

Ethnobotanical Study of Traditional Medicinal Plants Used for Treatment of Human and Livestock Ailments by Traditional Healers in Goba Woreda, Bale Zone, Oromia, South East Ethiopia

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Abstract

The study of traditional medicinal plants was conducted in Goba woreda from August to October 2018 in three kebeles Kedu, Elasa and Aloshe Tilo. In this woreda, diverse medicinal plants were used to treat human and livestock disease. Among this various medicinal plant only **35** species were collected and identified by using the Flora book of Ethiopia and Eritrea (volume 3, 1989). The data was collected from **21** informants of traditional healer and from these **7** informants healer taken from each kebele and **16** were males and **5** females. The healers were used for treat dermatological, respiratory, ureno-genital, gastro-intestinal, febrile and livestock disease in the study area by using plant part of leaf (58%), root (25%) and other part (17%) to serviceable orally, nasally or dermally. However; these plant species were threatened by the activities of the community like expansion of agriculture, overgrazing, and deforestation of plant was the risk of extinction. To conserve the area and preserve the medicinal plants it was recommended to make aware of the society and to develop in –situ and ex-situ conservation plants.

Keywords: Human diseases, Livestock ailments, Traditional healer, Traditional medicinal plants

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1. INTRODUCTION

Million years back, plants have been used in the health care systems of mankind (Khandel *et al.*, 2012). Even today, about (80%) of people in developing countries are used plants for treat the health problems. Despite the notable progress in the synthetic of organic chemistry, more than 25% of agreed the medicine of developed countries is also directly or indirectly derived from plants (Hostettmann and Marston, 2002). Furthermore, many of the major modern drugs such as quinine, salicylic acid, Artemisia have been discovered from traditional knowledge of communities (Yadav, 2013). Besides their use in preventing and curing various ailments, some medicinal plants are serving as export commodities and source of considerable income for farmers (Assefa and Abebe, 2014).

Ethiopia is located in the horn of Africa that believed about 6,500 species of higher plants presents. Among these 12% are endemic (UNEP, 1995). Since in Ethiopia it consist several languages, cultures, religious and several traditional knowledge (Gidey, 2001), and it used the medicinal plant highly expected (Getaneh and Girma, 2014). Also around 60% of world population depends on traditional medicine (Khandel *et al.*, 2012). In developed countries such as United States, plant drugs constitute as much as 25% of the total drugs, while in fast developing countries such as China and India, the contribution is 80% (Joy *et al.*, 1998). The reason for highly reliance on traditional medicine in developing countries particularly in Ethiopia is cultural acceptability, effectiveness against certain type of ailments, accessibility and affordability as compared to modern medicine (Awas and Demissew, 2009; Yirga, 2010; Megersa *et al.*, 2013). Regardless of its contribution to the society, traditional medicine has been given a little attention in modern research and less effort has been made to promote the practice in Ethiopia (Gidey, 2001). Due to natural and anthropogenic factors, the biodiversity as well as medicinal plants are being depleted in an alarming rate (Megassa *et al.*, 2013).

The current loss of medicinal plants in the country links with the missing of valuable indigenous knowledge associated with the plants (Zenebe *et al.*, 2012). Among natives of various countries, knowledge of medicine has been passed orally from one generation to the next by priests and medicine men (Getahun, 1976). But, due to the fact that cultural systems are highly fragile the skills are likely to be lost in the transfer process (Getaneh and Girma, 2014). Furthermore, the local communities encounter cultural changes due to development activities in areas where these communities be inherent in both the medicinal plants and the associated indigenous knowledge could vanish forever (Belayneh *et al.*, 2012). This also holds true in Ethiopia where written records in this field area almost absent even though the country has a written language for over thousand years (Agisho *et al.*, 2014). In Ethiopia medicinal plants and knowledge of their use provided a vital contribution to human and livestock healthcare needs throughout the country. Because, medicinal plants are demanded in Ethiopia (Kibebew, 2001). Ethiopia geographical diversity with different habitats and vegetation type's favors medicinal plant growth and utilization (Gebeyehu *et al.*, 2013). Multiple geographical diversity of the country coupled with multiethnic group

make it home for wide traditional medicine.

Ethiopia is a country characterized by a wide range of climate and ecological condition, possesses enormous diversity of flora and fauna (Pankhurst, 2006). The country possesses a wide range potentially useful medicine plants, more extensive indeed than available in many other parts of the world (Yirga and Zeraburk. 2005). Popular knowledge of plant used by human is based on thousands of years of experience by trial and error people learn how to recognize and use plants, including those with a magic- religious function (Janzen 1981). Due to its long period of practice and existence, traditional medicine has become an integral part of the culture of Ethiopian people (Amenu. 2007). According to (Abebe, 2001), there is a large magnitude of use and interest in medicinal plant in Ethiopia due to acceptability and bio medicinal benefits. In Ethiopia the long history use of medicinal plants is reflected in various medico –religious manuscripts produced on parchments and believed to have originated several centuries ago (Kibebew , 2001). Medicinal text books written in Geez and Arabic in Ethiopia between the 17 & 18 centuries employs that plants have been used as a source of traditional medicine in Ethiopia health care system. In Ethiopia little emphasis has been given to traditional medicinal studies over the past decades (Hunde,et al.,2004). Therefore it can be said that ethnobotanical studies were merely at the start in Ethiopia there have been some attempts in investigating medicinal plants uses and there was as yet, no in depth study on the relation between medicinal plants and indigenous knowledge on sustainable management of such plant species.

2. Materials and Methods

2.1. Description of the study area

The study was conducted from August to October 2018 in Goba woreda, Bale zone, Oromia State, South Eastern Ethiopia. The Woreda was located in the eastern edge of Robe town, at about 446 kms South East of Addis Ababa. It was located between 39° 37' 30''– 40° 12' 00''E and 6° 38' 0'' – 7° 4' 0'' N was latitude. About 45% of the land scape in this Woreda was rugged or mountainous. Tullu Demtu Mountain was the highest point in this Woreda, Zone and Region. The Woreda were possesses Mica, Togona and Shaya rivers. A survey of the land in this Woreda shows that 13% was arable or cultivable, 27.6% pasture, 54.6% forest (or part of the Bale Mountains National Park), and the remaining 4.8% was considered degraded or otherwise unusable. As a part of Bale zone, Goba Woreda has two types of rainfall regime. The long rainy season extends from March to April with high rain fall during June, July and August. The second rainy season of rain fall regime was influenced by equatorial westerly and easterly winds with rainfall during spring and autumn. The altitude of the Woreda ranges from 1500-4377m a.s.l and the temperature varies from some times less than 0°C - 23°C. The common vegetation were Afro-alpine and sub Afro-alpine vegetation which were prevailing in limited areas above 3400m of massif and found in mountain tops of Sanete plateaus and surrounding prominent mountain peaks. Junipers procera forest associated with Hagenia abyssinica and Olea trees were found at altitudes ranging from 2300-3100mm. The forest areas were also well known for their flora and fauna diversities. The economic activities of the local people were primarily based upon mixed farming that involves pastoralism and cultivation of crops such as wheat and barley.

2.2. Methods of data collection

A primary survey of the study area was conducted in August to October 2018. During this survey, information about the physical features of the study area was collected. The study sites were selected purposively based on the availability of the practice on traditional medicine and availability of better vegetation cover following the recommendations of the local elders. Three Kebeles (3 rural kebeles were selected in the study Woreda. The selected kebeles were, Kedu, Elasa and Aloshe Tilo. The identification was assisted by the district and local authorities, elders and knowledgeable persons to gather diversified information on the ethnobotany of medicinal plants to treat different human disease. The data were collected using purposive sampling method (Bernard, 2002). This technique was preferred because the study focuses on specific issues that it was gathered from the most knowledgeable representatives of the society. Representative sample of the local people of different age and social groups were included. Accordingly, 21 informants were selected from the kebeles for this study. Out of the total informants, 16 were males and 5 were females. From each kebele, 7 informants were selected based on their willingness. The informants were aged between 20 and 75. These informants were selected for interview based on the assumption that they were members of the community most knowledgeable about traditionally used medicinal plants. Group as well as individual interview was conducted with them. The interview prepared in English was translated in to local language Afaan Oromo. The methods employed in the data collection were group discussion, semi-structured interviews, open ended questions, field observation, market survey and preference ranking methods. All the relevant data including the vernacular name, plant habit, part of the plant used, medicinal values (uses) of the plant, preparation, were gathered during the interviews. Voucher specimens (Plants) were collected from each sample site, dried and brought to national herbarium found in Addis Ababa for identification. Then, identification was performed by experts in the herbarium using flora books of Ethiopia and Eritrea.

2.3. Data Analysis

In order to assess the distribution of the medicinal plants in the area, vegetation survey was carried out. It also provided one way of summarizing the knowledge of vegetation pattern. As the study encompasses large - scale area quadrant were used and a visual identification of the community type were established based on the dominance of some species. The community name was derived based on the tree or shrub with high synoptic value.

2.3.1. Descriptive Statistics

A descriptive statistical method percentage was employed to analyze and summarize the data on medicinal plants and associated knowledge. The most useful information gathered on medicinal plants reported by local people was the medicinal value, application; method of preparation, route of application, disease treated, dosage, parts and habits used were analyzed through descriptive statistical analysis.

3. Results

For identification purpose the part of all plant sample of 35 medicinal plants were collected and among these 27 species were used for the treatment of human diseases while six species were used for livestock treatment. The rest two species were used to treat both human and livestock diseases. The traditional practitioners collected (41.6%) of the medicinal plants from home gardens and (58.4%) from the natural habitat. Among the medicinal plants 18 species were herbs followed by 13 species shrubs and other four species were trees.

Table 1: List of Traditional medicinal plant species used to treat human and livestock disease

S.No	Botanical Name	Local Name	Type	Human/Livestock	Ailment treated
1	<i>Cacumis fici folius</i>	Yemdir embauy	Herb	Human	Sudden stomach each
2	<i>Clerodendrum myricoides</i>	Misrich	Shrub	Human	Allergic
3	<i>Acokanthera schimperi</i>	Merenz	Tree	Human	Hepatitis
4	<i>Ajugainteg pifolia</i>	Aqourarach	Herb	Human	Tonsillitis
5	<i>Aloe vera</i>	Eret	Herb	Human	Wound
6	<i>Artemisia afra</i>	Ariti	Herb	Human	Abdominal problem
7	<i>Asparagus scaberulus</i>	Keskeso	Herb	Human	Burring wound
8	<i>Asparagus spp.</i>	Serittee	Shrub	Human	Allergic
9	<i>Achyranthe saspera</i>	Telenji	Herb	Livestock	Abagorba
10	<i>Calpurnia aurea</i>	Digita	Shrub	Livestock	Cattle lice
11	<i>Clematis hirsute</i>	Azoareg	Shrub	Human	Abdominal problem
12	<i>Acmellacau lirhiza</i>	Yemdirberbere	Herb	Human	Tonsillits
13	<i>Croton macrostachyus</i>	Bisana	Tree	Human	Wring worm
14	<i>Datura stramonium</i>	Astenagir	Herb	Human	Dandruf
15	<i>Echinoops kabaricho</i>	Kabaricho	Shrub	Both	Febrile illness
16	<i>Ecualptus globules</i>	Nechbeharzaf	Tree	Livestock	Abagorba
17	<i>Foeniculum volgare</i>	Insilal	Herb	Both	Urination problem
18	<i>Jasmrnum gusscaqberulus</i>	Tembelel	Shrub	Human	Allergic
19	<i>Juniprus procera</i>	Yeabeshatid	Tree	Human	Wound
20	<i>Kasanechea maerantha</i>	Endwhula	Herb	Human	Boil
21	<i>Kasanechea maerantha</i>	Endwhula	Herb	Human	Tonsillits
22	<i>Leggerato mentosa</i>	Chikugn	Herb	Human	Common cold& Influenza
23	<i>Lepldium sativum</i>	Feto	Herb	Human	Abdominal problem
24	<i>Leucusma rtinicensis</i>	Raskemir	Shrub	Human	Febrile illness(much)
25	<i>Nicotina tobacum</i>	Timbaho	Herb	Livestock	Leech infection
26	<i>Ocimum gratissimum</i>	Damakese	Shrub	Human	Febrile illness
27	<i>Osyris quadripartita</i>	Keret	Shrub	Livestock	Cattle skin lesion
28	<i>Phytolacca dodecandre</i>	Indod	Shrub	Human	Gonorrhoea
29	<i>Rhusre tinorrhoea</i>	Tilem	Shrub	Human	Hepatitis
30	<i>Rumex absyssinica</i>	Mekimeko	Herb	Human	Wring worm
31	<i>Rummex crispus</i>	Tult	Herb	Human	Stomach aech
32	<i>Strychno sinnocua</i>	Engochit	Shrub	Human	Abdominal problem
33	<i>Rutacha chlepenis</i>	Tenadam	Herb	Human	Abdominal problem
34	<i>Verbana of icinalis</i>	Ajo	Herb	Livestock	Abagorba
35	<i>Withania sominfera</i>	Gizawa	Shrub	Human	Febrile illness

3.2. Medicinal plant parts used, method of Preparation and rout of application

Most remedies (58.3%) were prepared from leaves followed by root (25%). The majority (88.8%) of remedies were prepared from fresh plant parts (leaf or root) followed by dried plant parts of the leaf or root powder (11.2%) and most common of remedial preparation was squeezing of the fresh leaf or root (33%) followed by powdering (13%) most of these medicine prepared remedies were applied orally (38.8%) followed by dermal (33.3%) and nasal (11.1%).

Table 2: Traditional medicinal plants parts used, method of preparation and rout of application

SN	Botanical Name	Parts used	Method of preparation	Rout of application
1	<i>Achyranthe saspara</i>	Leaf	Fresh leaf crushed	Orally
2	<i>Acmellacau lirhiza</i>	Flower	Chewing fresh flower	Orally
3	<i>Acokanthera schimperi</i>	Fresh leaf	Fresh leaf juice with honey	Orally
4	<i>Ajugaintegpi folia</i>	Leaf	Fresh leaf	juice Nasally or orally
5	<i>Aloe vera</i>	Leaf	Covering with internal part	Topically
6	<i>Artemisia afra</i>	Shoot	Fresh shoot soaked in water	Orally
7	<i>Asparagus scaberulus</i>	Leaf	Polishing dry leaf powder	Topically
8	<i>Asparagus spp.</i>	Leaf	Fresh leaf juice	Topically
9	<i>Cacumisfici folius</i>	Root	Root powder with water / coffee	Orally
10	<i>Calpurnia aurea</i>	Leaf	Fresh leaf juice	Topically
11	<i>Clematis hirsute</i>	Root	Crushing fresh root & soaked in water	Orally
12	<i>Clerodendrummy ricoides</i>	Leaf	Fresh leaf juice	Topically
13	<i>Croton macrostachyus</i>	Young leaf	Fluid in young leaf	Topically
14	<i>Datura stramonium</i>	Leaf	Fresh leaf juice	Topically
15	<i>Echinoops kabaricho</i>	Root	Root smoke	Nasally/orally
16	<i>Ecualptus globules</i>	Leaf	Fresh leaf crushed	Orally
17	<i>Foeniculum volgare</i>	Leaf	Fresh leaf juce	Orally
18	<i>Jasmrnumgussca qberulus</i>	Leaf	Fresh leaf juice	Topically
19	<i>Juniprus procera</i>	Dry leaf	Polishing dry leaf powder	Topically
20	<i>Kanchea macrantha</i>	Leaf	Covering with hot fresh leaf	Topically
21	<i>Kasanechea maerantha</i>	Root	Fresh root crushed and soaked in water	Nasally
22	<i>Leggerato mentosa</i>	Leaf	Fresh leaf boiled with milk	Orally
23	<i>Lepidium sativum</i>	Seed	Seed powder with water	Orally
24	<i>Leucusma rtinicensis</i>	Leaf	Fresh leaf juice with water drop	Nasally
25	<i>Nicotina tobacum</i>	Leaf	Fresh leaf juice	Orally or nasally
26	<i>Ocimum gratissimum</i>	Leaf	Fresh leaf juice with water drop	Nasally or orally
27	<i>Osyrisqua dripartita</i>	Leaf	Fresh leaf juice	Topically
28	<i>Rhmnus prinoids</i>	Leaf	Chewing	Orally
29	<i>Rhusretino rrhoea</i>	Leaf	Fresh leaf soaked in water	Orally
30	<i>Rumex absyssinicus</i>	Root	Root powder with butter	Topically
31	<i>Rummex crispus</i>	Root	Chewing fresh/dry root	Orally
32	<i>Ruta chalepensis</i>	Shoot&fruit	Fresh shoot soaked in water	Orally
33	<i>Strychno sinnocua</i>	Root	Fresh root crushed & soaked in water	Orally
34	<i>Verbana of icinalis</i>	Leaf	Fresh leaf crushad&mixed with the above	Orally
35	<i>Withania sominfera</i>	Root	Dry root smoke	Orally & nasally

3.3. Traditional medicinal plants used to treat different disease categories

3.3.1. Dermatological diseases

The skin can be exposed to much pathogenic infection mainly to different fungal diseases such as ringworm, dandruff and skin allergic. The society in the study area used a number of medicinal plants to treat these and other dermatological ailments. About 10 (27%) traditional medicinal plant identified used to treat different dermatological diseases.

Table 3: medicinal plants used to treat human dermatological diseases

SN	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Aloe vera</i>	Eret	Wound	Leaf	Covering with the internal part	Topically
2	<i>Asparagus scaberulus</i>	Keskeso	Fire wound	Leaf	Polishing dry leaf powder	Topically
3	<i>Asparagus spp.</i>	Tembelel	Allergic	Leaf	Fresh leaf juice	Topically
4	<i>Clerodendrum myricoides</i>	Misrich	Allergic	Leaf	Fresh leaf juice	Topically
5	<i>Croton macrostachyus</i>	Bisana	Ring worm	Leaf	Fluid in young leaf	Topically
6	<i>Datura stramonium</i>	Astenagir	Dandruf	Leaf	Fresh leaf juice	Topically
7	<i>Jasmrnumgussca qberulus</i>	Tenbelel	Allergic	Leaf	Fresh leaf juice	Topically
8	<i>Jinuprus procera</i>	Yabeshatid	Wound	Leaf	Leaf powder	Topically
9	<i>Kaanchea macrantha</i>	Endwhula	Boil	Leaf	Covering with hot fresh leaf	Topically
10	<i>Rumex absyssinicus</i>	Mekmeko	Ring worm	Root	Root powder with butter	Topically

3.3.2. Respiratory diseases

Respiratory diseases were the common health problem to the intended area of the study. People around that area treat the using traditional medicinal plant species. Of the plants identified from the study area six (10%) were used to treat respiratory ailment like tonsillitis, common cold and influenza (Table 4).

Table 4: Medicinal plants used to treat human respiratory disease

SN	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Acmella caulirhiza</i>	Yemdirberbere	Tonsillitis	Flower/ root	Chewing fresh flower or root	Orally
2	<i>Ajugainteg pifolia</i>	Aqourarach	Tonsillitis	Leaf	Fresh leaf juice	Nasally
3	<i>Eucalyptus globules</i>	Nechbeharzaf	Common cold	Leaf	Fresh leaf boild	Nasally/orally
4	<i>Kasanechea maerantha</i>	Endwhula	Tonsillitis	Root	Fresh root crushed and soaked in water	Nasally
5	<i>Leggerato mentosa</i>	Chkugn	Common cold &Influenza	Leaf	Fresh leaf boiled with water	Orally
6	<i>Ruta chalepensis</i>	Tenadam	Common cold	Leaf	Fresh leaf boiled with milk/tea	Orally

3.3.3. Ureno-genital and organ diseases

From the collected plant species four (11%) of them were applied to treat ureno- genital and organ diseases. Traditio;nal healers used leaf and root for the treatment of ureno- genital and organ diseases. Crushing fresh leaf or root and preparing juice to be taken orally (Table 5).

Table 5: Medicinal plants used to treat Ureno genital

SN	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Acokanthera schimperi</i>	Merienz	Hepatitis	Leaf	Fresh leaf	Orally
2	<i>Foeniculum volgare</i>	Insilal	Urinary problem	Leaf	Fresh leaf juice	Orally
3	<i>Phytolacca dodecandre</i>	Indod	Gonorrhea	Root	Crushing fresh root and soaked in water	Orally
4	<i>Rhusretino rrhoea</i>	Tilem	Hepatitis	Leaf	Fresh leaf soaked in water	Orally

3.3.4. Gastro intestinal disease

In the study area indigenous people use many traditional medicinal plants to treat gastro-intestinal ailments. Oral application is the most commonly rout of remedies in the study area. From identified medicinal plants seven (19.4%) are used to treat these diseases. The root is the common part of the plant to prepare the remedies (Table

6).

Table 6: Medicinal plants used to treat Gastro-intestinal disease

No.	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Artemisia afra</i>	Ariti	Stomach aech	Shoot	Fresh shoot soaked in water	Orally
2	<i>Cacumis ficifolius</i>	Ymidrimbaury	Typhoid	Root	Root powder with water / coffee	Orally
3	<i>Lepidium sativum</i>	Feto	Abdomenal problem	Seed	Seed powder with water	Orally
4	<i>Rummex crispus</i>	Tult	Sudden abdominal problem	Root	Chewing fresh root	Orally
5	<i>Rutacha lepensis</i>	Tenadam	Stomach aech	Shoot & fruit	Fresh shoot soaked in water	Orally
6	<i>Clematis hirsute</i>	Azoareg	Abdomenal problem	Root	Crushing fresh root & soaked in water	Orally
7	<i>Strychno sinnocua</i>	Engochit	Abdomenal problem	Root	Fresh root crushed & soaked in water	Orally

3.3.5. Febrile disease

Febrile diseases were common in the community they occur frequently, but treated with some medicinal plants. They were effective when applied together. The fresh leaves of these plants squeezed and with water / coffee (Table 7).

Table 7: Medicinal plant used to treat human febrile disease

SN	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Echinoops kabarichomesfin</i>	Kebericho	Febrile	Root	Dry root smoke	Nasally/Orally
2	<i>Leucusma rtinicensis</i>	Raskemir	Febrile	Leaf	Fresh leaf juice with coffee/water	Orally/nasally
3	<i>Ocimum gratissimum</i>	Damakese	Febrile illness (much)	Leaf	Fresh leaf juice with water drop	Nasally or orally
4	<i>Withania sominfera</i>	Gizawa	Febrile illness (much)	Root	Dry root smoke	Orally & nasally

3.3.6. Livestock disease

Breeding livestock is one source of economy besides cultivating crops to the society of the study area. They treat different livestock diseases with a number of traditional medicinal plant species. Traditional healer treat the disease of livestock using medicinal plants six (16.7%) of identified from the study area are used to treat different livestock ailment (Table 8).

Table 8: Medicinal plant used to treat Livestock disease

SN	Botanical Name	Local Name	Ailments treated	Parts used	Method of preparation	Rout of application
1	<i>Achyranthes aspera</i>	Telenji	Abagorba	Leaf	Fresh leaf crushed	Orally
2	<i>Calpurnia aurea</i>	Digita	Cattle lice	Leaf	Fresh leaf juice	Topically
3	<i>Ecualptus globules</i>	Nech beharza	Abagorba	Leaf	Fresh leaf juice	Orally
4	<i>Nicotina tobacum</i>	Timbaho	Leech infection	Leaf	Fresh leaf juice	Orally or nasally
5	<i>Osyrisquadripartita</i>	Keret	Cattle skin lesion	Leaf	Fresh leaf juice	Topically
6	<i>Verbana officinalis</i>	Atuch	Abagorba	Leaf	Fresh leaf crushed & mixed with the above two	Orally

4. Discussion

The people in the study area were used numerous medicinal plants to treat different human and livestock diseases by traditional healers. From the study site most medicinal plants (80 %) were collected from farm land, grazing land, up land forest, compared to (20 %) from home garden. The same result was also documented in Kilte Awlalo distric of Tigray region by Teklay *et al.* (2013). The community may not so interest to grow all the medicinal plants in the home garden and ex-situ. This may be due to most medicinal plant is available in the wild area so that

the traditional healers harvest them easily. *Acmellaca lihizais* is used to treat tonsillitis by chewing fresh flower or root (Martine, 1995, Khanal 2006 cited in Alemayehu, 2013). *Leggerata mentosa* is used to treat common cold and influenza by boiling with milk and taken orally mainly for infants. Traditional healers treat ureno-genital and organ ailment using different traditional medicinal plant species (Hunde et al., 2004).

Phytolacca dodecandre is used to treat one of the sexually transmitted diseases gonorrhoea. For the treatment of gonorrhoea fresh root of the plant crushed the squeeze taken orally. Crushing the fresh leaf of *Rhusterti norrhoea* and *Ackantheras chimperi* squeezed together mixed with honey and taken orally before breakfast to treat hepatitis. Some medicinal plants are familiar to the society in the study area to treat many gastrointestinal ailments (Martin, 1995). Chewing the fresh root of *Rmmex crispus* used to treat sudden abdominal problem (dingetgna). The root powder of *Cacumis ficifolius* with water / coffee used to treat typhoid. Most these plants are found easily around home gardens. The traditional healers estimate the dosage by taking seven leaves from each plant and mix together and the squeeze given to the patient. *Nicotina tobacum* is used to treat leech infection. Fresh leaf juice taken orally/nasally to with drown the leech from the trachea as it close the trachea and cause cough to the cattle. Crushing *Eucalyptus globules*, *Achyranthe sapsera*, and *Verbana officinalis* together soaked in water and taken orally to treat Abagorba. The fresh leaf squeeze of *Calpurnia aurea* applied dremily to kill cattle lice (Balick and Cox, 1996).

Traditional healers prepare the traditional remedies using different traditional measurement to estimate the dosage of the remedies like counting the number of leaf or root, using containers for example to treat gonorrhoea with *Phytolacca dodecandre* juice they use a coffee cup up to the volume cover the thumb or nail of the healer. In this study area traditional healers used medicinal plants to treat a number of diseases using leaf which might not threatened the plant. Using root however, will lead to extinction. Indigenous people were highly dependent upon plants for multiple applications that threatened diversity of medicinal plants.

5. Conclusion

The study area Goba wereda has diverse medicinal plants that were used to treat various human and livestock diseases by the local communities. The wild plant habitats were the main sources of medicinal plants compared to home gardens. Currently medicinal plants availability was at risk due to different human activities such as agricultural expansion and cultivating eucalyptus tree for the source of income were the most visible threats in the study area. The indigenous knowledge of people has to be passed over to the next generation. To conserve the biodiversity of the area and preserve the medicinal plants there was a need to create awareness and develop in – situ and ex-situ conservation of medicinal plants.

Competing Interests

The authors declare that they have no competing interests.

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