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Plants used as medicine among the People of Gidda Kumbi Village of Nedjo district in Western Wollega, Oromia, Ethiopia

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Abstract
By the study, plants used as medicine in the study area were identified and discussed. All the medicinal plants revealed are categorized according to their knowledge types and describe about the source of the plant, values of the plants, and parts of the plant used as medicine. In addition, the use of these medicinal plants; preparation and application methods, along with the ranking preferences of the plant are discussed. Finally, discussion has made to relate the outcome of the study to existing literature and diseases/illnesses etiology, and types. The data collection was divided into two stages. At the first stage the prevalence's of illnesses in the village were collected by the help of elders. For this, the researcher conducted 4 formal interviews. At the second stage the researcher applied mixed methodological approach to collect data on medicinal plants. The data were collected both from primary and secondary sources. The primary data were collected by using survey, key informant interview, and non-participant observation. The secondary data were also used.

Forty different types of illnesses and diseases are revealed from the study area. These diseases and illnesses fall down into three disease etiology; personalistic, naturalistic and emotionalistic. These diseases/illnesses are also categorized into four according to the villager's perception about the location of the diseases/illnesses; upper part, middle part, common part, and lower part. Based on the severity of the diseases/illnesses, these diseases/illnesses are classified into three; non serious, moderate serious, and grave.

49 medicinal plants are used by villagers to treat and prevent 23 types of diseases/illnesses prevalent in their village. Most of these medicinal plants are wild, while others are cultivated or grown near house either for other purposes or medicinal purpose. The most commonly part of plants used as medicine is leaf, followed by seed, and root respectively. The most common method of preparation of the medicine is squeezing, followed by dissolving, powdering, crushing, and others (boiling, roasting, burning and cooking) respectively, while some of these medicinal plants are used in raw form. The most common route of application of these medicinal plants is oral, followed by dermal, nasal, optical, and homeopathically respectively.

Keywords: Plants, Medicines, Ranking Preferences, Treatment, Prevention

1. Introduction
Ethno medicinal plants have been used for long periods of time by human beings and still are used by a number of people both in developing and developed countries (Haile, *et al.*, 2008) [7]. In many countries plants which have such that medicinal significance are never cut down for other purpose such as firing. But due to continuous use by the society and the increasing of populations use it the numbers of these plants are decreasing (UNEP, 2008) [14].

The majority of developing countries are gifted with natural resources which includes medicinal and aromatic plants. Due to this reasons, most of the population in developing countries, specifically those who live in rural parts of these countries use frequently plant based traditional medicine as curative and preventive medicine against diseases (Kasilo, 2010). Oromia region of Ethiopia is rich in variety of plants. Due to this reason most of ethno medicines are prepared from plants. Oromo society uses these indigenous medicines both for animals and human being. They use it to treat various diseases and illnesses which related to different etiology or causation (Balcha, 2014) [1].

I was not the first researcher to conduct the research on the topic and the people. Among Oromo society of Ethiopia, studies were conducted on the ethno medicine in different areas. For instance Debala, *et al.* (2004) in Jimma zone, Etana (2007) in Gimbi, Haile, *et al.* (2008) [7] in Jimma zone, Seyoum (2009) in northern Shoa, Moa (2010) in eastern Wollega, and

Balcha (2014) [1] in Ghimbi district studied medicinal plants from common treatment perspectives, and their conservation. At the same time, these studies do not speak clearly the prevalence of diseases/illnesses treated by plants. Strikingly, the type of knowledge under which the used medicinal plants fall was not explained clearly by some of them. So, it was undertaken to fill the existing research gaps in the field of ethno medical practices.

2. Research Methodology

My research site in the district was "*Gidda Kumbi*" village. I had selected the village because of two main reasons. First, the village is known for housing comparatively larger number of healers and elders who has knowledge of medicinal plants in comparison to other villages nearby. Second, the village is also rich in having good number of medicinal plants when seen relatively with others villages of the district.

I divided the data collection process in to two phases in order to simplify data collection.

First phase- I collected information about the prevalence of diseases and illnesses in the village by taking the help of elderly persons and healers of the village. I conducted 4 formal interviews; 3 with elders and 1 with traditional healer.

Second phase- I collected data on plants and animal medicines from both primary and secondary data sources by using both qualitative and quantitative method of data collection. In the process I had conducted survey on 70 house hold heads which were selected by using lottery technique of random sampling, interviewed 7 key informants and conducted non participant observation to gain data during 58 days of field work. In addition, I reviewed the work of previous researchers to relate it to my work. The data were analyzed and interpreted using various data analysis techniques as required and described in the thesis.

3. Objectives of the Research

3.1 General Objectives

The general objective of this research was to understand plants used as medicine among the Oromo with particular emphasis of Nedjo district in western Ethiopia.

3.2 Specific Objectives

- To explore plants medicine used for treatment of human diseases/illnesses.
- To discover plants medicine used for prevention of human diseases/illnesses.
- To categorize the medicinal plants to the type of knowledge it belongs

4. Results

4.1 Types of Diseases/Illnesses

There are 40 diseases/illnesses which are found in the village. I have categorized these disease/illnesses into four types based on the villager's assumption on the location of these diseases/illnesses in human body. These categories are upper part, middle part, and lower part. These diseases/illnesses which are categorized under the upper parts are those which are located in brain, nose, teeth, ear, eye, throat, and on shoulder. These diseases/illnesses which are categorized under middle parts are those which are located in chest, heart, liver, stomach, abdomen, uterus, and pelvic. The diseases which are categorized under the lower part are located in the leg. Apart from these, some diseases/illnesses that are related to bone, blood and skin are categorized as common parts of the body. In addition, I also categorized these diseases/illnesses into three based on the seriousness of the diseases/illnesses; non serious, moderate serious, and grave.

4.2. Location of Diseases/Illnesses in the Body

A. Upper Part

This part includes the parts of human body above neck. These diseases/illnesses categorized under upper parts are those located in brain, head, hair, eye, nose, teeth, throat, and shoulder. There are 16 diseases/illnesses which are located in these parts; these are malaria, headache, hypertension, dandruff, tinea corporus, fibril illness, eye disease, teeth disease, common cold, tonsillitis, insomnia, diabetes, ear disease, deafness, blindness, and insanity.

B. Middle Part

The middle part includes the parts found between neck and pelvic. The diseases/illnesses categorized under this part include the chest, liver, stomach, abdomen and uterus. There are 14 diseases/illnesses which are categorized in this part; these are abdominal puffiness, evil eye, ascaris, tape worm, diarrhea, stomach ulcer, stomach ache, rabies, asthma, cough, heart disease, liver disease, infertility, and disability in hand.

C. Lower Part

There is only one disease which is categorized under this part. It is disability in legs *nafumma miillaa.*

D. Common part

These diseases/illnesses which are categorized under this category are located in bones, blood, and skin. There are 9 diseases/illnesses categorized in this part, these are ring worm, rheumatism, spider poison, leismanesies, wound, bone fracture, HIV/AIDS, snake bite, and swelling.

4.3. Seriousness of Diseases/illnesses

There are three categories of diseases/illnesses according to the effects of the diseases/illnesses and the requirement of treatment for these diseases/illnesses. These are;

A. Non-Serious

These diseases/illnesses which are categorized as non-serious are those which do not have any pain and do not cause death even if they are not treated. A person can live with these diseases/illnesses all life his time .All of these diseases/illnesses are not seen as disease/illness by biomedicine. There are 5 illnesses categorized under this. These diseases/illnesses are infertility, blindness, deafness, disability in hands, and legs.

B. Moderately Serious

These diseases/illnesses which are categorized as moderately serious as villagers are those which are serious and needs treatment. These diseases can cause harm on human body and some of them can cause death gradually if not treated. The treatment is not immediate, however it must be. 25 diseases and illnesses are included under this category. These diseases/illnesses are spider poison, leismanesies, ring worm, dandruff, tinea corporus, ear disease, eye disease, tooth disease, tonsillitis, cough, common cold, headache, rheumatism, bone fracture, wound, swelling, stomach ulcer, abdominal Puffiness, hypertension, diabetes, asthma, heart disease, AIDS, insomnia, and insanity.

C. Grave

These diseases/illnesses which are categorized as grave are

those which can cause death if not get immediate treatment and attention. 10 diseases/illnesses are categorized under this category. Some of these diseases are life time diseases, if not treated by prayer. These are liver disease, diarrhea, stomach ache, fibril Illness, tape worm, ascaris, malaria, evil eye, rabies, and snake bite.

4.4. Types of Plants Used as Medicine

Kasilo (2010) states that as most of developing countries are naturally endowed by a natural resource which includes medicinal and aromatic plants, due to this reason people of this region rely highly on medicinal plants and animals to treat and prevent diseases/illnesses. Since Ethiopia is one of the developing countries, the people of Ethiopia, use a variety of plants for preventing and curing diseases/illnesses. There are 49 medicinal plants which are used by the villagers to treat and prevent 23 types of diseases/illnesses. According to UNEP (2008) [14] in Africa most of the plants that have medicinal values are collected from forest rather than cultivated on the field or as home garden. Also Balcha stated that "*most of medicinal plants used among Oromo society are wild or from forest*" (2014). Most of the plants used as medicine in the study area are wild plants, while some plants that are cultivated in the field for agricultural purpose are also used for medicine. Some plants are planted in front of houses to dispel evil eyes and prevent illness/ accidents. Even, some of my respondents told me the name of the plants but do not identify the plant. They have only heard of the healing capacity of the plant but do not recognize it. It can only be recognized by the experienced healers of the village.

Most of these plants used as medicine in this village have other value, in addition to their medicinal values. As it was explained by (Haile, *et al.,* 2008) [7], who conducted his research among south western Oromo, most of medicinal plants have extra values such as fire wood, construction, food, and cattle fodder, especially those which are found abundantly. The same is true in the study area, people use most of these plants chiefly or secondarily for other purposes such as fire wood, construction, and even as food in addition to its medicinal values.

The parts of these plants used commonly as medicine are leaves, roots, stems, barks, bulbs, flowers, leaf stem, fruits, and seeds.

Most of the medicinal plants revealed from the study area are folk knowledge (67. 3%%), followed by specialist knowledge which constitutes 26.5% and both folk and specialist knowledge (6.2%). Folk knowledge category plants are these plants which are commonly known to most of the villagers and practiced by everyone. People start treatment of illness in home by using medicinal plants known to them. At this stage they also take the advice of neighbors, relatives, and friends which is the part of folk knowledge. If the situation does not improve, they go to specialists. Specialist knowledge plants are these plants which are known to a few member of the society and practiced by specialists. These specialists are of two types. One groups of specialist are village elders who have enough knowledge of indigenous medicines, but do not call themselves as healers. But the villagers recognize them as knowledgeable man and get service from them. They do not charge any fees from the villagers. The second groups of specialists are herbalists who have special training for the identification of medicinal plants, preparation, and administration of medicine. The herbalists charge fees for medicine as well as consultation. It is observed sometimes the boundary line between the knowledgeable and herbalists are not clearly demarcated and overlap. Both folk and specialist knowledge plants are these plants with multiple medicinal values, that means which are used to treat more than one disease. In this case, these plants are common in one way of treating/preventing one disease, while specialist knowledge in treating/preventing of the other disease.

According to my informant Toltu, married women, living with her husband

I treat myself or ask my mother in law to give me some remedies if I get common cold, minor wound, headache, and stomach ailment. But I consult village wise men or traditional healer, if I do not recover within two or three days.

I have described all these 49 medicinal plants under three categories according to the knowledge types in the village in the following. There are 33 plants categorized under folk knowledge, 13 plants under specialist knowledge, and 3 plants under both.

4.4.1. Folk Knowledge

1. "Buna "

Scientific Name; *Coffee Arabica*

Coffee is found almost in every field of the farmer in the village. It is used as medicinal plant in addition to its commercial value. It is a house hold drink. The seed of this plant is used as medicine. It is used to treat three illnesses like; headache *Mataa bo'uu*, diarrhea *garaa kaasaa*, and wound *madaa*.

2. "Gaanqaa"

Scientific Name; Not identified

This plant is used only for medicinal purpose. It is found almost in every house. The bulb of this plant is used as medicine. It is used to treat stomach ache *Garaa Ciniinna*..

3. "Timijji"

Scientific Name*; Rumex Nepalensis*

This plant is found in the forest areas. It has only medicinal value. It is used to treat two different diseases. These are stomach ache *Garaa Cininna* and tonsillitis *Huuba qoonqoo.* The part of this plant used as medicine is its bulb.

4. "Qabarichoo"

Scientific Name; *Echinops kebericho,*

This is wild plant. The part of this plant used as medicine is its root. It is used to treat evil eye illness *dhukkuba Moomoo.*

5. "Gur- Shanee"

Scientific Name; Not identified

This plant is found in forest and forest areas. It is used to treat eye disease. The part of this plant used as medicine is its leaf.

6. "Harkisaa"

Scientific Name; *Alae Macrocarpa*

This plant is very rare and its number is decreasing day by day. It is found in the home of a few elders and traditional healers. It is grown only for medicinal value. It is used to treat wound, especially wound caused by fire. The part of this plant used as medicine is its leaf.

7. "Reencii"

Scientific Name; *Cayluse Abyssinica*

This plant is found in the forest and very rare. Only some elders and traditional healers know this plant. It is used to treat ring worm *Roobbii*. The part of this plant used as medicine is its leaf

8. "Bakkannisa"
Scientific Name; *Croton Macrostachyus*
This plant is found abundantly almost in everywhere. It is mainly used as fire wood. In addition it is also used as medicine to treat ring worm *Roobbii*. The part of this plant serve as medicine is its leaf stem.

9. "lolchisaa"
Scientific Name; *Bersama abyssinica*
This plant is found in the forest and is on danger of extinction. This plant is used as fire wood. In addition it is used as medicine to treat ascaris ("maagaa). The part of this plant used as medicine is its leaves.

10. "Raamsoo"
Scientific Name; *Sena Peterscane*
This plant is widely found in this village. It is not used as medicine alone but with another plant. It is used to treat liver disease *sabbata*. The leaves of both the plants are used to treat the disease. Not all people can cut and use this plant, but it must be given by traditional healer to have medicinal value. In addition to its medicinal value, it serves the society of this area as fire wood.

11. "Ule Foonii"
Scientific Name; *Apodytes Dimdiate*
This plant is found everywhere in the forest and field. The leaves of this plant along with the leaves of *raamsoo* are used to treat liver disease *sabbataa*. In addition to its medicinal use, it is also used as fire wood and cattle's food.

12. "Waleensuu"
Scientific Name; *Erythrean Abyssinica*
This is big tree abundantly found in the village and has multiple functions. It is used for construction, fire wood, and medicine. The part of this plant used as medicine is its stem. It is used to treat tooth ache *dhukkuba ilkanii*.

13. "Akakilti Adii"
Scientific Name; *Eucalyptus globules*
This plant is mainly used for construction of house, fences and fire wood. In addition to this, it is also used for treatment of common cold *utaalloo*. The part of this plant used as medicine is its leaf. It is the common knowledge shared by the villagers.

14. "Talbaa"
Scientific Name; *Linum Usitatissium*
This is a cash crop, an oil seed, cultivated by farmers. The soup is prepared from the seed and the seed is also used to treat stomach ulcer *dhukkuba garaachaa*.

15. "Cilaaddamii"
Scientific Name; *Ruta chalepensis*
This plant is planted near home by most people for medicinal purpose. The part of this plant used as medicine is its leaves. It is used to prevent common cold *utaalloo*, and fibril illness *bitaatii*.

16. "Botoroo"
Scientific Name; *Stereospermum Kunthinium*
This is big tree found sparsely in the forest. It is used mainly as timber, fire wood and medicine. The part of this plant used as medicine is its bark. It is used to treat tooth ache *dhukkuba ilkanii*.

17. "Caatii"
Scientific Name; *Catha Edulis*
This is cash crop plant cultivated by farmers of this area. Its leaves are chewed for refreshment and used as medicine. It is used to treat common cold *utaalloo*.

18. "Haanquu"
Scientific Name; *Embelia Schimperi*
This is forest plant and it is used mainly as medicine. The part of this plant used as medicine is its fruit. It is used to treat tape worm *koosoo*. In addition to its medicinal value it is also used as fire wood.

19. "Adaamii"
Scientific Name; *Euphorbia Candelabrum*
This is the tree found in every place (both in forest and on the field) of the area. The leaves and stem of this plant produce liquid looks like milk. This plant is used mainly as fire wood and medicine in this area. The liquid produced from this plant used as medicine to treat tinea corporus *boraalee*.

20. "Abukaadoo"
Scientific Name; *Persia Americana*
This plant is cultivated by villagers as edible food. The fruit of this plant is eaten freshly by villagers. They also sell it in the town and the shopkeepers who prepare juice from it. In addition it is also used as medicine to prevent dandruff *forfori*. The part of this plant used as medicine is its fruit.

21. "Raafuu"
Scientific Name; *Brassica Caranata*
This is cultivated by farmers near their home and on their field mainly as vegetable. It is eaten as stew after cooked with *buddena*. In addition it is used as medicine to treat rheumatism *nyaataa* and to prevent stomach ache during pregnancy. The part of this plant used as medicine is its leaf.

22. "Loomii"
Scientific Name; *Citrus Limon*
This is planted near home and on the field by farmers of this area. The part of this plant used as medicine is its fruit. It is used to treat hypertension *dhiibbaa dhiigaa*.

23. "Hiddii Saree"
Scientific Name; *Solanum gigantum*
This plant is found everywhere in the area and seen as weed. It is used as medicine to treat tonsillitis *huba qoonqoo*. The part of this plant used as medicine is its fruit.

24. "Waakkoo" (Mush room)
Scientific Name; Not identified
This plant is most of the time grown around lakes and river, and on fallen trees. The plant has no leaves, flowers, and fruit/seed. It is used as medicine to treat hypertension *dhiibbaa dhiigaa*. The stem of this plant is used as medicine.

25. "Komshaa"
Scientific Name; *Nicotiana Tabacum*
This is planted near people's home, and field. Its leaves are used for smoking. The aroma of tobacco leaves prevents snake around home. The leaves are also used in treatment of snake bite *iddaa bofa*.

26. " Jinjibila"
Scientific Name; *Zingiber officinale*

This plant is also found abundantly almost in all houses. It is used mainly to make stew delicious. The plant is used as medicine to prevent common cold *utaalloo*. The part of this plant used as medicine is its bulb.

27. "waggarti"
Scientific Name; *Glinus lotoides*
This plant is found rarely in the forest and only a few members of the society know this. It is one of the plants on the stage of extinction. It is used as medicine to treat ascaris *maagaa*. The part of this plant used as medicine is its seed.

28. "Urgeessaa"
Scientific Name; *Premna Schempiri*
This plant is found in the forest and also grown in the farmer's field. It is used mainly as tooth brush and medicine. It is used to prevent tooth disease *dhukkuba ilkaanii*. The part of this plant used as medicine is its stem.

29. "Dhoqonu"
Scientific Name; *Grewia Ferruginea*
This plant is found abundantly in the forest. It is mainly used as fire wood. In addition it is used as medicine to treat dandruff *forfori*. The part of this plant used as medicine is its bark.

30. "Qaacaa"
This plant is planted by peoples around their field as fence. In addition it is used as medicine to prevent tooth disease *dhukkuba ilkaanii*. The part of this plant used as medicine is its leaf stem. The young plant is not used as medicine, only the ripe plants are used as medicine.

31. "Qullubbii Adii"
Scientific Name; *Allium sativum*
This plant is cultivated by farmers on their field. It is mainly used to prepare stew. It makes the stew delicious. In addition, it is used as medicine to prevent malaria *busaa*. The part of this plant used as medicine is its bulb.

32. "sanafica"
Scientific Name; *Brassica Nigra*
This plant is grown by farmers as medicinal plant around their house. It is used to prevent tape worm *koosoo*. The part of this plant used as medicine is its seed.

33. "Muka Moomoo"
This is a big tree, grown near field and around the house for medicinal value. It is used to prevent evil eve. The aroma of the tree dispels the evil eyed persons.

4.4.2 Specialist Knowledge Plants

1. "Qorxobbii"
Scientific Name; *Plantago Lanceolata*
This plant is grown in the grass. It is used mainly as medicine to treat ring worm *roobbii*. The part of this plant used as medicine is its leaf. It is professional knowledge of the healers and a few elders.

2. "Goraa"
Scientific Name; *Rosa Absynica*
This plant is very rare in this village. It is found in the forest. The stem of this plant is used as medicine to treat headache *mataa bo'uu*, while the fruit of this plant is also edible. This plant is professional knowledge which belongs to a few elders and healers of the village.

3. "Landessa"
Scientific Name; *Dracaena Steudneri*
This plant is rarely found in the forest. It is mainly used as medicine for both animals and human beings. It is used to treat *sabbata* illness, which is called by modern health professionals as liver disease. The part of this medicine used as medicine is its leaves. It is professional knowledge of the healers and a few elders

4. "Hadheessa"
Scientific Name; *Teclea Nnobilis*
This plant is found in the forest abundantly and used mainly as fire wood and medicinal purpose. It is used to treat swellings *dhiitoo* of body parts. The part of this plant used as medicine is its leaves. It is professional knowledge of the healers and a few elders.

5. "Gambeelloo"
Scientific Name; *Gardenia Ternifolia*
This plant is found in the field and forest. It is used as fire wood, and also medicine. It is used to treat eye disease *dhukkuba ijaa*. The part of this plant used as medicine is its leaves. It is professional knowledge of the healers and a few elders.

6. "Embersho"
This plant is seasonal. It is only found during summer. It is grown alongside of *xaafii*, wheat and barley as wild plant. So farmers weed it. The leaves of this plant are used as medicine to treat ascaris *maagaa*. It is professional knowledge of the healers and a few elders.

7. "Birbirsa"
Scientific Name; *Podocarpus Falcatus*
This is big tree found sparsely in the forest. It is very rare and can be numbered. It is used mainly for construction, fire wood, and preparation of medicine. The part of this plant used as medicine is its bark for the treatment of tooth ache *dhukkuba ilkanii*. It is the professional knowledge of healers and a few elders.

8. "Andoodee"
Scientific Name; *Phytolocca dodecandra*
This plant is found everywhere in this area and used as soap to wash clothes. In addition the leaves of this plant are used as medicine to treat ascaris *maagaa*. This plant is divided into two; male and female. The plant used as medicine is the female one. The male is very dangerous and is used for abortion. It can causes death to people if too much is taken. Only a few people know the difference between male and female *andoodee*. So, good attention is taken to identify the male from the female as the consequence is dangerous. It is professional knowledge of healers and a few elders.

9. "Geeshoo"
Scientific Name; *Rhamnus Prinodes*
This plant is very important and it is found in the farmer's field. It is sold in the market and used mainly to prepare local alcohols. The parts of this plant used to prepare local alcohols are its leaves and its stem. In addition to this it's seed is used as medicine to treat tinea corporus *Boralee*. It is the professional knowledge of the healers and a few elders.

10. "Hadaa"
Scientific Name; *Guizotia scabra*
This plant is found in the forest. It is used as firewood and also eaten by cattle in addition to its medicinal value. The part of this plant used as medicine is its leaf to treat wound *madaa*. It is the professional knowledge of a few healers and elders.

11. "Jirbii"
Scientific Name; *Gossypium Barbadense*
This plant is found in some farmer's field. It is used mainly to prepare cloth. The fibers of this fruit are used to prepare cloth. In addition, it is used as medicine to treat stomach ache *garaa cininnaa*. The part of this plant used as medicine its root. It is professional knowledge of healers.

12. "Xamanayii"
Scientific Name; *Securidaca Longepedunculata*
This plant is found in the forest and only a few members of village know it. Hence it is professional knowledge. The part of this plant serve as medicine is its root. It is used to treat evil eye illness. The healer performs a ritual to treat the persons suffering from the attack of evil eyed person.

13. "Irbuu"
Scientific Name; Not identified
This plant is seasonal. It appears during summer time from June to September. It is a wild plant, and grows around the lake sites. The leaves are used to treat diarrhea *garaa kaasaa*. This plant is professional knowledge of a few members of the villagers.

4.4.3 Both Folk and Specialist Knowledge

1. "Maraasisaa"
Scientific Name; *Clerdendrum myricoides*
There are two views on the use of this plant. One of my informants said, there is a spirit attached to this plant, while the others told me only the medicinal value of this plant without any spirit attachment. It is forest plant. This plant is used to treat two different diseases; tonsillitis *Huuba Qoonqoo* and abdominal puffiness *Ruurrii*. The part of this plant used as medicine is its leaf. The plant is common knowledge when used to treat tonsillitis, while it is professional knowledge for treating abdominal puffiness.

2. "Hagamsa"
Scientific Name; *Carissa Edulis*
This plant is found both in the field areas and forest. In addition to its medicinal value, the seed of this plant is edible, while its stem is used as fire wood. The part of this plant used as medicine is its root to treat headache *mataa bo.uu* and stomach ulcer *dhukkuba garaacha*. It is the common knowledge to treat headache, but professional knowledge to treat stomach ulcer.

3. "Biiftii"
Scientific Name; *Warburgia ugandensis*
This is forest plant and used mainly as cattle's fodder and medicine. It is used to treat common cold *utaalloo* and rheumatism *nyaataa*. The parts of this plant used as medicine is its flower and root. The plant is common knowledge when used to treat rheumatism and it is professional knowledge when used to treat common cold.

5. Discussion

5.1. Sources of Medicinal Plants

Medicinal plants used by the villagers are collected from forest, road sides, and cultivated in their farm or grown around their homestead. On the whole it can be said 33 plants (67.3%) are wild, while 16 plants (32.7%) are domestic.
Different researches (Moa, 2010; Balcha, 2014) [1] conducted in various areas also confirmed that as most of the medicinal plants are wild and a few are cultivated or grown by farmers.

5.2 Parts of Plant Used as Medicine

Parts of plants used as medicine for treatment and prevention of diseases/illnesses in this area are leaf, leaf stem, root, seed, fruit, flower, bark, and stem. Of all these parts leaf (39.7%) is most commonly used in the area, followed by seed (13.8%), stem (10.3 %%), root (10.3%), bulb (8.6 %), bark (6.9%), fruit (5.2%), leaf stem (1.7%), flower (1.7%), and whole parts (1.7%).
Balcha (2014) [1], Moa (2010), Haile, *et al.* (2008) [7], Etana (2007), and Debela (2004) who have conducted their research among Oromo's of other areas maintain that leaf is the most common parts of plants used by Oromo for medicine, followed by roots. Although my research confirmed that leaf is the most common part of plants used as medicine, seed occupies the second position, followed by roots. The root and stem equally occupy third position.
Although the use of leaf as medicine is the maximum, but no justification is given for this. The villagers only say that the leaf contains medicinal properties. Some researchers have argued the use of leaf as medicines more to root because it protects the medicinal plants, but such association could not be established in my study.

5.3 Forms of Medicinal Plants

The medicinal plants are used both at their fresh and dried form. The plants which are used at their fresh constitutes 63.8%, followed by those plants which are used both at fresh and dried form (19%). The plants which are only used in dried form constitutes 17.2%, is the least preferred form for preparation of medicine.
Moa (2010) and Balcha (2014) [1] have argued that most plants used as medicine, are fresh, while Etana (2007) have argued that most medicinal plants are used in both fresh and dried form, followed by fresh form. On this way my study supports Moa (2010) and Balcha's (2014) [1] argument, while disagrees with Etana (2007) findings.

5. 4 Methods of Preparation

The most common method of preparation in this area are squeezing (22.4%), dissolving (20.7%), powdering (6.9%), crushing (5.2%), and others such as boiling, burning, cooking, and roasting constitute 22.7%. Other plants which account for 20.7% are used in raw form without processing them.
Some of these medicinal plants are prepared alone, while others are mixed with other ingredients such as water, honey, crops, coffee, and local alcohols for preparation of medicine.
Moa (2010) argued that crushing is the common method of preparation of medicine, followed by powdering, Debala (2004) on the other hand mentioned that dissolving is the most common method of preparation, and Etana (2007) maintained as boiling after crushing and powdering is the most common way of preparing medicinal plants. In this regard my study which revealed that squeezing is the most common method of preparation of medicinal plants is significantly differs from previous researchers as mentioned above.

5.5 Methods of Application

There are various methods followed for application of

medicine. The most common one is oral (60.3%) which includes drinking, eating, swallowing, brushing, and dropping. It is followed by dermal 20.7 %(which includes creaming, rubbing, and dropping), nasal 13.8% (which includes inhale and use of the aroma to dispel evil spirits, evil eye, and animals like snake). The optical application constitutes 3.4%, followed by other method (1.7%) in which patient is relieved from his pain because of homeopathic effect.

My findings also fall in the line with research findings of Balcha (2014) [1], Moa (2010), Etana (2007), and Debala (2004) who have showed that application of herbal medicine is commonly administered in oral form followed by dermal form.

The amount of medicines taken is sometimes measured by joint of two fingers, glass, spoon, and counting of the leaves. All these measurements are applicable to youngsters, adults, and elders. The children are usually given a smaller dose. Most of these measured medicines are taken orally. Other medicines which are applied on skin, inhaled by nose, and other means do not have such measurement. They are used as healers prescribe it.

For some medicines, the duration of medication is specified while others are used till the patient recovers. Some medicines are taken in empty stomach where as others are taken along with food.

5.6 Plants of multiple medicinal values

Some plants are used to treat and prevent more than one disease/illness. There are six such plants which are used for treatment/prevention of more than one illness/disease type. These are *buna*; used to treat three diseases (wound, headache, and diarrhea), *timijji;* used to treat two diseases (stomach ache and tonsillitis), *marasisa*; used to treat two diseases (tonsillitis and abdominal puffiness), *ciladdami* used to prevent fibril illness and common cold, *biiftii*; used to treat common cold and rheumatism, and *raafuu* used to treat and prevent two diseases; rheumatism and stomach ache.

5.7 Medicinal Plants and etiology of Diseases/Illnesses

As discussed earlier there are three diseases/illnesses causation in the village. From them, illnesses categorized under Emotionalistic disease causation are not treated/prevented by medicinal plants at all. While diseases/illnesses categorized under personalistic and naturalistic are treated/prevented. However, there are again three categories of under personalistic; supernatural, human, and evil spirit. From these categories, Villagers use plants to treat/prevent illnesses/diseases categorized under human and evil spirit, but there is no single illness treated/prevented from which are categorized under super natural causation.

There are five categories under Naturalistic disease causation: change of weather, personal hygiene, biotic agents, old age, in appropriate dietary, and obesity. From these categories, plants are used mostly to treat and prevent diseases categorized under lack of hygiene (5 out of six) diseases, while also it is used to medicate those categorized under change of weather, inappropriate dietary and biotic agents. However no disease is neither treated nor prevented from old age categories.

5.8 Medicinal Plants and Diseases/Illnesses Location

Diseases/illnesses are also categorized according to their location in human body as the villager's belief. There are four categories; upper part, middle part, lower part, and common part. Out of 16 diseases/illnesses located in upper parts, 10 of them are treated or prevented by plants. Out of 14 diseases/illnesses categorized in middle part, 8 of them are treated or prevented by medicinal plants. Out of 9 diseases/illnesses which are located in common parts, 5 of them are treated or prevented by plants. However, there is no disease which is treated or prevented by plants from lower part category.

5.9 Medicinal Plants and Seriousness of Diseases/Illnesses

Also I have tried to relate medicinal plants to the seriousness of the diseases/illnesses. There are three categories of seriousness of diseases/illnesses; non serious, moderate serious, and grave. There are 5 diseases/illnesses which are categorized under non serious category; from these diseases there is no disease/illness which is treated or prevented by plants. There are 25 diseases, which are categorized under moderate serious diseases/illnesses. From these diseases/illnesses, 14 plants are treated and prevented by plants. Again there are 10 diseases/illnesses which are categorized under grave. From these diseases, 9 of them are treated by plants. This shows that as plants are used by the villagers more to treat and prevent grave diseases/illnesses.

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