

Utilization of Medicinal Plants by the Community in East Rote District, Rote Ndao Regency

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Abstract: The community in East Rote District continues to rely on a variety of natural plants for traditional medicine purposes. This study aims to identify the types of medicinal plants used, their functions, and the methods of preparation and application among residents. A descriptive method with an exploratory survey technique was employed during the research, which was conducted from November to December 2024. The findings are that traditional medicinal knowledge remains prevalent, with 38 distinct plant species utilized by the community. These plants are used to treat a wide range of ailments, including hematemesia, surgical wounds, low back pain, incisions, canker sores, chickenpox, gastric disorders, coughs, back pain, bleeding, boils, fever, diarrhea, ulcers, headaches, rheumatism, hepatitis, malaria, colds, toothaches, high fever, body odor, cancer, asthma, internal illnesses, diabetes, respiratory infections, hypertension, complications during childbirth (especially placental expulsion), and internal heat. Among the plant parts used, leaves are the most commonly used. The primary methods of processing include boiling, direct consumption, topical application, pounding, and burning. These findings highlight the enduring significance of ethno botanical knowledge in the health practices of the East Rote community and underscore the need for documentation and conservation of traditional medicinal practices.

Keywords: East Rote; Medicinal plants; Traditional medicine

Introduction

Medicinal plants are plants with medicinal properties that can relieve pain, increase immunity, kill germs, and repair damaged organs such as the kidneys, heart, and lungs. Medicinal plants can also inhibit the growth of abnormal cells such as tumors and cancer (Akri, 2024; Darsini et al., 2022; Pahlani et al., 2021).

Medicinal plants are highly beneficial and possess numerous properties when properly processed. However, many people today are unaware of the types of medicinal plants frequently used by their ancestors and how to utilize them effectively. The plants used are wild and uncultivated, and young people lack knowledge about the use and processing of medicinal plants. Only elders and those trusted by the community

can prepare these medicinal plants. The process of modernization has led people to choose instant remedies, sometimes even going to the pharmacy without a doctor's prescription to buy medicine when experiencing health problems, ignoring the side effects of consuming chemical drugs freely on vital organs such as the kidneys, heart, liver, and lungs. Various types of plants can be used as medicinal ingredients, blended with other natural ingredients to create traditional herbal remedies. Plants used in traditional medicine can be taken from the roots, stems, leaves, flowers, or fruit (Djufri et al., 2022; Marpaung, 2018; Nomleni et al., 2021; Nuraini, 2021). The parts of the plant used as traditional medicine are processed in simple ways, such as by boiling, rubbing, or pounding (Aminah et al., 2016; Eurika et al., 2024; Fauziah et al., 2021).

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Traditional medicine, besides being used for first aid and traditional medicine, is readily available and less expensive than modern medicines. The methods used are still very simple, based solely on daily habits and experiences passed down from their ancestors (Elfrida et al., 2017).

The use of natural resources that have the potential to be used as medicine can start from people's yards in rural residential areas (Larasati et al., 2019). This is because rural communities still use traditional medicine using plants found in their yards. The benefits of traditional medicine are its ease of access and the ability to grow the raw materials in their own yards (Lestari et al., 2021; Nurhab, 2023; Seswandi et al., 2023). Almost every society has used medicinal plants to treat various diseases (Lubis et al., 2006).

Indonesians utilize plants that grow wild in yards, gardens, forests, and other places. These wild plants are typically considered pests that must be removed or fed to livestock. However, some wild plants can be cooked, used for cooking, and consumed by the public. They are also used as medicinal plants (Safitri et al., 2024).

Medicinal plants are abundant in East Rote District, and the surrounding community still utilizes them to treat various ailments. The use of plants as medicine has been passed down through generations. Most of these medicinal plants are collected directly from forests or gardens. One reason people still use traditional medicinal plants is because they have no side effects and can be used as first aid when sick. The people of East Rote District still use a variety of natural plants for traditional medicine. Furthermore, residents believe that using plants as medicinal ingredients is easier to find and use in emergencies and is more natural than modern medicine. This is why residents still widely use plants found in their surroundings for traditional medicine (Nge et al., 2024).

Based on the description above, the researcher is interested in conducting research with the title "Utilization of Medicinal Plants by the Community in East Rote District, Rote Ndao Regency".

Method

The research was conducted in November-December 2024 in the East Rote sub-district of Rote Ndao Regency, namely Serubeba village, Matanae village, Hundihopo village, Faifua village. The tools used were a Canon Eos 700D camera and stationery. The materials used were interview questionnaires. The methods used were exploration and interviews. The data analysis technique in the form of qualitative descriptive is used to describe the types of medicinal plants that have been found by describing them in the form of tables and pictures or photos from the results of respondent

interviews and documentation of traditional medicinal plants in East Rote District, Rote Ndao Regency.

Population and Sample

The population in this study was the community who knew about plants that could be used as medicinal plants in East Rote District, Rote Ndao Regency. The research sample consisted of 30 respondents, including community leaders, 17 patients, and 13 traditional healers in each village in East Rote District, Rote Ndao Regency. The research stages consist of two stages:

Preparation

The preparation stage before conducting the research was observing the location to get a general picture of the conditions of Serubeba village, Matanae village, Hundihopo village, Faifua village and preparing the tools and materials used in the research. The determination of respondents was people who knew about plants that had medicinal properties and could be cured using traditional medicine. Respondents were selected randomly, the number of respondents was 30 people. 13 Traditional Healers and 13 patients.

Implementation

This stage includes two main activities, namely Observation and Exploration; Observation was carried out by observing the yards of people's homes, both in yards and gardens owned by residents of East Rote, Rote Ndao Regency. Exploration Taking samples of plants that are efficacious as traditional medicine was carried out by exploring the East Rote sub-district. The samples taken were in the form of roots, stems, leaves, fruit, flowers, bark, fruit skin, or all plant organs used as traditional medicine ingredients. The data analysis technique in this study used qualitative descriptive analysis techniques, using tables and pictures in the form of types of medicinal plants, parts or organs of plants, how to process them, and their properties or benefits.

Result and Discussion

Based on the results of interviews and observations conducted in Serubeba Village, Matanae Village, Hundihopo Village, Faifua Village, East Rote District, Rote Ndao Regency, 38 types of plants were found, namely Tapak dara, Binahong, Lontar, Bandotan, banana, kapok, Sayur ende, Kacang turis, Lemongrass, Guava, Temulawak, Cocor bebek, Ginger, Faloak, Papaya, Purslane, Forest eggplant, Tamarind, Cat's whiskers, Soursop, Mimosa pudica, Betel, Jatropha curcas, Mahogany tree, Forest bitter melon, Datura, African leaves, Mangkokan, Neem, Snake wood, Forest lemongrass, Kersen, Patikan kebo, Areca nut, Soursop,

Shallot, Moringa, Jeringau. Which are used as medicine by the community. The following is a table of research results on the types of medicinal plants used by the

community in Serubeba Village, Matanae Village, Hundihopo Village, Faifua Village as medicine.

Table 1. Types of medicinal plants found in Serubeba Village, Matanae Village, Hundihopo Village, Faifua Village, East Rote District, Rote Ndao Regency

Scientific Name/Indonesian Name/Regional Name	Organs used	Diseases that are cured	Processing method
<i>Catharanthus roseus</i> / Tapak Dara / Pica piring	Leaf	Vomiting blood	Boiled
<i>Anredera cordifolia</i> / Binahong / piangso	Leaf	Surgical wounds, low blood pressure, incision wounds	Boiled
<i>Borassus flabellifer</i> / Lontar / (Old)	Fruit	Ulcer	Eat it straight away
<i>Chromolaena odorata</i> / Bandotan / Bunafula	Roots, leaf shoots	Stomach, cough, back pain	Boiled
<i>Musa paradisiaca</i> / Banana / Hundi	Sap, Roots	Cut wound, Bleeding	Boiled
<i>Ceiba pantandra</i> L / Kapok / Kapoko	Leaf	Boil	Pounded
<i>Coccinia grandis</i> L / ende vegetables / Ende vegetables	Leaf	Fever, chicken pox	Boiled
<i>Cajanus cajan</i> L / Tourist nuts / Tourist	Seed	Fever, chicken pox	Boiled
<i>Cymbopogon citratus</i> L / Lemongrass / Naunna	Roots, stems	Cough	Boiled
<i>Psidium guajava</i> L / Guava / Kujawas	Shoot, Skin	Diarrhea, Fever	Boiled, Eat Immediately
<i>Curcuma zanthorrhiza</i> L / Curcuma / Curcuma	Rhizome	Indigestion	Boiled
<i>Kalanchoe pinnata</i> L / Duck's beak / Mulido flower	Leaf	Headache	Pounded
<i>Zingiber officinale</i> L / Ginger / Simpade	Rhizome	Rheumatism	Pounded
<i>Sterculia quadrifida</i> / Faloak / Faloak	bark	Hepatitis	Boiled
<i>Carica papaya</i> L / Papaya / Tatimu	Leaf tips	Malaria, colds	Boiled
<i>Portulaca oleracea</i> / Purslane / Kelado	Leaf	Diarrhea	Boiled
<i>Solanum torvum</i> / Forest Eggplant / Lilisuk	Fruit, seeds	Toothache	Burned
<i>Tamarindus indica</i> / asam / ninloru	Skin	Toothache	Boiled
<i>Orthosiphon aristatus</i> / cat whiskers / kunumeo	Leaf	Stomach	Boiled
<i>Annona squamosa</i> / Srikaya / Anona	Skin, Leaves	High fever, boils	Boiled, Pounded
<i>Mimosa pudica</i> L / Mimosa pudica / Mimosa pudica	Root	Fever	Boiled
<i>Piper betle</i> L / Betel / Ridodo	Leaf	Toothache, Body Odor	Boiled
<i>Jatropha curcas</i> L / Jarak pagar / ailulufula	Leaves, Sap	cancer, canker sores	Boiled, Rubbed
<i>Swietenia mahagoni</i> L / Mahogany tree / Mahogany	bark	Stomach	Boiled
<i>Momordica balsamina</i> / Forest pariah / Nura pariah	Leaf	Cough	Pounded
<i>Datura metel</i> L / Amethyst / Roroa	Leaf	Asthma	Burned
<i>Vernonia amygdalina</i> / African Leaves / Africa	Leaf	Stomach	Boiled
<i>Polyscias scutellaria</i> / Bowl / Mampuidori	Leaf	Cancer	Boiled
<i>Azadirachta indica</i> L / Neem / Neem	Leaf	Chicken pox	Boiled
<i>Strychnos lucida</i> L / Snake wood / Aibete	Bark, stem, root	Internal medicine, Blood sugar, Cholesterol	Boiled
<i>Cymbopogon nardus</i> L / Red lemongrass / Nauna Pilas	Root	Cough	Boiled
<i>Muntingia calabura</i> / Kersen / Kersen	Leaf	Blood sugar	Boiled
<i>Euphorbia hirta</i> L / Make sure the buffalo / Susubuuk	Root	Urinary tract infection	Boiled
<i>Areca palm</i> L / Pinang / Pua	Root	Toothache	Boiled
<i>Annona muricata</i> L / Soursop / Nonado	Leaf	High blood pressure	Boiled
<i>Allium cepa</i> L / Shallots / Laisona pila	tubers	Childbirth, especially placenta	Pounded
<i>Moringa oleifera</i> L / Moringa / Aifo	Root	Internal heat	Boiled
<i>Acorus calamus</i> L / jeringau / kanuak	Rhizome	Fever	Pounded

Benefits of Medicinal Plants

From the table of medicinal plants above and according to the results of interviews with respondents, information was obtained that the type of plant that is most widely used/cultivated as a traditional medicinal plant in the East Rote sub-district of Rote Ndao Regency is "Jarak Pagar" Because in the East Rote sub-district,

people know the *Jatropha* plant as a plant with many benefits that can cure various diseases. because this plant is able to retain water and soil so it is resistant to drought and can function as an erosion control plant.

Jatropha curcas leaves are used to treat cancer and constipation. *Jatropha curcas* sap is used to treat mouth ulcers, toothaches, and scabies. *Jatropha curcas* leaves

contain chemical compounds such as flavonoids which function to ward off free radicals from the body, saponins which function to inhibit fungi and protect plants from insect attacks, and tannins which function as antioxidants which can bind free radicals so that the body can avoid cell damage and prevent the emergence of various diseases.

Jatropha curcas sap contains saponin compounds which function to inhibit fungi and protect plants from insect attacks, flavonoids function to ward off free radicals from the body, tannins function as antioxidants which can bind free radicals so that the body can avoid cell damage and prevent the emergence of various diseases, and alkaloids function to protect plants from predators and regulate their growth.

Plant Organs Used

The parts of the plant organs used are the roots, sap, stems, skin, fruit flesh and leaves.

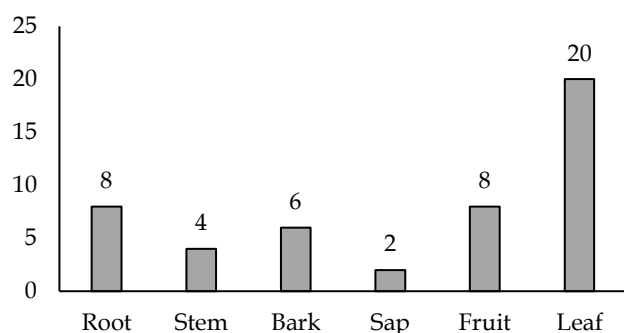


Figure 1. Diagram of the number of plant organs used

Based on the diagram above, it can be seen that most people in East Rote only use one part of a plant, for example, only the leaves or only the tubers. While other parts of the plant are not used, some plants also use more than one part.

Based on the diagram above, it can be seen that the organs most widely used by the people of East Rote are the leaves of 20 plants because the leaves contain many compounds such as tannins, alkaloids, flavonoids. Tannins function as antioxidants that can increase free radicals so that the body can avoid cell damage and prevent the emergence of various diseases. Alkaloids, namely stimulating the nervous system, stimulating or lowering blood pressure and fighting microbial infections. Flavonoids, namely to ward off free radicals in the body, in addition The leaf organ is the most widely used because leaves are the part of the plant that is easiest to obtain, always available, and their collection and processing are relatively easy and simple. This statement is supported by Hidayat et al. (2012) that the high frequency of use of leaf parts as medicinal

ingredients is because the number/productivity of leaves is greater and they are easier to obtain.

Other organs used include roots and fruit pulp from eight plants. Bark from six plants. Stems from four plants, and sap from two plants. There are several reasons why the people of East Rote prefer to use plant leaves as medicine to cure illnesses. One is related to ancestral beliefs or customs that favor the use of plant leaves to treat various ailments.

How to Process Traditional Medicinal Plants

The processing of traditional medicinal plants by the East Rote community can be seen in the following diagram:

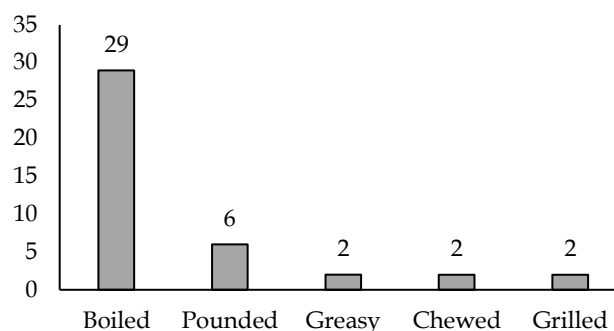


Figure 2. Diagram of traditional medicinal plant processing methods

Based on the diagram above, there are 5 ways of processing traditional medicinal plants, the most common way of processing medicine that is believed by the East Rote community is by boiling 29 plants. Boiling is the most widely used method because it breaks down the compounds in plants more quickly, making the effects more immediate and effective. According to Mikan et al. (2020) boiled medicinal plants are more easily absorbed by the body and have a faster reaction. Six plants are ground. While the least processed methods are by rubbing, chewing, or burning two plants. This method is the least used because it takes a long time to process and the substances contained in the plants are also less released, so the healing process can take longer.

Conclusion

Based on the research results, it can be seen that traditional medicinal knowledge is still prevalent, with 38 different plant species utilized by the community. These plants are used to treat a wide range of ailments, including hematemeses, surgical wounds, lower back pain, cuts, mouth ulcers, chicken pox, stomach disorders, coughs, back pain, bleeding, boils, fever, diarrhea, gastric ulcers, headaches, rheumatism,

hepatitis, malaria, colds, toothaches, high fever, body odor, cancer, asthma, internal diseases, diabetes, respiratory tract infections, hypertension, complications during childbirth (especially placental expulsion), and internal heat. Among the plant parts used, the leaves are the most commonly used. The main methods of processing include boiling, direct consumption, topical application, pounding, and burning. These findings highlight the enduring significance of ethnobotanical knowledge in the health practices of the East Rote community and underscore the need for documentation and conservation of traditional medicinal practices.

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Author Contributions

All authors contributed to writing this article.

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Conflicts of Interest

No conflict interest.

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