

ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang Vol.9(3) August 2024, 555-563

p-ISSN: 2721-138X e-ISSN: 2548-7159 http://jurnal.unmer.ac.id/index.php/jpkm LPPM
UNMER
MALANG

Socialization, cultivation, and utilization of empty land for family medicinal plants

- ¹Dita Natasya, ¹Muhammad Gilang Ramadhan Tunggeng, ²Pahdila Rezki Annisa, ²Nur Isra Nopianti, ³Maghfira Meyghafary Anhariza Dawa, ⁴Nuurhidayat Jafar, ⁵Asdar Gani
- ¹Department of Pharmacy, Faculty of Pharmacy, ²Department of Psychology, Faculty of Medicine,
- ³Department Veterinary Medicine, Faculty of Medicine, ⁴Department of Nursing Science Faculty of Nursing,
- ⁵Department of Periodontology, Faculty of Dentistry, Hasanuddin University, Makassar
- Jl. Perintis Kemerdekaan No. KM. 10, Tamalanrea Indah, Makassar City, 90245, Indonesia

ABSTRACT

Received: 2024-06-18 Revised: 2024-07-22 Accepted: 2024-08-02 Published: 2024-08-30

ARTICLE INFO:

Keywords:

Family medicinal plants, Planting, Socialization, Traditional medicine The prevalence of illness complaints among the Indonesian population is 228.15 percent, with 65.01 percent opting for self-treatment using synthetic drugs, while 38.30 percent prefer traditional medicine. The use of traditional medicines in communities, including in Katimbang Village, remains significantly lower compared to synthetic alternatives. A comprehensive strategy is needed to enhance public knowledge and understanding of how to obtain and utilize traditional medicine from medicinal plants found around the home. This socialization and cultivation activity was conducted at Integrated Service Post (Posyandu) RW 04, Katimbang Village, involving 21 community members. The event included a socialization session on family medicinal plants, pre- and post-tests, Q&A discussions, and the planting of 50 medicinal plant seeds, with participation from students and local residents. Statistical tests revealed the success of this intervention in improving participants' understanding of medicinal plants, with an average pre-test score of 8.4762 increasing to 8.6190 in the post-test. More than 50 percent of participants scored e"80 in the post-test. The success of this outreach and planting activity provides a strong foundation for further increasing public awareness of the use of medicinal plants as complementary treatments for various illnesses.

2024 Abdimas: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang This is an open access article distributed under the CC BY-SA 4.0 license (https://creativecommons.org/licenses/by-sa/4.0/)

How to cite: Natasya, D., Tunggeng, M. G. R., Annisa, P. R., Nopianti, N. I., Dawa, N. M. A., Jafar, N., & Gani, A. (2024). Socialization, cultivation, and utilization of empty land for family medicinal plants. Abdimas: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang, 9(3), 555-563. https://doi.org/10.26905/abdimas.v9i3.12965

1. INTRODUCTION

Indonesia is a country with abundant flora and is one of the countries with the seventh largest number of flora species in the world. Indonesia is known to have around 40,000 types of plants, of which 1,300 are medicinal plants, so it is very possible to use them as raw materials in traditional medicine (Prapitasari et al. 2020; Siregar et al. 2020). For generations, traditional medicine using herbal plants has been widely practiced by the community. However, most urban residents prefer to consume herbal medicines that can be consumed directly. So, efforts to introduce family medicinal plants need to be carried out in the community as a form of utilizing local plants that can be processed at home as a way to prevent diseases, provide treatment, and maintain public health.

ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang *Volume 9, No 3, August 2024: 555-563*

Family medicinal plants are a type of plant that is managed and grown on a home (family) scale because it has properties as traditional medicine, cosmetics and health by utilizing plant parts such as leaves, stems and rhizomes (Siregar et al. 2020). Herbal medicines are widely used as another option to consuming chemically synthesized drugs which are known to cause various side effects with long-term use (Lau et al. 2019). Until now, the use of herbal medicine has also become a big concern among society, this is because medical treatment is increasingly expensive. Based on research conducted by Supriadi, it is said that rural communities tend to choose self-medication or self-medication by preferring the use of natural medicines or traditional medicines which have fewer side effects than synthetic medicines (Liana, 2017).

Based on data from the World Health Organization (WHO), the use of traditional medicines, including herbal medicines, is recommended in maintaining public health, preventing and treating diseases, especially for chronic diseases, degenerative diseases and cancer (Liana, 2017). Based on data from Susenas in 2007, it shows that 228.15 percent of the Indonesian population showed a history of complaints of illness and 65.01 percent of them chose to self-medicate using synthetic drugs while the other 38.30 percent chose to use traditional medicines. This shows that the majority of the Indonesian population does not yet have a deeper understanding of the use of medicinal plants as raw materials for traditional medicine.

Based on health data obtained from the community health center, it is known that the people of Katimbang sub-district have health problems in the form of acute infections of the respiratory tract as many as 2,203 people, hypertension as many as 1,532 people, skin infections as many as 795 people, gastritis as many as 568 people, diabetes mellitus as many as 529 people, and rheumatoid arthritis as many as 261 people. Based on primary data obtained from interviews with several local RW representatives regarding the health problems of the Katimbang community, it is known that there are several health cases such as hypertension, diabetes mellitus, diarrhea, and skin diseases (itching) as a result of the flooding conditions currently being experienced local community. However, the community does not yet have a deeper understanding of family medicinal plants and skills regarding how to use family medicinal plants as a traditional medicine to treat various types of diseases. Traditional medicine can basically be used as a prevalence in treating various types of diseases. In this case, the use of medicinal plants plays a very important role in fulfilling traditional medicine. However, due to a lack of understanding, education, and perception from the local community regarding information and how to process medicinal plants properly and correctly, family medicinal plants have not been widely used in the community (Astuti, 2016).

Therefore, the introduction and socialization of family medicinal plants need to be carried out in the Katimbang sub-district. Based on observations and primary data, the local community still has limited knowledge about various medicinal plants that can be cultivated in home gardens. Therefore, socialization and planting activities for family medicinal plants should be organized in the local area, especially on vacant lands in each RW 04 of Katimbang Subdistrict.

2. METHODS

The method applied in community service activities is the extension method in the form of delivering material and question and answer discussions related to family medicinal plants. Community service activities in the form of education on the introduction and planting of family medicinal plants were carried out in the grounds of Integrated Service Post (Posyandu) in RW 04, Katimbang Village, Biringkanaya District, Makassar City, South Sulawesi Province. This program will be implemented on 04 February 2024, precisely at 08.00–12.00 WITA. The target of this community service activity in the

Dita Natasya, Muhammad Gilang Ramadhan Tunggeng, Pahdila Rezki Annisa, Nur Isra Nopianti, Maghfira Meyghafary Anhariza Dawa, Nuurhidayat Jafar, Asdar Gan

form of education on the introduction and planting of family medicinal plants is the community of RW 04, Katimbang Subdistrict, especially members of posyandu cadres, RW heads, youth groups, and local residents. The number of people involved in this activity was 21 people. In this community service activity, a tool in the form of a questionnaire (pre-test and post-test) is used to measure community knowledge regarding family medicinal plants. Meanwhile, the materials used are power point slides, leaflets containing information on herbal recipes and how to process medicinal plants, and finished herbal medicinal products circulating on the market. Activity participants were given 10 question numbers regarding types of family medicinal plants, the differences between herbal medicines and synthetic medicines, the properties and benefits of family medicinal plants, and processing methods for medicinal plants.

Preparation Phase

The preparatory phase of activities was carried out on January 31–February 3 2024 which included environmental observation activities to determine strategic places for planting medicinal plant seeds, socialization with the community health center regarding the work program that would be implemented, Focused Group Discussions (FGD) with sub-district staff, community health center staff, heads of sub-districts, local communities, and heads of posyandu cadres, submit permits for activities, manufacture materials, purchase medicinal plant seeds, and prepare tools & materials needed during the service process.

Counseling Phase

Socialization on the introduction of family medicinal plants was carried out on Sunday, February 4 2024 at Posyandu RW 04, Katimbang Village, Biringkanayya District, South Sulawesi, Indonesia. The targets of this activity were the RW 04 community, especially the local RW chairman, posyandu cadre chairman, and 21 local residents. The counseling was carried out by displaying power point slides containing the types and properties of family medicinal plants. Apart from presentations, to build good interaction or communication with the community, a question-and-answer session was held regarding Medicinal Plants. Apart from that, leaflets were also distributed containing information on herbal recipes and examples of herbal medicines that are widely available on the market. The activity ended with a group photo session and the handover of plant seeds as well as the planting of around 50 seeds consisting of 15 types of medicinal plants in the posyandu yard area located in RW 04, Katimbang Village.

Planting Phase

Family medicinal plants were planted 15 types of medicinal plants, with a total number of seeds of approximately 50 seeds in the Posyandu yard of RW 04, Katimbang Village. The planting was carried out by students at Hasanuddin University along with the local RW community. Family medicinal plants, planting was carried out in order to utilize empty land in Katimbang Village as well as as a means of obtaining traditional medicine.

Success Indicators

The number of participants reached the target with a target of 21 people, planting 50 seeds of family medicinal plants, and there was an increase in knowledge of more than 50 percent of participants regarding family medicinal plants as measured by the comparison of the average pre-test and post-test scores of respondents who were tested with statistical test with a value of \geq 80 on a value scale of 0-100.

Evaluation Phase

The evaluation method is assessed by the presence of a significant increase in the average score from pre-test to post-test (p<0.05) for respondents as measured using a statistical analysis test, namely the Wilcoxon test. This test was carried out to assess whether there was a significant increase in knowledge among respondents after receiving material regarding family medicinal plants.

3. RESULTS AND DISCUSSION

Results

Socialization and planting activities for family medicinal plants were carried out on Sunday, February 4 2024 in the grounds of Posyandu RW 04, Katimbang Village, Makassar City. The number of participants who attended this activity was 21 people including the head of the RW, the head of the posyandu cadre, and the local community.

Socialization of Family Medicinal Plants to Local Residents

The activity began by observing the environment where family medicinal plants was introduced and cultivated on a vacant lot in Katimbang Village. Posyandu RW 04 was chosen as the location for family medicinal plants socialization and planting activities, as the land is suitable for medicinal plant cultivation.

During the socialization process, the community showed great enthusiasm and attentiveness in receiving the material. The topics covered included understanding family medicinal plants, herbal medicines, synthesis medicines, the benefits and types of family medicinal plants, their components, and how to process them for treating various diseases. The participants also had the opportunity to engage in discussions and ask questions about the material. The event concluded with the distribution of leaflets containing herbal medicine recipes and information on (Komix herbal) to those in attendance. The activities are illustrated in Figure 1.







Figure 1. Socialization of family medicinal plants

Planting Family Medicinal Plants

In this activity, the practice of planting several types of family medicinal plants was carried out in the grounds of Posyandu RW 04, Katimbang Village, which can be seen in Figure 2. Planting family medicinal plants approximately 50 seeds was carried out jointly with local residents. This planting activity aims to ensure that people can directly experience the benefits of the presence of medicinal plants in the

Dita Natasya, Muhammad Gilang Ramadhan Tunggeng, Pahdila Rezki Annisa, Nur Isra Nopianti, Maghfira Meyghafary Anhariza Dawa, Nuurhidayat Jafar, Asdar Gan

surrounding environment. So that the community can directly benefit from family medicinal plants and can take part in caring for family medicinal plants in an effort to maintain public health even though the outreach activities have been completed. There are several types of family medicinal plants planted in the Posyandu yard show in Figure 2.





Figure 2. Planting family medicinal plants

Table 1. List of names and benefits of family medicinal plants planted in the grounds of Posyandu RW 04, Katimbang Village

Types of Medicinal Plants	Benefits of Medicinal Plants					
Lemongrass	Overcoming rheumatism, menstrual pain, fever, and intestinal infections (Imawati et al., 2023)					
Red ginger	Treats colds, coughs with phlegm, migraines, rheumatism, neutralizes flatulence anti-vomiting, body warming, and maintains stamina (Putri, 2019)					
Black ginger	Increases stamina, as anti-diabetic, anti-obesity and anti-inflammatory (Rahmawati, 2014)					
Ginger	Overcoming coughs and colds, digestive disorders, nausea, hypertension and rheumatism (Ahmad et al., 2021)					
Turmeric	Stops bleeding, cures itching, treats appendicitis, stomach ache and liver problems (Syarif et al., 2011)					
Aromatic ginger	Treats coughs, colds, asthma medication, antifungal, and increases appetite (Syarif et al., 2011)					
Sambiloto	Treating influenza, sore throat, typhus, reducing fever, toothache medicine, and antimalarial (Prapanza & Marianto, 2003)					
Lempuyang	Overcoming coughs and controlling blood sugar (Sarumaha, 2019)					
Mint	Overcoming digestive problems, stomach aches, and maintaining oral health (Faza et al., 2021)					
Temulawak	Overcoming liver disorders, tuberculosis, hypertension, canker sores, jaundice and digestive tract disorders (Syarif et al., 2011)					
Meniran	Overcoming kidney disease, jaundice and gonorrhea (Syarif et al., 2011)					
Basil	Treats flatulence, vomiting, relieves coughs, and stimulates breast milk (Mindart & Nurbaeti, 2015)					
Aloe vera	Treating hemorrhoids, diabetes, hair loss, gonorrhea, worms in children, cough and shortness of breath (Syarif et al., 2011)					
Red Betel	Treat hypertension, liver inflammation, vaginal discharge, ulcers, and control blood sugar (Lister, 2021)					
Galangal	Treating rheumatism, aches and pains, colds and ear inflammation in children (Mindarti & Nurbaeti, 2015)					

Discussion

Community service program activities in the form of socialization on the introduction and planting of family medicinal plants were carried out in the grounds of Posyandu RW 04, Katimbang Village. In knowing that there is an effect of increasing community understanding after providing material regarding the use of family medicinal plants, it can be seen from the results of the community's pre-test and post-test. The results of the pre-test and post-test showed that there was an increase in community understanding, namely around 1.904 percent, which shows that the local community had a good basic understanding of family medicinal plants before the socialization was carried out (Table 2).

Table 2. Level of knowledge of respondents before and after the intervention and improvements for each respondent

Respondent	Pre-Test Score	Post-Test Score	Change
1	70	90	20
2	90	90	00
3	90	100	10
4	80	80	00
5	90	100	10
6	80	90	10
7	100	90	-10
8	80	80	00
9	70	80	10
10	90	100	10
11	90	100	10
12	80	70	-10
13	80	80	00
14	90	90	00
15	80	80	00
16	90	80	-10
17	100	90	-10
18	90	70	-20
19	90	100	10
20	90	90	00
21	60	70	10
Average value	84.76	87.50	1.90

Statistical testing using the Wolcoxon test was carried out to determine the distribution of increases in respondents' knowledge before and after the intervention. The test results showed that there was an increase in the average community knowledge from the pre-test average score of 84,762 to 87.5 in the post-test average score. Although there was an increase in scores, the p-value of 0.518 (p>0.05) indicates that the difference in participants knowledge before and after the intervention was not statistically significant. This is because the people in RW 04 already have a good basic knowledge before the socialization is carried out (Table 3).

Based on the socialization activities on family medicinal plants in RW 04, it was found that the community alredy possesses good basic knowledge about various medicinal plants and their uses for treating different ailments. Some residents have experience using medicinal plants to manage conditions

Dita Natasya, Muhammad Gilang Ramadhan Tunggeng, Pahdila Rezki Annisa, Nur Isra Nopianti, Maghfira Meyghafary Anhariza Dawa, Nuurhidayat Jafar, Asdar Gan

such as hypertension, ulcers, digestive disorders, and diabetes. The community's solid understanding of these plants was also evident from their enthusiasm during the question-and-answer session. Almost all participants asked relatively complex questions, which is uncommon for those new to medicinal plants. They inquired about optimal drying methods for maximizing the efficacy of medicinal plant compounds, dosage guidelines for plants they had previously consumed, plants that should be avoided due to their high sedative content, and even the difference between green and red meniran the latter known locally for its toxic effects when consumed. This aligns with the pre-test results, which showed strong scores that were not significantly different from the post-test results after the material presentation and discussion session.

Table 3. Wilcoxon Signed Ranks Test Test of respondents' knowledge before (pre-test) and after (post-test) socialization on the introduction of family medicinal plants

Knowledge level	N	Min	Max	Mean	SD	p-value
Pre-test	21	6.00	10.00	8.4762	0.98077	0.518
Post-test	21	7.00	10.00	8.6190	1.02353	
Total (n)	21					

Based on Table 3 from the pre-test and post-test questions, some of the questions contained misleading elements that could cause participants to give incorrect answers if they were not focused and calm. This is due to the fact that certain questions included exceptions or statements that were either aligand with facts or contradicted reality, particularly concerning the benefits of medicinal plants and some definitions related to medicinal plant terminology. This situation is reflected in the results of the Mc Nemar test. The test showed that 9.5 percent of participants improved their understanding, moving from a low pre-test score to a high post-test score or scored above 80. However, 14.3 percent of participants did not show any improvement, which may be attributed to a loss of focus or concentration while answering the post-test questions. Overall, the results indicate that the community has a good understanding of family medicinal plants, as evidenced by the 42.9 percent of participants who consistently scored above 80 in both the pre-test and post-test results (Table 4).

Table 4. Mc Nemar test results regarding categories of respondents' level of knowledge before (pre-test) and after (post-test) socialization on the introduction of family medicinal plants

			Knowledge	Total	
			Low (Score <80)	High (Score >80)	- Total
Prior Knowledge	Low	N	7	2	9
(Pre-Test)	(Score <80)	%	33.3	9.5	42.9
	High	N	3	9	12
	(Score >80)	%	14.3	42.9	57.1
Total		N	10	11	21
Total		%	47,6	52.4	100.0

The success of the socialization and planting of family medicinal plants activities can be seen from the results of the analysis of the average pre-test and post-test scores which have increased, Mc Nemar test results around 52.4 percent of participants had scores above 80 from the post results -test, and the planting of around 50 medicinal plant seeds of various types in the grounds of Posyandu RW 04, Katimbang sub-district, Biringkanayya District, Makassar City. So, it can be said that the intervention

ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang *Volume 9, No 3, August 2024: 555-563*

activities were successful because they met the success indicators. This is in line with research conducted by Atmojo et al. who reported that the socialization activities for the introduction and planting of family medicinal plants provided many benefits for the local community, apart from gaining knowledge about family medicinal plants, the community could also directly use family medicinal plants as a family companion medicine in maintaining health (Atmojo & Darumurti, 2021).

4. CONCLUSION AND RECOMMENDATIONS

Through this socialization activity and the planting of family medicinal plants in RW 04, Katimbang Village, Biringkanayya District, Makassar City, Family Medicinal Plant's benefits can be felt directly from the results of the planting and the success of efforts to increase public understanding regarding how to use medicinal plants as family companion medicines in treating various diseases. These results indicate that family medicinal plants outreach and planting activities can be considered primarily for residents of urban areas in an effort to maintain family health through the use of herbal medicine.

There needs to be a socialization program as well as the planting of family medicinal plants in the community so that the use of empty land and information about the benefits of medicinal plants can be enjoyed by all groups, not just limited to one RW. There are many different types of medicinal plants, so there is a need for further information regarding how to use and handle medicinal plants according to their properties in curing a disease. It would be best if this program could be followed up in collaboration with other partners outside the institution, so that feedback from this service program can be more widely known.

REFERENCES

- Astuti, A. (2016). Tiga faktor penggunaan obat herbal hipertensi di Kota Jambi. *Endurance Journal: Scientific Study of Health Problems, 1*(2), 81-87. https://doi.org/10.22216/jen.v1i2.943
- Ahmad, A. R., Mamas, M., Handayani, V., Widiatuti, H., Mardatillah, M., Malik, A., & Ririn, R. (2021). *Tumbuhan berpotensi obat*. Nas Media Pustaka.
- Atmojo, M., & Darumurti, A. (2021). Pemberdayaan masyarakat melalui Tanaman Obat Keluarga (TOGA). *Jurnal Abdimas BSI: Jurnal Pengabdian Kepada Masyarakat*, *4*(1), 100-109. https://doi.org/10.31294/jabdimas.v4i1.8660
- Faza, M. D., Bayan, M. B., Aini, I. R., Anam, M. F., Lutfiansyah, R. R., & Herawati, T. (2021). Pengembangan produksi tanaman mint berbasis ekonomi rumah tangga di Kelurahan Banyurip, Kota Pekalongan. *Jurnal Pusat Inovasi Masyarakat (PIM)*, 3(1), 82-90.
- Imawati, M. F., Purwanto, A., Cahyani, E. D., Kirana, B. C., Indriasari, C., Budiawan, A., & Puradewa, L. (2023). Penyuluhan pemanfaatan Sereh (Cymbopogon nardus) sebagai tanaman berkhasiat obat yang bernilai ekonomi. *Jompa Abdi: Jurnal Pengabdian Masyarakat*, *2*(2), 142-147. https://doi.org/10.57218/jompaabdi.v2i2.682
- Lau, S. H. A., Herman, H., & Rahmat, M. (2019). Studi perbandingan tingkat pengetahuan masyarakat tentang obat herbal dan obat sintetik di Campagayya Kelurahan Panaikang Kota Makassar. *Jurnal Farmasi Sandi Karsa*, *5*(1), 33-37. https://doi.org/10.36060/jfs.v5i1.38
- Liana, Y. (2017). Analisis faktor-faktor yang mempengaruhi keluarga dalam penggunaan obat tradisional sebagai swamedikasi di Desa Tuguharum Kecamatan Madang Raya. *Jurnal Kedokteran dan Kesehatan: Publikasi Ilmiah Fakultas Kedokteran Universitas Sriwijaya, 4*(3), 121-128.

- Dita Natasya, Muhammad Gilang Ramadhan Tunggeng, Pahdila Rezki Annisa, Nur Isra Nopianti, Maghfira Meyghafary Anhariza Dawa, Nuurhidayat Jafar, Asdar Gan
 - Lister, I. N. E. (2021). Daun sirih merah: Manfaat untuk kesehatan. Universitas Prima Indonesia.
 - Mindarti, S. & Nurbaeti, B. (2015). *Buku saku: Tanaman obat keluarga (Toga)*. Balai Penelitian Teknologi Pertanian Jawa Barat.
 - Prapitasari, B., Kurniawan, A. P., & Muharam, D. H. (2020). Keanekaragaman dan kemelimpahan jenis Anggrek (Orchidaceae) di Resort Selabintana Taman Nasional Gunung Gede Pangrango (TNGGP) Jawa Barat. *Biosfer: Jurnal Biologi dan Pendidikan Biologi*, 5(1), 24-30. https://doi.org/10.23969/biosfer.v5i1.2569
 - Putri, M. K. (2019). Khasiat dan manfaat jahe merah. Penerbit Alprin.
 - Prapanza, I. E. P. & Marianto, L. A. (2003). *Khasiat & manfaat sambiloto: Raja pahit penakluk aneka penyakit*. Agromedia Pustaka.
 - Rahmawati, N., Sudjarwo, E., & Widodo, E. (2014). Uji aktivitas antibakteri ekstrak herbal terhadap bakteri Escherichia coli. *Jurnal Ilmu-Ilmu Peternakan (Indonesian Journal of Animal Science)*, 24(3), 24-31.
 - Siregar, R. S., Tanjung, A. F., Siregar, A. F., Salsabila, S., Bangun, I. H., & Mulya, M. O. (2021, March). Studi literatur tentang pemanfaatan tanaman obat tradisional. In *Scenario (Seminar of Social Sciences Engineering and Humaniora)*, 385-391.
 - Syarif, P., Suryotomo, B., & Soeprapto, H. (2015). Diskripsi dan manfaat tanaman obat di pedesaan sebagai upaya pemberdayaan apotik hidup (Studi kasus di Kecamatan Wonokerto). Pena: Jurnal Ilmu Pengetahuan dan Teknologi, 21(1), 20-32. http://dx.doi.org/10.31941/jurnalpena.v21i1.49
 - Sarumaha, M. (2019). Studi etnobotani tanaman obat keluarga di Desa Bawolowalani Kecamatan Telukdalam Kabupaten Nias Selatan. *Jurnal Education and Development*, 7(4), 266-266. https://doi.org/10.37081/ed.v7i4.1412