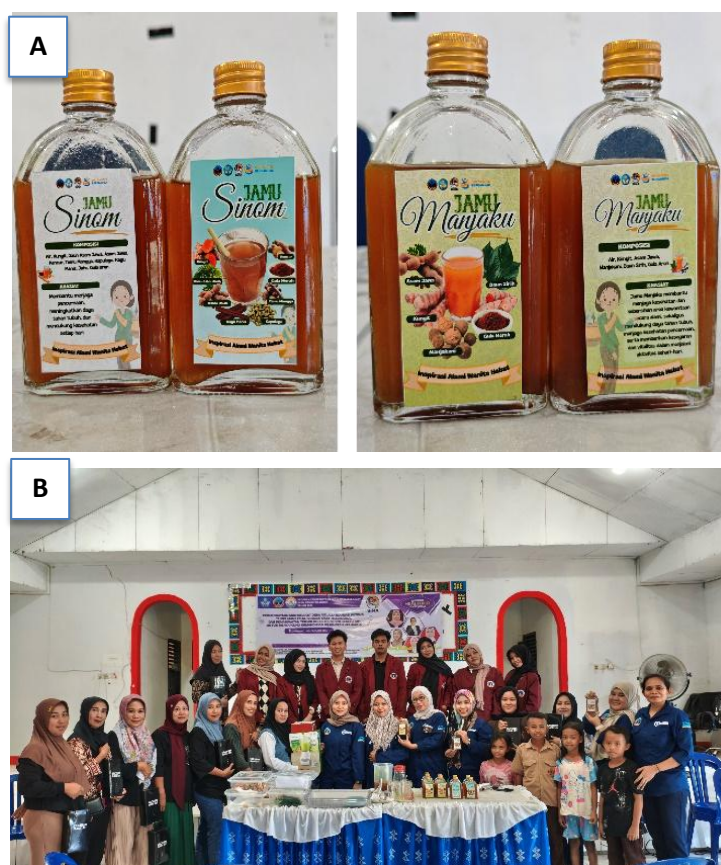


Figure 5. Innovative educational products on local medicinal plants. (A) Two herbal medicine products: Sinom (left) and Manjaku (right); (B) Group photo during the handover of assets and innovative educational products on local medicinal plants

Jamu sinom and jamu manjaku were selected as practical materials for jamu preparation because they represent two important aspects of family health: general health maintenance and women's reproductive health. Sinom herbal medicine is a traditional remedy widely consumed by the public and has the potential to support health maintenance because it contains turmeric (*Curcuma longa*) and young tamarind leaves (*Tamarindus indica*), which are known to contain

curcuminoids, flavonoids, and phenolic compounds with antioxidant and anti-inflammatory properties (Adriani & Pritasari, 2024; Estiasih et al., 2025; Yunita et al., 2024). Meanwhile, the Manjaku herbal remedy was selected as an educational tool regarding women's reproductive health because it uses majakani as its main ingredient, which is traditionally used to maintain the health of the reproductive organs. It utilizes the manjakani fruit (*Quercus infectoria*) as its main ingredient, which is traditionally used to maintain women's reproductive health and has been reported to possess astringent, antimicrobial, and anti-inflammatory properties (Himalaya, 2017; Mahboubi, 2020; Prianti & Ananda, 2024). The selection of these two types of herbal remedies is expected to improve public health literacy while promoting the wise, safe, and evidence-based use of local medicinal plants.

In this workshop, participants are introduced to the selection of raw materials, washing, chopping, boiling, or simple extraction, all the way through to the hygienic packaging of herbal medicine products. Participants are actively involved in every step of the process, enabling them to gain practical skills they can apply independently at home. The ingredients and procedures for making manjaku and sinom herbal remedies in this activity are shown in Figure 6. Through this series of activities, it is hoped that the women volunteers at the Sabilambo Posyandu will not only understand the benefits of medicinal plants in theory but also be able to process and utilize them as an alternative to support their families' health.



Figure 6. Illustration of the preparation of manjaku and sinom herbal remedies during this activity

Based on the results of the pre-test and post-test administered to 10 Posyandu Sabilambo cadres, there was a descriptive increase in knowledge. Figure 7 shows the scores from the pre-test (blue) and post-test (red) for each participant. Table 1 presents a list of the scores and the difference

for each participant between the pre-test and post-test. On the pre-test (before the education session), there were 2 participants with the lowest score (60), 2 with a score of 80, 5 with a score of 90, and 1 with a score of 100. After the education session, post-test scores showed a significant increase, with 2 participants scoring 90 and 8 scoring 100.

The pre-test results showed that approximately 83% of participants answered all the statements correctly. Statement number 2 (All herbal plants are definitely safe to use without restriction) had the highest rate of incorrect answers, with only 30% of participants answering correctly. This indicates that knowledge regarding the safety and proper dosage of herbal plants remains very limited. In addition, statement number 4 (Turmeric has no benefits for digestive health) also resulted in incorrect answers, as evidenced by only 50% of participants answering correctly. This is likely due to a lack of information regarding the benefits of turmeric for digestive health. Meanwhile, questions regarding medicinal plants commonly found in households, their processing methods, and their preservation yielded a predominantly correct response rate (approximately 80–100%). The post-test was administered after the entire series of activities had been completed (education and hands-on practice) using the same test questions as those in the pre-test. The post-test results showed good scores, with an average of 98%. The results of the participants' pre- and post-tests are presented in Table 2.

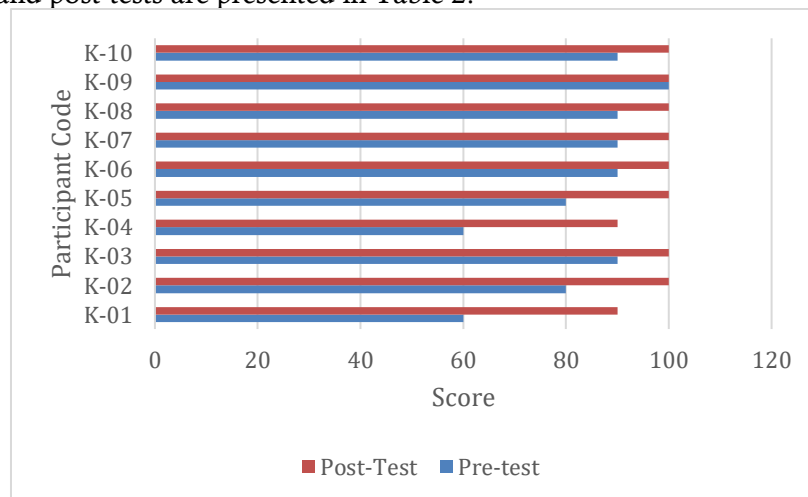


Figure 7. Pre-test and post-test scores of the Sabilambo Posyandu volunteer mothers who participated in the educational program

Table 1. Pre-test and post-test scores and the difference between them for participants in the medicinal plant education program

Participant Code	Pre-test Score	Post-test Score	Difference
K-01	60	90	30
K-02	80	100	20
K-03	90	100	10
K-04	60	90	30
K-05	80	100	20
K-06	90	100	10
K-07	90	100	10
K-08	90	100	10
K-09	100	100	0
K-10	90	100	10
Average	83	98	15

Table 2. Percentage of correct answers on the pre-test and post-test (n=10) on medicinal plants and their uses

Statement (answers)	Pre-Test (%)	Post-Test (%)
1. Family Medicinal Plants (TOGA) are plants used as traditional medicine in the home environment (correct)	100	100

2. All herbal plants are definitely safe to use without restriction (false)	30	90
3. Ginger can be used to help relieve a cold and warm the body (true)	100	100
4. Turmeric has no benefits for digestive health (false)	50	90
5. One way to prepare medicinal plants is by boiling them (true)	100	100
6. The water used to boil medicinal plants should not be drunk (incorrect)	80	100
7. Medicinal plants can only be used for serious illnesses (false)	100	100
8. Parts of plants that can be used as medicine include leaves, roots, and rhizomes (correct)	80	100
9. If the use of medicinal plants does not result in improvement, it is best not to seek care from a healthcare provider (false)	90	100
10. Medicinal plants can be grown in the backyard using pots or plastic bags (correct)	100	100
Average	83%	98%

Based on the results of the pre-test and post-test administered to all participants, there was an increase in scores, with the percentage of correct answers in the pre-test at 83% and in the post-test at 98%. This increase indicates a rise in participants' knowledge to the "good" category. Therefore, it can be concluded that the educational program on local medicinal plants and their proper and safe use through hands-on practice in making traditional herbal remedies has successfully enhanced the knowledge of Posyandu cadres regarding local medicinal plants and their correct and safe utilization. This aligns with several previous studies indicating that community-based health education has been proven to enhance health knowledge, particularly regarding local medicinal plants and their safe and proper use ([Abdullah & Isir, 2022](#); [Azzahra et al., 2025](#)).

As a follow-up to the results of this activity, the initiative will continue with the establishment of Family Medicinal Plant Gardens (TOGA) in the areas surrounding the Posyandu and in the residential neighborhoods of the Sabilambo Posyandu volunteers, serving as educational resources and sources of local medicinal plants that can be utilized by the community. The establishment of the TOGA gardens will take place one or two months after the educational activities are completed. In addition, Posyandu cadres will be provided with pocket guides on local medicinal plants to serve as learning materials and practical references for educating the community about the benefits, processing methods, and safe use of medicinal plants. Through this strategy, the cadres are expected to become agents for disseminating health information who will continuously promote the use of local medicinal plants at the family level.

CONCLUSION

An educational program on the use of local medicinal plants for Posyandu cadres in Sabilambo, Kolaka Regency, was successfully conducted through interactive workshops combined with hands-on sessions on making sinom and manjaku herbal remedies. Evaluation results showed an increase in knowledge among the 10 participants, as evidenced by a rise in the percentage of correct answers from 83% on the pre-test to 98% on the post-test, indicating improved understanding among the volunteers regarding the identification of local medicinal plants, their benefits, processing methods, and the principles of proper and safe use. In addition, the hands-on activities provided participants with direct experience in processing medicinal plants into simple herbal preparations (sinom and manjaku herbal remedies), thereby supporting the development of practical skills that can be applied in daily life. Therefore, this activity has the potential to strengthen the capacity of Posyandu cadres as health education agents in supporting family health promotion and prevention efforts through the appropriate use of local medicinal plants. However, this activity has not yet evaluated knowledge retention, behavioral changes, or the dissemination of information by the cadres after the activity concluded. Therefore, follow-up activities with long-term monitoring are needed to assess the sustainability of the program's impact and the effectiveness of applying the acquired knowledge within the community.

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REFERENCES

- Abdullah, V. I., & Isir, M. (2022). Pelatihan Pengolahan Ramuan Berbahan Dasar Tanaman Pegagan Untuk Peningkatan Imunitas Tubuh. *MATAPPA: Jurnal Pengabdian Kepada Masyarakat*, 5(April), 425–429. <https://doi.org/10.31100/matappa.v5i3.1953>.
- Adriani, A., & Pritasari, W. (2024). Literature Review : Jenis dan Manfaat Jamu di Indonesia. *BIOLOGY AND EDUCATION JOURNAL*, 4(1), 69–79. <https://doi.org/10.25299/baej.2024.16976>.
- Ahnafani, M. N., Nasiroh, Aulia, N., Lestari, N. L. M., Ngongo, M., & Hakim, A. R. (2024). Jahe (Zingiber Officinale) : Tinjauan Fitokimia, Farmakologi Dan Toksikologi. *Jurnal Ilmu Kedokteran Dan Kesehatan*, 11(10), 1992–1998.
- Ansari, F. A., Perazzolli, M., Husain, F. M., Khan, A. S., Ahmed, N. Z., & Meena, R. P. (2024). Novel decontamination approaches for stability and shelf-life improvement of herbal drugs: A concise review. *The Microbe*, 3, 100070. <https://doi.org/10.1016/j.microb.2024.100070>
- Azzahra, R., Hartina, S., Pasi, N. I. H. ., Rerung, L. T., Marhamah, Burhan, H. ., & Fajri, M. . (2025). Sosialisasi Pemanfaatan Tanaman Obat Keluarga (TOGA) di Kelurahan Kastela, Ternate Selatan. *PEKAN Jurnal Pengabdian Kesehatan UNKHAIR2*, 4(1), 37–46. <https://doi.org/10.31331/manggali.v3i1.2441>.
- BPOM RI. (2023). Peraturan BPOM No 30 Tahun 2023 Tentang Pedoman Klaim Khasiat Obat Bahan Alam. *BPOM*, 11, 1–16.
- BPSKolaka. (2025). *Kecamatan Kolaka Dalam Angka Tahun 2025* (B. P. S. K. Kolaka (ed.)). Badan Pusat Statistik Kabupaten Kolaka.
- Dellachristi, V. A., Dadang, & Harahap, I. S. (2025). The effectiveness of patchouli (*Pogostemon cablin*) extract using three extraction methods and application techniques against the storage pest *Tribolium castaneum* (Herbst). *Jurnal Entomologi Indonesia*, 22(2), 81–91. <https://doi.org/10.5994/jei.22.2.81>.
- Dikarsa, A. A., Suherman, A., Ar-Rohman, B., Supriadi, S., Melati, P., & Hermansyah, H. (2025). Pemberdayaan Kader Posyandu Desa Mulyajaya Kecamatan Banjarwangi Sebagai Agen Perubahan Penggerak Kesehatan Masyarakat Melalui Keterampilan Komunikasi Efektif. *Citizen : Jurnal Ilmiah Multidisiplin Indonesia*, 5(4), 1230–1236. <https://doi.org/10.53866/jimi.v5i4.996>.
- Elfahmi, Woerdenbag, H. J., & Kayser, O. (2014). Jamu: Indonesian traditional herbal medicine towards rational phytopharmacological use. *Journal of Herbal Medicine*, 4(2), 51–73. <https://doi.org/10.1016/j.hermed.2014.01.002>.
- Estiasih, T., Maligan, J. M., Witoyo, J. E., Mu'alim, A. A. H., Ahmadi, K., Mahatmanto, T., & Zubaidah, E. (2025). Indonesian traditional herbal drinks: diversity, processing, and health benefits. *Journal of Ethnic Foods*, 12(1), 7. <https://doi.org/10.1186/s42779-025-00267-5>.
- Halimah, N., & Sa'ad, M. (2025). POTENSI ANTIOKSIDAN REBUSAN DAN SEDUHAN TEMU MANGGA (Curcuma mangga) DENGAN METODE DPPH. *Benzena Pharmaceutical Scientific Journal2*, 4(01), 1–14.
- Harsojuwono, N. K. W. N. M. W. B. A. (2014). Komposisi Senyawa Penyusun Minuman Sinom

- (*curcuma domestica* val.- *tamarindus indica* l.). *Media Ilmiah Teknologi Pangan (Scientific Journal of Food Technology)*, Vol 1, No. 1, 2014. <https://ojs.unud.ac.id/index.php/pangan/article/view/13065/8749>.
- Himalaya, D. (2017). Pengaruh Pemberian Ekstrak Biji Manjakani (*Quercus Infectoria* Gall) Terhadap Bakteri Vaginosis Dan Candida Penyebab Keputihan (Leukorrhea). *Journal Of Midwifery*, 5(1), 38–44.
- Indalifiany, A., Sahidin, S., Wahyuni, W., Bafadal, M., Yodha, A. W. M., Andryani, R., Fitrawan, L. O. M., & Munasari, D. (2022). Formulasi dan Karakterisasi Ekstrak Etanol Wualae (*Etilingera elatior*) dalam Sistem Penghantaran Vesikuler Fitofosfolipid. *Jurnal Mandala Pharmacon Indonesia*, 8(1), 24–33. <https://doi.org/10.35311/jmpi.v8i1.152>.
- Kementerian Kesehatan RI. (2016). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 6 Tahun 2016 Tentang Formularium Obat Herbal Asli Indonesia* (06 Tahun 2016). June, 06 Tahun 2016.
- Kolaka, D. K. (2024). *Rencana Strategis Perubahan DINas Kesehatan Kabupaten Kolaka Tahun 2019-2024* (Issue 12). <https://dinkes.kolakakab.go.id/wp-content/uploads/2022/06/RENSTRA-DINKES-KAB.-KOLAKA-2019-2024-OK.pdf>.
- Mahboubi, M. (2020). *Quercus infectoria* fruit hulls and galls and female genital disorders. *Clinical Phytoscience*, 6(1), 44. <https://doi.org/10.1186/s40816-020-00194-9>.
- Marufah, S., Listyaningsih, E., Handayani, S., Balgis, B., Riyadi, S., & Setyoko, A. (2022). Pelatihan Kader Posyandu Dan Posbindu Untuk Meningkatkan Performa Kader Di Wilayah Puskesmas Gondangrejo Kabupaten Karanganyar. *Smart Society Empowerment Journal*, 2(1), 25. <https://doi.org/10.20961/ssej.v2i1.50662>.
- Mashar, H. M., Damiti, S. A., Sukrianur, A., & Manuntung, A. (2025). Edukasi Pemanfaatan Tanaman Obat Tradisional untuk Peningkatan Pengetahuan Imunitas pada Remaja di MAN Kota Palangka Raya Herbal Medicine and Immunity : Utilizing Traditional Medicinal Plants to Boost Immunity in Adolescents Kota Palangka Raya mengenai pe. *Jurnal Mandala Pengabdian Masyarakat*, 6(2), 845–854. <https://doi.org/10.35311/jmpm.v6i2.680>.
- Megawati, Baari, M. J., & Sabandar, C. W. (2021). Uji Toksisitas Ekstrak Metanol *Etilingera calophrys* Dengan Metode Brine Shrimp Lethality Test (BSLT). *Journal of Biological Research*, 8(2), 144–153.
- Mishra, S., & Goel, B. (2020). Pharmaceutical and Nutritional Properties of Turmeric (*Curcuma longa*): A Mini Review. *Advances in Zoology and Botany*, 8(3), 83–86. <https://doi.org/10.13189/azb.2020.080302>.
- Mohd Sukri, M. A., Noorul Amilin Nordin, & Muhd Ridzuan Pauzi. (2025). A Comprehensive Review of *Peperomia pellucida*: Chemical Composition, Traditional and Pharmacological Uses, and Potential in Dermatitis Management. *Malaysian Journal of Applied Sciences*, 10(1), 100–111. <https://doi.org/10.37231/myjas.2025.10.1.447>.
- Muntafiah, A., Arjadi, F., & Santosa, Q. (2023). Upgrading Kader Posyandu Balita melalui Edukasi dan Pelatihan sebagai Upaya Revitalisasi Posyandu Desa Linggasari Banyumas Binaan FK UNSOED. *Jurnal Pengabdian Pada Masyarakat*, 8(1), 105–113.
- Mutia, I., Cholifah, W. N., & Yulianingsih. (2020). Pemanfaatan Teknologi Informasi Berbasis Android Sebagai Media Penyampaian Informasi Kesehatan di Posyandu. *Jurnal Pkm: Pengabdian Kepada Masyarakat*, 03(03), 266–272.
- Nurviana, V., Leandra, D. N., Nuraeni, T., Program,), Farmasi, S., Farmasi, F., Bakti, U., & Husada, T. (2025). Edukasi Pemilihan dan Penggunaan Obat Tradisional dengan Tepat dan Aman pada Kader Posyandu di Puskesmas Daerah Jawa Barat. *Jurnal Medika: Medika*, 4(3), 541–548.
- Pradipta, I. S., Aprilio, K., Febriyanti, R. M., Ningsih, Y. F., Pratama, M. A. A., Indradi, R. B., Gatera, V. A., Alfian, S. D., Iskandarsyah, A., & Abdulah, R. (2023). Correction: Traditional medicine users in a treated chronic disease population: a cross-sectional study in Indonesia. *BMC Complementary Medicine and Therapies*, 23(1), 443. <https://doi.org/10.1186/s12906-023-04276-2>.
- Prianti, A. T., & Ananda, A. (2024). Pengaruh Sabun Biji Manjakani Terhadap Penanganan Keputihan Pada Ibu Hamil Di Puskesmas Kassi -Kassi Kota Makassar. *Proceeding of Health*

- Polytechnic Jakarta I*, 000, 41–48.
- Robbani, S., Adam Malik, M., Aldi Aldo, M., Zelfini, S., Lestari Indriani, B., Afrian, F., Agil, F., & Pratama Putra, M. D. (2025). Pemberdayaan Masyarakat melalui Pemanfaatan Tanaman Obat dan Keluarga (TOGA) di Kelurahan Ulu Rurah. *CEMARA: Jurnal Pengabdian Masyarakat Multidisiplin*, 3(1), 8–13. <https://doi.org/10.61672/cemara.v3i1.2923>.
- Romadhonnasyah, F., Puspitasari, P. D., Harimurti, S. M., & Nugraha, A. T. (2023). Studi Etnomedisin Pada Masyarakat DI Kampung Demi, Kabupaten Bantul, Yogyakarta. *Jurnal Ilmiah Ibnu Sina*, 8(2), 286–296. <https://doi.org/10.36387/jiis.v8i2.1479>.
- Sabandar, C. W., Jalil, J., Ahmat, N., Aladdin, N.-A., Kamaruddin, H. S., & Wahyuningrum, R. (2020). Aktivitas Antioksidan dan Penghambatan Xantin Oksidase Kulit Batang Songi (*Dillenia serrata* Thunb.). *Jurnal Farmasi Galenika (Galenika Journal of Pharmacy) (e-Journal)*, 6(1), 151–159. <https://doi.org/10.22487/j24428744.2020.v6.i1.15008>.
- Setiyabudi, L., Septiyanti, W., Wahyudi, A., Hasana, A. R., & Nasori, A. (2026). Edukasi Kesehatan Dalam Pencegahan Stunting dan Diabetes Melalui Pemanfaatan Potensi Lokal di Desa Sudimara , Cilongok , Banyumas Health Education for the Prevention of Stunting and Diabetes through the Utilization of Local Potential in Sudimara Village ,. *Jurnal Mandala Pengabdian Masyarakat*.
- Soleimani, V., Sahebkar, A., & Hosseinzadeh, H. (2018). Turmeric (*Curcuma longa*) and its major constituent (curcumin) as nontoxic and safe substances: Review. *Phytotherapy Research : PTR*, 32(6), 985–995. <https://doi.org/10.1002/ptr.6054>.
- Tristantini, D., Elya, B., Robbani, S., & Santoso, L. L. (2020). Acceptable Shelf Life of Indonesian Anti-Atherosclerosis Mixed Herbs Based on Bacterial Count and pH Stability. *International Journal of Technology*, 11(4), 291–319. <https://doi.org/10.14716/ijtech.v11i4.3867>.
- Triwibowo, A., Karimullah, S. S., Muhtarom, Z. A., Faizin, M., Wulandari, D. M., & Lestari, R. D. (2025). Sosialisasi dan Pemanfaatan Tanaman Obat Keluarga (TOGA) sebagai Upaya Pemberdayaan Masyarakat dalam Bidang Kesehatan dan Ekonomi. *DEDIKASI: Jurnal Pengabdian Masyarakat*, 7(1), 121–133. <https://doi.org/10.32332/bggy8835>.
- Vadaga, A. K., Gudla, S. S., Poritigadda, S., Debnath, D., Hanumanthu, S. L., Gudala, V. H., & Doddipatla, J. (2025). Phytochemical composition and pharmacological benefits of Majuphal. *Pharmacological Research - Natural Products*, 8, 100342. <https://doi.org/10.1016/j.prenap.2025.100342>.
- Vidhiyanti, A., & Ahmad, F. A. (2025). *Keanekaragaman Hayati Aset Berharga Indonesia - Badan Kebijakan Pembangunan Kesehatan _ BKPK Kemenkes*. Kemenkes Badan Kebijakan Pembangunan Kesehatan. <https://www.badankebijakan.kemkes.go.id/keanekaragaman-hayati-aset-berharga-indonesia/#> diakses tanggal 06 Juli 2026.
- WHO. (2025). *Traditional medicine*. World Health Organization. <https://www.who.int/news-room/questions-and-answers/item/traditional-medicine>.
- Widianto, A., Nastiti, K., & Yuwindry, I. (2024). Etnomedisin Tumbuhan Obat di Desan Matabu Kecamatan Dusun Timur, Kabupaten Barito Timur. *Jurnal Surya Medika*, 10(2), 15–20. <https://doi.org/10.33084/jsm.v10i2.7719>.
- Wulandari, D. C., Widyaningsih, T. D., Pertanian, F. T., Brawijaya, U., Fungsional, M., & Herbal, S. (2025). Optimasi Formula Jamu Sinom Sediaan Celup Metode Mixture Design D-Optimal. *Jurnal Teknologi Pangan*, 19(1), 36–55.
- Yunita, A., Sabandar, C. W., Kamaruddin, H. S., Syahrudin, M., & Amin, R. T. (2024). Membina Masyarakat Menuju Indonesia Sehat : Jamu Sinom Untuk Kesehatan Keluarga di Kelurahan Raraa , Kabupaten Kolaka Timur. *Jurnal Abdi Dan Dedikasi Kepada Masyarakat Indonesia (NadiKami)*, 02(1).