

Ethnophytomedicinal Practices and Medicinal Plant Diversity in a Remote Island Community: Evidence from Abusur Village, Southwest Maluku, Indonesia

Ilona Beatrix Manaha¹, Joseph Pagaya¹ , Lady Diana Tetelepta^{1*} 

¹ Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Pattimura,
Jl. Ir. M. Putuhena, Kampus Poka, Ambon 97233, Indonesia

*Corresponding E-Mail: dytetelepta85@gmail.com



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ABSTRACT

This study investigates the ethnophytomedicinal practices of the Abusur village community in Southwest Maluku, Indonesia, emphasizing the diversity, utilization, and cultural significance of medicinal plants in traditional healthcare systems. The research aims to document medicinal plant species, analyze their therapeutic functions, and examine the plant parts utilized by the community. A qualitative descriptive design with an ethnophytomedicinal approach was employed. Data were collected through semi-structured interviews, field observations, and documentation involving six key informants selected using a snowball sampling technique. Data analysis followed a descriptive qualitative framework supported by simple quantitative measures, including frequency and percentage distribution. The results identified 36 medicinal plant species belonging to 27 families, used to treat a wide range of health conditions from common ailments to chronic diseases. Leaves were the most frequently utilized plant part, accounting for 75.0% of total usage, reflecting a sustainable and accessible practice. The findings highlight the central role of traditional knowledge in supporting primary healthcare, particularly in remote areas with limited access to modern medical services. Furthermore, the study demonstrates a strong interconnection between biodiversity and indigenous knowledge systems. This research contributes to ethnophytomedicine by providing empirical evidence from an underrepresented region and offers practical implications for biodiversity conservation, pharmacological development, and the integration of traditional medicine into formal healthcare frameworks.

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1. INTRODUCTION

Indonesia is recognized as one of the world's megabiodiversity countries, possessing a vast number of plant species with medicinal potential. It is estimated that around 940 plant species are traditionally used for medicinal purposes across the country. This richness is not only biological but also cultural, as diverse ethnic communities maintain traditional knowledge systems related to plant-based healthcare (Silalahi et al., 2018; Susiarti et al., 2019). In many rural and remote areas, traditional medicine remains an essential component of daily life due to its accessibility, affordability, and cultural acceptance (Elfahmi et al., 2017; Utami et al., 2020). In geographically isolated regions such as Abusur Village in Southwest Maluku, access to modern healthcare services is limited. This condition has led the community to rely heavily on medicinal plants as an alternative or primary source of treatment. The use of these plants is deeply rooted in local traditions and has been passed down through generations (Nahdi et al., 2019). However, modernization and socio-cultural changes pose a significant threat to the preservation of this knowledge. The lack of systematic documentation further increases the risk of losing valuable ethnophytomedicinal information that could contribute to scientific and medical advancements (Rahman et al., 2022).

Based on the background described above, this study addresses the following research questions. First, how are medicinal plants identified and utilized by the Abusur community in their traditional healthcare practices. Second, what types of plant species and plant parts are commonly used, and for what therapeutic purposes. Third, in what ways does local knowledge contribute to the sustainability and effectiveness of ethnophytomedicinal practices. Previous studies on ethnobotany and ethnophytomedicine have highlighted the important role of traditional knowledge in healthcare systems, particularly in developing countries. Research has shown that local communities possess extensive knowledge of plant species and their medicinal properties, which are often developed through long-term interaction with the natural environment. This knowledge is typically transmitted orally and is closely linked to cultural beliefs and practices, making it highly vulnerable to erosion due to modernization and cultural shifts (Aziz et al., 2018; Bhatia et al., 2018; Ong et al., 2020). Furthermore, traditional medicinal knowledge often reflects a deep understanding of ecological relationships, where plant selection is influenced by availability, efficacy, and cultural significance.

Several studies have reported that leaves are the most commonly used plant parts due to their availability and high content of bioactive compounds such as flavonoids and alkaloids. Leaves are also preferred because harvesting them is generally less destructive compared to roots or bark, thereby supporting sustainable use of plant resources (Ayyanar & Ignacimuthu, 2017; Giday et al., 2018; Phumthum & Balslev, 2019). In addition, certain plant families, including Zingiberaceae, Fabaceae, and Lamiaceae, are frequently identified as dominant groups in traditional medicine due to their rich phytochemical profiles and wide distribution (Boadu & Asase, 2017; Chassagne et al., 2021). These findings are consistent across various regions in Southeast Asia and other tropical areas, suggesting a shared ethnobotanical pattern influenced by environmental and cultural factors.

Despite the growing interest in ethnophytomedicine, there are still significant gaps in the documentation and scientific validation of local knowledge. Many studies focus on well-known regions, while remote and isolated communities remain underexplored. Furthermore, there is limited integration between traditional knowledge and modern healthcare systems, which restricts the broader application of ethnophytomedicinal findings (Asase et al., 2018; Jamshidi-Kia et al., 2018). The lack of systematic recording and scientific evaluation increases the risk of knowledge loss and limits its potential contribution to drug discovery and public health. Therefore, there is a need for more localized and context-specific studies that document and analyze ethnophytomedicinal practices in diverse cultural settings, particularly in underrepresented regions.

This study aims to document and analyze the diversity of medicinal plants used by the Abusur community, including their taxonomic classification, plant parts utilized, and therapeutic

functions. In addition, the study seeks to explore the role of local knowledge in shaping ethnophytomedicinal practices. The novelty of this research lies in its focus on a remote island community that has not been extensively studied in previous ethnobotanical research. By providing detailed documentation of medicinal plant use in Abusur Village, this study contributes new empirical data to the field of ethnophytomedicine. It also integrates qualitative insights with simple quantitative analysis, offering a comprehensive understanding of plant utilization patterns.

This study provides both theoretical and practical contributions. Theoretically, it enriches the body of knowledge in ethnophytomedicine by highlighting the relationship between biodiversity and traditional knowledge systems. It demonstrates how local communities utilize plant resources in a sustainable and adaptive manner. Practically, the findings can serve as a reference for future research in pharmacology, conservation, and public health. The documented plant species may have potential for further scientific investigation and development into herbal medicines. In addition, the study can inform policymakers and local stakeholders in designing strategies to preserve traditional knowledge and promote the sustainable use of medicinal plants. Ultimately, this research contributes to the recognition of indigenous knowledge as a valuable resource for both scientific advancement and community well-being.

2. MATERIALS AND METHOD

2.1 Research Design

This study employed a qualitative descriptive approach with an ethnophytomedicinal perspective to explore the traditional knowledge of medicinal plant utilization in the Abusur community. The qualitative design was selected because it allows an in-depth understanding of cultural practices, beliefs, and local knowledge systems related to plant-based medicine. The ethnophytomedicinal approach is particularly suitable for examining how communities interact with plant resources for healthcare purposes and how such knowledge is transmitted across generations (Cámara-Leret et al., 2019; Souza et al., 2021).

2.2 Study Area and Participants

The research was conducted in Abusur Village, located in South Kisar District, Southwest Maluku Regency, Indonesia. This area is characterized as a remote island region with limited access to formal healthcare services, which contributes to the reliance on traditional medicine practices. Participants were selected using a snowball sampling technique, starting from key informants such as local healers and community leaders who possess extensive knowledge of medicinal plants (Naderifar et al., 2017). A total of six informants participated in this study, consisting of both male and female individuals aged between 45 and 69 years. Most participants had primary education backgrounds and were engaged in farming as their main occupation. The selection of participants was considered sufficient due to the depth of information provided and the repetition of similar knowledge patterns across informants, which is consistent with the concept of data saturation in qualitative research (Hennink et al., 2017).

2.3 Data Collection Techniques

Data were collected using multiple qualitative methods, including semi-structured interviews, direct observation, and documentation. Interviews were conducted to gather information on plant species, local names, parts used, preparation methods, and therapeutic applications. Both structured and unstructured interview techniques were applied to allow flexibility in capturing detailed ethnophytomedicinal knowledge. Field observations were carried out to identify plant species in their natural habitats, including home gardens, agricultural land, and forest areas. During observation, morphological characteristics, plant parts used, and ecological distribution were recorded. Photographic documentation was also conducted to support data validation. To ensure data validity, triangulation was applied by comparing information obtained from different informants and methods. Ethical considerations were maintained by obtaining informed consent from all participants and ensuring confidentiality of personal information.

2.4 Research Procedures

The research was conducted in several stages. The first stage involved preparation, including literature review, development of interview guidelines, and coordination with local authorities. The second stage consisted of field data collection through interviews and observations. During fieldwork, plant samples were collected for identification purposes, particularly for species that were not immediately recognized. These samples were processed and identified in a botanical laboratory using standard taxonomic references. The third stage involved data organization and verification, including transcription of interview results and classification of plant species based on their scientific names, families, and uses. The final stage consisted of data analysis and report writing, ensuring that all findings were systematically presented and interpreted.

2.5 Data Analysis Techniques

Data analysis was conducted using a qualitative descriptive approach supported by simple quantitative measures. The analysis followed the framework of data reduction, data display, and conclusion drawing. Initially, raw data from interviews and observations were reduced by selecting relevant information related to medicinal plant use (Miles et al., 2019). The data were then organized into categories, including plant species, plant parts used, therapeutic functions, and taxonomic classification. Tabulation was applied to present the data clearly, as shown in Tables 1, 2, and 3. Basic quantitative analysis, such as frequency and percentage, was used to identify dominant patterns, particularly in plant part utilization. This combination of qualitative and quantitative approaches allows for a more comprehensive understanding of ethnobotanical data (Creswell & Creswell, 2018). To ensure the validity and reliability of the findings, qualitative criteria such as credibility, transferability, dependability, and confirmability were applied. Cross-checking between informants and field observations strengthened the credibility of the data. Although no specialized software was used, the systematic approach to data analysis ensured consistency and rigor in interpreting the results (Nowell et al., 2017).

3. RESULTS AND DISCUSSION

3.1 Diversity and Utilization of Medicinal Plants in Abusur Village

A total of 36 medicinal plant species were documented in this study, reflecting the diversity of ethnophytomedicinal practices in the Abusur community. The details are presented in Table 1.

The findings reveal that the Abusur village community utilizes a total of 36 medicinal plant species for traditional healthcare practices. These plants are obtained from various sources such as home gardens, agricultural land, and nearby forest areas. This diversity reflects a strong relationship between the community and its surrounding natural environment, as well as a well-developed system of ethnophytomedicinal knowledge. Most of the documented plants are used to treat common illnesses including fever, diarrhea, cough, and wounds. For example, *Psidium guajava* leaves are widely used to treat stomachache, while *Piper betle* is commonly used for cough and sore throat. In addition, certain species are used for more complex health conditions. *Andrographis paniculata* and *Carica papaya* are utilized in the treatment of malaria and intestinal worms.

One informant explained, “We usually take leaves from plants around the house, boil them, and drink the water when someone is sick.” This statement highlights the accessibility and practicality of traditional medicine. The dominant use of fresh plant materials, particularly leaves, indicates a preference for simple preparation methods that are easy to apply in daily life. The high diversity of medicinal plants indicates that the Abusur community possesses extensive ecological knowledge and relies significantly on plant-based healthcare systems. The predominance of leaves as the main plant part used suggests a sustainable utilization pattern, as harvesting leaves does not damage the entire plant. This finding is consistent with ethnobotanical principles that emphasize conservation and sustainable resource use (Rashid et al., 2018).

Table 1. Types of medicinal plants used by the Abusur Village Community.

No.	Local/Common Name	Scientific Name	Family	Plant Part Used	Therapeutic Use
1	Mengkudu	<i>Morinda citrifolia</i>	Rubiaceae	Leaves, fruit	Anti-cancer, dysmenorrhea
2	Daun ungu	<i>Graptophyllum pictum</i>	Acanthaceae	Leaves	Hemorrhoids, boils, fever
3	Sambiloto	<i>Andrographis paniculata</i>	Acanthaceae	Leaves	Malaria, diabetes, fever
4	Tembelekan	<i>Lantana camara</i>	Verbenaceae	Leaves, roots	Rheumatism, wounds
5	Binahong	<i>Anredera cordifolia</i>	Basellaceae	Leaves	Wounds, hemorrhoids
6	Ketapang	<i>Terminalia catappa</i>	Combretaceae	Bark	Toothache
7	Alpukat	<i>Persea americana</i>	Lauraceae	Seeds	Toothache
8	Kelor	<i>Moringa oleifera</i>	Moringaceae	Leaves	Skin diseases, rheumatism
9	Putri malu	<i>Mimosa pudica</i>	Fabaceae	Leaves	Goiter
10	Nangka	<i>Artocarpus heterophyllus</i>	Moraceae	Leaves, roots	Asthma, skin care
11	Asam jawa	<i>Tamarindus indica</i>	Fabaceae	Leaves	Chickenpox, asthma
12	Belimbing wuluh	<i>Averrhoa bilimbi</i>	Oxalidaceae	Leaves	Fever
13	Kamboja	<i>Plumeria rubra</i>	Apocynaceae	Latex	Skin infection
14	Jambu monyet	<i>Anacardium occidentale</i>	Anacardiaceae	Leaves, bark	Diarrhea, diabetes
15	Kemangi	<i>Ocimum sanctum</i>	Lamiaceae	Leaves	Oral diseases
16	Terung	<i>Solanum melongena</i>	Solanaceae	Leaves	Gum swelling
17	Oleander	<i>Nerium oleander</i>	Apocynaceae	Leaves, stem	Snakebite
18	Sirih	<i>Piper betle</i>	Piperaceae	Leaves	Cough, sore throat
19	Katuk	<i>Sauropus androgynus</i>	Euphorbiaceae	Leaves	Hypertension
20	Iler (Mayana)	<i>Coleus atropurpureus</i>	Lamiaceae	Leaves	Fever, wounds
21	Mangga	<i>Mangifera indica</i>	Anacardiaceae	Bark	Rheumatism
22	Jahe	<i>Zingiber officinale</i>	Zingiberaceae	Rhizome	Headache, dysmenorrhea
23	Pepaya	<i>Carica papaya</i>	Caricaceae	Leaves, roots	Malaria, intestinal worms
24	Kunyit	<i>Curcuma longa</i>	Zingiberaceae	Rhizome	Pain relief, inflammation
25	Seledri	<i>Apium graveolens</i>	Apiaceae	Leaves	Hypertension
26	Sereh	<i>Cymbopogon citratus</i>	Poaceae	Leaves	Diarrhea
27	Jambu biji	<i>Psidium guajava</i>	Myrtaceae	Leaves	Stomachache
28	Mahoni	<i>Swietenia mahagoni</i>	Meliaceae	Seeds	Menstrual pain
29	Sukun	<i>Artocarpus altilis</i>	Moraceae	Fruit	Weight loss
30	Petai cina	<i>Leucaena leucocephala</i>	Mimosaceae	Seeds	Anthelmintic
31	Srikaya	<i>Annona squamosa</i>	Annonaceae	Seeds	Head lice
32	Jarak	<i>Jatropha curcas</i>	Euphorbiaceae	Leaves, latex	Fever, mucus relief
33	Cocor bebek	<i>Kalanchoe pinnata</i>	Crassulaceae	Leaves	Insect bites
34	Krinyu	<i>Chromolaena odorata</i>	Asteraceae	Leaves	Wound healing
35	Pisang	<i>Musa paradisiaca</i>	Musaceae	Leaves	Wound healing
36	Pandan	<i>Pandanus amaryllifolius</i>	Pandanaceae	Leaves	Hypertension, rheumatism

The broad range of therapeutic applications also demonstrates that traditional medicine functions as a primary healthcare system in the community. Plants such as *Sauropus androgynus* for hypertension and *Anacardium occidentale* for diabetes show that local knowledge extends beyond treating minor illnesses and includes management of more serious health conditions. The methods of preparation, including boiling, crushing, and topical application, reflect simple but effective extraction processes. These techniques enable the release of bioactive compounds such

as flavonoids, alkaloids, and essential oils, which contribute to the medicinal effectiveness of the plants. This indicates that traditional practices are not only culturally inherited but also empirically validated through long-term use (Khan et al., 2019).

This study contributes to the field of ethnophytomedicine by documenting plant-based healthcare practices in a remote island community. From a theoretical perspective, the findings support the idea that traditional knowledge systems are adaptive and closely linked to biodiversity. The ability of the community to utilize diverse plant species reflects a deep understanding of their environment (Upreti et al., 2017). From a practical standpoint, the identified plant species have significant potential for further scientific research. Several plants documented in this study, such as *Curcuma longa* and *Zingiber officinale*, are already known for their anti-inflammatory and analgesic properties. This suggests that local knowledge is aligned with modern scientific findings. Similarly, *Moringa oleifera* has been widely recognized for its nutritional and medicinal value.

The study also highlights the importance of integrating traditional medicine into formal healthcare systems, especially in areas with limited access to modern medical services. Documentation and validation of these practices can support policy development aimed at strengthening community-based healthcare and promoting sustainable use of medicinal plants (World Health Organization, 2019). The results of this study are consistent with previous ethnobotanical studies conducted in tropical regions, which also report high species diversity and the dominant use of leaves in traditional medicine. Similar patterns have been observed in various regions of Indonesia and Southeast Asia, where plant-based remedies remain an essential component of rural healthcare systems.

However, this study provides a specific contribution by focusing on a geographically isolated community where access to modern healthcare is limited. In comparison with other studies, the reliance on traditional medicine in Abusur appears to be more intensive and deeply embedded in everyday life. The number of species identified, which is 36 species, is comparable to findings from other small-scale ethnobotanical studies. This indicates a moderate but meaningful level of biodiversity utilization. In addition, the inclusion of plants used to treat both common and complex diseases highlights the comprehensive nature of traditional medical knowledge in this community (Sharma et al., 2020).

3.2 Taxonomic Composition of Medicinal Plants

The medicinal plants identified in this study belong to 27 different families, indicating substantial taxonomic diversity within the Abusur community. The distribution of species across families is presented in Table 2.

The results show that the 36 medicinal plant species documented in this study are classified into 27 different taxonomic families. This indicates a high level of botanical diversity within the ethnophytomedical practices of the Abusur community. Several families are represented by more than one species, including Acanthaceae, Anacardiaceae, Apocynaceae, Euphorbiaceae, Fabaceae, Lamiaceae, Moraceae, and Zingiberaceae. Each of these families contributes two species to the total dataset. Among the identified families, Acanthaceae includes *Graptophyllum pictum* and *Andrographis paniculata*, both of which are commonly used for treating fever and metabolic diseases. Similarly, the Zingiberaceae family, represented by *Zingiber officinale* and *Curcuma longa*, plays an important role in treating pain-related conditions such as headache and inflammation.

Other families are represented by a single species, such as Rubiaceae with *Morinda citrifolia*, Myrtaceae with *Psidium guajava*, and Piperaceae with *Piper betle*. These species are also widely used by the community, indicating that both dominant and non-dominant families contribute significantly to traditional healthcare practices. The high number of plant families suggests that the Abusur community utilizes a wide range of plant taxa, reflecting strong ecological knowledge and adaptation to local biodiversity. The presence of multiple families with medicinal value indicates that traditional knowledge is not limited to specific plant groups but encompasses diverse botanical resources.

Table 2. Taxonomic distribution of medicinal plants used by the Abusur Community.

No.	Family	Number of Species	Species (Scientific Names)
1	Acanthaceae	2	<i>Graptophyllum pictum</i> , <i>Andrographis paniculata</i>
2	Anacardiaceae	2	<i>Anacardium occidentale</i> , <i>Mangifera indica</i>
3	Annonaceae	1	<i>Annona squamosa</i>
4	Apiaceae	1	<i>Apium graveolens</i>
5	Apocynaceae	2	<i>Plumeria rubra</i> , <i>Nerium oleander</i>
6	Asteraceae	1	<i>Chromolaena odorata</i>
7	Basellaceae	1	<i>Anredera cordifolia</i>
8	Caricaceae	1	<i>Carica papaya</i>
9	Combretaceae	1	<i>Terminalia catappa</i>
10	Crassulaceae	1	<i>Kalanchoe pinnata</i>
11	Euphorbiaceae	2	<i>Jatropha curcas</i> , <i>Sauropus androgynus</i>
12	Fabaceae	2	<i>Mimosa pudica</i> , <i>Tamarindus indica</i>
13	Lamiaceae	2	<i>Ocimum sanctum</i> , <i>Coleus atropurpureus</i>
14	Lauraceae	1	<i>Persea americana</i>
15	Meliaceae	1	<i>Swietenia mahagoni</i>
16	Mimosaceae	1	<i>Leucaena leucocephala</i>
17	Moraceae	2	<i>Artocarpus heterophyllus</i> , <i>Artocarpus altilis</i>
18	Musaceae	1	<i>Musa paradisiaca</i>
19	Myrtaceae	1	<i>Psidium guajava</i>
20	Oxalidaceae	1	<i>Averrhoa bilimbi</i>
21	Pandanaceae	1	<i>Pandanus amaryllifolius</i>
22	Piperaceae	1	<i>Piper betle</i>
23	Poaceae	1	<i>Cymbopogon citratus</i>
24	Rubiaceae	1	<i>Morinda citrifolia</i>
25	Solanaceae	1	<i>Solanum melongena</i>
26	Verbenaceae	1	<i>Lantana camara</i>
27	Zingiberaceae	2	<i>Zingiber officinale</i> , <i>Curcuma longa</i>

Families with more than one species, such as Zingiberaceae and Lamiaceae, are known to contain plants rich in bioactive compounds, including essential oils, flavonoids, and phenolic compounds. These chemical constituents are associated with anti-inflammatory, antimicrobial, and antioxidant properties, which may explain their frequent use in traditional medicine. In contrast, families represented by a single species still play an important role in addressing specific health conditions. For example, *Morinda citrifolia* from Rubiaceae is used for anti-cancer and pain relief, while *Piper betle* from Piperaceae is widely used for respiratory problems. This suggests that the selection of medicinal plants is based not only on taxonomic abundance but also on their perceived effectiveness.

From a theoretical perspective, the findings support the concept that ethnophytomedical knowledge is closely linked to biodiversity. The ability of the community to identify and utilize species from 27 different families demonstrates a complex and well-structured traditional knowledge system. This reinforces the idea that indigenous knowledge plays a crucial role in biodiversity conservation and sustainable resource management (Mensah et al., 2019; Toledo & Barrera-Bassols, 2017). Practically, the taxonomic diversity observed in this study provides a valuable foundation for future pharmacological and phytochemical research. Plant families such as Zingiberaceae, Fabaceae, and Lamiaceae have been widely studied for their medicinal properties, and the presence of these families in the Abusur community suggests potential for further scientific exploration (Atanasov et al., 2021).

In addition, documenting plant families and their associated species can support conservation efforts. By identifying key families with high medicinal value, stakeholders can prioritize the protection and sustainable use of these plant resources. This is particularly important in remote areas where environmental changes may threaten local biodiversity (IPBES, 2019). The findings of this study are consistent with previous ethnobotanical research conducted in tropical regions, which often report high taxonomic diversity in medicinal plant use. Studies in other parts of

Indonesia and Southeast Asia also show that communities utilize plants from a wide range of families, with certain families such as Zingiberaceae, Fabaceae, and Lamiaceae frequently appearing as dominant groups (Panyadee et al., 2019).

However, the number of families identified in this study, which is 27, indicates a relatively high level of diversity compared to similar small-scale studies. This may be influenced by the ecological characteristics of the study area, which supports a variety of plant species, as well as the strong cultural traditions of plant use within the community. Another notable aspect is the balanced contribution of both dominant and less-represented families. While some studies tend to focus on a few dominant plant families, this study shows that even families with a single species play an important role in traditional medicine. This highlights the uniqueness of the Abusur community's ethnophytomedical system and its comprehensive use of available plant resources.

3.3 Utilized Plant Parts in Traditional Medicine

Different parts of medicinal plants are utilized by the Abusur community, with leaves being the most frequently used component. The distribution of plant parts and their usage frequency is presented in Table 3.

Table 3. Plant parts utilized in traditional medicine by the Abusur Community.

No.	Plant Part Used	Frequency (Number of Species)	Percentage	Species (Scientific Names)
1	Leaves	27	75.0%	<i>Morinda citrifolia</i> , <i>Graptophyllum pictum</i> , <i>Andrographis paniculata</i> , <i>Lantana camara</i> , <i>Anredera cordifolia</i> , <i>Moringa oleifera</i> , <i>Mimosa pudica</i> , <i>Artocarpus heterophyllus</i> , <i>Tamarindus indica</i> , <i>Averrhoa bilimbi</i> , <i>Anacardium occidentale</i> , <i>Ocimum sanctum</i> , <i>Solanum melongena</i> , <i>Piper betle</i> , <i>Sauropus androgynus</i> , <i>Coleus atropurpureus</i> , <i>Carica papaya</i> , <i>Apium graveolens</i> , <i>Cymbopogon citratus</i> , <i>Psidium guajava</i> , <i>Jatropha curcas</i> , <i>Kalanchoe pinnata</i> , <i>Chromolaena odorata</i> , <i>Musa paradisiaca</i> , <i>Pandanus amaryllifolius</i> , <i>Curcuma longa</i> , <i>Zingiber officinale</i>
2	Roots	2	5.6%	<i>Lantana camara</i> , <i>Carica papaya</i>
3	Fruits	2	5.6%	<i>Morinda citrifolia</i> , <i>Artocarpus altilis</i>
4	Bark	3	8.3%	<i>Terminalia catappa</i> , <i>Mangifera indica</i> , <i>Anacardium occidentale</i>
5	Stem	1	2.8%	<i>Nerium oleander</i>
6	Seeds	4	11.1%	<i>Persea americana</i> , <i>Swietenia mahagoni</i> , <i>Leucaena leucocephala</i> , <i>Annona squamosa</i>
7	Latex (Sap)	2	5.6%	<i>Plumeria rubra</i> , <i>Jatropha curcas</i>
8	Rhizomes	2	5.6%	<i>Zingiber officinale</i> , <i>Curcuma longa</i>

The results indicate that various plant parts are utilized by the Abusur community in traditional medicine, with leaves being the most dominant component. Out of the 36 identified species, 27 species or 75.0% involve the use of leaves. This makes leaves the primary plant part used in ethnophytomedical practices within the community. Examples include *Morinda citrifolia*, *Piper betle*, and *Psidium guajava*, which are commonly used to treat a range of ailments. Other plant parts are used in smaller proportions. Seeds account for 11.1% of usage, including species such as *Swietenia mahagoni* and *Annona squamosa*. Bark is used in 8.3% of cases, particularly in *Terminalia catappa* and *Mangifera indica*. Meanwhile, roots, fruits, latex, and rhizomes each contribute 5.6%, while stems represent the least utilized part at 2.8%.

The findings also show that some species provide multiple usable parts. For example, *Carica papaya* is used for both its leaves and roots, while *Jatropha curcas* is utilized for its leaves and latex. This indicates a flexible and comprehensive use of plant resources by the community (Singh et al., 2018). The dominance of leaf usage can be explained by several factors. Leaves are generally more accessible, easier to harvest, and available throughout the year compared to other plant

parts. Additionally, harvesting leaves does not typically harm the plant, making it a sustainable practice. This aligns with ethnobotanical principles that emphasize conservation and long-term resource availability (Ghorbani et al., 2017). Leaves are also known to contain a wide range of bioactive compounds such as flavonoids, alkaloids, and phenolic compounds. These compounds contribute to their effectiveness in treating various health conditions, including inflammation, infections, and digestive disorders. The frequent use of leaves in traditional medicine suggests that the community has developed empirical knowledge of their therapeutic properties (Tchinda et al., 2018).

In contrast, plant parts such as roots and bark are used less frequently due to their destructive harvesting nature. Removing these parts can damage or kill the plant, which may explain why their use is limited. Similarly, seeds and latex are typically used for specific conditions, indicating a more specialized application. From a theoretical perspective, the findings reinforce the concept that traditional knowledge systems are closely linked to sustainable resource management. The preference for leaves demonstrates an adaptive strategy that balances medicinal needs with environmental conservation. This supports existing ethnobotanical theories that highlight the role of indigenous knowledge in maintaining ecological balance (Albuquerque et al., 2017). Practically, the dominance of leaves as medicinal resources offers advantages for the development of herbal medicine. Leaves are easier to process, store, and standardize compared to other plant parts. This makes them suitable for further research and potential commercialization in the form of herbal products. Moreover, the use of multiple plant parts from a single species highlights the efficiency of traditional knowledge in maximizing resource utilization. This multifunctional use of plants can inspire modern approaches to pharmacology and natural product development (Atanasov et al., 2021).

The findings also suggest that conservation strategies should focus not only on preserving plant species but also on maintaining the traditional knowledge associated with their use. Without proper documentation and transmission, this knowledge may be lost over time. The results of this study are consistent with previous ethnobotanical studies, which commonly report leaves as the most frequently used plant part in traditional medicine. Similar patterns have been observed in various regions of Indonesia and other tropical countries, where leaves are preferred due to their availability and ease of use (Sutrisno et al., 2020).

In many studies, leaf usage often exceeds 50% of total plant part utilization, which aligns with the 75.0% observed in this study. This indicates a consistent global trend in ethnomedicine practices, particularly in rural and forest-dependent communities. However, this study also highlights the continued use of other plant parts such as seeds, bark, and latex, which are sometimes less emphasized in other studies. The presence of these plant parts in the Abusur community suggests a broader and more comprehensive utilization of plant resources. Additionally, the use of rhizomes from species such as *Zingiber officinale* and *Curcuma longa* reflects the importance of traditional herbal ingredients that are widely recognized in both local and global medicinal systems. This further demonstrates the relevance of local knowledge in contributing to broader ethnopharmacological research (Chassagne et al., 2021).

4. CONCLUSION

This study demonstrates that the Abusur community possesses rich ethnophytomedical knowledge, reflected in the utilization of 36 medicinal plant species belonging to 27 families. These plants are used to treat a wide range of health conditions, from common illnesses to more complex diseases, indicating that traditional medicine functions as a primary healthcare system in the community. The dominant use of leaves highlights a sustainable approach to plant utilization, as it allows continuous use without damaging plant populations. The findings confirm that local knowledge is closely linked to biodiversity and plays an essential role in maintaining both ecological balance and community health. In addition, the diversity of plant species and their therapeutic applications provide valuable potential for further pharmacological and phytochemical research.

This study contributes to the scientific documentation of traditional knowledge in a remote island context, which is often underrepresented in ethnobotanical research. Practically, the results can support the development of community-based healthcare strategies and conservation policies aimed at preserving medicinal plant resources and indigenous knowledge systems. Future research is recommended to focus on bioactive compound analysis, clinical validation of medicinal plants, and strategies for integrating traditional medicine into formal healthcare systems.

AUTHORS CONTRIBUTION

IBM and LDT designed and conducted the research, JP analyzed and interpreted the data, and all authors contributed to writing the manuscript.

CONFLICT OF INTEREST

The authors declare no conflicts of interest and take full responsibility for the content of the article, including any implications of AI-generated art.

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