



ETHNOBOTANICAL SURVEY OF MEDICINAL PLANTS USED TO TREAT HYPERTENSION IN THE TELAGASARI REGION, KARAWANG, WEST JAVA, INDONESIA

**Aulia Nursyifa, Dhevi Maharani, Dini Hakiki, Intan Aulia Pratiwi, Indah Nurhabibah, Lisna Wati,
Meilani Wida Pratiwi, Nabila Syarifatul Husen, Ricky Rianto, Ristin Prasmawati, Rizma Septia Wahyuningsih,
Widia Arrahmah Rizki Saputri, Widiya Rahmayanti, Anisa Rahma Zulfaridah, Tyas Putri Febrianti,
Maulana Yusuf Alkandahri***

Faculty of Pharmacy, Universitas Buana Perjuangan Karawang, Karawang, West Java, Indonesia.



***Corresponding Author: Maulana Yusuf Alkandahri**

Faculty of Pharmacy, Universitas Buana Perjuangan Karawang, Karawang, West Java, Indonesia.

DOI: <https://doi.org/10.5281/zenodo.19508742>

How to cite this Article: Aulia Nursyifa, Dhevi Maharani, Dini Hakiki, Intan Aulia Pratiwi, Indah Nurhabibah, Lisna Wati, Meilani Wida Pratiwi, Nabila Syarifatul Husen, Ricky Rianto, Ristin Prasmawati, Rizma Septia Wahyuningsih, Widia Arrahmah Rizki Saputri, Widiya Rahmayanti, Anisa Rahma Zulfaridah, Tyas Putri Febrianti, Maulana Yusuf Alkandahri* (2026). Ethnobotanical Survey Of Medicinal Plants Used To Treat Hypertension In The Telagasari Region, Karawang, West Java, Indonesia. European Journal of Biomedical and Pharmaceutical Sciences, 13(4), 498–500.
This work is licensed under Creative Commons Attribution 4.0 International license.



Article Received on 15/03/2026

Article Revised on 05/04/2026

Article Published on 10/04/2026

ABSTRACT

Hypertension (HT) is an important risk factor for the occurrence of several diseases like heart failure, chronic kidney disease, coronary artery diseases, atherosclerosis, myocardial infarction and stroke. This research aims to document and preserve the use of ethnomedicinal to treat HT by communities in the Telagasari Region, Karawang, West Java, Indonesia. Fieldwork was carried out from November to December 2025 using direct interviews, questionnaires, and discussions. Plant species are identified based on standard taxonomic methods, flower morphological characteristics, and where possible, using samples for comparison, as well as consultation with experts and the literature. The plant types obtained were grouped into families according to the Cronquist classification system. Plant names were checked against the Plant List (www.plantlist.org) and the International Plant Name Index (www.ipni.org). This research reports that 30 plant species are commonly used by people in the Telagasari Region to treat HT. Among the various plant parts used, leaves (60.0%) are most frequently used in making medicines, followed by rhizomes (16.7%), fruit (10.0%), rind (6.7%), stem, and bark (respectively 3.3%). Meanwhile, the most frequently used preparation methods were decoction (63.3%), followed by infusion (23.3%), and juice (13.3%). The results of this research confirm that people in the Telagasari Region still rely heavily on medicinal plants for their health care system, especially for the treatment of HT with the most frequently used parts of the leaves and their use in decoctions and infusions.

KEYWORDS: Traditional medicine, Ethnomedicinal plants, Telagasari Region, Hypertension.

INTRODUCTION

Hypertension (HT) is a risk factor for cardiovascular disease which has a high prevalence and mortality.^[1] It is defined as a systolic blood pressure of 140 mmHg or higher and/or diastolic blood pressure of 90 mmHg or higher.^[2] There are various pharmacological approaches to lowering systolic and diastolic blood pressures in adults, such as the administration of antihypertensive drugs such as beta-blockers, thiazide, and thiazide-like diuretics, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor antagonists, and calcium channel blockers.^[3] However, the use of such

classes of antihypertensive drugs is associated with undesirable side effects such as hypokalemia, nausea, dizziness, and dry cough, thus there is a need for alternative medicine.^[4] Thus, an alternative therapy such as herbal drugs is preferred because natural herbal products using medicinal plants are considered to have fewer side effects.^[5] Currently, research to obtain antihypertensive drugs derived from natural ingredients is continuing, one of which is through the exploration of active compounds from natural ingredients, especially medicinal plants that have traditionally been used by communities to treat HT in various regions in

Indonesia.^[6-8] One of the Region in Indonesia that still uses herbal plants as an alternative treatment, especially to treat HT, is the Telagasari Region. This research aims to obtain detailed information about the use of herbal plants for alternative therapy for HT in Telagasari Region, Karawang, West Java, Indonesia using a field survey method.

MATERIALS AND METHODS

Study Area

Telagasari is located in Karawang Regency, West Java, Indonesia, with an area of 45.72 km². This area has an altitude of 13.2 meters above sea level with an average maximum air temperature of 30°C and a minimum of 24°C. Moreover, it is located between 06°17'29" South Latitude and 107°22'48" East Longitude. This area is a tropical climate area that is mostly inhabited by Sundanese tribes (90%) and other tribes (10%). Vegetation in the study area is in humid conditions with an average rainfall of 1,500 mm/year.

Data Collection

An extensive field survey was carried out to obtain information about medicinal plants from the Sundanese tribe in the study area. To document existing information about medicinal plants from tribal practitioners, several field visits were conducted from November to December 2025 in the Telagasari Region, Karawang, West Java, Indonesia. During the research, ethnomedicinal information was collected from middle-aged and older tribal practitioners in their local language (Sundanese), through direct interviews, questionnaires, and discussions. Information on local names of plants, plant parts used, preparation methods and administration routes (e.g., infusion, paste, juice and decoction) of all

ethnomedicinal plants collected were recorded during the survey period.

Botanical Identification

Plant species are identified based on standard taxonomic methods, flower morphological characteristics, and where possible, using samples for comparison, as well as consultation with experts and the literature.^[9] The plant types obtained were grouped into families according to the Cronquist classification system, except for Pteridophyta and Gymnospermae.^[10] Plant names were checked against the Plant List (www.plantlist.org) and the International Plant Name Index (www.ipni.org).

Ethics Statement

All participants provided verbal consent before the interview and gave consent to publish the information they provided.

RESULTS AND DISCUSSION

This research revealed that 30 plant species are commonly used by local people to treat HT (Table 1). This shows that the study location is affordable in terms of biodiversity. Among the various plant parts used, leaves (60.0%) are most frequently used in making medicines, followed by rhizomes (16.7%), fruit (10.0%), rind (6.7%), stem, and bark (respectively 3.3%). The use of leaves is reported to be easier to prepare and easier to extract active substances from them for treatment. At the same time, leaves have less effect on the mother plant.^[11] Meanwhile, the most frequently used preparation methods were decoction (63.3%), infusion (23.3%), and juice (13.3%). These results are in line with previous research which reported that the forms of traditional medicine most widely used by the community were decoctions and infusions.^[9]

Table 1: Ethnomedicinal plants, local name, part used, mode of administration, and dosage uses in Telagasari, Karawang, West Java, Indonesia.

No	Species	Family	Local name	Parts used	Mode of administration	Dosage of use
1	<i>Allium cepa</i> L.	Amaryllidaceae	Bawang bombai	Rhizome	Juice	50 grams once a day
2	<i>Allium fistulosum</i> L.	Amaryllidaceae	Bawang Daun	Leaf	Decoction	50 grams once a day
3	<i>Allium sativum</i> L.	Alliaceae	Bawang Putih	Rhizome	Juice	30 grams once a day
4	<i>Annona muricata</i> L.	Annonaceae	Sirsak	Leaf	Infusion	15 grams once a day
5	<i>Apium graveolens</i> L.	Apiaceae	Seledri	Leaf	Infusion	100 grams once a day
6	<i>Averrhoa carambola</i> L.	Oxalidaceae	Belimbing	Fruit	Infusion	250 grams once a day
7	<i>Carica papaya</i> L.	Caricaceae	Pepaya	Leaf	Decoction	100 grams once a day
8	<i>Chromolaena odorata</i> L.	Asteraceae	Balakacida	Leaf	Decoction	10 grams once a day
9	<i>Cinnamomum verum</i> L.	Lauraceae	Kayu Manis	Bark	Decoction	50 grams once a day
10	<i>Cucumis sativus</i> L.	Cucurbitaceae	Timun	Fruit	Juice	50 grams once a day
11	<i>Curcuma longa</i> L.	Zingiberaceae	Kunyit	Rhizome	Decoction	100 grams once a day
12	<i>Curcuma xanthorrhiza</i> Roxb	Zingiberaceae	Temulawak	Rhizome	Decoction	100 grams once a day
13	<i>Cymbopogon nardus</i>	Poaceae	Sereh Wangi	Leaf	Decoction	25 grams once a day
14	<i>Dracaena angustifolia</i> (Medik.) Roxb.	Asparagaceae	Suji	Leaf	Infusion	20 grams once a day
15	<i>Durio zibethinus</i> Murr.	Bombacaceae	Durian	Leaf	Decoction	50 grams once a day
16	<i>Garcinia mangostana</i> L.	Clusiaceae	Manggis	Rind	Decoction	10 grams once a day
17	<i>Kaempferia galanga</i> L.	Zingiberaceae	Kencur	Seed	Decoction	50 grams once a day
18	<i>Mentha longifolia</i> L.	Lamiaceae	Mint	Leaf	Infusion	20 grams once a day

19	<i>Morus</i> L.	Moraceae	Murbei	Leaf	Infusion	100 grams once a day
20	<i>Muntingia calabura</i> L.	Muntingiaceae	Kersen	Leaf	Decoction	25 grams once a day
21	<i>Ocimum sanctum</i> L.	Lamiaceae	Kemangi	Leaf	Decoction	10 grams once a day
22	<i>Orthosiphon aristatus</i> (Blume) Miq.	Lamiaceae	Kumis Kucing	Leaf	Decoction	100 grams once a day
23	<i>Pandanus amaryllifolius</i> Roxb.	Pandanaceae	Pandan	Leaf	Infusion	50 grams once a day
24	<i>Persea americana</i> Mill.	Lauraceae	Alpukat	Fruit	Juice	10 grams once a day
25	<i>Piper betle</i> L.	Piperaceae	Sirih	Leaf	Decoction	20 grams once a day
26	<i>Psidium guajava</i> L.	Myrtaceae	Jambu biji	Leaf	Decoction	25 grams once a day
27	<i>Punica granatum</i> L.	Lythraceae	Delima	Rind	Decoction	20 grams once a day
28	<i>Sandoricum koetjape</i> Merr	Meliaceae	Kecapi	Leaf	Decoction	50 grams once a day
29	<i>Terminalia catappa</i> L.	Combretaceae	Ketapang	Leaf	Decoction	80 grams once a day
30	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Jahe	Rhizome	Decoction	100 grams once a day

CONCLUSIONS

The results of this research confirm that people in the Telagasari Region still rely heavily on medicinal plants for their health care system, especially for the treatment of HT with the most frequently used parts of the leaves and their use in decoctions and infusions.

REFERENCES

- Stanaway JD, Afshin A, Gakidou E, Lim SS, Abate D. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*, 2018; 392(10159): 1923-1994.
- Unger T, Borghi C, Charchar F, Khan NA, Poulter NR, Prabhakaran D, et al. 2020 International Society of Hypertension global hypertension practice guidelines. *J Hypertens*, 2020; 38(6): 982-1004.
- Williams B, Mancia G, Spiering W, Rosei EA, Azizi M, Burnier M, et al. 2018 ESC/ESH Guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension. *J Hypertens*, 2018; 36(10): 1953-2041.
- Salem MA, Ezzat SM, Ahmed KA, Alseekh S, Fernie AR, Essam RM. A comparative study of the antihypertensive and cardioprotective potentials of hot and cold aqueous extracts of *Hibiscus sabdariffa* L. in Relation to Their Metabolic Profiles. *Front Pharmacol*, 2022; 13: 840478.
- Pal SK, Shukla Y. Herbal medicine: current status and the future. *Asian Pac J Cancer Prev*, 2003; 4: 281-299.
- Alkandahri MY, Patala R, Berbudi A, Subarnas A. Antimalarial activity of curcumin and kaempferol using structure based drug design method. *J Adv Pharm Educ Res*, 2021; 11(4): 86-90.
- Alkandahri MY, Arfania M, Abriyani E, Ridwanuloh D, Farhamzah, Fikayuniar L, et al. Evaluation of antioxidant and antipyretic effects of ethanolic extract of cep-cepan leaves (*Castanopsis costata* (Blume) A.DC). *J Adv Pharm Educ Res*, 2022; 12(3): 107-112.
- Nuraeni E, Alkandahri MY, Tanuwidjaja SM, Fadhillah KN, Kurnia GS, Indah D, et al. Ethnopharmacological study of medicinal plants in the Rawamerta Region Karawang, West Java, Indonesia. *Open Access Maced J Med Sci*, 2022; 10(A): 1560-1564.
- Bieski IGC, Santos FR, de Oliveira RM, Espinosa MM, Macedo M, Albuquerque UP, de Oliveira Martins DT. Ethnopharmacology of medicinal plants of the Pantanal Region (Mato Grosso, Brazil). *Evid Based Complement Alternat Med*, 2012; 2012: 1-36.
- Cronquist A. The evolution classification of flowering plants. The New York Botanical Garden, New York, NY, USA, 2nd edition, 1988.
- Ahmed S, Ahmad M, Swami BL, Ikram S. A review on plants extract mediated synthesis of silver nanoparticles for antimicrobial applications: Agreen expertise. *J Adv Res*, 2016; 7(1): 17-28.