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AN ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS WITH ANTI-ULCERATIVE COLITIS EFFECTS IN THE SUKASARI REGION, PURWAKARTA, WEST JAVA, INDONESIA

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ABSTRACT

Ulcerative colitis is a chronic immune-mediated inflammatory bowel disease that involves inflammation and ulcers of the colon and rectum. To date, no definite cure for this disease is available. This research aims to document and preserve the use of ethnomedicinal to treat ulcerative colitis by communities in the Sukasari Region, Purwakarta, West Java, Indonesia. Fieldwork was carried out from April to May 2026 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 there are 30 plant species commonly used by people in the Sukasari Region for ulcerative colitis treatment. Among the various plant parts used, leaves (63.3%) are most frequently used in making medicines, followed by rhizomes (20%), fruit (10%), stems, and rhizomes (3.3% respectively). Meanwhile, the preparation methods most frequently used were decoction (53.3%) and infusion (46.7%). The results of this research confirm that people in the Sukasari Region still rely heavily on medicinal plants for their health care system, especially for the treatment of ulcerative colitis with the most frequently used parts of the leaves and their use in decoctions and infusions..

KEYWORDS: Traditional medicine, Ethnomedicinal plants, Sukasari Region, Ulcerative Colitis.

INTRODUCTION

Ulcerative colitis is a chronic intestinal immune inflammatory disease, the course of which is protracted. As lifestyles continue to change, the worldwide prevalence of UC has increased annually.[1] Currently, the treatment drug options for UC primarily include amino salicylic acid, glucocorticoids, and certain biological agents. In the course of these treatments, various adverse reactions can occur, including drug dependence, cytotoxicity, and liver and kidney damage.[2] Additionally, relapse can easily occur after stopping the drug.[3,4] Therefore, it is important to identify novel, safe, and more effective drugs for the prevention and treatment of UC. Currently, research to obtain new anti-ulcerative colitis drugs derived from natural materials is continuing, one of which is through the exploration of active compounds from natural materials, especially medicinal plants that have traditionally been used by communities to treat ulcerative colitis in various regions in Indonesia.[5-7] One of the Region that still uses herbal plants as an alternative treatment for ulcerative colitis is Sukasari Region. This research aims to obtain detailed information about the use of herbal plants for alternative therapy for ulcerative

colitis in Sukasari Region, Purwakarta, West Java, Indonesia using a field survey method.

MATERIALS AND METHODS

Study Area

Sukasari is located in Purwakarta Regency, West Java, Indonesia, with an area of 92.01 km^2. This area has an altitude of 139 meters above sea level with an average maximum air temperature of 28°C and a minimum of 26°C (humidity: approximately 60%-81%). Moreover, it is located between 06°32′ 17.3″ South Latitude and 107°18′ 43″ East Longitude. This area is a tropical climate area that is mostly inhabited by Sundanese tribes (98%) and other tribes (2%). Vegetation in the study area is in humid conditions with an average rainfall of 3,093 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 April to May 2026 in the Sukasari Region, Purwakarta, 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.[8] The plant types obtained were grouped into families according to the Cronquist classification system, except for Pteridophyta and Gymnospermae.[9] 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

Ulcerative colitis is a chronic inflammatory bowel disease characterized by persistent inflammation of the colonic mucosa, epithelial barrier disruption, and recurrent episodes of intestinal injury. Its pathogenesis involves interactions among immune dysregulation, genetic susceptibility, intestinal microbiota, and environmental factors.[10] The present study documented 30 medicinal plant species traditionally used for gastrointestinal-related complaints that may provide candidates for further investigation into their potential anti-ulcerative colitis properties (Table 1). Among the various plant parts used, leaves (63.3%) are most frequently used in making medicines, followed by rhizomes (20%), fruit (10%), stems, and rhizomes (3.3% respectively). Meanwhile, the preparation methods most frequently used were decoction (53.3%) and infusion (46.7%). The diversity of these plants highlights the potential value of ethnobotanical knowledge in identifying botanical resources for the development of complementary approaches to inflammatory bowel disease.[11]

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

No	Species	Family	Local name	Parts used	Mode of administration	Dosage of use
1	*Allium cepa* L.	Amaryllidaceae	Bawang Bombai	Rhizome	Decoction	20 grams once a day
2	*Allium sativum* L.	Alliaceae	Bawang Putih	Rhizome	Infusion	50 grams once a day
3	*Alpinia galanga* L.	Zingiberaceae	Lengkuas	Rhizome	Decoction	20 grams once a day
4	*Annona muricata* L.	Annonaceae	Sirsak	Leaf	Infusion	100 grams once a day
5	*Annona squamosa* L.	Annonaceae	Srikaya	Leaf	Decoction	150 grams once a day
6	*Averrhoa carambola* L.	Oxalidaceae	Belimbing	Fruit	Infusion	150 mL once a day
7	*Camellia sinensis* (L.) Kuntze	Theaceae	Teh Hijau	Leaf	Decoction	50 grams once a day
8	*Cinnamomum verum* J.Presl	Lauraceae	Kayu Manis	Stem	Decoction	10 grams once a day
9	*Curcuma longa* L.	Zingiberaceae	Kunyit	Rhizome	Infusion	150 grams once a day
10	*Cymbopogon nardus*	Poaceae	Sereh Wangi	Leaf	Infusion	10 grams once a day
11	*Durio zibethinus* Murr.	Bombacaceae	Durian	Leaf	Infusion	10 grams once a day
12	*Elephantopus scaber* L.	Asteraceae	Tapak Liman	Leaf	Decoction	120 grams once a day
13	*Garcinia mangostana* L.	Clusiaceae	Manggis	Rind	Infusion	80 mL once a day
14	*Kaempferia galanga* L	Zingiberaceae	Kencur	Rhizome	Infusion	200 grams once a day
15	*Momordica charantia* L.	Cucurbitaceae	Pare	Leaf	Decoction	150 grams once a day
16	*Morinda citrifolia* L.	Rubiaceae	Mengkudu	Fruit	Infusion	100 grams once a day

17	*Moringa oleifera* Lamk.	Moringaceae	Kelor	Leaf	Decoction	150 grams once a day
18	*Morus* L.	Moraceae	Murbei	Leaf	Infusion	20 grams once a day
19	*Musa paradisiaca* L.	Musaceae	Pisang	Leaf	Infusion	50 grams once a day
20	*Ocimum basilicum* L.	Lamiaceae	Kemangi	Leaf	Decoction	50 grams once a day
21	*Orthosiphon stamineus* Benth	Lamiaceae	Kumis Kucing	Leaf	Infusion	100 mL once a day
22	*Pandanus amaryllifolius* Roxb.	Pandanaceae	Pandan Wangi	Leaf	Decoction	50 grams once a day
23	*Phaleria macrocarpa* (Scheff.) Boerl)	Thymelaceae	Mahkota Dewa	Fruit	Decoction	50 grams once a day
24	*Phyllanthus acidus* (L.) Skeels	Phyllanthaceae	Cermai	Leaf	Infusion	80 grams once a day
25	*Phyllanthus niruri* L.	Phyllanthaceae	Meniran	Leaf	Decoction	50 grams once a day
26	*Piper betle* L.	Piperaceae	Sirih	Leaf	Decoction	50 grams once a day
27	*Psidium guajava* L.	Myrtaceae	Jambu biji	Leaf	Decoction	10 grams once a day
28	*Syzygium cumini* (L.) Skeels	Myrtaceae	Jamblang	Leaf	Infusion	10 grams once a day
29	*Syzygium polyanthum* (Wight) Walpers	Myrtaceae	Salam	Leaf	Decoction	50 grams once a day
30	*Zingiber officinale* Rosc.	Zingiberaceae	Jahe	Rhizome	Decoction	100 grams once a day

CONCLUSIONS

In conclusion, the 30 medicinal plant species documented in this study represent a diverse collection of traditional botanical resources that may support the identification of candidates for research on ulcerative colitis. However, the inventory does not establish the anti-ulcerative colitis efficacy of any listed species. Further standardized pharmacological, mechanistic, and toxicological studies are necessary to determine whether these traditional medicinal plants can contribute to the development of safe and scientifically validated approaches to intestinal inflammation.

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