



# Availability and Utilization of Traditional Medicinal Plants used by Local Communities of Haro Limu Woreda, East Wollega Zone

Temesgen Tafesse\* and Desalegn Amenu

<sup>1</sup>Temesgen Tafesse (M.Sc.), Microbiology and Microbial biotechnology, Assistant Researcher, Armauer Hansen Research Institute, Addis Ababa Ethiopian

<sup>2</sup>Desalegn Amenu (M.Sc.), Microbiology, Wollega University, College of Natural and Computational science

\*Corresponding Author's E-mail: [tametafesse@gmail.com](mailto:tametafesse@gmail.com); Tel: (+251) 0915924698

**Received:** 30-Aug-2022, Manuscript No. IRJM-22-72941; **Editor assigned:** 01-Sep-2022, PreQC No. IRJM-22-72941(PQ); **Reviewed:** 15-Sep-2022, QCNo.IRJM-22-72941; **Revised:** 20-Sep-2022, Manuscript No. IRJM-22-72941 (R); **Published:** 27-Sep-2022, DOI: 10.14303/2141-5463.2022.16

## Abstract

Traditional medicines are still the most affordable and the most accessible sources of treatment in the primary health care system. Recently, a dramatically increasing prevalence brought illness to the focus of public health interests. Thus, this study was conducted to assess availability and Utilization of traditional medicinal plants being used to treat different human illness at Gidda Ayena Woreda, East Wollega Zone of Oromia regional state Ethiopia (Birhanu A et al., 2006). In an ethno botanical survey in defined rural and urban areas randomly identified sites were selected to identify the most well experienced practitioners that are known by using traditional medicinal plants to treat human illness using question, observation and interviewed in a structured manner about their administration were used to collect appropriate data from the informants. There were different medicinal plants belonging to different families that have been used to treat different allies at the study area (Arihan O et al., 2007). Traditional medicinal plants are commonly used in the study area to treat disease. The available data regarding the medicinal activity of the plants is not sufficient to adequately evaluate or recommend their use. Clinical intervention studies are required to provide evidence for a safe and effective use of the identified plants in the treatment of different illness (Wassihun B et al., 2003).

**Keywords:** Ethno botanical survey, Traditional medicinal plants, illness

## BACKGROUND OF THE STUDY

An estimated 6000 species of higher plants, 10% of which are endemic, make up the Ethiopian flora. The nation is renowned for its substantial geographic diversity, which encourages the emergence of various habitats and vegetation zones. The enormous diversity of traditional knowledge and practices of the people in using medicinal plants is partly a result of Ethiopia's diverse languages, civilizations, and religious convictions. Because the whole list of medicinal plants that indigenous people have historically used is not yet available, our understanding of how they are used is still insufficient (Cotton CM 1996). The main threats to Ethiopia's medicinal plants are environmental degradation, deforestation, agricultural development, overexploitation,

and population growth (Abebe D 1986). The spread of contemporary education exacerbates knowledge loss by causing the younger generation to undervalue its old values. In order to record, analyze, and share information about the connection between medicinal plants and human society, ethno botanical research are helpful.

The studies conducted on the traditional medicinal plants in Ethiopia are very limited when compared with the multiethnic cultural diversity and the diverse flora of Ethiopia (Abebe D et al., 1993). Even though traditional knowledge of medicinal plants is very crucial to treat different diseases, there is no study conducted in present study area, hence, thus this study is conducted to assess the availability and utilization of traditional medicinal plant in Haro Limu

Woreda, East Wollega Zone (Hunde D et al., 2004).

## MATERIALS AND METHODS

### Description of the study area

The present study was conducted in three selected Haro Limu Woreda (Tano Gatira Dambi and Suge Lalisa Kebele), East Wollega Zone, Oromia National and regional states, Western Ethiopia. These Kebele are one of the district of East Wollega zones, in Haro Limu (Lulekal E et al., 2008). This district is contiguous with Limmu in the east, Benshangul Gumuz Regional state in west and Anger River in the south and Ebantu district in the north of the district. This district was located at distance 165 km & 488 km from zonal town called Nekemte and Addis Ababa respectively. Today this district is sub divided into 15 farmers associations 1 urban kebele with a capital town of Haro for all its administrative purposes (Yineger H et al., 2007).

### Sampling of methods

Random sampling method was used to select 34 informants at random from the local populace. To choose study participants who had more experience and solid understanding of conventional medicinal plants, a random sample procedure was used. In order to acquire pertinent data, questionnaires in Afan Oromo were designed and given to respondents before being translated into English (Hamilton AC 2004).

### Data collection methods

The male and female traditional plant healers that participated in the study ranged in age from 25 to 95. Questionnaires, interviews, and observation were the primary techniques of data gathering. Each traditional healer was questioned about their understanding of medicinal plant applications and availability in the chosen study area. The interview was made easier by the people's use of their native tongue (Afan Oromo). Voucher samples of each traditional medicinal plant species were also taken during the field visit and allowed collecting number. Verbal informed content was obtained from each individual traditional medicinal plant particular healer who was participating during the field period (Johnson M 1992).

### Method of data analysis

Descriptive statistical methods were employed to determine frequencies, relative frequencies, densities and relative densities (Bailem K et al., 2004).

## RESULT AND DISCUSSION

**Socio Demographic Characteristic of Respondents:** About 34 practitioners were participated in this study on average. In general, the majority of respondents lacked literacy, and their farms frequently depended on traditional forging activities. Additionally, they were all men, completely

ignorant of how to preserve this medical plant, and only a select few people were told about it by the secretary (Martin GJ 1995) (Table 1).

### Commonly available and utilized medicinal plants

The preponderance of the plant species utilized in these study areas are given in (Table 2). Only a small number of plants were farmed; most were taken from native peoples' habitats. The study found that roughly 18 families of plants were typically available and utilized to treat various human ailments. Table 2 lists the general scientific name of the plants, their preparation method, and the types of diseases that they were used to treat (Tadesse M et al., 2005).

### Medicinal plants Used to Treat Only Human Diseases

The number of plant species utilized as traditional medicines for treating human illnesses was counted, and these plants are from 30 genera and 19 families. The Asteraceae family was the most prevalent among these plants. 30 plant species were listed by Fisseha Mesfin (2007) and 25 plant species are cited in Endalew Amenu (2007). The work of Endalew Amenu (2007), Seyoum Getaneh (2009), and others reported on the supremacy of the family Asteraceae for the treatment of human ailments (Giday M 2001).

### Mode of preparation

The details of several plant preparation techniques, including the fresh fruit plants' composition and environmental conditions, are provided. Seed and dried stem preparation techniques, such as crushing, powered, and pressing, are also given in the table. The type of preparation that was most widely used was crush, which accounts for a higher percentage of next powered Making and sequencing (Figure 1) (Getaneh S et al., 2009).

### Parts of plants used for medicinal treat of different human illness

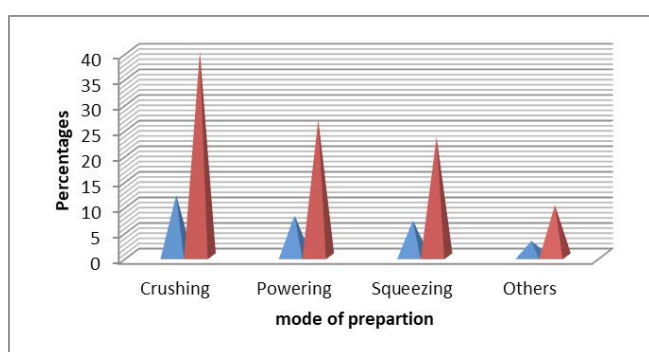
According to (Table 3), several plant components were used

**Table 1.** Socio demographic characteristic of informants.

Socio demographic	Frequency	Percent
1. Age		
a) 25-29	3	10
b) 30-34	12	40
c) 35-40	10	33.33
d) 41-45	5	16.66
<b>Marital status</b>		
a) Divorced	13	43.33
b) Married	15	50
c) Void owed	2	6.66
<b>Educational back ground</b>		
a) Diploma	14	46.66
b) Certificate	3	10
c) illiterate	4	13.33

**Table 2.** List of commonly available and utilized traditional medicinal plants in Haro Limu Woreda, 2018.

No.	Local name	Family Name	Scientific name	Part used	Method of preparation	Disease treated
					<b>Utilize</b>	
1)	Makanisa	Euohorbiaceae	Croton macrostachyus Del	bud	Applying terminal bud over skin infection	Fungal diseases
2)	Shankora	Poaceace	Saccharum officinarum L.	Stem	Heating part of steamed	Common cold
					<b>Eating</b>	
3)	Talba	Linaceae	linumuslatsinum	Seeds	Dissolved in water and drink	Gastric infection
4)	Asangira	Solanaceae	Datura stramonium	Leaves	Crushing leaves and applying over the head	Wound of head
5)	Dhummuga	Loranthaceae	Oliverellahilde, branth	Leaves	Heating the leaves and applying over the infected body part	Cold
6)	Caatii	Celtraceae	Catheduls	Leaves	Tonsin	
7)	Xenadama	Ruraceae	Rutaprave olensi	Leaves & root	Drinking the leaves bud with tea (coffee) pounding the root & drink	Common cold and Abdominal pain
8)	Yeroo	Lamiaceae	Pynostah abyssinica	Leaves	Heating the leaves and applying over the infected body	Eye infection
9)	Qabarichoo	Asteraceae	Echonophis pidus	Roots	Infusion (steaming the root to plant	Evil Sprite
10)	Buna	Rubiaceae	Coffe arebiaca	Seed	Powdering and drinking	Headache
					<b>Applying powder over the wound</b>	<b>wound</b>
11)	Yaatuu	Asteraceae	Acmellac ausirhizal	Flower	Chewing the yellow flower	Tonsil
12)	Harkisa	Boranginaceae	Cynoloss umlaceolantum	Jelly of the stem	Jelly of the stom apply over the fire wounds	Fire wounds
13)	Arangama	Agocynaceae	Carrissa spananum	Root	Heating the roots and applying over illest teeth	Tooth de livery
14)	Qortobbii	Plantaginaceae	Plant golacealed	Seed	Powdering the seed and applying the bodies	Bleeding bodies
15)	Loomii	Cucurbiza cea	Cifrusauranti olia	Fruits	Applying over skin	Skin infection
16)	Pappayyaa	Ciricaceae	Caicpayya	Fruit	Applying fire wound	Fire wound
17)	Qulubbii diimaa	Alliaceae	Alliumati cepal	Leaves	Eating the leaves	Common cold
18)	Eebich	Asteraceae	Vornonia amy of dalina	Leaves	Brushingena me of teath	Removing bacteria from the teeth

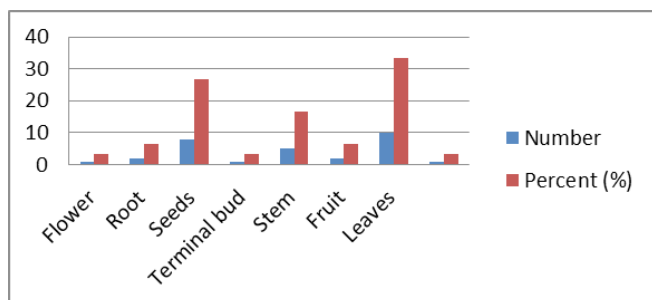
**Figure 1.** Mode of preparation of traditional medicinal plants.

to treat human illnesses. They were communally prioritized, especially with reference to particular plant families. Therefore, among traditional healers, leaves were most frequently employed as a form of medicine (33.33), followed by dried seeds (26.7%), dried steam (6.66), dried roots (6.61), and respecting while the last one was gross (leaves and roots, terminal), which accounts for 3-5, respectively (Sofowora A 1996).

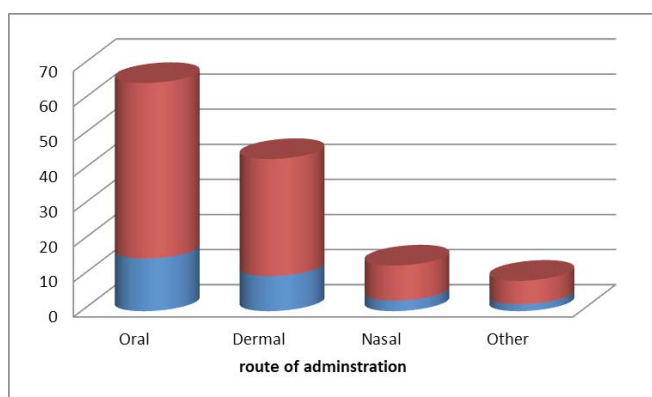
**(Figure 2)** The ease of preparation and the chemical

**Table 3.** Number of taxa and plant families used in the treatment of human diseases.

No.	Family	Genera	Species
1)	Agocynaceae	1	1
2)	Alliaceae	2	2
3)	Amarathaceae	1	1
4)	Asteraceae	3	3
5)	Baceae	1	1
6)	Boranginaceae	1	1
7)	Braciceae	1	1
8)	Celtraceae	1	1
9)	Ciricaceae	1	1
10)	Cucrbiteae	2	2
11)	Ephobia ceae	1	1
12)	Euohorbiaceae	1	1
13)	Fabaceae	1	1
14)	lamiaceae	1	1
15)	Linaceae	1	1
16)	Loranthaceae	1	1
17)	Myrtaceae	1	1
18)	Plantaginaceae	1	1
19)	Poaceace	1	1



**Figure 2.** Plant part utilize for medicinal plant remedying percent.



**Figure 3.** Route of administration of medicinal plants that used for human ailments.

components of leaves for the treatment of ailments may be the reasons why people prefer them to other plant parts. In contrast to leaves, remedy preparations that involve the roots, rhizomes, bulbs, barks, stems, or entire plants have effects that constitute a long-term threat to the survival of a single plant. As leaves were the most commonly collected plant part in the research area and have little impact on the mother plant's survival, there is no concern about the high threat of medicinal plants owing to the usage of plant parts for medicine. This finding is in line with the results of other ethnomedicinal studies Endalew Amenu (2007); Etana Tolasa (2007); Haile Yineger and Delenasaw Yewhalaw (2007) who reported that leaves were the most cited plant parts used in remedy preparations (Stephen AH et al., 2003).

### Mode of administration

The local community prepares items made from traditional medicinal herbs in a variety of ways for administration. The oral, dermal, nasal, and ocular modes of administration are the main ones in the studied region. Oral administration, followed by dermal application, is the most common method of administration in the research area. Similar findings showed that oral administration predominated over alternative modes of administration, according to Ermias Lulekal (2005) and others (Figure 3).

Since the method of utilization is not fixed, traditional therapeutic plants have certain negative effects, with the exception of vomiting and floating. Consequently, it requires traditional healers. to receive instruction in providing

basic healthcare. As most medicinal plants are wild and cultivated for their roots to prepare remedies, traditional healers should be encouraged to share their knowledge with interested people in their communities. The healer in insulations with governmental offices should take care not to irradiate the medicinal plants to ensure sustainability by establishing, nurse is for commonly available traditional plants so as to avoid carb devastation as it is associated.

Correlation measurements like area, cloche, where by being situated for farming, growing trees, and falling will aid in reducing environmental degradation and the effort to create a global community. About 30 therapeutic plants were found in the current investigation. Compared to gardens, most individuals pick more therapeutic plants from the wild. There is an urgent need to conserve such resources in order to maximize their usage in the primary healthcare system. The main traditional medicinal plants were all reported to treat more than 10 human illnesses. According to certain surveys, the majority of Ethiopia's traditional medicinal herbs are gathered from the wild.

Some significant information regarding knowledge of indigenous plants was also reported in the survey conducted by Alcoun (1991), and this is slower with the current study. Only verbal transmissions of this knowledge were made from one generation to the next, and indigenous knowledge evolves with both time and species. Ethnobotanical knowledge of plants involves customary methods for gathering raw materials and preparing indigenous knowledge of plant remedies in various countries, such as Ethiopia. These methods are passed down from one generation to the next in a variety of ways with the help of seriate and verbatitans females, who are able to tolerate the indigenous knowledge to ethnic medicinal knowledge at each point of transfer.

As a result, thorough documentation of such use and full knowledge of the dawn days through ethnobotanical research is required. Traditional healers have been proven to play a crucial part in the primary healthcare system by helping the local populace who lack access to contemporary medical care yet are unafraid of its high cost. According to Walter (1987), between 65 and 85 percent of the population in every developing nation relies on traditional medicinal plants because there aren't enough hospitals and health care facilities there. Additionally, since traditional medicinal plants are more effective for rural populations than modern medicines, they require special consideration and support (WHO 2008). Therefore, this is partially attributable to the fact that the majority of locals cannot afford or rely on modern medical services because of their skyrocketing costs and lack of transportation to and from medical facilities.

## REFERENCES

1. Birhanu A, Asfaw Z, Kelbessa E (2006). Ethnobotany of plants used as insecticides repellants and anti-malarial agents in Jabitehnan District, West Gojjam. SINET: Ethiop J Sci. 29: 87-92.

2. Arihan O, Mine A (2007). Traditional medicine and intellectual property rights. *J Fac Pharm.* 36: 135-151.
3. Wassihun B, Asfaw Z, Demissew S (2003). Ethnobotanical study of useful plants in daniio gade (home-gardens) in Southern Ethiopia. *Ethiopian J Biol Sci.* 2: 119-141.
4. Cotton CM (1996). *Ethnobotany: Principles and Applications.* John Wiley and Sons, New York.
5. Abebe D (1986). Traditional Medicine in Ethiopia: Attempts being made to promote it for effective and better utilization. *SINET: Ethiop J Sci.* 9: 61-69.
6. Abebe D, Ayehu A (1993). *Medicinal plants and Enigmatic Health Practices of Northern Ethiopia,* Berhanina selam printing Enterprise, Addis Ababas.
7. Hunde D, Asfaw Z, Kelbessa E (2004). Use and management of ethnoveterinary medicinal plants of indigenous people in 'Boosat', Welenchiti area. *Ethiop J Biol Sci.* 3: 113-132.
8. Lulekal E, Kelbessa E, Bekele T, Yineger H (2008). An ethnobotanical study of medicinal plants in Mana Angetu Wereda, southeastern Ethiopia. *J Ethnobiol Ethnomed.* 4: 10.
9. Yineger H, Yewhalaw D (2007). Traditional medicinal plant knowledge and use by local healers in Sekoru District, Jimma Zone, Southwestern Ethiopia. *J Ethnobiol Ethnomed.* 3:24.
10. Hamilton AC (2004). *Medicinal Plants, Conservation and Livelihood.* International Plants Conservation Unit, WWF-UK, Panda House, Catteshall Lane, Godalming. pp 35.
11. Johnson M (1992). *Lore: Capturing Traditional Environmental Knowledge.* IDRC: Ottawa, Canada.
12. Balemie K, Kelbessa E, Asfaw Z (2004). Indigenous medicinal plant utilization, management and threats in Fentalle area, Eastern Shewa, Ethiopia. *Ethiopian J Biol Sci.* 3: 37-58.
13. Martin GJ (1995). *Ethnobotany: A method Manual.* Chapman and Hall, London.
14. Tadesse M, Hunde D, Getachew Y (2005). Survey of medicinal plants used to treat human diseases in Seka Cherkosa, Jimma Zone, Ethiopia. *Ethiopian J Health.*15: 89-106.
15. Giday M (2001). An ethnobotanical study of medicinal plants used by the Zay people in Ethiopia. *J Ethnopharmacol.* 3: 81-99.
16. Getaneh S, Zerihun G (2009). An ethnobotanical study of medicinal plants in Debre Libanos Wereda, Central Ethiopia. *African Journal of Plant Science* 8: 366-379.
17. Sofowora A (1996). Research on medicinal plants and traditional medicines in Africa. *The Journal of Alternative and Complementary Medicine.* 2: 365-372
18. Stephen AH, Justin WV (2003). *Traditional knowledge and intellectual property: A Hand book on Issues and option for traditional knowledge holders in protecting their intellectual property and maintaining Biological Diversity.* American Association for the advancement of science and Human Rights program. Washington.
19. WHO (2008). *Traditional medicine.*