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Ethnopharmacy Study of Sambiloto Plant (*Andrographis paniculata* Nees.) as Medicine in Seki Village, South Galela District, North Halmahera Regency.

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ABSTRACT

Background: Sambiloto is a plant with many benefits, Sambiloto itself is a native Indonesian plant which is currently being researched, especially for its immunomodulatory activity. Sambiloto itself contains immunomodulatory activity due to the presence of deoxyandrographolide, andrographolide, 14-deoxy-11, neoandrographolide, 12-didehydroandrographolide, homoandrographolide, and diterpenoids contained in Sambiloto and due to the presence of active substances in the form of flavonoids. **Objective:** This study aims to find out more about the benefits and ways of using Sambiloto (*Andrographis paniculata* Nees.) as traditional medicine in Seki Village. **Method Research:** This type of research is descriptive research using qualitative methods and sampling techniques, namely purposive sampling through closed interviews with 8 informants. using questionnaire media. Based on the research results, there are 18 types of diseases that can be cured by Sambiloto plants and the parts of the plants used are the leaves. **Research Results:** From this research, it can be concluded that Sambiloto has many benefits, especially in curing diseases, namely hypertension, pain relief, malaria, vaginal discharge, menstrual pain, cysts, flu, kidney, cholesterol, diarrhea, diabetes, liver, tumors, mumps, asthma/shortness of breath, pain. headaches, cancer and fever

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PRELIMINARY

One of the countries that has abundant natural energy sources is Indonesia, almost all types of plants can grow in this country. Most have been used by our ancestors to cure various diseases. Tropical forests in Indonesia have the second highest biological diversity in the world after Brazil.¹ Health is the welfare of all living things, and health conditions are currently facing very difficult challenges. One of the reasons for the challenge. With the increasing demand for medicines, most people generally prefer to use traditional medicines and herbal medicines to treat diseases and achieve a certain level of health..²

Science and technology are increasingly developing, and maybe the world of medicine, can experience various changes and advances. Traditional health services have great potential to be close to the community, easier to obtain and relatively inexpensive compared to modern health services.³ Medicinal plants are plants that have medicinal benefits and are used as a treatment or prevention of disease. The interpretation of medicinal properties is having active substances that act to cure a disease or if they don't have active substances but have a resultant effect/synergy of various substances that act to heal.⁴

Sambiloto is a plant with many benefits, Sambiloto itself is a native Indonesian plant which is currently being researched, especially for its immunomodulatory activity. Sambiloto itself contains immunomodulatory activity due to the presence of deoxyandrographolide, andrographolide, 14 deoxy 11, neoandrographolide, 12 didehydroandrographolide, homo andrographolide, and diterpenoids contained in Sambiloto and due to the presence of active substances in the form of flavonoids.⁵ Seki Village is one of the villages in the South Galela sub-district, North Halmahera Regency, where the people still have a culture of traditional medicine and the community has used a lot of plants or plants to meet their necessities of life, namely food needs, materials for building houses and so on and used for traditional medicine. . The understanding of traditional medicine has been known for a long time by the people of Seki Village, this understanding has been passed down from generation to generation. Most of the residents of Seki Village take traditional medicine to recover from their illnesses. When they are sick, one of the plants used is Sambiloto

RESEARCH METHODS

Types of research

This study used descriptive qualitative method

Population and Sample

The population in this study is the Seki Village Community, South Galela District, North Halmahera Regency, especially the shamans and village guides who have knowledge of traditional medicine using the bitter plant (*Andrographis paniculata* Ness.) The sample in this study is the Seki Village community, South Galela District, North Halmahera Regency, with the criteria of people aged > 30 years, shamans and village chiefs and having knowledge of traditional medicine using Sambiloto plants for generations.

Research procedure

This type of research is descriptive research using qualitative methods.

- a. Observation of research locations
Observations were made to identify the area where the research was conducted, namely Seki Village, South Galela District, and an approach was made to village officials so they could ask for recommendations regarding people who know about medication. Traditionally using Sambiloto plants.
- b. Determining Sample

At the stage of determining the sample used purposive sampling. purposive sampling technique. The criteria are that the people who know the most about traditional medicine, for example a shaman or village priest, are over 30 years old and their knowledge must be passed down from their previous parents.

c. Preparation of Research Instruments and Materials

Researchers prepared instruments in which questionnaire sheets and research materials such as Sambiloto plants and tools in the form of stationery and documentation tools such as cellphones.

d. Data Gathering (Interview)

Data collection was carried out by means of semi-structural interviews with closed-ended question types to informants who met the criteria.

RESEARCH RESULTS

From the results of a two-week study conducted in Seki Village, South Galela District, North Halmahera Regency regarding the Utilization of Sambiloto Plants, the researcher tabulated the results found after interviewing eight informants/source persons in two tables where Table 1 consists of the bitter plant tribe, local name and parts of plants used by the people of Seki Village as traditional medicines and table 2 which contains the research results obtained from the informants consisting of the name of the informant, properties, how to get the Sambiloto plant, how to obtain it, the rules for using and the duration of using the medicine from the Sambiloto plant. To make it clearer, it can be seen directly in the table as follows.

Table 1 Local Names of Plants and Plant Parts

No	Plant Tribes/Types of Plants	Local Name	Part of the Plant Used
1	<i>Andrographis paniculata</i>	Sambiloto	Leaf

Table 2. Research Results

No	Informant Name	Efficacy	How to Get	Ways of making	How to use	Length of Use
1	DJ	Hypertension, Anti-Pain And Headaches	From wild plants	Soaked in hot water	1x daily	Until healed
2	KT	Vaginal Discharge, Menstrual Pain And Cysts	Cultivation	Soaked in hot water	1x daily	Until healed
3	MH	Fever, kidney, Cholesterol and diarrhea	Cultivation	Boiled	1x daily	Until healed
4	YA	Malaria, diabetes and anti-pain	Cultivation	Soaked in hot water	1x daily	Until healed
5	RL	Liver, tumor, goiter and out of breath	Wild plants	Boiled	3x daily	During the week
6	A	Anti-pain and ,hypertension	Cultivation	Boiled	1x daily	Until healed
7	NC	malaria, diabetes, Cholesterol and headaches	Cultivation	Soaked in hot water	3x daily	Until healed
8	PM	Diarrhea, cancer, flu,hypertension, and fever	Wild plants	Boiled	2x daily	Until healed

DISCUSSION

In the research conducted by the researcher, it took two weeks starting from July 18 to July 24 in Seki Village, Galela Selatan District, North Halmahera Regency, researchers interviewed eight informants who were recommendations from the Village Head and these people were shamans and village chief in Seki Village which is the research site. Of the eight informants, the researcher found 18 types of diseases that could be cured by the Sambiloto plant. The types of diseases can be seen in Table 2 of the research results..

The method of processing and using bitter medicinal plants is carried out by the people of Seki Village, South Galela District, North Halmahera Regency, while the ways of processing medicinal plants by the people of Seki Village include boiling and soaking them using hot water. The people of Seki Village use Sambiloto as an antidote to fever, based on the results of previous research by Darsini and Hany Puspita Aryani (2022) in the journal explaining that Sambiloto leaf extract contains flavonoids, saponins, alkaloids and tannins, as well as andrographolide as an antifungal agent that can prevent the development of *Candida fungus. albicans*. From several literatures, Sambiloto is traditionally used as an antidote to fever.⁶

Sambiloto leaves are used by the community to treat diarrhea, anti-pain, cholesterol, and malaria. In a study by Aliansah and Vicky Fauzan (2022) concluded that Sambiloto contains flavonoids, lactones, ketones, alkanes, calcium, potassium, sodium, and grit acid so that it can treat the disease..⁷

The people of Seki Village also use boiled water from Sambiloto leaves to treat cancer. In previous research conducted by

Cintia Cristina, Christine Natalia Meta Kali and Reni Angelin (2022), it was shown that the Sambiloto plant (*Andrographis paniculata*) contains the main compound andrographolide, which has anti-inflammatory properties. cancer.⁸

High blood pressure, also known as hypertension, is a condition in which blood vessels become irritated, cutting off the supply of oxygen and nutrients.⁹ People use Sambiloto as a traditional medicine that can treat hypertension. In Saranani and Selpirahmawati's research (2021) it was shown that there are several compounds in Sambiloto such as labdane-type diterpenoids with antihypertensive effects that have been identified in *A. paniculata* extract, mechanisms for increasing NO release, inhibitory effects on ACE and reactive oxygen species (ROS).¹⁰

People also often use Sambiloto to treat flu and headaches based on research by Yayan Rizikian, Sulistiorini Indriaty, Deni Firmansyah and Inayatul Fajriyah in (2022) who said that because the Sambiloto plant itself contains antioxidants, Sambiloto can be used to treat flu, also in the study explained that Making Jamu Godok from Sambiloto plants can cure headaches.¹¹

One of the reproductive disorders that can occur in women who do not apply personal hygiene can be said to be vaginal discharge. Leucorrhoea itself is a white discharge from the female area and can cause changes in odor and color in an abnormal amount.¹² People use boiled water from Sambiloto leaves to treat leucorrhoea, the tannin content in Sambiloto can treat leucorrhoea, both pathological and physiological leucorrhoea, because tannin has antibacterial properties..

People also use bitter leaves to treat mumps, mumps itself is a contagious disease caused by a virus (*Paramyxovirus*).¹³ The

content of chemical compounds in the form of flavonoids contained in Sambiloto leaves can treat mumps because flavonoids have various bioactive effects including antivirals. This can be proven in Hepni's research (2019) which says that flavanoids are secondary metabolites of polyphenols which can be found in plants and food and have various bioactive effects including antiviral..¹⁴

Liver disease is a disease caused by viruses, alcohol and lifestyle..¹⁵ The community also believes that the boiled water of Sambiloto leaves can treat liver disease. This can be proven because the Sambiloto leaves contain chemical compounds that have antiviral effects in the form of flavanoid compounds.. Menstrual pain can also be treated with boiling water of Sambiloto leaves because in Sambiloto it contains chemical compounds in the form of flavanoids, tannins and saponins, which is supported by previous researchers who said that these three compounds are well-known compounds because they have the ability to inhibit pain perception..¹⁶

Kidney failure is a condition of sudden decline in kidney function. Kidney failure can occur when the kidneys are unable to transport metabolic waste in the body or perform their regular functions. Sambiloto leaves themselves are also used by the people of Seki Village in the treatment of kidney failure. In Mia Nuraeni's research, Putri Aulia, Silvia Mutia Nuri (2022) said that substances in the form of alkaloids, steroids and tannins as well as chemical compounds of the phenol group in the form of terpenoids as well as saponins can prevent kidney failure because these compounds are cytotoxic, anti-androgenic and estrogenic..¹⁷

The community also uses boiled water from Sambiloto leaves to treat shortness of breath. In research conducted by Nurdin, Gaby Maulida (2022) said that noni

fruit can be used to treat shortness of breath because noni fruit contains important compounds such as alkaloids, polysaccharides and scapoletin..¹⁸ Therefore, in terms of its compounds, Sambiloto itself also contains compounds in the form of alkaloids, so from this journal it can be proven that the boiled water of Sambiloto can treat shortness of breath because it contains compounds in the form of alkaloids..

People in Seki Village use boiled water from sambiloto leaves to treat tumors. In a study conducted by Pirwanto, Agus (2022) said that Sambiloto also received a lot of attention because Sambiloto has anti-tumor properties. 19 This research can prove that the boiled water from Sambiloto can be used in the treatment of tumor diseases because Sambiloto has anti-tumor properties..

CONCLUSION

From the research that has been done it can be concluded that:

1. The people of Seki Village, South Galela District, North Halmahera Regency make use of the bitter plant (*Andrographis paniculata* Ness.), namely using the leaves by boiling and soaking them in hot water.
2. According to the results of interviews with eight informants consisting of three shamans and five village chiefs, the benefits of boiling water from Sambiloto plants can cure 18 types of diseases, namely hypertension, pain relief, malaria, flu, diarrhea, vaginal discharge, shortness of breath, cancer, tumors , diabetes, menstrual pain, headaches, cysts, cholesterol, liver, goiter, fever and kidney.

SUGGESTION

1. For the Community
Knowledge of traditional medicine continues to be developed, especially for today's young children who certainly don't know about traditional medicine so that this legacy remains hereditary and will not be lost.
2. For the Government
It is necessary to cultivate the Sambiloto plant and it needs to be developed so that people can know that there are many benefits of the Sambiloto plant in traditional medicine, especially during the Covid-19 pandemic because Sambiloto can also increase immunity.
3. For Campus
Makariwo Halmahera College of Health Sciences through the DIII Pharmacy Study Program in the future is expected to be able to develop research on the use of traditional medicines specifically and in general because from day to day people's knowledge of traditional medicine is growing because they consider that side effects of traditional medicines safer or smaller than chemical drugs.

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BIBLIOGRAPHY

1. Lidya Gagiwu, Douglas N. Pareta, Jandris Bandari, Averous Budiadji. Identification Methoxyeugenol Compounds In Fruit Extract Methanol Golobe Marbles (*Etlingrta alba (Blume) A.D. Poulsen*) International Journal of Health Medicine and Current Research (IJHMCR). 2018;3 (04):1071-1075.
2. Imelda Naomi Kambey, Kisman, Ismai, Charles B. Turangan. Identification Of Compounds Contained In Methanol Extension Of Dried Such As Banana Leaves Of Halmahera (*Moses Paradisiaca L.*) International Journal of Health Medicine and Current Research (IJHMCR). 2018;3 (01): 849-856.
3. Mei Tongo-Tongo, Seni M. Missy, Ismail1, Averous. Identification Of Compounds Contained In Metallifer Extracts Of Golobe Trunks Marbles (*Etlingera Alba (Blume) A.D Polusen*) International Journal of Health Medicine and Current Research (IJHMCR). 2018;3 (4): 1120-1123.
4. Lidya Gagiwu, Douglas N. Pareta, Jandris Bandari, Averous Budiadji. Identification Methoxyeugenol Compounds In Fruit Extract Methanol Golobe Marbles (*Etlingrta alba (Blume) A.D. Poulsen*) International Journal of Health Medicine and Current Research (IJHMCR). 2018;3 (04):1071-1075.
5. Rizikiyan, Y., Indriaty, S., Firmansyah, D., & Fajriyah, I. Upaya Penanaman, Pemanfaatan Serta Pembuatan Jamu Godok Dari Tanaman Obat Sambiloto Dimasa Pandemi Covid-19 Di Desa Palir Kecamatan Tengahtani Kabupaten Cirebon. Jurnal Abdi Masyarakat Kita, 2022;2(1): 103-115.
6. Darsini, Hany Puspita Aryani. Potensi Herbal Indonesia Sebagai Immunomodulator Booster Selama Pandemi Covid-19. Jurnal Keperawatan. 2022;15 (1):13-13
7. Aliansah, Vicky Fauzan. "Pengaruh Air Rebusan Daun Sambiloto Terhadap Penurunan Kadar Kolesterol: The Effect of Boiling Water on Sambiloto Leaves on Reducing Cholesterol Levels." Indonesian Scholar Journal of Nursing

- and Midwifery Science (ISJNMS) 2022:1 (6);232-239.
8. Christina, Shinta, Kristin Natalia Meta Kali, and Reni Angeline. Efektivitas Tanaman Sambiloto (*Andrographis paniculata*) dan Senyawa Andrographolide dalam Menghambat Infeksi COVID-19: Literatur Review. Jurnal Medscientiae. 2022:79-85.
 9. Puji Santoso, A.N.D.I.KA. Hubungan Hubungan Dengan Perilaku Diet Hipertensi Terhadap Lansia Hipertensi. 2022
 10. Saranani,Selpirahmawati,et al. Studi Etnomedisin Tanaman Berkhasiat Obat Hipertensi di Kecamatan Poleang Tenggara Kabupaten Bombana Sulawesi Tenggara. Jurnal Mandala Pharmacon Indonesia.2021;1 (07):60-82.
 11. Yayan Rizikian,Sulistiorini Indriaty,Deni Firmansyah,Inayatul Fajriyah. Upaya Penanaman, Pemanfaatan Serta Pembuatan Jamu Godok Dari Tanaman Obat Sambiloto Dimasa Pandemi Covid-19 Di Desa Palir Kecamatan Tengahtani Kabupaten Cirebon. Jurnal Abdi Masyarakat Kita. 2022;1 (2):103-115.
 12. Antika Nurvidary,Antika. Hubungan Pengetahuan Tentang Personal Hygine Terhadap Kejadian Keputihan Pada Siswi Kelas x di Man 1 Surakarta.Diss. Universitas Kusuma Husada Surakarta, 2021.
 13. Leli,Nur. Pengetahuan Ibu Tentang Parotitis Epidemika (Gondongan/MUMPS) Pada Anak di Lingkungan 2 Kelurahan Dataran Tinggi. Jurnal Kesehatan Bukit Barisan. 2021;3 (6).
 14. Hepni,H. Isolasi dan Identifikasi Senyawa Flavanoid Dalam Daun Kumak (*Lactuca indica L.*) Jurnal Dunia Farmasi. 2019;4 (1):17-22.
 15. Ayudhitama, A.P, dan Pujiyanto,U. Analisa 4 Algoritma Dalam Klasifikasi Liver Menggunakan Rapidminer. Jurnal Informatika Polinema.2020;6 (2):1-9.
 16. Simangunsong,T,Gaol,E.F.L, dan Sianturi,S. Effectiveness of Bakung Extract (*Crinum Asiaticum L*) As An Analgesic in Acetic Acid-Induced Mice. Jurnal Farmasi Sains dan Praktis.2021;7 (2):126-134.
 17. Nuraeni,Mia,et al. Pengobatan Alternatif Penyakit Gagal Ginjal dari Tanaman Obat di Indonesia. Jurnal Buana Farma.2022;2(2): 85-88.
 18. Nurdin, Gaby Maulida. Identifikasi Tumbuhan Obat Masyarakat Desa Pao-Pao Kabupaten Polewali Mandar Provinsi Sulawesi Barat.Jurnal Biologi dan Pendidikan Biologi.2022;7(01): 20-29.
 19. Purwanto, Agus. Potensi Tumbuhan Obat Unggul Indonesia. Jurnal Biologi.2022;1(1)