

## Ethnobotany Study through the Utilization of Medicinal Plants in Obesi Village, Mollo Utara District, South Central Timor Regency

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**Abstract:** The culture of using plants as traditional medicine by a group of local people is always related to regional identity, rituals, and plant diversity that need to be studied in depth. This study is known as ethnobotany study. This study aims to determine, describe, and analyze the level of ethnobotany knowledge of plants in their use as traditional medicine by the Obesi village community, North Mollo district, South Central Timor district. The methods used were surveys and direct interviews which were guided by a list of questions for several Obesi villagers with the snowball sampling technique. The data obtained were presented in tabulated form and analyzed descriptively with a quantitative approach to determine the ethnobotany level of medicinal plants. The results showed that there were 40 types of plants from 28 families that were used by the community to treat various diseases such as rheumatism, appendicitis, hypertension, fever, convulsions, diarrhea, flatulence, and itching with the most used plant parts, namely leaves, fruit, roots/rhizomes, tubers, midrib, bark, and seeds and flowers in a very simple or traditional way. Ethnobotany level of knowledge based on age class is at a moderate level where the lowest (KU1) 0.574 and the highest (KU4) 0.899, and based on gender, women have a higher level of knowledge than men. The research results are expected to be used as a reference source for important information in the utilization of various types of medicinal plants in the surrounding environment.

**Keywords:** *Obesi Village; Ethnobotany; Medicinal Plants.*

### Introduction

Ethnobotany is the study of the overall interaction between humans (ethnic/community groups) and their natural environment which includes knowledge about natural plant resources (Kandowangko *et al.*, 2011; Noorcahyati, 2012; Kaunang *et al.*, 2017). Ethnobotany studies are not only about the morphological and taxonomic appearance of one species or group of plants but in the form of interactions, processes, behaviors, attitudes, and botanical knowledge of the community that is found in many ethnic groups in Indonesia. This study is also in the form of a review of the interpretation and association of humans and plant resources in maintaining their culture and ethnicity, which are more prioritized for the preservation of natural resources (Philips dan Gentry, 1993; Suyadarma, 2008; Pei 2013; Apriyanto, 2015).

Ethnobotany studies of medicinal plants

themselves have been specifically carried out by the wider community for a long time and have been passed down from generation to generation as a means of knowing the potential of certain medicinal plants and making these plants an alternative to replacing drugs containing chemical or synthetic substances into drugs herbs that do not contain side effects (Cotton, 1996; Radam *et al.*, 2017), free from poisoning and dependence because they are organic substances (Abednego, 2013), easy to obtain, easy to grow, can be mixed independently, and very economical (Zega *et al.*, 2016). At present, several drugs developed come from plants that are active against various diseases (Kalayu, 2013). According to WHO, 80% of the world's population depends on natural medicines, even 25% of modern medicines marketed in the world come from plants (KLH, 2014).

The culture of using plants as traditional medicine is different for each region, this is related to regional identity, community rituals, and the diversity of plants in the existing area (Luchman, 2014). So it is necessary to have scientific information regarding knowledge of

utilization, management, and inventory of plant species as traditional medicines which are still developing in certain groups of society. Where finally it can be developed as a medicine based on Indonesian herbs.

One of the community groups in Obesi Village, Mollo Utara Subdistrict, Timor Tengah Selatan Regency has the potential to be explored because this community group has quite high ethnic diversity compared to other villages, so far there has been no research on the use of medicinal plants which can be used as a good reference for the Obesi village community, as well as the community outside the village, this is the basis for the need for ethnobotany study of medicinal plants in Obesi Village.

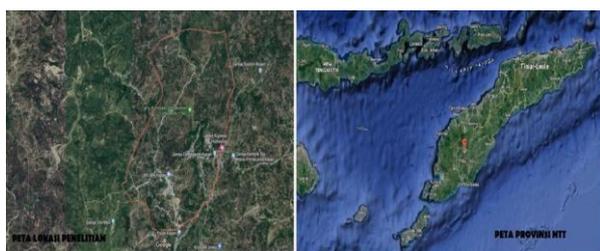


Figure 1. Map of the Research Location

## Materials and Methods

### Tools and Materials

The equipment used in this study is a list of Indonesian medicinal plants for identification of medicinal plants, stationery, tape recorders, digital cameras, questionnaires for selected respondents, isolation, scissors, cutters, label paper, newsprint, notebooks, gloves, masks, and spray bottles. The materials used in this study were all types of medicinal plants found in Obesi Village and 70% alcohol.

### Work procedures

This research begins with conducting preliminary observations of the location and determining potential informants based on their status and role in society based on the adequacy of information using purposive and snowball techniques (Sugiyono, 2010). The methods used were survey methods and semi-structured interviews using questionnaires to determine the level of

knowledge about the use of plants with traditional elders and other communities.

The number of respondents used was 40 people grouped according to age class and ethnicity. Purposive determination of informants who have an understanding of plant resources. The data source is based on the informant's initial (*key-informant*) guide who recommended another informant (*Snowball*) who understands the use of plants as medicine.

Measuring the level of ethnobotany knowledge uses the Phillips and Gentry (1993) equation in Iswandono (2015), namely:

:

$$M_{gj} = \frac{1}{n} \sum V_i$$

Information:

$M_{gj}$  = Average level of ethnobotany knowledge of group j

n = Number of members in group j

$V_i$  = Amount of traditional knowledge held by member i of group j

J = Age class or gender

The significance test of the factors that affect the level of ethnobotany knowledge of the community is carried out by data processing using SPSS 20.0, namely the non-parametric test at a significant level of 0.05, namely: 1) *Kruskal Wallis test*. This test is used to examine differences in ethnobotany knowledge in each age class; 2) *Man Whitney test*. This test is used to test two independent samples from the same population, testing for sex differences.

## Result and Discussions

Based on the results of research in Obesi Village, North Mollo District, researchers found as many as 40 types of medicinal plants used by community groups and 28 families planted in the yard of the house or obtained from forest areas, more fully presented in **Table 1**.

**Table 1.** Types of Medicinal Plants Used by the Obesi Village Community

No	Indonesian Name	Scientific Name	Family	Organ	Benefits
1	Aruda/inggu	<i>Ruta graveolens</i> L.	Rutaceae	Leaf	Rheumatism, fever, colds, and seizures in children
2	Alpukat /Adokad	<i>Persea americana</i>	Lauraceae	Leaf, Fruit	High blood, Cholesterol, and Fertilize hair
3	Bawang merah	<i>Allium cepa</i>	Amaryllidaceae	Tuber	Lowering fever, relieves colds, and soothes the throat
4	Beluntas	<i>Pluchea indica</i> L.	Asteraceae	Leaf	Eliminate body odor, vaginal discharge, appetite enhancer, and fever
5	Bunga terompet	<i>Brugmansia candida</i>	Solanaceae	Flower	Hemorrhoids/hemorrhoids, shortness of breath, and rheumatism
6	Daun Afrika	<i>Vernonia amygdalina</i>	Asteraceae	Leaf	Cholesterol, Hypertensi and diabetes
7	Delima	<i>Punica granatum</i>	Lythraceae	Leaf Fruit	Drugs, diarrhea, and inflammation of the mucous membranes
8	Faloak	<i>Sterculia quadrifida</i> R.Br	Malvaceae	Bark	Hepatitis, rheumatism, anemia, typhus, step/convulsions, ulcers, diarrhea, nausea, insect repellent, stamina booster, and malaria
9	Gandarusa	<i>Justicia gendarussa</i> Burm.f	Acanthaceae	Leaf	Rheumatism, ulcers, irregular menstruation, and headaches.
10	Genoak/ jeringau	<i>Acorus caramus</i> Linn	Acoraceae	Rhizome	Launch the process of childbirth, malaria, fever, convulsions/step, rheumatism, skin diseases
11	Jahe	<i>Zingiber officinale</i>	Zingiberaceae	Rhizome	Rheumatic drugs, smooth menstruation, flatulence
12	Jambu biji/ kujawas	<i>Psidium guajava</i>	Myrtaceae	Fruit, bark, leaf	Nausea, flatulence, mouth sores, and diarrhea
13	Jarak pagar/ damar	<i>Jatropha curcas</i> L.	Euphorbiaceae	Leaf, root, bark	Reducing fever, swelling, sprains, rheumatism, medicine for itching and leprosy (leprosy)
14	Jarak Merah	<i>Jatropha curcas</i> L.	Euphorbiaceae	Leaf	High blood and Cholesterol
15	Keladi ungu/talas	<i>Colocasia esculenta</i>	Araceae	Tuber	Appendicitis, high blood pressure (hypertension), and ulcers
16	Kelor /marungga	<i>Moringa oleifera</i>	Moringaceae	Leaf	Prevent heart disease, rheumatism, cancer, canker sores, weakness, epilepsy, diabetes, and appetite enhancer
17	Kenikir	<i>Cosmos caudatus</i>	Asteraceae	Leaf	Appetite enhancer, insect repellent, heart booster
18	Kumis kucing	<i>Orthosipon aristatus</i>	Lamiaceae	Leaf	Lowering fever, flatulence, urinary tract infections (UTIs), urinary stones, and vaginal discharge
19	Kunyit	<i>Curcuma longa</i>	Zingiberaceae	Rhizome	External wound medicine, smooth menstruation, ulcer/stomach
20	Labu siam	<i>Sechium edule</i>	Cucurbitaceae	Fruit	Hypertension, and ulcers/stomach

21	Lada	<i>Piper nigrum</i>	Piperaceae	Fruit	Warms the body, eliminates fatigue, repels insects, shortness of breath, and gout
22	Lantana	<i>Lantana camara L.</i>	Verbenaceae	Root	Rheumatic medicinal ingredients
23	Legetan	<i>Acmella oleracea</i>	Arteraceae	Leaf	Sore throat, bleeding gums medicine, and urine laxative
24	Lidah buaya	<i>Aloe vera L.</i>	Xanthorrhoeaceae	Leaf	Shortness of breath, burns, step/convulsions, hemorrhoids, intestinal worms, headache, vomiting blood, and internal wounds
25	Meniran	<i>Phyllanthus urinaria</i>	Phllanthaceae	Leaf	Appendicitis, rheumatism, urine laxative, kidney stones, and epilepsy
26	Murbei /bebesaran	<i>Morus L.</i>	Moraceae	Fruit	Gonorrhea, urine laxative, ulcers, and ulcers
27	Pakis / paku sayur	<i>Diplazium esculentum</i>	Athyriaceae	Leaf	High heat mixed with guava skin and coconut oil
28	Patah tulang	<i>Euphorbia tirucalli L.</i>	Euphorbiaceae	Leaf	Rheumatism, and deep wounds
29	Patikan kebo	<i>Euphorbia hirta L.</i>	Euphorbiaceae	Leaf	Inflammation of the kidneys, sore throat, breast abscess, and asthma
30	Pegagan /tapak kuda	<i>Centella asiatica</i>	Mackinlayaceae	Root and leaf	Reducing fever, cough, ulcers, flatulence, worms, hemorrhoids, typhus, epilepsy, urine laxative, swelling of the liver, and hypertension
31	Pepaya	<i>Carica papaya L.</i>	Caricaceae	Leaf, fruit and root	High blood pressure, malaria, and rheumatism drugs
32	Pinang	<i>Areca catechu L.</i>	Aracaceae	Fruit	Appendicitis, intestinal worms, cough, and tooth booster
33	Pisang	<i>Musa paradisiaca</i>	Musaceae	Fruit, banana heart and midrib	Ulcer/stomach, heart, hepatitis, and external wounds due to cutting
34	Pisang mas	<i>Musa acuminata</i>	Musaceae	Root	Liver (jaundice)
35	Seledri	<i>Apium graveolens</i>	Apiaceae	Leaf	Hypertension and insomnia
36	Serai	<i>Cymbopogon citratus</i>	Poaceae	Leaf midrib	Lose weight, diabetes and high blood pressure, anti-cancer drugs
37	Serai merah	<i>Cymbopogon nardus L.</i>	Poaceae	Leaf midrib	Against stroke
38	Sirih	<i>Piper betle</i>	Piperaceae	Fruit and leaf	Eliminates itching, itchy and red eyes, body odor, vaginal discharge, coughs, nosebleeds, ulcers, and thrush
39	Sukun	<i>Artocarpus altilis</i>	Moraceae	Fruit	Fever and hepatitis
40	Temulawak	<i>Curcuma xanthorrhiza</i>	Zingiberaceae	Rhizome	Smooth menstruation, dry cough medicine, flatulence, and canker sores

Based on the results of the 40 types and 28 families of medicinal plants found in the study, it can be seen that several families that have two or more types, the highest number is in the Asteraceae, Euphorbiaceae, and

Zingiberaceae families, each consisting of 3 types of medicinal plants with a percentage of 9.37% and The use of parts of medicinal plants most often used by the Obesi village community are leaves (17 types), fruit (11 types),

rhizomes/roots and tubers (6 types), midrib (3 types), bark (3 types), seeds (1 type), and flowers (1 type). The use of leaves as traditional medicine is because leaves are the most abundant plant organ in nature. After all their existence is not influenced by seasons (Silalahi *et al.*, 2018). Meanwhile, the utilization of organs such as fruit is also quite high and the lowest in the midrib, bark, seeds, and flowers. How to use it depends on the type of disease, including crushed or crushed, boiled, dipped in a vinegar solution or hot water, stuck, chewed, drunk, or eaten directly and rubbed on the sick body.

Utilization of medicinal plants by the village community of this obsession has the efficacy of curing various diseases including rheumatism, appendicitis, hepatitis, hypertension (high blood pressure), cancer, breast abscess, epilepsy, Amish tract infection (UTI), stomach (ulcer), shortness of breath, step (convulsions), urine laxative, gonorrhoea, diabetes, typhoid, swelling of the liver, malaria, gout, launching labor, smooth menstruation, vaginal discharge, flatulence, hemorrhoids, diarrhea, shortness of breath, coughing, vomiting, fever, headaches, runny nose, mouth sores, itchy or red eyes, body itching, boils, ulcers, nosebleeds, teeth braces, worms, warms the body, relieves fatigue, repels insects, increases appetite and increases stamina.

Types of plants used to treat rheumatism (12 types), fever or high fever (9 types), step/convulsions (5 types), hepatitis (3 types), appendicitis (3 types), hypertension (3 types), urine laxative (2 types), stomach/ulcer (2 types), canker sores (2 types), and several other types of plants that only cure one disease.

### **Ethnobotany of Medicinal Plants in Obesi Village Communities**

The use of plants as medicine by the Obesi village community has been carried out from generation to generation and has not been well documented. In general, these plants are found as hedgerows or ornamental plants around the houses of village communities that are processed in a very simple way, such as boiling, chewing, grinding them until they are smooth, and then affixing them to the sick body part. This knowledge is inseparable from the local customs or wisdom of the community, where people believe that certain plants have magical powers that not everyone can take or mix so that only traditional elders or shamans can take and concoct them, then they can have medicinal properties. The Obesi village community uses medicinal plants around the village by simple processing, including boiling, mashing it, attaching it to a sick body part. How to use it is also simple, which is known from personal experience and from generation to generation. Types and Ways of Using Plants as Medicine by the Obesi Village Community Genoak / jerking (*Acorus*

*calamus* Linn) is a plant that is widely used by the Obesi village community during childbirth, treating malaria, fever, step (convulsions) in children, and also as a remedy for skin diseases. The dried genoak is often worn along with garlic and stored on the clothes of newborns because it is believed to be mystical, and there has been no research on this. To treat malaria, genoak is soaked in hot water and then the water is brewed and drunk, the same applies to fever and malaria, while the step (convulsions) are usually fresh genoak, crushed then inhaled directly by the sufferer.

### **Types and Ways of Using Plants as Medicine by the Obesi Village Community**

Genoak/jeringau (*Acorus caramus* Linn) is a plant that is widely used by Obesi villagers during childbirth, treating malaria, fever, step (convulsions) in children, and also as a remedy for skin diseases. The dried genoak is often worn along with garlic and stored on the clothes of newborns because it is believed to be mystical, and there has been no research on this. To treat malaria, genoak is soaked in hot water and then the water is brewed and drunk, the same applies to fever and malaria, while the step (convulsions) are usually fresh genoak, and crushed and then inhaled directly by the sufferer.

Shallots (*Allium cepa*) are used together with genoak to reduce heat, relieve colds, and soothe the throat. Shallots have long been known as a kitchen spice which is also used by the Obesi village community as traditional medicine. The method of processing is by peeling the epidermis from the onion bulbs, then thinly sliced or mashed mixed with coconut oil (VCO), and then rubbed on the hot body parts.

*Areca catechu* L. is used by the villagers to cure appendicitis, intestinal worms, and coughs. The areca nut used is usually the areca nut that has undergone a drying process. To cure appendicitis, betel nut is added with red onions then boiled and brewed like tea. Meanwhile, for worms the betel nut is crushed into powder and brewed with hot water and drunk before bed.

Taro purple / taro (*Colocasia esculenta*) is one of the plants grown by the Obesi village community as an agricultural product, which is an important source of carbohydrates. This purple taro has properties as a traditional medicine to cure appendicitis which is used with meniran which is processed by boiling together and then brewing it like tea. For the treatment of high blood pressure, purple taro boiled water is drunk every day.

Beluntas (*Pluchea indica* L.) is a shrub with many branches, fine ribs, and soft hair, beluntas is often planted as a hedge or barrier plant because it is very easy to grow, which is actually medicinal for all parts of the plant but the most frequently used are fresh leaves or

dried. To get rid of body odor and vaginal discharge, the fresh leaves are washed, then soaked in hot water and consumed as fresh vegetables along with another food intake. As for the appetite enhancer, the fresh leaves are mixed in the porridge or rice to be eaten. To reduce heat, the fresh leaves of this beluntas are boiled or brewed in hot water, then drunk like tea.

Kenikir (*Cosmos caudatus*) is an annual plant that has medicinal properties to strengthen the heart, increase appetite, and repel insects. To increase appetite, fresh kenikir leaves are eaten as raw salad.

Legetan (*Acmella olearacea*) works as a medicine for bleeding gums, sore throat, and laxative of urine. Fresh leaves from legetan can be used as a remedy for bleeding gums by taking clean leaves, then washed and chewed slowly for ½ minute in the mouth, and then discarded.

Chayote (*Sechium edule*) is the most cultivated vine in Obesi village, this plant is very suitable for living in humid areas, Obesi village people use this plant as a vegetable as well as a traditional medicine to treat hypertension, the processing is very simple, usually processed as a vegetable, or boiled and brewed water like tea.

*Jatropha curca* L. is a fast-growing shrub with a height of up to 3-5 meters and in places of high rainfall such as in Obesi village, this plant has long been used by the Obesi village community for its seeds to be used as a source of oil, and its leaves are used as a traditional medicine for leprosy (leprosy) by taking fresh leaves and then pulverizing them to a pulp, then affixing them to the affected area and bandaged (Bangun, 2012). To reduce heat, fresh leaves are taken and then placed on the forehead, armpits, or any part of the body that feels hot. And to cure rheumatism, fresh jatropha leaves finely ground and soaked with warm water to smear the sore part.

Patikan kebo (*Euphorbia hirta* L.) is a plant that grows wild in the area around the Obesi village community housing. This plant is used to treat breast abscesses by taking all parts of this plant then mash with tofu and eat it like a vegetable. As for sore throat and asthma, the fresh leaves of the patikan kebo are picked then dried and brewed with hot water then drunk.

Cat whiskers plant (*Orthosiphon aristatus*) is one of Indonesia's native medicinal plants which has quite a lot of benefits and uses in overcoming the disease. One of the things that are known and utilized by the Obesi village community is that UTI (urinary tract infection) can be cured by taking fresh leaves from cat whiskers then boiling, cooling, and drinking 2 times a day. Stone urine is treated by taking fresh leaves from the cat's whiskers and meniran then boiled together and drunk like tea. Meanwhile, to cure vaginal discharge, cat's whiskers are mixed with beluntas and black cumin then all is

boiled and the boiled water is drunk 2 times a day. Also, cat whiskers are known to be used as a medicine for kidney disease, the parts of the plants used are the leaves and flowers. The method of processing is that some stalks are taken then washed and then boiled with enough water and drinking the boiled water (Safryadi *et al.*, 2017).

Mulberry (*Morus*) is a fruit plant that is often found around the yard of the house, mulberry has many properties as a medicinal plant, one of which is a urine laxative. The part that is used by this plant is the leaves. The processing method is that the leaves taken are fresh then boiled until they are boiled and cooled then filtered and drunk twice a day.

Moringa oleifera (*Moringa oleifera*) is a tropical plant that is very easy to breed because it does not require intensive care and has a high drought tolerance and is known as The mirace tree, tree for life and amazing tree. (Anwar *et al.*, 2007; Isnan, 2017). This plant in Obesi village is mostly cultivated only as a food crop because the leaves are made into vegetables. Even though according to its nickname all parts of this plant are used as traditional medicine. Simbolon and Katharina (2007) reported that as a functional food, the leaves of the seeds, bark, and roots of the moringa plant are not only a source of nutrition but also function as herbs for health that are very nutritious such as weight loss, anti-diabetes, preventing heart disease, healthy hair, healthy eyes, treat rheumatism, treat herpes, treat internal diseases and treat cancer (Aritjahja, 2011; Halim, 2011; Hardiyanthi, 2015). One of the uses of this plant is that it is used as a drug for high blood pressure. The method of processing is, the Moringa leaves are boiled until they boil, then cool and drink immediately. This process is carried out in one week three times, because if too often it will cause dizziness in the head (Safryadi *et al.*, 2017). Also, the root of Moringa is useful for treating thrush, but to maintain the preservation of this plant itself, we try our best not to explore the roots, because it will have the potential for the extinction of this medicinal plant.

Banana (*Musa paradisiaca*) is a plant that produces fruit for consumption. However, bananas are also used as medicinal plants by the Obesi village community, bananas are used as a barrier to hunger, a cure for stomach and hepatitis. Meanwhile, banana stems are usually used to bandage bleeding wounds. How to manage bananas as a hepatitis medicine, namely bananas that are not too ripe and still gummy are taken and peeled and then burned, and allowed to condense overnight, and the next day they are eaten, for four days.

Guava/kujawas (*Psidium guajava* L.) is a plant that has medicinal properties for gas or colds, nausea, canker sores, diarrhea, and bleeding wounds. The parts of this plant that are useful as medicine are the leaves, fruit, and bark. The management method for use as a cold medicine is by taking fresh leaves, especially young

leaves, washing them clean, then chewing them immediately by adding a little salt, and swallowing the water while the rest or dregs are thrown away. As for the bleeding wound medicine, crush the fresh guava leaves and then attach the moss leaves to the injured skin. Pepper/pepper (*Piper nigrum*) is a spice plant that has been famous for decades. This plant is nutritious for eliminating fatigue, preventing bone loss, encouraging, warming the body, shortness of breath, and gout. The part of this plant that is most widely used is the fruit. Its use as a uric acid drug is used with boiled bitter, ginger, and comfy then drunk the boiled water. Betel (*Piper betle*) is a vine from the Piperaceae family which has many medicinal uses. One of the uses of the betel plant as a medicine is to treat itching and body odor. How to manage it, fresh betel leaves are taken, washed, then boiled with water and the boiled water is drunk every afternoon like tea. Meanwhile, to get rid of itching, use the fruit from fresh betel then plucked and rubbed on the itchy area. The use of betel fruit like this can also be done to prevent heat for children who have just been injected, the liquid from the betel fruit is smeared on the injection site.

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Betel (*Piper betle*) is a vine from the Piperaceae family which has many medicinal uses. One of the uses of the betel plant as a medicine is to eliminate itching and body odor. How to manage it, fresh betel leaves are taken, washed, then boiled with water and the boiled water is drunk every afternoon like tea. Meanwhile, to get rid of itching, use the fruit from fresh betel then pick it and apply it to the itchy area. The use of betel fruit like this can also be done to prevent heat for children who have just been injected, the liquid from the betel fruit is smeared on the injection site.

Meniran (*Phyllanthus urinaria*) is a medicinal plant found in Obesi village which has a round, perpendicular trunk shape, with a plant height of only 1 meter when the soil is at dawn, the average height is 50cm. This plant is considered a weed-grown and likes humid places. Utilization as a drug is used to treat appendicitis, urinary laxative rheumatism, kidney stones, and epilepsy. For the treatment of epilepsy, the management method is that meniran leaves are still fresh, washed, then boiled and drunk of boiled water 3 times a day and it is necessary to drink lots of water because one of the weaknesses of meniran if consumed too much, can cause impotence.

Trumpet flower (*Brugmansia candida*) is a plant

that has fringed flowers and does not have thorns on the fruit, different from the ductus. This plant is used as a medicine for shortness of breath by the Obesi village community. For shortness of breath, the part of the plant used is the flowers by taking 10 grams of the flower and then drying it, after drying the ingredients are rolled up and smoked like smoking a cigarette.

Aloe vera is included in the *Liliaceae* family which has medicinal properties, the leaves of the aloe vera plant are elongated and fleshy, boneless, grayish in color, succulent (contain lots of water) and contain lots of sap or mucus (gel) as a medicinal ingredient. One of the uses as a medicine is to treat hemorrhoids, by taking aloe vera leaves, cleaned of the thorns and washing, then grafted and add ½ cup of boiled water and 2 tablespoons of honey, stir and strain then drink 3 times a day.

Turmeric (*Curcuma longa*) is a plant with a rhizome, efficacious as medicine for shortness of breath, burns, seizures, vomiting of blood, internal wounds, and high blood pressure. Utilization as a medicine for high blood pressure, take turmeric rhizome then grated, add 1 tablespoon of honey mixed then squeezed and drink 2-3 times a day. Turmeric is also used as a gastric medicine (ulcer) by grated turmeric rhizome, then add honey or palm sugar, filtered then drink for 1 week every morning before eating.

Temulawak (*Curcuma xanthorrhiza*) is a plant that diverges from the Zingiberaceae family which also has medicinal properties such as turmeric, its use as a medicine has long been known and used, as a cough medicine, smooth menstruation, flatulence, and canker sores, along with turmeric and ginger it is used like herbs. To treat canker sores, it is taken, thinly sliced then dried and boiled with water until it boils and added with tamarind and pieces of palm sugar, filtered and taken twice a day as much as one glass.

All medicinal plants used by the Obesi village community are found in the residents' yards and surrounding plantations and forest areas not far from the residents' houses. This is what motivates people to make plants as an alternative even as the main family treatment. As a result, some plants, such as meniran, which were initially considered as weeds, are now being maintained and maintained because they can be used as herbal or traditional treatments.

### **The Ethnobotany Level of Obesi Village Community**

Based on the measurement results of the ethnobotany knowledge level, it shows that the average index of the ethnobotany knowledge level (Mg) of the Obesi community is at a moderate level, namely between 0,574 in the age class 1 to 0,899 in the 4 age class (**Table 2**). The difference in the Mg value of respondents is influenced by several factors such as age, gender, origin,

and daily activity. Based on the results of the analysis of the *Kruskal Wallis test* to difference on age class factors, the value of  $P = 0.000 (<0,05)$  means that age differences cause differences in the level of ethnobotany knowledge of medicinal plants. The higher a person's age, the higher the ethnobotany knowledge they have. The highest level of knowledge is at the age class IV and on average, the ethnobotany knowledge level for the fourth class is slightly above the ethnobotany knowledge level for the age class V. This occurs because the age factor causes respondents to forget, so they are unable to answer research questions (2009). The people in Obesi are people who have received a lot of outside influences because of the large number of immigrants from outside who occupy this village so that ethnobotany knowledge continues to develop. Alfredo *et al.* (2013) stated that the change in the culture of the community also had a significant effect on the ethnobotany level of community medicinal plants.

**Tabel 2.** The level of ethnobotany knowledge of medicinal plants in the village community Obession by age class (Mg)

Age Class	Vtotal	Mg
I ( $\leq 24$ )	6.891	<b>0.574</b>
II (25-39)	8.168	<b>0.681</b>
III (40-54)	8.393	<b>0.699</b>
IV (55-69)	10.785	<b>0.899</b>
V ( $>69$ )	9.799	<b>0.817</b>

The *Mann Whitney test* on the sex difference factor shows the value of  $P = 0,001 (<0,05)$ , which means that the sex differences of respondents cause differences in the level of ethnobotany knowledge. This difference is caused by differences in role es, behavior, and habits between men and women. Men are tasked with taking forest products, while women are working at home and helping to work in the house and garden. The community in Obesi village always relies on women in sharing information, this is patterned because women have the behavior and habit to always gather either in the form of arisan or in the form of women's business groups so that the level of knowledge of women in Obesi village is higher from men, even from men who often take plants from the forest.



**Figure 2.** Level of ethnobotany knowledge of society according to age class

The level of ethnobotany knowledge of the obese society continues to increase from the lowest age class (KU1) to the highest age class (KU4) but again decreases in age class IV, this is normal because the age factor causes memory decline, so this age class no longer remember what plants were consumed or used. Knowledge about medicinal plants in this Obesi village needs to be informed to young people because they still lack information or knowledge of medicinal plants.

## Conclusions

Based on the results of the study, it was concluded that there were 40 types of medicinal plants belonging to 28 families that were utilized by the Obesi village community, where the processing was still simple or traditional which was obtained from habit or experience. The level of knowledge on the use of plants as medicinal plants based on age class is at a moderate level, namely the lowest 0,574 to the highest 0,899. The level of ethnobotany knowledge of medicinal plants for women is higher than that of men.

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