

Utilisation of Kambalitan and Kulat Ipu Tree Buds with Traditional Dayak Medicine in Tewang Kadamba Village Katingan District Central Kalimantan

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Abstrak: Penelitian ini bertujuan untuk mengidentifikasi dan mengetahui pemanfaatan tumbuhan hutan sebagai pengobatan tradisional alternatif, khususnya yang berkaitan dengan bentuk, karakteristik, cara pengolahannya dan cara pengobatan tradisional dayak. Lokasi penelitian sekitar hutan dan permukiman Desa Tewang Kadamba Kabupaten Kalimantan Tengah. Penelitian dengan teknik deskriptif kualitatif dimana data didapat dari hasil wawancara dan observasi kemudian pengolahan data dilakukan dengan studi pustaka dengan didukung dengan referensi yang ada. Ditemukan tanaman hutan tunas pohon kambalitan ini memiliki tinggi kurang lebih 1-2 meter yang tumbuh bergerombol yang dimanfaatkan untuk pengobatan sakit meruyan pada ibu yang baru melahirkan, belum diketahui zat aktif dalam tumbuhan ini dan tumbuhan Kulat Ipu atau jamur Ipu yang digunakan pada pasien yang menderita sakit benjolan/tumor pada tubuh dengan cara dikasai/dibedaki pada bagian yang sakit sampai benjolan tidak terasa sakit dan kempes, belum diketahui zat aktif dalam tumbuhan ini. Pengobatan tradisional dayak dengan menjalankan tatacara pengambilan tumbuhan berpotensi obat dari hutan dengan menjalankan pantangan/pali selama pengobatan untuk kesembuhan.

Kata kunci: Tumbuhan obat; pengobatan Dayak; tradisional.

Abstract: This study purpose to identify and determine the use of forest plants as alternative traditional medicine, especially those related to the form, characteristics, processing methods and traditional Dayak medicine. The research location is around the forest and settlements of Tewang Kadamba Village, Central Kalimantan Regency. Research with qualitative descriptive techniques where data collected from interviews and observations then data analyzed with literature studies supported by existing references. It was found that this kambalitan tree buds forest plant has a height of approximately 1-2 meters which grows in clusters which are used for the treatment of *meruyan* (pain after mothers post-partum), the active substance in this plant is unknown and the Kulat Ipu plant or Ipu Mushroom is used in patients suffering from lumps/tumors on the body by powdered to the affected area until the lump is not painful and deflated, the active substance in this plant is unknown. Dayak traditional medicine by carrying out procedures for

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taking potential medicinal plants from the forest by carrying out taboos/*pali* during treatment for healing.

Keyword: Medicinal plants, Dayak medicine, traditional.

1. Introduction

Indonesia is known as a store of medicinal plants (herbs) and has earned the nickname live laboratory. It is estimated that Indonesian forests hold the potential for 30,000 types of medicinal plants, of which 940 types have been declared to have medicinal properties [1].

Katingan Regency is part of the Central Kalimantan Province, which is an expansion area of East Kotawaringin Regency based on Law No. 05 (2001) and is located between 112° 00' - 113° 20' East and 0° 20' - 3° 30' LS. The area is about 1,080 km along the Katingan river, ranging from the Java Sea coast in the south to the mountains in the north. Katingan Regency borders West Kalimantan with an area of 17,800 km² which is administratively divided into 13 sub-districts and 161 villages.

Central Kalimantan has a rich biodiversity of peat swamp forests that have an important role for germplasm storage and some of them are endemic the use of plants as medicines, food, drinks, and cosmetics to maintain health and a better quality of life, has been carried out by the community for a long time. This utilization is because of plants contain many natural ingredients that can improve health and prevent disease [2]

Traditional medicine has been practiced since ancient times. Plants have natural compounds that can be used to treat various diseases and maintain health and prevent increasing of malady. Indonesia has very many plant species. There are around 30,000 plant species in Indonesia that have been known and used as traditional medicine, which until now are still unknown. Documentation is important to ensure complete truth regarding the use of plants as the main component in the healing process [3] Based on data from the Forestry Information Center, there are 1260 species of medicinal plants in various forest formations in Indonesia and 180 species of which have been exploited for raw materials for the traditional medicine industry[4]

The tendency to practice medicine using natural raw materials or herbal medicines is growing in people's lives. However, this use must be in

harmony with the carrying capacity, characteristics and functions, which must be balanced with awareness of the potential of local medicinal plants in peat swamp forests. The use of medicinal plants needs attention, considering that their population living in nature has decreased significantly as a result of exploitation that does not pay attention to environmental sustainability [5].

Local wisdom has the potential to regulate people's lives in developing beliefs and traditions [6]. The people of Katingan Hilir Subdistrict still utilize plants from the forest for traditional medicine by utilizing plant parts such as roots, stems, leaves and fruits/flowers from these plants. The method of using forest plants as medicine is also processed in various ways, by boiling, soaking, mashed, pounded, made into powder to be applied to the affected part and made into pills. This treatment is usually carried out by certain people who have known the treatment method from generation to generation and are old people in the village, so not all people know the properties of the forest plants used for this treatment.

This is confirmed by [7] that raw materials taken from nature are usually used immediately in fresh form, for drinking or bathing. Others are processed by mashing, pounding or heating in leaf packages. If the raw ingredients for this medicine are not used immediately, Kalimantan people usually dry it and store it so that it can be used again when needed. The use of medicinal plants in the community is closely related to the knowledge possessed by traditional healers and the surrounding community about the use of this plant in medicine. A number of studies have shown that most traditional physicians belong to the elderly age group and do not document the knowledge and practice of the treatment they carry out [8].

The various of medicinal plants are available, Kambalitan Wood is a forest plant that is often used in traditional medicine carried out in Tewang Kadamba Village, Katingan Hilir District, and is usually used to treat several kinds of diseases. In addition, there are fungal plants that live on dead logs or called Kulat Ipu which are commonly used to treat pain due to lumps/tumors.

Through this research, it can find plant species that have potential as medicinal materials that can be developed and how dayak medicine is carried out by the community in Tewang Kadamba Village. This study purpose to identify and determine the utilization of kambalitan wood and kulat ipu as forest plants that have the potential to become medicinal plants, especially those related to the shape, characteristics, processing methods and traditional dayak medicine methods. The benefits of this research can provide additional knowledge about the existence of plants that can be used as alternative medicine.

2. Research Methods

This research is a descriptive research method with a qualitative approach. Qualitative descriptive methods are based on the philosophy of post-positivism used to examine the state of natural objects (as opposed to experiments) where researchers are the key in the main data collection techniques carried out by triangulation (combination), data analysis is inductive/qualitative and qualitative research results are more inductive/qualitative, focus on meaning rather than generalization [9].

a. Materials and Tools

The materials used as objects in this study are plant samples that are used as medicine, while the tools used to support activities are interview and observation blanks, scissors, machetes, rulers and documentation tools.

b. Data Collection

Data collection was conducted through interviews involving participants such as residents, elders, and village *tabit*. Field surveys were conducted with observations in the fields of gardens, fields and forests. Documentation was done with field notes, recordings, and photographs. Qualitative data collected is in the form of words, pictures, and not numbers. The data obtained in this study came from the results of literature studies,

interviews, field notes, photographs. Data sources as described in qualitative research are places, actors, and activities [9].

c. Data Analysis

Data analysis in this study uses qualitative descriptive techniques where data obtained from interviews and observations are grouped based on the findings then data processing is carried out with literature studies supported by existing references.

d. Research Implementation

This research was conducted in the forests and settlements of Tewang Kadamba Village, Katingan Hilir District, Central Kalimantan in June-July 2023. Data collection was carried out by direct interview and field survey. The implementation of this research consists of 2 (two) stages, that is documentation of the characteristics of forest plants used as medicine and direct interviews with patients who have recovered using traditional Dayak medicine.

3. Results and Discussion

1. Kambalitan Tree Buds

Herbal treatment using tree buds, can traditionally alleviate the problem of digestive diseases. The results of extraction from tree buds have been linked to the effects of diabetes on regulating blood sugar levels [10]. The use of plants by traditional communities is essential to achieve balance and manage the ecosystems that support their lives. This knowledge is known as ethnobotany, a traditional society with the use of surrounding plants not only for economic activities and traditions but also for traditional medicine [11].

From the results of documentation in the field, it was found that forest plants of Kambalitan tree buds were commonly used to treat diseases whose active substances were still unknown through literature studies.

Table 1. Kambalitan Tree Buds and Their Benefits

Name	Efficacy	Active substance	Processing Method
Kambalitan Tree Buds	Meruyan medicine (postpartum pain)	Unknown	Buds boiled then drink the water
	Medicine to treat lumps/tumors		buds are mixed with kulat ipu to be processed into powder

The buds of the kambalitan tree are usually used to treat mothers who have just given birth and the part used is the bud. The kambalitan tree buds grow in the forest in Tewang Kadamba Village. The shape of the Kambalitan wood can be seen in the picture below.

**Figure 1.** Kambalitan Wood Tree

In Figure 1, it can be seen that the kambalitan wood tree grows in the forest around Tewang Kadamba Village and the part of the plant that is used as medicine is the bud which cut, and taken from the parent tree. This kambalitan wood tree has a height of approximately 1-2 meters and grows in clusters to form new buds. The leaves of this wood tree almost resemble acacia leaves with a width between 1-3 cm, leaf length is approximately 1-12 cm.

2. Kulat Ipu / Ipu Mushroom

Mushrooms are rich in bioactive compounds and their potential as therapeutic agents that contribute significantly. The content of polysaccharides, especially beta-glucans, can stimulate immunity and anti-tumor so that it can treat various diseases [12].

One of the forest plants found from the documentation in Tewang Kadamba Village is *Kulat Ipu*/Ipu Mushroom which is commonly used to treat diseases. The active substance is still unknown through literature study.

Table 2. Ipu Mushroom and its Benefits

Name	Efficacy	Active substance	Processing Method
Kulat Ipu/Mushroom Ipu	Medicine to treat lumps on limbs/tumors	Unknown	Roasted, mashed, mixed with kambalitan buds to make cold talcum powder

Kulat Ipu is usually used to treat various tumors/lumps that grow on the limbs. Kulat Ipu only grows on dead tree trunks in the forest around Tewang Kadamba Village. The habitat of this Kulat Ipu usually grows on dead rubber tree trunks or other dead tree trunks. Kulat Ipu consists of 2 (two) types, female and male of Kulat Ipu as shown in Figure 2 below:



Figure 2. Kulat Ipu (a) female; (b) male

The growth and spread of mushroom are affected by the moisture and water retention capacity of the substrate, the average rainfall per month, and temperature. Significantly this factor affects the presence of mushroom, especially during the rainy season on the mainland [13].

Kulat Ipu or in Indonesian called Jamur Ipu has a slightly blackish brown color, and at first glance is shaped like dry burnt wood, hard and dry texture. Kulat Ipu can be found in the forest around Tewang Kadamba Village, although it is rather difficult to find, but for Dayaks who already know the benefits of kulat ipu for treatment, they can find this kulat ipu on dead tree trunks.

Based on an interview with one of the elders in the village who is also a tabit, Kulat Ipu is divided into 2 (two) types, namely female kulat ipu and male kulat ipu. The shape of the kulat ipu is different for females and males. The female kulat ipu has a round shape with a diameter of approximately 1 (one) cm, while the male kulat Ipu has a long shape as in Figure 2 with a length of approximately 2 - 4 cm per piece. The shape of the kulat ipu is very diverse for males because it is long and has a different shape curve. The active content contained in Kulat Ipu is still unknown, but the use of kulat Ipu for treatment for patients who experience pain lumps/tumors on parts of their body.

3. Processing of Kambalitan Tree Buds and Kulat Ipu as Traditional Medicine

Traditional medicine processing, especially in Traditional Chinese Medicine includes techniques such as washing, boiling and baking to change properties and improve efficacy. The result of this processing will result in nanoparticles that produce enzymatic reactions that are essential for the effect of the drug [14].

Increasing the use of traditional medicines, especially in areas with limited access to healthcare, can increase awareness with training and processing of traditional medicines[15] Processing of traditional medicine from forest plants Kambalitan Tree Buds and Kulat Ipu is still done in a simple way as follows:

1. The stems of medicinal plants are washed first, cut into several parts and can be boiled or soaked with boiled water, after which it can be drunk immediately according to the recommendations of the treating tabit. The use of this medicine is usually given to mothers who have just given birth and got meruyan pain/post partum pain by drinking it directly.

2. The Buds of the Kambalitan tree and kulat ipu are taken, cleaned first without removing the skin, then cut into small pieces and mashed into powder and roasted until dry until it turns black like coffee. The use of this medicine in patients suffering from lump/tumor pain in one of the limbs by wetting it with a little water and applying/rubbing/pedicured on the affected body part, until the lump is not painful and deflated.

This traditional medicine processing is an easy and simple way of processing. The purpose of processing into powder to make easier the use of drugs and kill pathogenic bacteria, besides that it is intended to reduce the bitterness of the plant. In line with research conducted by [16] blandness and bitterness when medicinal plants are eaten directly can be reduced by boiling so that it is more sterile and can kill pathogenic bacteria. Boiling medicinal plants lift can accelerate the reaction when taken because boiling can lift the active substances contained in plants [17]. While processing by slicing, rubbing, juicing, roasting and drinking or others, requires a longer processing time, besides that the substances that come out of the plant also come out a little, so the healing process takes longer [18].

4. Overview of Dayak Traditional Medicine Procedures

In remote areas where modern facilities are rarely available, of course, traditional medicine is one of the alternative health care because it is low-cost [19]. Traditional medicine is an alternative treatment that is done in addition to using medical treatment, considering that there are still many people who have not been able to carry out medical treatment which requires a fairly expensive and unaffordable cost. Not only limited to underprivileged people who use traditional medicine, this alternative treatment is also carried out by middle and high class people, because quite a lot of them experience healing without treatment using chemicals or undergo surgery for healing.

The traditional science of utilizing and managing forests is inherited by Dayak parents to their children, so that Dayak people are skilled in living in the forest, can save themselves from wild animals and obtain food. Parents will

teach their children about edible plants, poisonous plants, how they are characterized, what their names are and how to use them. For example, in getting to know medicinal plants and poisons, their properties for what diseases, how to process them, and so on [20].

Knowledge about traditional medicine is generally only mastered by the elderly, while the younger generation is currently less motivated to explore the knowledge of the elderly, and gradually begins to be abandoned due to various causal factors. This condition will make the traditional heritage slowly extinct in its original place [21].

Traditional Dayak medicine in Tewang Kadamba Village is carried out by tabits who have been treating sick patients for generations, after the patient knows the diagnosis of the disease from the results of medical examinations. Dayak Hindu Kaharingan shamans (tabit) generally have advantages in the field of magi and kaji science compared to ordinary people. Kaji knowledge can be obtained by learning it from other shamans or passed down from parents for generations and also comes from birth. It can be interpreted that kaji science is a practical knowledge that is integral to the magi dimension [22].

The results of an interview with one of the tabits in Tewang Kadamba Village, Kahayan Hilir Subdistrict, called Mrs. Ratna Kemala Dewi, aged 69 years, and has knowledge and experience treating patients suffering from various diseases such as postpartum pain, lumps/tumors, tonsils, itching and others for approximately 30 years. The tabit's traditional Dayak medicine recipes have been passed down from generation to generation from her parents. From the explanation given by tabit, the traditional dayak medicine procedures are inseparable from the beliefs and customs of the Dayak Hindu Kaharingan tribe, which is the belief of the Dayak tribe of Central Kalimantan since long ago. The procedure for traditional dayak medicine goes through the following stages:

5. Taking medicinal plants in the forest

The collection of medicinal plants before being given to patients for treatment is carried out by the tabit by asking permission from the medicinal

plants whose parts will be taken, by giving replacement goods to the plants that will be cut/taken. The replacement goods in Dayak language term called “pelapik” can be in the form of salt, rice, metal, nails or knives given to the tabit or can be prepared by the treating tabit. This procedure has long been practiced by Dayak people, especially Dayak Hindu Kaharingan. Tabit takes plants from the medicine by asking permission from the plant while handing “Pelapik” to the plant while saying words/mantras. The procedure is carried out by village elders and tabit in accordance with the customs of the Dayak people since long ago, most of whom adhere to the Kaharingan Hindu religion.

The Kaharingan Hindu Dayak community is known to have a variety of mantras and objects that are believed to have magi power where these mantras are used on objects that have magi power or are called kaji (knowledge). Kaji is a mantra used to unify individual power directed towards a single goal, and to focus psychological and physical abilities towards a narrow goal. Kaji is a kind of intense calling that combines all the powers of the five senses, emotions and physical body. This means that the science of kaji must be practiced and done not just to be known.

In research conducted [22], “We, the Dayak people, believe that everything in this world has a spirit, in the process of taking medicinal materials. Dayak people believe water, air, fire and plants and animals have spirits. So that when taking medicinal materials you must first excuse yourself, by saying a prayer or mantra, for example: This plant or tree...I would like to take some of your body, use it as medicine so that my child can be cured, I ask you (for a miracle) so that my child will be safe and live a long life, that is my request”. These words show that the words spoken in kaji science are normal. However, if the conditions for taking it are ignored, it will affect the efficacy of the medicinal materials taken. Tabit has the ability to communicate with tree spirits on the medicinal materials to be used. After taking the medicinal material, a nail or needle and salt will be replaced under the tree/plant as an expression of gratitude.

6. Taboos/Pali During Treatment

The important role of cultural context plays an important role in shaping the stigma of mental health perceptions, with various levels of stigma existing in society. [23] Every treatment both in modern and traditional medicine requires taboos on certain foods, because some types of food can cause the disease to get worse and the patient is difficult to healing. Treatment with traditional Dayak medicine procedures also requires this taboos. Based on the results of interviews with patients who experience pain lumps on one of their limbs, that is in the ear, during the Dayak treatment method there are several taboos or pali. This taboos/pali must be carried out by patients who are undergoing traditional dayak medicine. As for some examples of taboos / pali that must be obeyed, for example, not allowed to eat eggs, chili, shrimp paste, eel fish, etc., for a period of several months or for life for some diseases that are quite severe.

Belief in taboos/pali when practicing traditional medicine is believed by all tribes in Indonesia including the Dayak Hindu Kaharingan tribe. The Kaharingan Hindu community is very confident and believes in pali. According to [24] Pali (taboos) that can make the person get sick or harmed will soon be cured by following the taboos and prohibitions given to the tabit (shaman) or lasang mediator in the balian sangiang ritual [22].

7. Conservation of Dayak Medicinal Plants and Traditional Medicine

Sibarani's definition (2012) of local wisdom is the knowledge of indigenous people that is inherited from generation to generation in managing and controlling the community [25]. Traditional medicine using forest plants as medicine is a local wisdom of the Dayak tribe, as well as to maintain and preserve forest biodiversity and maintain knowledge about Dayak traditional medicine. However, the plants used and formulated into traditional medicines are still not well documented, so that if they are not recorded properly, they will eventually become extinct and disappear. Along with the times and the modernization of medicine in the field of medicine, this alternative to

traditional Dayak medical treatment may be abandoned. This is very unfortunate if it happens, considering that from the results of survey interviews of several patients who experienced healing after re-examination, who were previously diagnosed with certain diseases.

Integration of local wisdom in modern sustainable development by preserving traditional customs and practices, promoting community-based tourism, and ensuring that local cultural values are in harmony with environmental management that enhances community identity and fosters ecological sustainability [26].

4. Conclusion

1. It was found that this kambalitan tree buds forest plant has a height of approximately 1-2 meters and grows in clusters which are used for the treatment of meruyan pain in new mothers. The active substance contained in this plant is not yet known.
2. Found Kulat Ipu or Ipu Mushroom This medicine is used in patients suffering from lumps / tumors on the body by dikasai / powdered on the affected area until the lump is not painful and deflated. The active substance contained in this plant is not yet known.
3. Traditional dayak medicine is carried out by tabit which is hereditary, after the patient knows the diagnosis of the disease from the results of medical examination. Dayak traditional medicine by carrying out the following procedures: Taking potentially medicinal plants from the forest and also practicing taboos/ *pali* during treatment. The practice of traditional Dayak Ngaju medicine is closely related to indigenous beliefs and cultural rituals, thus presenting a distinctive epistemology that may not fit within an empirical scientific framework.

Some things that are suggested to maintain and preserve forest biodiversity and maintain knowledge about traditional Dayak medicine are good documentation of traditional Dayak medicine recipes that have been

proven to cure sick patients so that these recipes do not become extinct/disappear.

It is necessary to conduct further research on the active ingredients contained in forest plants and identify plant specifications that are still not recorded in the data on the potential biodiversity of Central Kalimantan.

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