

Ethnobotany of Medicinal Plants in Semendo Tribe of Buay Pemaca District

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Abstract

The abundant diversity of medicinal plants provides benefits to the community in Buay Pemaca Subdistrict, South Ogan Komering Ulu Regency. The people in this subdistrict utilize these plants as traditional medicine to treat various diseases. This study aims to explore traditional medicine knowledge and practices, including the identification of medicinal plant species, the plant parts used, as well as the processing and utilization of medicinal plants in traditional remedies. The approach used in this study was qualitative with descriptive analysis. Data were collected through observations, interviews with 30 informants consisting of 5 key informants (traditional healers) and 25 non-key informants (community members), as well as documentation. The types of interviews used in this study were semi-structured interviews and in-depth interviews. The sampling technique employed was purposive sampling and snowball sampling. Data were analyzed using the Index of Cultural Significance (ICS), Sum of Use-Value (SUV), and Fidelity Level (FL). The research findings were then analyzed descriptively. The results of the study revealed that 19 plant species from 13 families are utilized by the local community as traditional medicine. The most commonly used plant parts are leaves, followed by rhizomes, fruits, and stem bark. The utilization of these plant parts is carried out in various ways, including boiling, pounding, cutting into small pieces, grating, extracting sap, or even applying it directly to wounds.

Keywords: folk medicine; plant use; south sumatra local community; therapeutic flora

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INTRODUCTION

The diversity of medicinal plants provides substantial benefits to communities, including those in Buay Pemaca Subdistrict, South Ogan Komering Ulu Regency, where medicinal plants remain a primary choice for traditional medicine. The Semendo people are one of the ethnic groups that still use traditional plant-based medicine. The ethnic group is native to Semende District, Muara Enim Regency, South Sumatra. They pride themselves in preserving ages-old traditions. The utilization of medicinal plants in traditional healing is a process as one of cultural heritage system is still exist until this day (Efrianto, 2019). The works on the Semendo community demonstrate the great dynamics in the use of medicinal plants, including boiling, heating and grinding. They also serve to conserve these plants to be available at any time (Biswas *et al.*, 2013; Adha *et al.*, 2025). Most people of the Semendo tribe at Buay Pemaca Subdistrict of Lahat Regency still use traditional medicines, while modern health care facilities continue to exist as well (Rahmad *et al.*, 2017). The search for medicinal plants carried out in the Semendo tribe indicates the importance of having ethnobotanical knowledge to maintain the traditional medicine practices and health care systems (Adiyasa and Meiyanti, 2021).

There are a number of reasons why traditional medicine is still used in this area. First, there aren't many places to get medical care. There is only one public health center (puskesmas) in the Buay Pemaca Subdistrict, and it doesn't have a lot of medical staff. Additionally, access to the health center is quite difficult, particularly during the rainy season, due to steep and rocky roads. Second, cultural beliefs. The people in the community think that plant-based traditional medicine has been proven to work over many generations. This is clear from the fact that 50 to 60 people visit traditional healers every month and that five traditional healers are still actively providing plant-based healthcare services. (Rahman *et al.*, 2021). The local community utilizes various medicinal plants, such as turmeric, ginger,

galangal, temulawak (*Curcuma xanthorrhiza*), and kencur (*Kaempferia galanga*). These plants are not only used to treat diseases but also to enhance the immune system, as seen in the production of traditional herbal drinks (jamu) made from ginger and turmeric, which have been scientifically proven to have immunostimulant effects (Kadir *et al.*, 2022). Additionally, ginger rhizomes and lemongrass contain high antioxidants that help alleviate cough symptoms and improve digestive health (Rasdianah, Ramadhani and Uno, 2023). The use of medicinal plants is not limited to personal healthcare but also contributes to the local economy through the production of herbal drinks and traditional health products such as wedang jahe (ginger tea) and kunyit asam (turmeric tamarind tonic).

There has been a lot of research on the use of medicinal plants in traditional medicine, but not much on the ethnobotanical practices of the Semendo people in Buay Pemaca Subdistrict. Previous studies have generally focused on the use of medicinal plants in Indonesia (Dewi, 2019; Permatasari *et al.*, 2021), without delving deeper into how these practices are sustained in communities with limited healthcare access and strong cultural beliefs in traditional healing methods. Additionally, most ethnobotanical studies tend to focus on the taxonomy and pharmacology of medicinal plants (Pradani *et al.*, 2021; Salat *et al.*, 2024), while research addressing the socio-cultural perspectives in the selection and utilization of medicinal plants within specific communities remains scarce. This is important to understand these points of view because traditional medicine isn't just based on the phytochemical properties of plants; it is also shaped by cultural, economic, and healthcare access issues.

This study's goal is to learn more about the Semendo community in Buay Pemaca Subdistrict's knowledge and use of traditional medicine. This includes figuring out what types of plants are used for medicine, which parts of the plants are used, and how these plants are processed and used in traditional medicines. This study not only looks at the different types of plants used, but it also looks at how social and cultural factors affect traditional medical practices as modern healthcare services are being developed. The contributions of this study include: (1) expanding the specific ethnobotanical literature on the Semendo community, which has been scarcely studied in academic research; (2) providing insights into the selection and use of plant parts in traditional medicine, as well as the social and cultural factors influencing these practices; and (3) offering valuable information for the development of health policies based on local wisdom, particularly in efforts to integrate traditional medicine with formal healthcare services. Thus, the findings of this study are expected not only to provide new insights into the types and parts of medicinal plants used by the Semendo community but also to enrich the understanding of how ethnobotanical practices persist and adapt in the modern era.

MATERIALS AND METHODS

The study was carried out in February-March 2022 at Desa Talang Padang and Desa Sumberingin, Kecamatan Buay Pemaca Kabupaten Ogan Komering Ulu Selatan (geographically at coordinates -4.6664° S and 104.1965° E (Figure 1). The study used a qualitative method with descriptive analysis and was done in several steps, such as a preliminary survey, interviews, plant documentation, plant identification, and plant inventory. This study includes both type of interviews, namely, semi-structured interviews and in-depth interviews. Interviews supplied data on the utilization of medicinal plants by the Semendo community of Buay Pemaca Subdistrict. The data collected were the types of plants mostly used, the part of the plants used, medicinal aspects of the plants and the process and use of the plants by traditional medicine. Prior to the interview itself, all participants were clearly informed of the aims of the study, that they could refuse to participate and that they could withdraw at any stage. (They were informed that any information they provided would remain confidential and used solely for research purposes, and they verbally consented to the interview process.) Participants A total of 30 individuals participated in this study. Five of these were key informants aged 60–80, whilst 25 were non-key informants aged 25–70. The group had 17 males and 13 females. It was anticipated that the sample size would be sufficient to achieve data saturation, which is typically achieved with 12–30 informants in in-depth interviews (Palinkas *et al.*, 2015; Hennink *et al.*, 2017). Additionally, for community research, snowball sampling was appropriate as it facilitated reaching out to harder-to-reach people (Kirchherr and Charles, 2018). Studies have shown that conventional community studies tend to favour sample sizes of 20 - 50 people (Mays, Pope and Popay, 2005). So, there is methodological basis for the 30 respondents selected for this study, and added to this, the sample size is large enough to produce a rich, deep and detailed data (Hennink, *et al.*, 2017). The informants were selected by purposive and snowball sampling. We selected key informants, because they were knowledgeable about medicinal plants, diseases that are treated by medicinal plants and how frequently they met people asking for traditional medicine. Non-key informants were individuals that received knowledge

on medicinal plants from traditional healers or herbalists. Non-key informants were selected through snowball sampling. What this meant was that in some of these cases we asked our key informants whether they knew who else we should be talking to.

The compilation of medicinal plants for traditional medicine was gathered through interviews. Then other plants that have been discovered were brought together and documented. The procedure of identification was carried out by observing sample leaf, stem, flower and fruit of the plant, and also referring to some taxonomic literatures such as “Flora of Java” by Backer & Bakhuizen van den Brink, 1963, which is main data of the taxonomy of many medicinal plant species (Subositi, *et al.*, 2018). We verified each observation based on our comparison with herbarium specimens and online databases such as The Plant List and International Plant Names Index (IPNI) (Pujiati and Rochmawati, 2022). To increase the validity was source triangulation; comparing data from some informants that could confirm the identification result (Alfansyur and Mariyani, 2020).

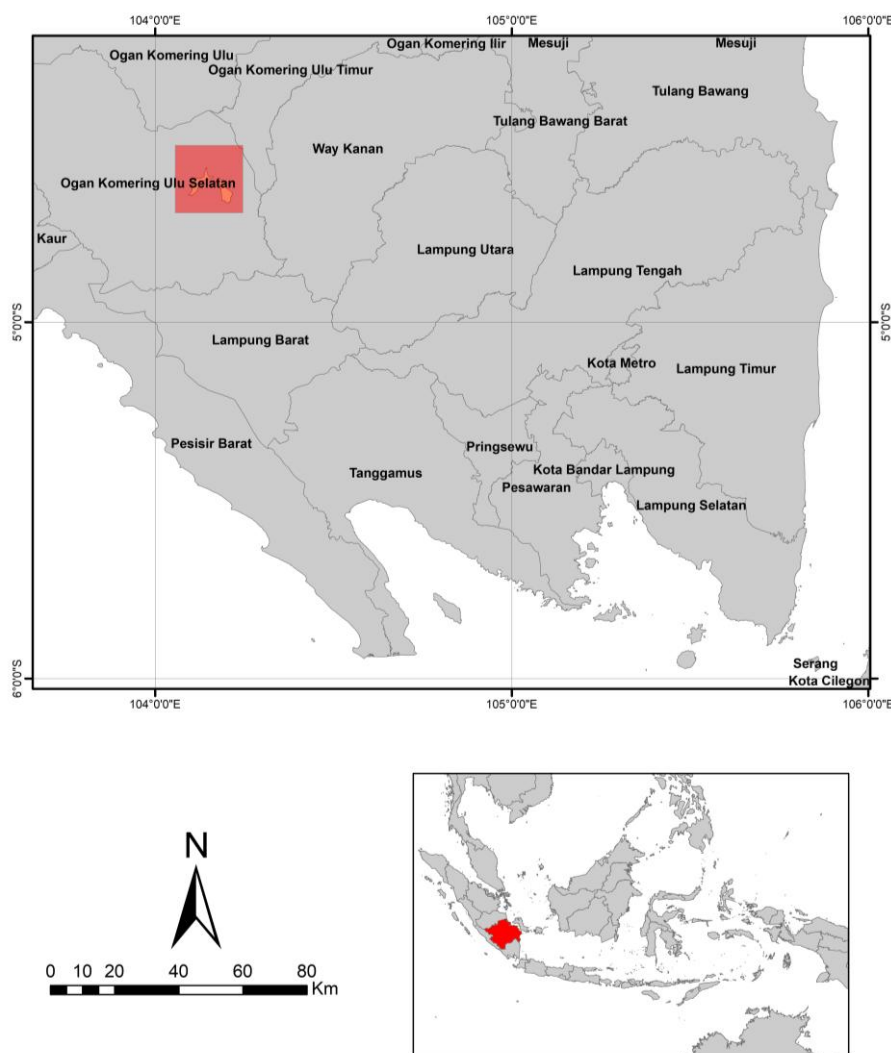


Figure 1. Research sampling location (Ogan Komering Ulu Selatan)

RESULTS

The people who answered the survey were both key informants and non-key informants who had used medicinal plants for traditional healing. Key informants were traditional healers or herbalists between the ages of 60 and 80 who had been using and preparing medicinal plants for many years. They learned what they knew from their parents and grandparents and from treating different diseases with natural ingredients. Housewives, farmers, laborers, and small traders, who were between the ages of 25 and 70, were also non-key informants. Most of the people who answered had finished primary or secondary school and had been using medicinal plants for 5 to 40 years. Most of them still used traditional medicine before going to the doctor, mostly because there weren't many healthcare facilities

and they trusted that herbal treatments worked. Interviews were done in person at the respondents' homes, which were mostly in rural areas and had wooden or simple concrete houses. During the interviews, it was clear that the atmosphere was family-oriented because some family members were there. To get a full picture of ethnobotanical practices, data was gathered through direct observation, semi-structured interviews, handwritten notes, and photos. The results of the interviews show that the community still uses medicinal plants as part of their traditional healing system, which has been passed down through the generations. This study shows that ethnobotany is an important part of the local healthcare system, both as an alternative to and a complement to modern medicine.

Based on interviews with people from the Semendo ethnic group in Buay Pemaca, OKU Selatan, it was found that traditional healers still use medicinal plants to treat people. The wedges are grown in their own gardens, or purchased at markets. The plant for medicinal is used by the Semendo in Buay Pemaca, OKU Selatan which consists of 19 species of plants from 13 families. Such plants can take various forms including trees, shrubs, or herbs as well as grasses, though most herbivorous mammals prefer to eat leaves, young shoots, and fruits rather than grass. Most common are trees, then shrubs, herb and grasses. Lauraceae, Myrtaceae, Zingiberaceae, Piperaceae, and Rutaceae are the plant families that are most commonly used for medicine. *Curcuma longa*, *Alpinia galanga*, and *Zingiber officinale* are just a few of the Zingiberaceae species that are well known for their anti-inflammatory and digestive health benefits. According to Trinidad *et al.*, (2012) the bioactive compounds in *Zingiber officinale* and *Alpinia galanga* help keep the digestive system healthy. People often use *Psidium guajava* and *Citrus hystrix* because they have antibacterial and antioxidant properties. The flavonoids in *Psidium guajava* extract work as an antioxidant and anti-inflammatory agent, and the extract has been shown to kill *Streptococcus mutans* and *Enterococcus faecalis* (Biswas *et al.*, 2013; Mukunda, 2019). *Citrus hystrix* (kaffir lime) is also reported to reduce oxidative stress, which is extremely crucial for chronic disease prevention (Sharifi-Rad *et al.*, 2017).

The use of different medicinal plants shows how much traditional knowledge there is about how plants can be used for health. The use of these plants in daily life and traditional medicine is in line with what modern science has found, which shows that more research is needed into their biological activities (Zhang *et al.*, 2024). The identified medicinal plants in this study are listed in Table 1, along with their local names, scientific names, families, and growth forms (*habitus*).

Table 1. Plants used in medicine by Semendo Tribe in Buay Pemanca, OKU Selatan

Family Name	Scientific Name	Local Name	Habitus
Apocynaceae	<i>Plumeria sp.</i>	Kamboja	Tree
Arecaceae	<i>Areca catechu</i>	Pinang	Tree
Euphorbiaceae	<i>Jatropha curcas</i>	Jarak	Shrub
Lauraceae	<i>Persea americana</i>	Alpukat	Tree
Lauraceae	<i>Cinnamomum verum</i>	Kayu manis	Tree
Myrtaceae	<i>Psidium guajava</i>	Jambu Biji	Tree
Myrtaceae	<i>Syzygium polyanthum</i>	Salam	Tree
Oleaceae	<i>Jasminum sambac</i>	Melati	Shrub
Pandanaceae	<i>Pandanus amaryllifolius</i>	Pandan	Shrub
Piperaceae	<i>Piper nigrum</i>	Lada	Shrub
Piperaceae	<i>Piper betle</i>	Sirih	Shrub
Poaceae	<i>Cymbopogon citratus</i>	Sereh	Grass
Rubiaceae	<i>Morinda citrifolia</i>	Mengkudu	Tree
Rutaceae	<i>Citrus aurantiifolia</i>	Jeruk Nipis	Tree
Rutaceae	<i>Citrus hystrix</i>	Jeruk purut	Tree
Solanaceae	<i>Physalis angulata</i>	Ciplukan	Herb
Zingiberaceae	<i>Zingiber officinale</i>	Jahe	Herb
Zingiberaceae	<i>Curcuma longa</i>	Kunyit	Herb
Zingiberaceae	<i>Alpinia galanga</i>	Lengkuas	Herb

Zingiberaceae family is the most dominant in the use of medicinal plants, with a percentage exceeding 20% (Figure 2). Other families such as *Piperaceae*, *Rutaceae*, and *Myrtaceae* also have relatively high usage rates, ranging between 10-15%, while families like *Apocynaceae*, *Arecaceae*, *Euphorbiaceae*, *Lauraceae*, *Oleaceae*, *Pandanaceae*, *Poaceae*, *Rubiaceae*, and *Solanaceae* show lower utilization rates, around 5-10%. These findings indicate that the local community predominantly utilizes plants from the *Zingiberaceae*, *Piperaceae*, and *Rutaceae* families, likely due to their abundance and effectiveness in traditional medicine.

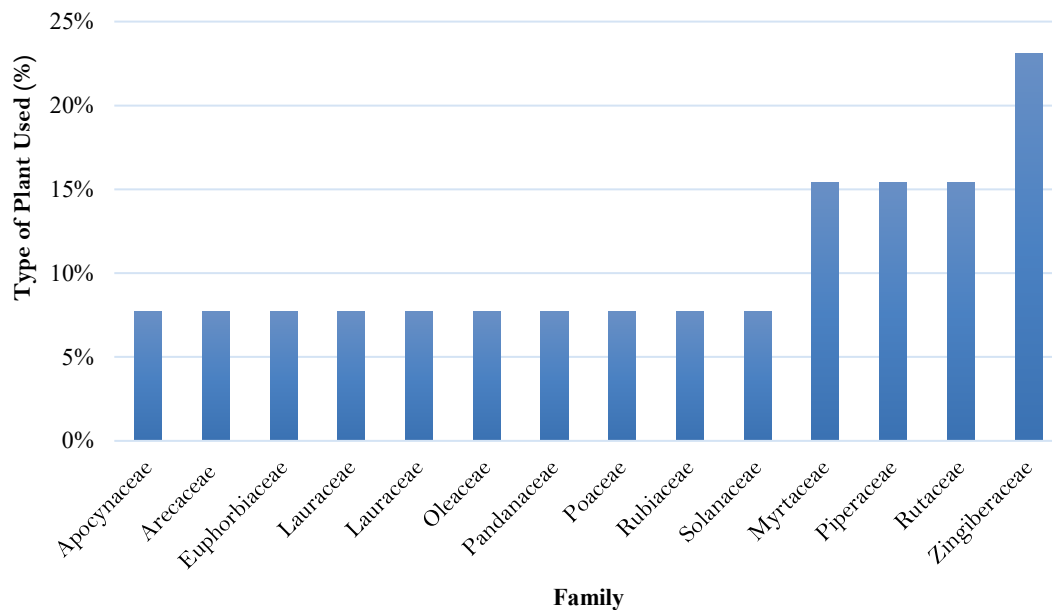


Figure 2. Percentage of plant species in each family

The Semendo Tribe in Buay Pemaca utilizes a diverse array of medicinal plants to address various ailments, ranging from hypertension, diarrhea, and cough to chronic conditions such as diabetes and kidney disorders (Table 2). The most commonly used plant parts include leaves, rhizomes, fruits, and bark, with preparation methods varying from boiling and crushing to juicing before consumption or topical application. This knowledge reflects a rich ethnobotanical heritage, where the community remains reliant on natural resources for traditional medicine. These findings highlight the importance of preserving biodiversity and local wisdom in maintaining traditional herbal practices across generations.

Table 2 Benefits and parts of plants used in traditional medicine by the Semendo Tribe in Buay Pemanca

No	Species Name	Part used	Processing method	Benefits
1	<i>Pandanus amaryllifolius</i>	Leaves	Both herbs are cut into small pieces and sprinkled on the bed	For the treatment of smallpox
	<i>Jasminum sambac</i>	Flower		
2	<i>Persea americana</i>	Leaves	Boiled and the boiled water is drunk every day	For the treatment of hypertension
	<i>Syzygium polyanthum</i>	Leaves		
3	<i>Psidium guajava</i>	Leaves	Pounded then squeezed, guava leaf juice mixed with a little salt and drunk	For the treatment of diarrhea
4	<i>Curcuma longa</i>	Rhizome	Grated then squeezed, turmeric juice is drunk every morning before consuming other food / drinks	To relieve ulcer disease, muscle pain, and increase endurance.
5	<i>Jatropha curcas</i>	Leaves	Boiled and drunk, for sap in castor leaves can be applied directly on canker sores	For the treatment of mouth ulcers
6	<i>Piper nigrum</i>	Leaves	All ingredients are boiled and bathed every 3x a day	To relieve muscle pain, cough, and increase endurance
	<i>Citrus daurantiifolia</i>	Leaves and fruit		
	<i>Cymbopogon citratus</i>	Leaf and stem		
	<i>Alpinia galanga</i>	Leaves and rhizome		
	<i>Citrus hystrix</i>	Leaves		
7	<i>Zingiber officinale</i>	Rhizome	To increase endurance turmeric, ginger, and lemongrass, processed by boiling all ingredients and drinking boiled water every day	To increase body resistance
8	<i>Piper betle</i>	Leaves	Rolled into small pieces and inserted into a nosebleed nose	For the treatment of nosebleeds

No	Species Name	Part used	Processing method	Benefits
9	<i>Cinnamomum verum</i>	Bark	For coughing: lime, galangal, and cinnamon, the plants are processed by mixing all the ingredients and boiling, then drinking the boiled water until the cough subsides and heals	For cough treatment
10	<i>Plumeria sp.</i>	Leaf	The sap from frangipani leaves is dripped on the aching tooth	For the treatment of toothache
11	<i>Morinda citrifolia</i>	Fruit	Boiled with 14 cups of water, the water is simmered until it shrinks to 5 cups of water, then the boiled water of noni fruit is drunk every day	For the treatment of gout
12	<i>Physalis angulata</i>	Leaves	Ciplukan leaves are boiled and the cooking water is drunk	For the treatment of diabetes
13	<i>Areca catechu</i>	Fruit	Grate the fruit and take the juice to drink	For the treatment of kidney disease

Leaves are the most commonly used plant part in traditional medicine, accounting for 68%, indicating their accessibility and versatility. Rhizomes and fruits follow at 16% each, playing a significant role in specific treatments. Meanwhile, flowers, bark, and stems are used minimally at 5% each (Figure 3). Overall, the dominance of leaves suggests that the community relies heavily on easily obtainable and processed plant parts for traditional healing practices.

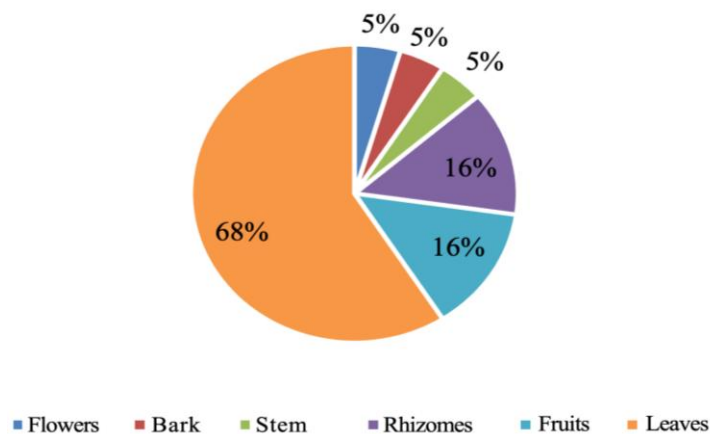


Figure 3. Percentage of plant parts used

DISCUSSION

The demographic analysis of respondents in this study provides insights into the community's reliance on traditional medicine. This study involved 30 respondents, consisting of 5 key informants – traditional healers aged 60 to 80 years – and 25 non-key informants, including housewives, farmers, laborers, and small traders, with an age range of 25 to 70 years. The gender distribution showed 17 males and 13 females. The predominance of male respondents, especially among key informants, can be attributed to the traditional role of men as healers and community practitioners responsible for preparing and administering herbal remedies. This result is in line with research that shows that in many communities, men are often traditional healers because they have learnt about healing from their ancestors (Andel Van and Carvalheiro, 2013; Stanifer *et al.*, 2015). On the other hand, women who answered the survey, especially housewives, are very important for taking care of their families and getting medicinal plants ready for use at home. This distribution shows how roles are divided in traditional medicine in the Semendo community. Men often pass down knowledge about medicinal plants, while women are important for using them every day (Febrianti and Ariani, 2020; Grace, Vaz and Da Costa, 2020).

There are 19 different plant species that can be used to treat 13 different types of diseases. This shows how rich traditional medicine is in ethnobotanical knowledge. The results of this study show that the Zingiberaceae family of plants is the most commonly used in traditional medicine in the Semendo community in Buay Pemaca Subdistrict. This family of plants makes up 23% (Figure 2) of all the medicinal plants used. Rutaceae, Piperaceae, and Myrtaceae are other major families, each making

up 15% of the known species. Most people are familiar with the fact that members of the zingiberaceae family (also known as the ginger family) such as turmeric (*Curcuma longa*), ginger (*Zingiber officinale*), and galangal (*Alpinia galanga*) are warm sips with anti-inflammatory, digestive, and immune system supporting properties. Plants belonging to this family contain bio-active components such as curcumin in turmeric, which are known to have antimicrobial, anti-inflammatory and antioxidant activities (Aggarwal and Harikumar, 2009; Praditya *et al.*, 2019). Curcumin has high potential for use in medicine due to its ability to regulate many transcription factors and cytokines participating in the inflammatory process (Aggarwal and Harikumar, 2009). *Alpinia galanga* also exhibits potent anti-inflammatory and anti-oxidant effects that can make immune system work well and fight oxidative stress (Amalraj *et al.*, 2017). Gingerol and kaempferol are also known as for good biological activities (Stohs *et al.*, 2020). Plants belonging to *Zingiber* genus, such as ginger (*Zingiber officinale*), have been employed in the traditional medicine and also incorporated as a functional food ingredient in many cultures for a long period of time (Sharifi-Rad *et al.*, 2017). The Zingiberaceae family is one of the most significant families for traditional and modern medicinal uses. Others have studied the various species of the Zingiberaceae species and their uses in folk medicine (Boonma, Saensouk and Saensouk, 2023). The Zingiberaceae family includes many species and bioactive compounds, and that is why these plants continue to be the primary subject of ethnobotanical, pharmacological, and pharmaceutical studies.

The flavonoids and the high vitamin C content of lime and kaffir lime rich Rutaceae family's two plants are strong enough to destroy germs, improve immune system and combat against free radicals. The extracts of *Citrus hystrix* are known to possess potent antibacterial and antioxidant activity and are useful to suppress free radicals and inhibit cinegenic organisms such as *E. coli* (Febrianti and Ariani, 2020; Haitami *et al.*, 2020). Flavonoids are recognized as valuable components of plant derived drugs having antibacterial activity against free radicals (Herdien *et al.*, 2020; Dewi and Ni Made Widi Astuti, 2023). Traditional medicine severed an important social and medicinal function, in that plant products, like fruits and vegetables, carry bioactive compounds that help the immune system to work better (Abirami *et al.*, 2014).

Methods practitioners frequently use plants of the family Piperaceae, such as the leaves of *Piper betle* (betel) for antiseptic and antibacterial activities, particularly to treat wound and mouth infection. Active compounds in betel leaves can aid in healing wounds and counteract oral infections. It corroborates the well-established fact that most of the plant drugs are used by traditional practitioners as remedies to promote health (Othman *et al.*, 2016; Agouillal *et al.*, 2017; Tanzil *et al.*, 2017). The Myrtaceae family, among them *Psidium guajava* (guava), is also commonly applied in the treatment of digestive disorder, particularly diarrhoea, as it is rich in tannins and flavonoids. These compounds are very important in maintaining digestive stability and minimizing inflammation, which are crucial in their therapeutic target in these types of ailments (Zuhria *et al.*, 2017). Guava is an indigenous medicinal plant with a strong antidiarrheal activity (Zuhria *et al.*, 2017; Ngoc *et al.*, 2023).

In the Buay Pemaca Subdistrict, traditional medicine is utilized for curing various types of diseases, among the 13 kinds that are treated by herbal medicine. *Cinnamomum verum* (cinnamon bark), *Zingiber officinale* (ginger) and *Citrus aurantifolia* (lime) are commonly combined to manage respiratory symptoms associated with cough. Such plants have expectorant, anti-inflammatory and antimicrobial activity. *Physalis angulata* is applied for the management of metabolic disorders particularly, diabetes. It has withanolides and flavonoids which can reduce the blood sugar level, besides possessing antioxidant and anti-inflammatory properties (Felicien, 2016). *Curcuma long* (turmeric) is an applied treatment for gastric ulcers. It is rich in curcumin that can reduce inflammation through inhibiting of IL-6 cytokine and the NF- κ B pathway (Savaringal, 2018; Putri *et al.*, 2024). *Psidium guajava* (guava leaves) has been reported to possess antidiarrhoeal effects due to the presence of tannins and flavonoids which contribute to healthy state of the digestion (Zuhria *et al.*, 2017). *Cymbopogon citratus* (lemongrass) and *Zingiber officinale* (ginger) are frequently used applications for musculoskeletal pain such as body pain. These herbs possess anti-inflammatory activity and they are capable of increasing mitochondrial enzyme activity which could all reduce pain and ameliorate energy metabolism (Sattar *et al.*, 2012; Pivari *et al.*, 2019). Two plants that are used for hypertension treatment so far are *Syzygium polyanthum* (Indonesian bay leaves) and *Persea americana* (avocado leaves). They contain active compounds that can reduce blood pressure. *Areca catechu* (areca nut) is frequently used to remedy kidney dysfunctions due to its antibacterial and anti-inflammatory properties (Lee *et al.*, 2014; Rashid *et al.*, 2015; Selpiah *et al.*, 2021). *Jasminum sambac* (ja sm ine flowers) and *Pandanus amaryllifolius* (pandan l eaf) are two plants which are used in combination against fever. They are

antipyretic and immunomodulating agents. In addition Pandan leaves contain many bioactive antioxidant compounds that can support the immune system (Apriyanto, 2021).

There are some traditional medications which have plants combined to help them work better together (synergistic effects). Plant synergy Both types of paired plants make their bioactive compounds more available, and more potent. Of note, these products have been demonstrated to ameliorate diabetes and infections (Haidari *et al.*, 2020; Adha *et al.*, 2025). For example, cinnamon bark, ginger and lime for coughs, and a concoction of lemongrass, turmeric and kaffir lime (its Latin name is *Citrus hystrix*) for body aches. Other the other hand, some diseases (e.g., diabetes) are treated commonly using only a single plant species, such as *Physalis angulata*, since its chemicals are known to contribute in the reduction of blood sugar concentrations (Zhang *et al.*, 2024). The concept of synergistic interactions is also relevant to numerous traditional medicine systems, such as Ayurveda and Traditional Chinese Medicine (TCM), whereby mixtures of plants are utilised to improve the efficacy of a treatment (Roosita *et al.*, 2008; Sun *et al.*, 2016). These findings reveal that the local medicinal system is an essential form of healthcare still being practiced by the Semendo community. The techniques applied are a combination of empirical knowledge and phytochemical agents proven to be effective in present day pharmacological research. To ensure then that medicinal plants are utilized more broadly and for a longer duration, traditional medicine has an important role of becoming more organized when incorporated into formal healthcare delivery systems (Singh *et al.*, 2022; Syamsurizal *et al.*, 2023).

Medicinal plants are gathered from different locations including home gardens, surrounding the village and the nearby forest that have been used by the Semendo community. According to the study leaves (68%) are the most used plant part, followed by rhizome (37%), fruits (16%) and bark (5%). There is a high likelihood that people tend to lean on leaves due to its easy search ability, small easy picking that does not provoke plant damage as in the case of leaves and ensuring the plant long-term conservation in the exploitation of natural resources (Adnyana, 2020; Syamsiah *et al.*, 2021; Rai *et al.*, 2023) How you prepare medicinal plants depends largely on what part of the plant you are using, and what you are using it for. In general, boiling or decoction is the most frequent method for making rhizomes, leaves, and bark, including turmeric and ginger (Maulidiah *et al.*, 2020; Dahniar *et al.*, 2023), and the guava leaves. Leaves are fresh, like paan leaves, which are crushed and extracted for juice. These are thereafter applied directly on lesions (Mushoffa and Khalil, 2022; Bupu and Longa, 2023). People also consume things in their untransformed natural state, such as chewing of betel leaves for mouth health (Ibo and Arifa, 2021; Syamsiah *et al.*, 2021). The use of medicinal plants cannot be judged only from how effective the works, but also considers the local knowledge and plant conservation (Nurrosyidah and Ma'ruf, 2020; Syamsiah *et al.*, 2021; Suhendra *et al.*, 2022).

The Semendo tribe utilize rhizome, leaf, stem, flower, and fruit of the plants in their folk remedies. In another study involving different regions, the part of the plant most used is the leaves, followed by rhizomes, fruits, and bark. This preference indicates a preference for any plant material without destroying the whole plant (Tantengco *et al.*, 2018; Supiandi *et al.*, 2019). Leaves were utilized more according to the study of Fadila and Walujo (2020) words easily to found all year. Pambudi (2014) reported that there is a great number of the flavonoid compounds in leaves which are very significant as antioxidant and antimicrobial agents. Picking leaves from a medicinal herb is not detrimental because they can regenerate very fast. Seeds as well as flowers, however, are not often used, for flowers only grow at particular times of the year, although there are some plants which are always in bloom. Similarly, some plants don't produce seeds at all, making them less helpful for medicine.

Overall, this study shows that the Semendo community relies on plant-based medicine by showing how often they use plants from the Zingiberaceae, Rutaceae, Piperaceae, and Myrtaceae families in their traditional medicine. The results show how important traditional knowledge is for treating common illnesses like respiratory infections, metabolic disorders, and digestive problems. The use of leaves as the main ingredient in traditional medicine also helps its long-term viability because it allows for sustainable harvesting without killing off plant populations. Also, the use of more than one type of plant in herbal formulas shows a deep understanding of how plants can work together to make each other stronger. This idea is also important in modern pharmacological research. Even though modern healthcare services are available, the Semendo community still prefers traditional medicine because it is easy to get, cheap, and important to their culture. These results show how important it is to do more ethnobotanical research and come up with ways to include traditional medicine in formal healthcare systems.

CONCLUSION

This study found 19 medicinal plants from 13 families that can be used to treat 13 different diseases. The leaf is the part of the plant that is used the most (68%), followed by the rhizomes, fruits, and bark. Some of the ways that the processing was done were boiling, pounding, extracting sap, and applying it directly. Because they have bioactive compounds, some plants, like *Areca catechu* and *Physalis angulata*, are used to treat kidney diseases and diabetes. The Zingiberaceae family was the most common and is known for its ability to fight inflammation and bacteria. Also, people still use plants like *Piper betle* and *Citrus aurantifolia* in traditional medicine.

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CONFLICT OF INTEREST

There is no conflict of interest

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