

## **Ethnobotany of Medicinal Plants for Internal Diseases in the Village Community of Fatulotu of Lasiolat District of Belu Regency**

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### **ABSTRACT**

Penelitian ini bertujuan untuk mempelajari jenis tumbuhan yang berkhasiat obat, cara tradisional pemanfaatan tumbuhan tersebut sebagai bahan obat tradisional, dan ritual tradisional yang dilakukan dalam penyembuhan penyakit dalam pada masyarakat Desa Fatulotu Kecamatan Lasiolat Kabupaten Belu. Penelitian ini dilaksanakan pada bulan Oktober hingga November 2013 di masyarakat Desa Fatulotu Kecamatan Lasiolat Kabupaten Belu. Metode penelitian ini adalah observasi lapangan. Pengumpulan data dilakukan dengan teknik survey dan wawancara. Teknik survei digunakan untuk memperoleh data tentang jenis-jenis tumbuhan yang berkhasiat obat. Sedangkan teknik wawancara digunakan untuk mendapatkan data tentang ritual yang dilakukan dalam penyembuhan penyakit dalam. Hasil penelitian menunjukkan bahwa terdapat 22 jenis tumbuhan yang berkhasiat obat yang dapat dikelompokkan menjadi 16 famili tumbuhan dan dapat menyembuhkan 16 macam penyakit dalam. Cara pengolahan tumbuhan untuk dijadikan bahan obat tradisional berbeda-beda tergantung dari jenis penyakitnya. Dukun didampingi oleh beberapa warga desa melakukan ritual saat mengambil bahan alam. Ritual yang dilakukan berupa pengobatan tertentu pada tanaman dan pembacaan mantra oleh dukun.

This research aims to study kinds of plants that have medicinal properties, traditional ways to use the plants as traditional medicinal ingredients, and traditional rituals performed in curing internal diseases in the Fatulotu village community of Lasiolat district of Belu regency. This research was carried out between October and November 2013 in the Fatulotu village community of Lasiolat district of Belu regency. The method of this research is field observation. Data were collected by survey and interview technique. Survey technique is used to obtain data about the kinds of plants that have medicinal properties. While, interview technique is used to obtain data about the rituals performed in healing internal diseases. The results showed that there were 22 species of plants that have medicinal properties that could be group into 16 plant families and could cure 16 kinds of internal diseases. The ways of processing plants to be used as traditional medicine ingredients varies depending on the types of diseases. Shaman is accompanied by several villagers performing rituals when taking natural materials. The rituals are carried out in the form of certain treatments on the plants and the recitation of spells by shaman.

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### **INTRODUCTION**

As a large island nation, Indonesia is a country with a high level of biodiversity. Various kinds of plants that have immeasurable benefits thrive in this country. One of the benefits of the plants that

have been felt for a long time is as a medicine (Tjitrosoepomo, 1994). The use of plants as medicinal ingredients to cure diseases that have been done by the community since ancient times is better known as traditional medicine (Swansi et al., 1990).

Fatulotu village is one of 154 villages in Belu regency. The dominant ethnic groups in Belu regency are Tetun (Belu), Dawan (Attoin Metto), Bunak (Marae), and Kemak. Each of these ethnic groups is further divided into smaller ethnic subgroups. Each ethnic group has a law that is applied in their territory to control the use and the management of natural resources. In customary law in Belu region, there are three legal strata of the law, namely kneter or neter (view of life), ktaek or taek (norm), and ukun badu (law that regulates taboo matters). The interaction between humans and nature is based on the ukun badu which is a set of rules in managing natural resources. In ukun badu, natural resources (land, water, rocks, large trees, mountains, etc.) are owned and sacred. All activities related to sacred issues must be done through certain ceremonies to obtain blessings and show respect. Forests around springs (mamar) are protected areas, not for entry by livestock and not allowed to be cut down or to take wood.

Traditional communities in various parts of the world have a strong belief in the earth as a motherland, plants as a source of life. The existence of plants as food ingredients, cloth materials, medicine and ceremonies is a basic supporting element of life and human culture from the beginning of human history. In earlier human history, humans placed themselves as part of nature. Human attitudes like this and local wisdom as possessed by the indigenous people of Belu are indispensable in the current industrial era.

The purpose of this study was to determine the kinds of medicinal plants to cure internal diseases, the traditional ways to use the plants as traditional medicinal ingredients, and the traditional rituals performed in curing internal diseases in the Fatulotu village community of Lasiolat district of Belu regency. The contribution of this research is as a basic data for biodiversity conservation efforts.

## **METHOD**

Ethnobotany comes from the word ethno which means study of culture and botany which means study of plants. Ethnobotany in terms of terminology can be understood as the relationship between certain community groups in various parts of the world with plants (Suryadarma, 2008). Ethnobotany explores the relationship between human culture and the surrounding plant nature (Anggana, 2011). Ethnobotany status as a science does not needs to be worried, but status of the object of research needs to be concerned because of the rapid erosion rate of natural resources, especially flora and traditional knowledges of the use of plants from certain ethnic groups. Ethnobotany experts are tasked with documenting and explaining the complex relationship between culture and use of plants with a primary focus on how plants are used, managed, and perceived in various communities, for examples as food, medicine, religious practices, cosmetics, dyes, textiles, clothing, construction, tools, rituals and social life (Suryadarma, 2008).

The disclosure of traditional knowledges about the use of plants as medicinal ingredients is very beneficial both economically and time (Purwanto, 1990). Ethnobotany at recent time has experienced very rapid progress, especially in America, India, and several Asian countries such China, Vietnam, and Malaysia. Various research program on the knowledge of local people about medicinal plants have been carried out lately mainly aimed at finding new chemical compounds that are useful in the manufacture of modern medicines to cure dangerous diseases such as cancer, AIDS, and other types of diseases. Whereas in Australia, ethnobotany research was devoted to studying traditional ways of managing plant natural resources with considering of ecological aspects.

Medicinal plants are plants or parts of plants that are used as medicinal raw materials, or plant extracts that are used as medicine (Ernawati, 2009). Based on scientifically potential proven or not as a medicinal plant, plants can be grouped into three groups of medicinal plants: (1) traditional medicinal plants, namely plant species that have been known and used as ingredients of traditional medicine; (2) modern medicinal plants, namely plant species that have been scientifically proven to contain bioactive compounds that have medicinal properties and their use can be medically accountable; (3) potential plants, namely plant species that are thought to contain bioactive compounds that have medicinal properties but have not been scientifically proven as the ingredients of traditional medicine (Anggana, 2011).

This research was carried out in Fatulotu Village of Lasiolat District of Belu Regency for two weeks, from October 24 to November 7, 2013. The object of this research is the medicinal plants, the way of processing and the use of these plants and the traditional rituals carried out by the local community. Data were collected by using survey and interview technique. Survey technique is used to obtain data about the kinds of plants that are used as ingredients of traditional medicine, while interview technique is used to obtain data about the way of processing and the use of these plants and the traditional rituals carried out by the local community. Data were analyzed descriptively based on the interviews and literature investigation.

## **RESULT AND DISCUSSION**

### ***General Description of Fatulotu Village***

Fatulotu village is divided into 6 hamlets, namely Umafatin, Beikati, Lahurus, Fatubesi, Takarabat, and Aitemuk. There are 35 traditional houses. Each traditional house represents each tribe. The traditional houses include Su'ar, Bei Meti Bei Moru, Bei Asa Bei Hale, Uma Leon, Datoklaran/Umatoko, Manesenulu Ailomea, Umakakaluk Ailomea, Uma Lianain, Leodawan, Serakalak, Leoklaran, Klaran Etu, Bei Tula, Manesenulu Fatubesi, Leoklaran Fatubesi, Atonahak Suriberek, Fatara, Mahein Lulik, Dato Alin, Berebauk, Diruma, Manunut, Beimau Uman, Soka, Manewalu, Tohe, Klusin, Umakakaluk, Datoklaran Umanain, Datoklaran Umabot, Lalis, Manehat, Asumanu, Datoalin, and Lekimau Kaletaran. The traditional community of Fatulotu Village is a traditional community group that still has a strong belief in their tradition and their ancestors.

The Fatulotu Village community highly respects to water and nature which they believe as the source of life (in their language: as “matak malirin”). The spring in Fatulotu village is a very protected area, there is even a ban on cutting down large trees, or even taking large stones around the source of the spring. Large trees and large stones are believed to be the protector of the spring water. The forest in Fatulotu Village is still very original. There are even forests that are sacred, anyone is not allowed to enter the forest except certain tribes entrusted by their ancestors to guard the forest. According to Soerjani, et al. (1987), in relation to their environment, village people generally have an immanent or holistic view. Village people can separate themselves from their biophysical system. Although there is a real boundary between humans and biophysical systems, village people feel that there is a functional relationship between themselves and the biophysical system into a unified system, namely the ecosystem. Therefore, one of the perceptions of the village people about basic needs is not primarily in the prosperity of the material, but rather in harmony with the environment. Exploitation of natural resources is regulated by various kinds of religious rules to ensure that the sustainability of the ecosystem can be maintained.

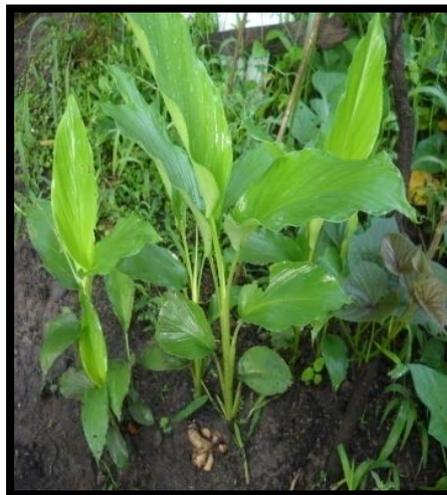
#### ***Species of Medicinal Plants Found***

There are 22 species of medicinal plants found in Fatulotu Village. From these 22 species of plants that have medicinal properties, 10 species are grouped into monocot plants, and 12 other species are grouped into dicotyledonous plants. The people of Fatulotu Village generally plant and maintain these types of medicinal plants in the yard of their home or in the garden.

##### ***1) Species belonging to monocot plants are:***



**Gambar 1.** *Zingiber officinale*



**Gambar 2.** *Curcuma domestica*



**Gambar 3.** *Curcuma xanthorrhiza* Roxb



**Gambar 4.** *Kaempferia galanga* L



**Gambar 5.** *Allium cepa*



**Gambar 6.** *Allium sativum*



**Gambar 7.** *Musa acuminata* colla



**Gambar 8.** *Cocos nucifera*



**Gambar 9.** *Cymbopogon nardus* L



**Gambar 10.** Aloe vera

2) *Species belonging to dicotyledonous plants*



**Gambar 11.** *Artocarpus integra*



**Gambar 12.** *Morus alba*



**Gambar 13.** *Artocarpus communis*



**Gambar 14.** *Morinda citrifolia* L



**Gambar 15.** *Citrus aurantium*



**Gambar 16.** *Ortosiphon stamineus*



**Gambar 17.** *Persea Americana Mill*



**Gambar 18.** *Scheleichera oleosa*



**Gambar 19.** *Piper betle*



**Gambar 20.** *Phyllanthus reticulatus Poir*



**Gambar 21.** *Jathropa gossipyfolia L*



**Gambar 22.** *Annona muricata*

### *Ways to Use Medicinal Plants and Cured Diseases*

#### **1) *Pneumonia***

Pneumonia is an inflammation or infection of the lungs that causes them to function abnormally. According to Lutfiyya et al. (2006), pneumonia is caused by bacteria such as *Streptococcus pneumoniae*, influenza virus, micoplasma (a group of small bacteria that are parasitic and without cell walls), chlamydia (bacteria from the chlamydia genus), and others unidentified microorganisms. Common clinical symptoms of community-acquired pneumonia include cough, fever, chills, fatigue, dyspnea, rigors, and pleuritic chest pain. Depending on the pathogen, a patient's cough may be persistent and dry, or it may produce sputum. Other symptoms may include headache and myalgia. Certain etiologies, such as legionella, also may produce gastrointestinal symptoms. Treatment methods: ginger is grated, then squeezed until the water comes out. The water is taken every morning and evening until healed. According to Sahu and Nahak (2011), curcuma contains secondary metabolites such as alkaloids, saponins, flavonoids, phenols, curcumin and anthraquinone. Curcumin has strong anti-oxidant and anti-inflammatory properties.

#### **2) *High Blood Pressure***

According to Corrao et al (1990), blood pressure is the power of blood to suppress the arterial wall. Blood pressure is high when the heart beats pumping blood, called systolic pressure. When the heart rests between the beats of the heart, blood pressure decreases, which is called diastolic pressure. Blood pressure is said to be normal if the measurement results range from 120 - 139 mm Hg for systolic and 80 - 89 mm Hg for diastolic. Someone is said to have high blood pressure, or what is also called hypertension, if the systolic is greater than 139 mm Hg and the diastolic is greater than 89 mm Hg. High blood pressure can be caused by excess weight, salt consumption, excessive cholesterol and alcohol, levels of physical activity, stress, smoking. High blood pressure can cause strokes, heart attacks, heart failure, kidney failure. How to treat it: advocate's fruit is burnt until the color changes

black. Next, the advocate fruit that has been burned is washed, then soaked in hot water, and the water is drunk, morning and evening until healed. According to Arukwe et al. (2012), advocate fruit contains secondary metabolites which act as anti-oxidants, also contain minerals especially potassium in high concentrations that help maintain the body's electrolyte balance so as to prevent the occurrence of high blood pressure.

### **3) *Low Blood Pressure***

Someone is said to have low blood pressure, or what is also called hypotension, if the systolic is lower than 90 mm Hg and the diastolic is lower than 80 mm Hg (Kavi, 2013). Low blood pressure is caused by standing too long, breathing too fast, heat, alcohol, consuming too much medication, diabetes, dehydration, and lack of weight. Low blood pressure can cause lack of confidence, sweating, fatigue, inertia, vomiting, blurred vision, hearing damage, headaches, irregular heartbeat, back neck pain, difficulty breathing, and chest pain. Ways of treatment: leaves of breadfruit plants boiled, then the water is drunk until the blood pressure returns to normal. According to Kuete et al. (2011), species of the genus *Artocarpus* have a number of medicinal uses, including for vascular diseases, chest pain, asthma, and vomiting caused by heart problems. Natural compounds isolated from breadfruit roots, stems, and leaves include, phenylflavonoid, dihydroxycartunine, dihydroisosiloartonein, heteroflavonone, silomorousine, artonin A and B, cycloheterillin, cycloomunine, cycloartomunine, artocarpanon A, kudraflavone, and flavonoids: dihydroartomunocanton, artomunoisosanton, siklokomunometonol, siklokomunometonol and artomunoflavones.

### **4) *Tuberculosis***

Pulmonary tuberculosis is an infectious disease that is still a public health problem. Tuberculosis is an infectious disease caused by rod-shaped bacteria (bacilli) known as *Mycobacterium tuberculosis* (Hiswani, 2004). The method of treatment: Aloe vera leaves scraped, then the water from the scrapings is drunk regularly every day. Aloe vera can cure cancer, diabetes, stomach, and AIDS / HIV infections. The compounds and minerals contained in Aloe vera are water, 20 kinds of minerals, 12 kinds of vitamins, 18 kinds of amino acids, 200 kinds of active compounds including enzymes, triterpenes (compounds that can reduce blood sugar levels), glycoproteins, polysaccharides, mannos-6-phosphate polyimides, phenolic glucosides including dihydroamarin (Adams, 2009).

### **5) *Asthma***

Asthma is a chronic inflammatory respiratory tract that causes bronchial hyperactivity in various stimuli, with recurrent episodic symptoms such as coughing, shortness of breath, and feeling of heaviness in the chest, especially at night and / or early morning, which are generally reversible, either with or without treatment (Rengganis, 2008). To treat this disease used kencur, leaves of the ink tree, mixed with garlic, genuak, sweet orange peel. All these plants are chewed and then taped to the ear holes, nostrils, and sprayed on the forehead. According to Patil and Jadhav (2012), fruit plants have been used to treat various diseases, including smallpox, syphilis, asthma, and diarrhea. This plant contains chemical compounds such as tannic acid, terpenoids, flavonoids, phenolics, and steroids

(Sharma and Kumar, 2013). Flavonoids and polyphenolic compounds have an important role in preventing various diseases through their anti-oxidant activity (Patil and Jadhav, 2012).

#### **6) *Dysentery***

Dysentery is an inflammation of the large intestine which is characterized by abdominal pain and runny watery stools that are mixed with mucus and blood. Based on the cause, dysentery can be divided into two namely amoebic dysentery and basilar dysentery. The most common cause is the infection of the *Entamoeba histolytica* parasite which causes amoeba diarrhea and bacterial infection in the *Shigella* group which causes bacillary diarrhea (Andayasari, 2011). Treatment of dysentery is done by the way the cambangi plants are chewed and the water is swallowed. This is done every day until the pain heals. According to Srinivas and Baboo (2011), chemical compounds 1,2-Benzenedicarboxylic acid, diisooctyl esters identified from the bark of the kusambi tree have anti-microbial activity.

#### **7) *Ulcer***

According to Al-Attar (2011), stomach disease has spread widely among residents from various countries. Ulcer disease (peptic ulcer) is a common digestive tract disorder that occurs mainly in the stomach and proximal part of the duodenum. The disorder is in the form of damage to the mucous lining of the digestive tract wall by infection with *Helicobacter pylori* bacteria and the use of anti-inflammatory anti-steroidal drugs (Fashner and Gitu, 2015). How to treat it: the leaves of the soursop plant are boiled, then drunk regularly morning and evening. In the Caribbean islands, soursop plants are usually used to treat digestive disorders which cause discomfort and chest feels hot (Taylor, 2005). Furthermore according to Taylor (2005), chemical compounds, called annonaceous acetogenin, which are found in soursop plants, have anti-tumor, anti-parasitic and anti-microbial activities.

#### **8) *Piles***

Piles in the medical world are known as hemorrhoids. Hemorrhoids are widening and inflammation of venous blood vessels originating from plexus hemorrhoidales that occur in and around the rectum and anus (Septadina and Veronika, 2015). Hemorrhoid can be caused by a low-fiber diet, constipation, diarrhea, pregnancy, too long sitting habits, removing too forced stools, family history, and age (Ganz, 2013). How to treat it: boiled noni leaves then drink it regularly, morning and evening. Noni plants originated from Southeast Asia (Indonesia to Australia) (Nelson, 2003). This plant has been used as a source of traditional medicine by the Polynesians for more than 2000 years (Blanco et al., 2006). Bioactive chemical compounds found in Noni leaf extract include glycerin, D-arabinitol, pentadecane, hexadecane, sorbitol, heptadecane, tetradecanoic acid, octadecane, heptacosane, n-hexadecanoic acid, phytol, octadecanoic acid, eicosanoic acid, gamma-tocopherol, vitamin E, campesterol, stigmaterol (Rivera et al., 2012). One of the properties possessed by Noni leaves by the presence of these bioactive compounds is the anti-dilation of blood vessels, so that it can be used to cure hemorrhoids.

**9) Fever**

According to the medical dictionary, fever is an increase in body temperature above normal (above 98.60 F / 37 0 C). Fever is the body's physiological response to diseases mediated by cytokines and is characterized by an increase in the body's central temperature and immune complex activity (Kania, 2007). Fever or high heat can be removed using turmeric, ginger, onion, garlic. All ingredients of this plant mixed with coconut oil are then rubbed throughout the body. In Saudi Arabia, shallots are smeared on the skin of the body to eliminate muscle tension, pain and fever (Shrestha, 2004). The compounds identified from shallots include protein, fat, carbohydrate, fiber, calcium, phosphorus, iron, thiamine, riboflavin, niacin, vitamins, arginine, histidine, lysine, tryptophan, phenylalanine, methionine, threonine, leucine, isoleucine, and valine. In Europe and India, garlic is used to cure coughs, flu, fever, and asthma. According to Kemper (2000), in Europe and India, garlic is used to treat cough, flu, fever and asthma. Bioactive chemical compounds contained in garlic include sulfur compounds (aliin, alisin, ajoene, alypropyl disulfide, dialyl trisulfide, etc.), enzymes (alinase, peroxidase, mirosinase, etc.), amino acids and glycosides (arginine, etc.), and micro minerals (selenium, germanium, tellurium, etc.).

**10) Hepatitis**

Hepatitis is a general term which means inflammation of the liver and can be caused by various types of viruses (Previsani and Lavanchy, 2000). This disease is spread mainly through food and water contaminated by feces. This disease is cured with jackfruit roots and mulberry leaves. The trick: jackfruit root and mulberry leaves boiled then the water is drunk morning and evening. Mulberry (*Morus alba* L) is a traditional medicinal plant used to cure several diseases such as jaundice (hepatitis), vomiting blood (hematemesis), and frequent urination with a small volume (pollakisuria) (Lim et al., 2014). Bioactive chemical compounds identified from mulberry include alkaloids, flavonoids, glycosides, terpenoids, steroids, volatile oils, and tannins. Biological activities of these bioactive chemical compounds include antidiabetic, reduce levels of fat in the blood serum, antihypertensive, antimicrobial, antioxidant, anticancer, anti-clogging of blood vessels, the effects of gastric damage, and protect nerves (Lim et al., 2014).

**11) Bleeding Urine**

Bleeding urine, or in medical term is called hematuria, is a condition where there are red blood cells in the urine. The presence of blood in this urine cannot always be seen with the naked eye. This situation is only known when the patient performs a urine examination. Bleeding urine is usually caused by frequently holding back urination. Often holding back urination causes the deposition of substances in the bladder tract and causes infection (Azkiya, 2017). This disease is cured by means of red banana root and betel fruit boiled. The boiled water before drinking, soaked with gold for about 2 minutes, then drunk. According to Kennedy (2009), stem ends, stalks / bunches of flowers, roots, and banana flowers have several functions, including as complementary animal food or livestock food, medicines, and domestic ingredients for the traditional ritual needs of the local community. Banana species have a

number of pharmacological advantages, such as gastric protection activities, antibacterial, wound healing, antioxidants, and antimutation genes (Banerjee et al., 2011). Antioxidant compounds found in bananas include ascorbic acid, tocopherol, beta carotene, phenol groups, dopamine, and galosatesin.

### ***12) Vomiting Blood***

Vomiting blood, in medical terms called hematemesis, is a condition caused by upper gastrointestinal bleeding (DU, 2013). According to DU (2013), people affected by blood vomiting are generally people who have a history of stomach ulcers and often take headache medications. Frequent consumption of headache medications, such as aspirin and ibuprofen, can cause irritation of the gastric mucosa and stimulate the onset of gastric ulcers. This condition can cause vomiting of blood. How to cure it: root of red castor plant boiled, then drink the boiled water every morning and evening. In India, red castor plants are used as traditional medicinal plants. Various parts of red castor plants, such as roots, stems, leaves, flowers, skin and fruit, can be used as medicine to cure various diseases in humans. Red castor plants have great potential as a source of antimicrobial and anti-inflammatory compounds. Bioactive-chemical compounds, which have pharmacological advantages, that can be obtained from red cast plants include alkaloids, flavonoids, saponins and tannins (Packialakshmi and Archana, 2014).

### ***13) Leucorrhoea***

Leucorrhoea is one of the reproductive health problems that often occurs in women, especially in adolescents. There are two kinds of vaginal discharge, namely physiological vaginal discharge and pathological vaginal discharge. Physiological leucorrhoea can cause pathological vaginal discharge. Physiological leucorrhoea is a normal condition, is the discharge of vaginal fluids other than menstrual blood which is influenced by hormones, runny white, odorless, and not itchy. Pathological leucorrhoea is the discharge of vaginal fluids in addition to menstrual blood in large quantities caused by infections and improper treatment of female areas, yellowish or greenish, fishy or rotten, and accompanied by itching. To get rid of vaginal discharge that often occurs in women, betel plants are used. Betel leaves are boiled, then drunk. Giving betel leaf boiled water to wash the vagina can reduce vaginal discharge. Betel leaves contain essential oils which consist of betlephenol, kavikol, sesquiterpan, hydroxycavikol, cavibetol, estragol, eugenol, and carvacol. Betel leaves also contain diastase enzymes, sugar, and tannins. Eugenol compounds in betel leaves can kill *Candida albicans* fungus that causes vaginal discharge, while tannin is an astringent that reduces fluid secretion in the vaginal canal (Mustika, Astini, and Yuniarti, 2014).

### ***14) Kidney Stones***

Kidney stones are solid pieces of material that form in the kidneys when substances that are normally found in urine increase their concentration. Small kidney stones can be removed through the urethra without problems. However, large kidney stones can be left in the urethra and close the urethra, causing pain or bleeding (Coe, 2013). The treatment of this disease is done by boiling the leaves of the cat's whiskers, then drinking the boiled water regularly. According to Rahman and Hossain (2011), in

Southeast Asia, the leaves of cat whiskers are used as herbal teas to treat rheumatism, diabetes, colds, hepatitis, hypertension, fever, gout, epilepsy, syphilis, gallstones, bladder inflammation, and kidney pain. The leaves of cat whiskers contain several bioactive compounds such as terpenoids (diterpen and triterpenes), polyphenols (lipophilic flavonoids and phenolic acids), and sterols. Polyphenols have antioxidant activity and enzyme inhibition. Lipophilic flavonoids have decomposer activity of the remnants of organic matter (Rahman and Hossain, 2011). The experimental results of Rajeshkumar and Manohar (2014) in white rats in India showed that ethanol extract of cat whiskers leaves had urinary tract protection activities.

### **15) Anemia**

Anemia is a condition where the hemoglobin level in the blood is lower than the normal value. The normal anemia value according to WHO (2001), for ages 5 - 11 <115 g / L, age 12 - 14 years  $\leq$  120 g / L, while above 15 years for women > 120 g / L and men male > 130 g / L. Some factors cause anemia such as lack of iron intake, disruption of iron absorption, presence of iron absorption inhibitors in food, malaria, hookworm infection, blood loss during surgery, people with HIV / AIDS, socio-economic factors, education, health facilities, growth, endurance, smoking and drinking alcohol (Sihombing and Riyadina, 2009). Clinical symptoms of anemia such as fatigue, lethargy, fatigue, pallor, dizziness, dizzy eyes, and easily drowsy. How to treat it: shredded turmeric then the water is taken, after that it is mixed with coconut oil, honey and egg yolks and then drunk. The main component in turmeric is curcumin, a chemical compound responsible for the biological activity of turmeric (Leon and Araujo, 2001). The bioactive chemical compounds that make up curcumin are 1,7-bis (4-hydroxy-3-methoxyphenyl) -1,6-heptadiene-3,5-dione (Hewlings and Kalman, 2017). In India and Southeast Asia, turmeric is used as a medicinal plant because of its benefits as an antioxidant, anti-inflammatory, antimutagenic, antimicrobial, anticancer, antidiabetic, and anti-toxic (Vellayudhan et al., 2012). Honey contains simple sugars, organic acids, minerals including iron, proteins, enzymes, and vitamins in small amounts. Honey has used in the health world as an antimicrobial, anti-inflammatory, antioxidant, and agent that strengthens the immune system (Abeshu and Geleta, 2016).

### **16) Malaria**

Malaria is a disease caused by parasites (protozoa) of the genus Plasmodium, which live and multiply in human blood cells. This disease is naturally transmitted through the bite of a female anopheles mosquito. People suffering from malaria typically experience high fever, cold, and influenza. Malaria contributes greatly to infant and child mortality. How to treat it: lemongrass leaves and boiled betel leaf then soaked in hot water and bathed. In Nigeria, cereals are used to cure gastric disorders, malaria therapy, mosquito repellents, and as antioxidants made in the form of tea (Avoseh et al., 2015). Sere plants contain secondary metabolites such as saponins, tannins, quinones, steroids, flavonoids, polyphenols, and essential oils (Hendrik, Erwin, and Panggabean, 2013). These compounds have antibacterial and insect repellent activity.

### ***Rituals Performed***

The ritual that is often carried out by shaman in an effort to cure the patient's disease is a ritual when taking medicinal plants. The medicinal plants used cannot be named. The plant is taken directly by the shaman concerned. When taking plants, the direction of the wind, shadow, and sun must be considered. The plant trees that they want to take are sprinkled with rice and placed a few coins. This ritual means that the plants that grow around them have their owners and guards. In addition, there are spells that are spoken by the shaman. The spells can only be known by the shaman concerned. The meaning of the spells is asking for blessing from the above (ancestors, sky, stars and moon).

### **CONCLUSION**

The people of Fatulotu Village, Lasiolat Subdistrict, Belu Regency still use plants (natural ingredients) to cure various kinds of diseases including internal diseases. There are 22 types of plants found in Fatulotu Village, which can cure 16 kinds of internal diseases in the Fatulotu community, including ginger (*Zingiber officinale*), turmeric (*Curcuma domestica*), ginger (*Curcuma xanthorrhiza* Roxb), kencur (*Kaempferia galangal* L), onion red (*Allium cepa*), garlic (*Allium sativum*), red banana (*Musa acuminata* colla), coconut (*Cocos nucifera*), lemongrass (*Cymbopogon nardus* L), aloe vera (*Aloe vera*), jackfruit (*Artocarpus integra*), mulberry (*Morus alba*), breadfruit (*Artocarpus communis*), Noni (*Morinda citrifolia* L), sweet orange (*Citrus aurantium*), cat whiskers (*Ortosiphon stamineus*), avocado (*Persea Americana* Mill), kusambi (*Scheleichera oleosa*), betel (*Piper betle*), fruit ink (*Phylantus reticulatus* Poir), distance red (*Jathropa gossipyfolia* L), and soursop (*Annona muricata*). In attempting to heal, shamans always carry out rituals and rituals that are often performed during rituals when taking parts of plants or plants that will be used as medicinal herbs.

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