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

Habtamu Tedila* Getu Dida
College of Natural and Computational Science Department of Biology (Stream of Applied Microbiology and Botanical science), Madda Walabu University, PO box 247, Bale Robe, Ethiopia

Abstract
The investigation of traditional medicinal plants was performed in Bale district from August to October 2018 in three kebeles Kedu, Elasa and Aloshe Tilo. In the study area diverse medicinal plant were used to treat many human and livestock disease. The data were collected from the informants through semi-structured interview, discussion and collected plant samples from the study areas that were used to treat different human and livestock ailments. A total of **21** informants were selected that consist of seven informants from each kebele of which **16** were males and **5** females. Among the informants six of them were key informants selected by purposive sampling method. A total of 35 medicinal plant species were collected from the study area and identified using the Flora of Ethiopia and Eritrea (volume 3, 1989). The medicinal plant collected was used to treat six disease categories. Namely, dermatological, respiratory, ureno-genital, gastro-intestinal, febrile and livestock disease. The frequently applied plant part was leaf (58%) followed by root (25%). Traditional healers commonly used the juice of fresh leaf and root of medicinal plants. To prepare it fresh part of the plant was crushed and the juice applied orally, nasally or dermally. However; these plant species were threatened by the activities of the community like expansion of agriculture, overgrazing, cultivation of eucalyptus tree as cash plant and application of the root of medicinal plant was a factor that needs risk of extinction. To conserve the biodiversity of 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 of medicinal plants.
Keywords: Human diseases, Livestock ailments, Traditional medicinal plants, traditional healer.
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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, plants remain the source for majority (80%) of people in developing countries to alleviate health problems. Despite the notable progress in the synthetic of organic chemistry, more than 25% of agreed 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, source of considerable income for farmers (Assefa and Abebe, 2014).

Ethiopia located in the horn of Africa is believed to be home for about 6,500 species of higher plants of which 12% are endemic(UNEP, 1995) making the country among the most diverse floristic regions of the world. Since Ethiopia is home to several languages, cultures and beliefs (Gidey, 2001), several traditional knowledge and use of medicinal plant practices are highly expected (Getaneh and Girma, 2014).

Studies show that, 80% human and 90% livestock in Ethiopia rely on traditional medicine for their primary health care systems (Yadav, 2013). Not only Ethiopians but 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 as much as 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 reside and 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 are almost absent even though the country has had 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 health care needs throughout the country the reason why medicinal plants are demanded in Ethiopia is due to culturally linked traditions (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. The practice of traditional medicine in the country is not only concerned with curing of diseases but also with the protection and promotion of human physical , spiritual , social , mental and material well-being .

The knowledge involves traditional diagnosis, collection of raw materials, preparation of remedies and its prescription to the patients (WHO, 2002). Indigenous knowledge on remedies in many countries including Ethiopia, pass from one generation to the other generation verbally with great secrecy (Janzen, 1981). The complex knowledge, beliefs, and practice generally known as indigenous knowledge or traditional knowledge, develop and change with time. It includes time tested practices that developed in the process of interaction of human with their environment (Hunde et al., 2004). Indigenous people refer to people who follow traditional, non-industrial life style in area that they have occupied for generations (Balick and Cox, 1996). Indigenous knowledge is a result many generation long years' experience careful observation and trial and error experiments (Martin, 1995). Traditional people around the world possess unique knowledge of plant resources on which they depends for food, medicine and general utility (Martine, 1995, Khanal 2006 cited in Alemayehu, 2013). The knowledge helps them to identify and use many plants for traditional medicine to treat different human and livestock diseases.

The world health organization (WHO, 2002) defined traditional medicine as the total combination of knowledge and practice that can be formally explained are used in prevention and elimination of physical , mental , or social imbalance and relaying exclusively on practical experience and observation handed down from generation to generation whether, verbally or in writing (Amenu,2007). Traditional medicine as a major African socio cultural heritage , obviously in existence for several hundreds of years , and the first choice of health care treatment for at least 80% of Africans who suffer fever and other common ailment (Elujoba et al., 2005).

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. In Ethiopia, even though the traditional medicinal practitioners are the best sources of information secret, only to be passed orally to their older son, at their oldest age (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). There for it can be said that ethinobotanical studies are merely at the start in Ethiopia there have been some attempts in investigating medicinal plants uses and there is 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 October 2016 to February 2017 in three kebeles Kedu, Elasa and Aloshe Tilo in Goba districts of Bale zone, Oromia Regional State, South Eastern Ethiopia. Goba district was located at 445 km south east of Addis Ababa. The area was situated at $7^{O}00'$ N and $39^{O}58'$ E Latitude and longitude respectively. The area has a typical vegetation type of undifferentiated Afromontane forests in Ethiopia and has a mean annual rainfall and temperature of 1218.64 mm and 10.26 ^{o}C, respectively. 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. Data Sources

The traditional medicinal plant data were obtained from primary and secondary sources. The primary data were obtained by collecting of fresh specimens data in the study area. The secondary sources were obtained by

referring to previous studies in the country and literature review.

2.3. Methods of Data Collection

2.3.1. Semi-structured Interviewer Administered Questionnaire

Lists of questions were prepared that covered in the discussion with the informants in a particular order. The interview was done and around these questions and some issues were raids depending on responses of informant. The language that was used frequently with the informants was Oromiffa (common language of the woreda) and Amharic. During the interview the information regarding local name of the medicinal plants, parts used, methods of preparation and mode of application were gathered.

2.4. Plant Specimen Collection and Identification

The available plant specimens were collected for each plant species and identification of some common and well known species was made in the field including the local name, specific name and habitat. The identification was done by using taxonomic key and volume 3 of the Flora of Ethiopia and Eriterea (Hedberg ,1989).

2.5. 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.

2.5.1. 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. 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 leaf 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/Liv estock	Ailment treated
1	*Cacumisfici folius*	Yemdir embauy	Herb	Human	Sudden stomach aech
2	*Clerodendrummy ricoides*	Misrich	Shrub	Human	Allergic
3	*Acokanthera schimperi*	Merenz	Tree	Human	Hepatitis
4	*Ajugainteg pifolia*	Aqourarach	Herb	Human	Tonsillitis
5	*Aloe vera*	Eret	Herb	Human	Wound
6	*Artemisia afra*	Ariti	Herb	Human	Abdominal problem
7	*Asparagus scaberulus*	Keskeso	Herb	Human	Burring wound
8	*Asparagus spp.*	Serittee	Shrub	Human	Allergic
9	*Achyranthe saspera*	Telenji	Herb	Livestock	Abagorba
10	*Calpurnia aurea*	Digita	Shrub	Livestock	Cattle lice
11	*Clematis hirsute*	Azoareg	Shrub	Human	Abdominal problem
12	*Acmellacau lirhiza*	Yemdirberbere	Herb	Human	Tonsillits
13	*Croton macrostachyus*	Bisana	Tree	Human	Wring worm
14	*Datura stramonium*	Astenagir	Herb	Human	Dandruf
15	*Echinoops kabaricho*	Kabaricho	Shrub	Both	Febrile illness
16	*Ecualptus globules*	Nechbeharzaf	Tree	Livestock	Abagorba
17	*Foeniculum volgare*	Insilal	Herb	Both	Urination problem
18	*Jasmrnum gusscaqberulus*	Tembelel	Shrub	Human	Allergic
19	*Juniprus procera*	Yeabeshatid	Tree	Human	Wound
20	*Kasanechea maerantha*	Endwhula	Herb	Human	Boil
21	*Kasanechea maerantha*	Endwhula	Herb	Human	Tonsillits
22	*Leggerato mentosa*	Chikugn	Herb	Human	Common cold& Influenza
23	*Lepldium sativum*	Feto	Herb	Human	Abdominal problem
24	*Leucusma rtinicensis*	Raskemir	Shrub	Human	Febrile illness(much)
25	*Nicotina tobacum*	Timbaho	Herb	Livestock	Leech infection
26	*Ocimum gratissimum*	Damakese	Shrub	Human	Febrile illness
27	*Osyris quadripartita*	Keret	Shrub	Livestock	Cattle skin lesion
28	*Phytolacca dodecandre*	Indod	Shrub	Human	Gonorrhea
29	*Rhusre tinorrhoea*	Tilem	Shrub	Human	Hepatitis
30	*Rumex absyssinica*	Mekimeko	Herb	Human	Wring worm
31	*Rummex crispus*	Tult	Herb	Human	Stomach aech
32	*Strychno sinnocua*	Engochit	Shrub	Human	Abdominal problem
33	*Rutacha chlepensis*	Tenadam	Herb	Human	Abdominal problem
34	*Verbana of icinalis*	Ajo	Herb	Livestock	Abagorba
35	*Withania sominfera*	Gizawa	Shrub	Human	Febrile illness

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; 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).

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

Traditional medicinal plants used to treat different disease categories

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. The fresh leaf is the most common parts of the plant for this purpose (Table 3).

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	*Aloe vera*	Eret	Wound	Leaf	Covering with the internal part	Topically
2	*Asparagus scaberulus*	Keskeso	Fire wound	Leaf	Polishing dry leaf powder	Topically
3	*Asparagus spp.*	Tembelel	Allergic	Leaf	Fresh leaf juice	Topically
4	*Clerodendrum myricoides*	Misrich	Allergic	Leaf	Fresh leaf juice	Topically
5	*Croton macrostachyus*	Bisana	Ring worm	Leaf	Fluid in young leaf	Topically
6	*Datura stramonium*	Astenagir	Dandruf	Leaf	Fresh leaf juice	Topically
7	*Jasmrnumgussca qberulus*	Tenbelel	Allergic	Leaf	Fresh leaf juice	Topically
8	*Jinuprus procera*	Yabeshatid	Wound	Leaf	Leaf powder	Topically
9	*Kaanchea macrantha*	Endwhula	Boil	Leaf	Covering with hot fresh leaf	Topically
10	*Rumex absyssinicus*	Mekmeko	Ring worm	Root	Root powder with butter	Topically

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	*Acmella caulirhiza*	Yemdirberbere	Tonsillitis	Flower/ root	Chewing fresh flower or root	Orally
2	*Ajugainteg pifolia*	Aqourarach	Tonsillitis	Leaf	Fresh leaf juice	Nasally
3	*Ecualptus globules*	Nechbeharzaf	Common cold	Leaf	Fresh leaf boild	Nasally/orally
4	*Kasanechea maerantha*	Endwhula	Tonsillitis	Root	Fresh root crushed and socked in water	Nasally
5	*Leggerato mentosa*	Chkugn	Common cold &Influenza	Leaf	Fresh leaf boiled with water	Orally
6	*Ruta chalepensis*	Tenadam	Common cold	Leaf	Fresh leaf boiled with milk/tea	Orally

Ureno-genital and organ diseases

From the collected plant species four (11%) of them were applied to treat uren- genital and organ diseases. Traditional 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	*Acokanthera schimperi*	Merienz	Hepatitis	Leaf	Fresh leaf	Orally
2	*Foeniculum volgare*	Insilal	Urinary problem	Leaf	Fresh leaf juice	Orally
3	*Phytolacca dodecandre*	Indod	Gonorrhea	Root	Crushing fresh root and socked in water	Orally
4	*Rhusretino rrhoea*	Tilem	Hepatitis	Leaf	Fresh leaf socked in water	Orally

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 some of these plants are familiar the society 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	*Artemisia afra*	Ariti	Stomachaech	Shoot	Fresh shoot socked in water	Orally
2	*Cacumis ficifolius*	Ymidrimbauy	Typhoid	Root	Root powder with water / coffee	Orally
3	*Lepldium sativum*	Feto	Abdomenal problem	Seed	Seed powder with water	Orally
4	*Rummex crispus*	Tult	Sudden abdomenal problem	Root	Chewing fresh root	Orally
5	*Rutacha lepensis*	Tenadam	Stomach aech	Shoot &fruit	Fresh shoot socked in water	Orally
6	*Clematis hirsute*	Azoareg	Abdomenal problem	Root	Crushing fresh root &socked in water	Orally
7	*Strychno sinnocua*	Engochit	Abdomenal problem	Root	Fresh root crushed &socked in water	Orally

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	*Echinoops kabarichomesfin*	Kebericho	Febrile	Root	Dry root smoke	Nasally/Orally
2	*Leucusma rtinicensis*	Raskemir	Febrile	Leaf	Fresh leaf juice withcoffee/water	Orally/nasally
3	*Ocimum gratissimum*	Damakese	Febrile illness(much)	Leaf	Fresh leaf juice with water drop	Nasally or orally
4	*Withania sominfera*	Gizawa	Febrile illness (much)	Root	Dry root smoke	Orally &nasally

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	*Achyranthes aspera*	Telenji	Abagorba	Leaf	Fresh leaf crushed	Orally
2	*Calpurnia aurea*	Digita	Cattle lice	Leaf	Fresh leaf juice	Topically
3	*Ecualptus globules*	Nech beharzaf	Abagorba	Leaf	Fresh leaf juice	Orally
4	*Nicotina tobacum*	Timbaho	Leech infection	Leaf	Fresh leaf juice	Orally or nasally
5	*Osyrisquadripartita*	Keret	Cattle skin lesion	Leaf	Fresh leaf juice	Topically
6	*Verbana officinalis*	Atuch	Abagorba	Leaf	Fresh leaf crushed & mixed with the above two	Orally

Discussion

The society in the study area used many medicinal plants to treat different human and livestock diseases. In the study area traditional medicine is used by traditional healers to solve the health problem of human and livestock. Traditional healers are using local medicinal plants to maintain human and livestock health. In the study area most medicinal plants (80 %) were collected from farm land, grazing land, up land forest, compared to (20 %)

from home garden. 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 very easily. Medicinal plant species *Clerodend rummyyicoi, Asparayus spp.* and *Jasmrnum gusscaqberulus a*re used to treat skin allergic mainly they are applied for infants. By cutting seven or nine young leaf from each plant species mixed and squeezed then applied dermally. *Juniprus procera* and *Asparasgus caperulus* are used to treat wounds which are caused by burning. The dry leaf powder mixed with butter is applied on the wound to prevent infection. The squeeze of *Croton macrostachyus* used to treat ring worm. Cover the wound with five to ten hot fresh leaves of *Kalaneama crantha* is used to discharge the pus. *Acmellaca lihizais* is used to treat tonsillitis by chewing fresh flower or root. *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. *Phytolacca dodecandre* is used to treat one of the sexually transmitted diseases gonorrhea. For the treatment of gonorrhea fresh root of the plant crushed the squeeze taken orally. Foeniculum Volga reused to treat urination problem of both human and livestock. It applied by taking the fresh leaf squeeze 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. 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. There are some plant species found around house fences used to treat febrile diseases such as *Leucusmarti nicensis* and *Ocimumgar tissimum* fresh leaf squeeze with water/ coffee taken orally. The traditional healers estimate the dosage by taking seven leaves from each plant and mix together and the squeeze given to the paint. The society in the study area also treats livestock diseases by medicinal plants. *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 *Ecualptus globules, Achyranthe sapsera,* and *Verbana oficinalis* together socked in water and taken orally to treat Abagorba. The fresh leaf squeeze of Calpurnia aurea applied dremily to kill cattle lice.

Traditional practitioners in the study area mostly use leaves (63.8 %), for preparing remedies followed by root (22.2%) . Most traditional remedies were prepared using fresh materials (leaves and root) compared with dried one. It may be expected that when the plant is dried it may loss some of its content by the effect of temperature change. 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 gonorrhea 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.

In the study area deforestation, over grazing and expansion of agriculture including cultivating eucalyptus tree as cash plant affect the survival of medicinal plants. In the study area the conservation status of medicinal plant is limited, there is to need to aware the society for the proper attention to conserve the biodiversity including medicinal plants .for the welfare of future generation in a sustainable manner.

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. In particular rare species should be given conservation priority.

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