



Traditional medicinal plant use of indigenous communities in Gurage Zone, Ethiopia

Alemtshay Teka, Zemedede Asfaw, Sebsebe Demissew, Patrick Van Damme

Research

Abstract

Background: The traditional use of medicinal plants for curing and preventing illnesses has been paramount and widely practiced in Ethiopia for generations. This study was carried out in Gurage zone, Southern Nations, Nationalities and Peoples Region, Ethiopia. The study aims to document the state of traditional knowledge related to local plant uses for medicine and examine how the communities' value and relate to medicinal plants.

Methods: Ethnobotanical data were collected using semi-structured interviews, in which 240 informants were involved. For data analysis, descriptive statistics and ethnobotanical indices, including informant consensus factors (ICF) and use preference were used.

Results: A total of 200 medicinal plant species that are used to treat human ailments were documented. Plant families Asteraceae (13%) and Lamiaceae (10%) were predominant whereas the most frequently used plant parts were the leaves, accounting to about 43.8% followed by roots (14%). Indigenous knowledge distribution in the community showed significant differences ($p < 0.05$) in the study groups for factors of age and educational level. The ICF value obtained which ranges between 0.49 and 0.92 indicates the presence of good agreement among the informants regarding therapeutic uses of reported medicinal plant species. More than 50% of the respondents prefer to use traditional medicine as the first line of treatment. For eight health problems traditional herbal medicines remain dominant and highly preferred treatment, irrespective of the presence of modern health services within short distance from their residence.

Conclusions: The richness of medicinal plant species recorded from the study area reflects the dependence of the communities on plant resources of their natural surroundings. Combined effect of various threatening factors are posing threat as a result widely used medicinal plants are becoming locally rare which calls for protecting and developing the resource for wider and better use.

Keywords: Gurage, medicinal plants, traditional knowledge

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Background

Over centuries, rural peoples around the world have relied on natural resources to fulfill their basic needs for survival. Thus, the people have developed their own locality-specific knowledge on plant use particularly as traditional medicine (TM) (Cotton 1996, Mahidol *et al.* 2002, Ghorbani *et al.* 2006). Besides, based on their traditional use a remarkable number (over 25%) of modern drugs have been isolated from plants (Newman *et al.* 2000).

A number of studies had been carried on different aspects of medicinal plants in Ethiopia (Addis *et al.* 2002, Lulekal *et al.* 2013, Belayneh & Bussa 2014, Kidane *et al.* 2014,). However, similar studies on traditional medicinal plants in Gurage zone remained poorly characterized and understood. The zone is facing growing threats of traditional knowledge erosion mainly due to continual out migration of the youth, modernization that undermine the practice and reluctance of youngsters to carry forward traditional practices. Therefore, this study aimed at investigating traditional medicinal plant use of indigenous communities in Gurage Zone.

Materials and Methods

Study Area

Gurage Zone is located at 7°40'0"- 8°30'0"N and 37°50'0"- 38°40'0" E in the Southern Nations, Nationalities and Peoples Region of Ethiopia (Fig. 1). The altitude ranges from 1000 to 3600 m a.s.l. and covers an area of 5893.5 km² (Gurage Zone Finance and Economy Development Department, 2010). The mean annual temperature of the study area is within the ranges of 13-30 °C and receive an annual rainfall ranging from 600-1600 mm (Southern Nations, Nationalities and Peoples Region investment bureau report, 2008). Based on the recent classification of potential vegetation types of Ethiopia by Friis *et al.* (2011), the study area is largely covered by the dry evergreen Afromontane forest and grassland complex (the undifferentiated Afromontane forest subtype). Land use/cover map of the study area indicated that the cultivated land covered 52% and only 9.9% is covered by natural and human-made forest.

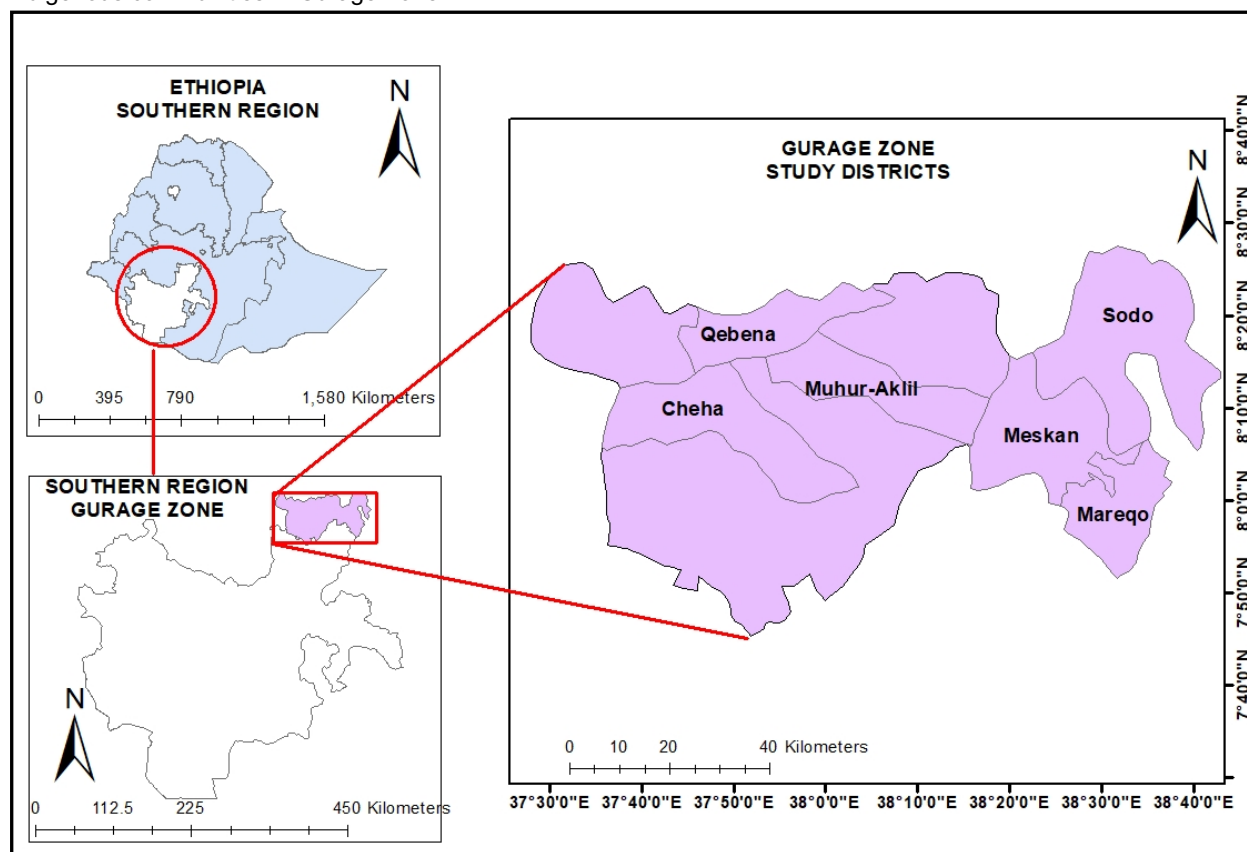


Figure 1. Map of Ethiopia and the study area

According to the 2013 CSA projection report the total population of Gurage Zone was estimated to reach 1523129 in 2014 (CSA 2013). The Zone is among the most densely populated areas in the country with 269 persons per km², higher than the average

population density of the region (140 persons/km²) and the country (114 persons/km²). The Gurage Zone consists of peoples mainly belonging to the Gurage ethnic group (Cheha, Meskan, Muhir-Aklil and Sodo districts) that speaks Guragigna. Qebena

and Mareqo ethnic groups are also found in the Zone and they speak Qebena and Libido (Mareqo) languages respectively. According to the zone health department, the top ten causes of adult morbidity and mortality include malaria, acute upper respiratory infection, pneumonia, gastritis and duodenitis, diarrheal disease, infections of the skin and subcutaneous tissue, urinary tract infection, muscular rheumatism and rheumatism unspecified, helminthes and dental problems

Study site and Informant selection

Formal and informal discussions regarding herbal medicine uses in the zone was undertaken with agriculture officers, health center authorities and also with elderly people of the area. Based on the information obtained, five districts were selected for the study (Cheha, Qebena, Mareqo, Meskan, Muhir-Aklil, and Sodo districts). Based on further recommendation, availability of medicinal plants and herbal use practices, two kebeles (lowest administrative units) were purposively selected from each district.

General informants were selected by using random sampling method. This enable application of rigorous statistical analysis and could easily reflects plant use knowledge that exist within a population (Gomez-Beloz 2002, Vogl *et al.* 2004). A total of 240 informants (20 from each kebele), 138 males and 102 females, who volunteered to participate were selected randomly by a lottery method. In order to collect additional specific quantitative data, twenty-four key informants who are traditional healers and knowledgeable persons as being acknowledged by the local community were purposively selected (Martin 1995, Tongco 2007).

Data collection

Ethnomedicinal data were collected between May and October 2016. Structured and semi-structured interviews during walk-in-the-woods, plant 'props' (freshly collected plant material or photographs), focus group discussions, and observation were used for data collection (Martin 1995, Cotton 1996, Bernard 2002, Van Damme & Kindt 2012).

Written permission to conduct the research was obtained from the respective zone and district administrative officials. Prior informed consent was obtained from each informant before every interview.

Plant collection and Identification

All plant specimens were collected, dried, identified and deposited in the National Herbarium (ETH) of Addis Ababa University. The plants were identified by using the Flora of Ethiopia and Eritrea (Edwards *et al.* 1995, 1997, 2000; Hedberg & Edwards 1989, 1995; Hedberg *et al.* 2003, 2004, 2006), in

comparison with authenticated specimens from the herbarium and later confirmed by senior taxonomists of the herbarium.

Data analysis

Descriptive statistical methods (percentage and frequency) were used to summarize traditional knowledge of the community related to plant part used, method of preparation, mode of administration, time and condition of TM use preference. Ethnobotanical analysis tools preference ranking, and informant consensus factor were also used to identify the most culturally important medicinal plants (Martin 1995, Alexiades 1996). Informant consensus factor (ICF) was calculated to show the degree of homogeneity of the information collected and the degree of overall agreement on the treatment of different health disorders (Trotter & Logan 1986, Heinrich *et al.* 1998). ICF was calculated following Heinrich *et al.* (1998):

$$ICF = \frac{nur - nt}{nur - 1}$$

Where: *nur* refers to the number of use reports of an informant for a particular ailment category and, *nt* to the number of species used for a particular illness.

Non-parametric Mann-Whitney Rank Sum analysis was used to examine traditional knowledge differences across age class, gender and educational level. These variables are considered as factors that determine traditional knowledge of a community (Eyssartier *et al.* 2008; Avocèvou-Ayisso *et al.* 2011, Lulekal *et al.* 2013, Kidane *et al.* 2014).

Results

Diversity of medicinal plants

A total of 200 species belonging to 169 genera and 77 families were mentioned as being used to treat human ailments in the study area (Additional file 1). In terms of percentage of species plant family Asteraceae (25 spp., 13%) appeared to be the most frequently used traditional herbal medicine followed by Lamiaceae (19 spp., 10%), Fabaceae (10 spp., 5%) and Solanaceae (9 spp., 5%) (Fig. 2).

Plant parts used for remedy preparation

The most frequently used plant parts for remedy preparations were leaves accounting for 111 species (46%) followed by roots 33 (14%) and seeds 25 (10%) (Table 1).

Plant growth forms

Herbs constitute the largest category recorded (47%) followed by shrubs (27%) and trees (20%) (Fig. 3).

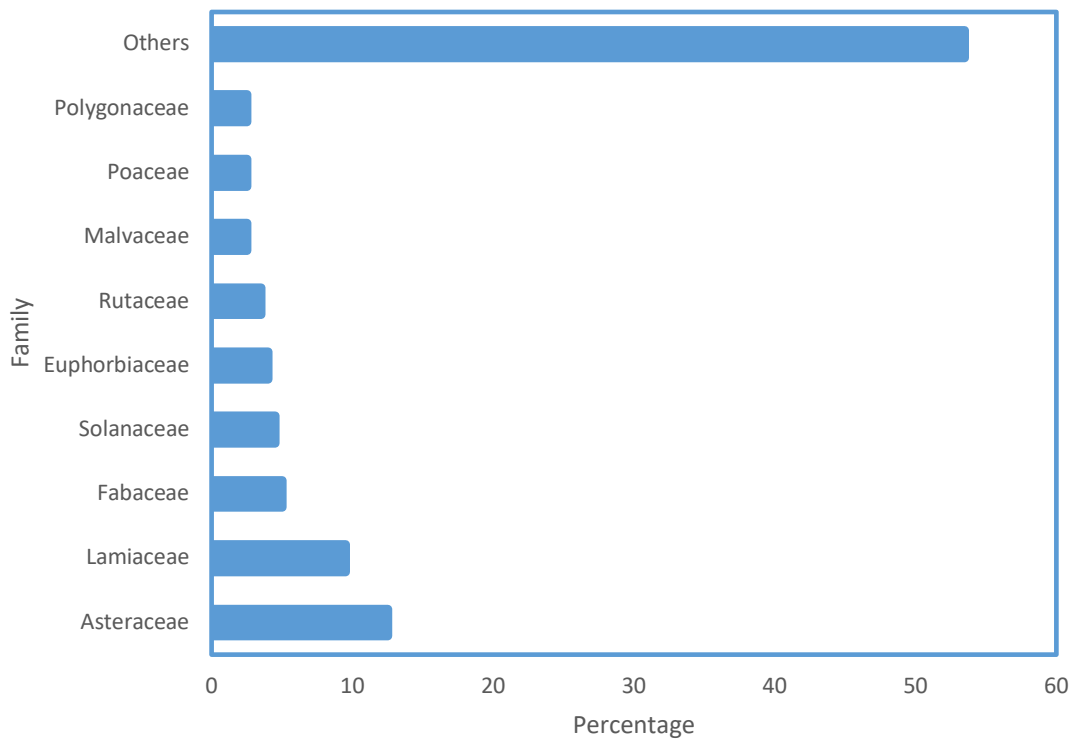


Figure 2. Taxonomic diversity of medicinal plants used to treat human ailments in the study area.

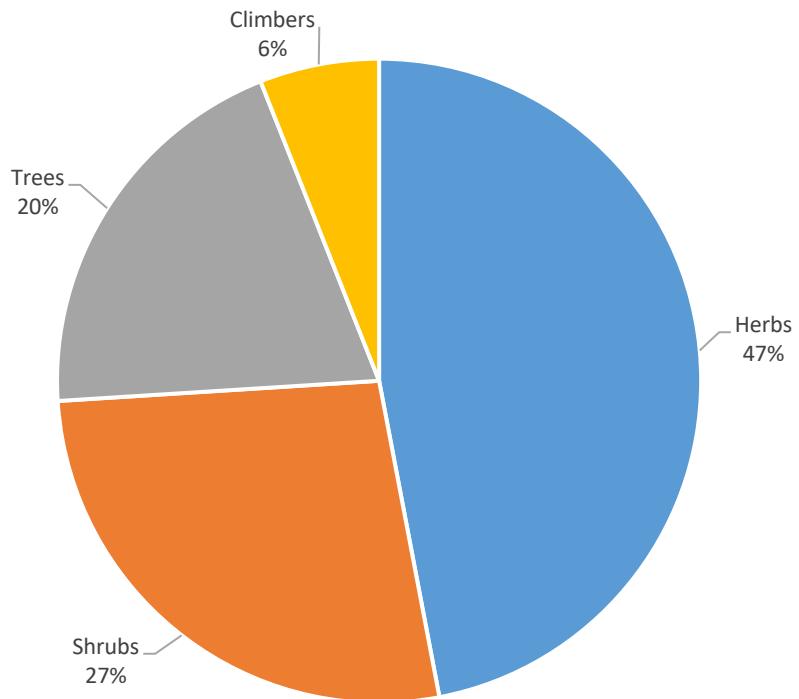


Figure 3. Growth forms of species used in the traditional medicine

Table 1. Plant parts used for remedy preparation

Part used	Number	Percentage
Leaf	111	46
Root	33	14
Seed	25	10
Leaf and root	16	7
Fruit	14	6
Stem	12	5
Bark	8	3
Flower	5	2
Latex	5	2
Bulb/Corm	4	2
Leaf and bark	4	2
Whole part	4	2
Total	241	100

Modes of remedy preparations

Most of the remedies were primarily prepared by infusion (32%), crushing (29%) and decoction (11%) (Fig. 4). The majority (68%) of the remedies were prepared from newly harvested (fresh) plant parts. The remaining were prepared from either dried or fresh parts (28%) and few (4%) were prepared from dried plant parts only.

Routes of remedy administration

Internal and external route of application were reported. The majority of the remedies were administered orally (52%), followed by dermal or topical (27%), and dental (8%) application (Table 2).

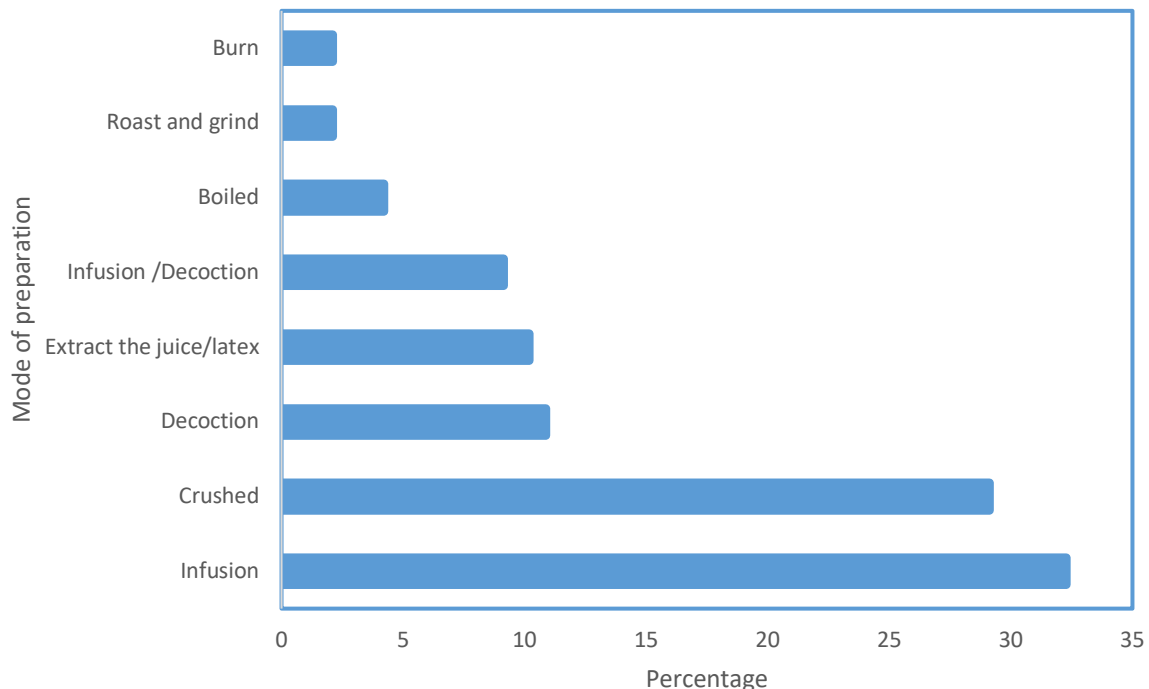


Figure 4. Forms of remedy preparation

Dose, side effects and antidotes of administered herbals

Informant responses indicated that there were variations in dosage of remedies and medicinal plant species used for the same kind of health problems. Age of patients was one of the determining factors that is used to estimate the amount of remedies to be taken. Length of fingertips for roots (eg. *Cucumis ficifolius* A. Rich., *Polygala sadebeckiana* Gurke), number of seeds/fruit (eg. *Bersama abyssinica* Fresen., *Coffea arabica* L.) and hand full of leaves (e.g. *Ajuga integrifolia* Buch-Ham., *Pittosporum viridiflorum* Sims) were usually used to estimate required dosage for preparation of the remedies. With regard to dosage during application spoon,

coffee cup and glass were used to measure the amount to be taken. Remedies could be taken once or until cured, which depends on the kind of ailment. Most often, young and adults take amount of cup or a glass, if taken orally. However, children less than ten years and old aged (> 70 years) patients are given less than half of coffee cup or a teaspoon.

Most of the respondents (60%) recognize the amount of TM that should be taken and/or their side effects. Informants believe that taking high dosage of herbals such as *Ipomoea purpurea* (L.) Roth. cause urinary retention, mental illness in the case of *Datura stramonium* L., and liver problems (*Justicia schimperiana* (Hochst. ex Nees) T. Anders.). Some

medicinal herbs such as *Brassica nigra* (L.) Koch, *Lepidium sativum* L., *Linum usitatissimum* L. and *Phytolacca dodecandra* L'Herit., were prohibited for pregnant woman (less than 3 months), which are believed to cause miscarriage. Whenever possible or when strong medicinal plants are taken (strong medicinal plants defined by informants as those causing side effects), food and drinks such as honey, butter, milk, and local beer "TELA" (mostly made from malt and dried leaves of *Rhamnus prinoides* L'Herit.) were recommended to be taken. These were thought to reduce side effects that might result in adverse actions, and hence taken as antidotes.

Preference of medicinal plants

Fifteen medicinal plants that are used to treat dental problems were selected for preference ranking (Table 3). The result showed that different medicinal plant species were primarily preferred in the study districts. Species *Acmella caulirhiza* Del. (most favoured in Cheha), *Ocimum urticifolium* Roth (Mareqo), *Olea europaea* L. subsp. *cuspidata* (Wall. ex G.Don (Sodo), *Olinia rochetiana* A. Juss. (Meskan and Muhir-Aklil), and *Polygala sadebeckiana* Gurke (Qebena) were the most favored medicinal plants to treat dental problems.

Table 2. Routes of administration to treat human ailments

Routes of administration	Frequency	Percentage
Internal		
Oral (drink, eat)	142	52
Dental	21	8
Nasal	13	5
Oral (oral cavity)	12	4
Eyes	6	2
External		
Dermal or topical, tied	75	27
Herbal bath (smoke, steam)	6	2
Total	275	100

Informant Consensus Factor (ICF)

Medicinal plants were used to treat 56 human ailments. The ailments were grouped into 15 main categories (Additional file 2). Infectious and intestinal parasitic diseases (IIP); Headache, fever and malaria (HFM) and the other unclassified (OUH) were among the most frequently reported category of ailments with up to 219 use report recorded.

Table 3. Sum of preference ranking score of medicinal plants used to treat dental problems (score of 24 key informants)

Species	Study districts						Sum	Rank
	C	MA	ME	SO	Q	MQ		
<i>Olinia rochetiana</i>	15	21	28	13	21	-	98	1st
<i>Allium sativum</i>	16	11	11	18	13	15	84	2nd
<i>Datura stramonium</i>	-	14	21	12	20	8	75	3rd
<i>Acmella caulirhiza</i>	23	-	18	11	-	20	72	4th
<i>Olea europaea</i> subsp. <i>cuspidata</i>	-	10	15	20	12	-	57	5th
<i>Polygala sadebeckiana</i>	-	12	-	-	25	-	37	6th
<i>Premna schimperi</i>	19	-	-	-	16	-	35	7th
<i>Ekebergia capensis</i>	18	-	12	-	-	-	30	8th
<i>Rubia cordifolia</i>	10	16	-	-	-	-	26	9th
<i>Ocimum urticifolium</i>	-	-	-	-	-	22	22	10th
<i>Clematis simensis</i>	10	-	-	10	-	-	20	11th
<i>Gladiolous abyssinicus</i>	11	-	-	-	5	-	16	12th
<i>Lepidium sativum</i>	-	-	-	-	-	12	12	13th
<i>Achyranthes aspera</i>	-	-	-	-	-	7	7	14th
<i>Ocimum lamiifolium</i>	-	-	7	-	-	-	7	14th

(Study districts - Cheha (C); Muhir-Aklil (MA); Meskan (ME); Sodo (SO); Qebena (Q); Mareqo (MQ)). '-' medicinal plants not indicated as being useful for dental problems. Higher score refer most preferred in the district (indicated in bold). Rank was done by summing up the preference score of each study district.

The ICF value obtained indicated the presence of good agreement (0.49 - 0.92) among informants regarding ailments treated by medicinal plants (Table 4). Higher informant consensus (0.89) was obtained for unclassified, infectious and intestinal parasitic diseases, diseases of the respiratory system and diseases of the musculoskeletal system.

Category of ailments (inflammation related to anthrax and liver diseases) which are culturally accepted being treated effectively with medicinal plants have also scored relatively higher ICF values (0.87 and 0.83 respectively).

Table 4. Informant consensus factor (ICF) values

Major use categories	Number of use report (Nur)	Use report taxa (Nt)	ICF (Nur-Nt/Nur-1)
Diseases of the musculoskeletal system	224	25	0.89
Diseases of the respiratory system	376	43	0.89
Infectious and intestinal parasitic diseases	733	85	0.89
Headache, fever and malaria	284	36	0.88
Dental & oral diseases	190	26	0.87
Inflammation related to anthrax	159	22	0.87
Diseases of the genitourinary system	120	17	0.87
Diseases of the digestive system	416	59	0.86
Liver diseases/ complaints	151	27	0.83
Pregnancy, childbirth and the puerperium	95	19	0.81
Diseases of the skin and subcutaneous tissue	307	63	0.8
Diseases of the eye and adnexa	53	19	0.65
Injury, poisoning and certain other consequences of external causes	61	25	0.6
Diseases of the circulatory system	38	20	0.49
Unclassified	1102	87	0.92

Traditional knowledge of the community and the routes of transfer

The informants (138 men and 102 women) were either native born or had been living in the zone for more than 15 years. The ages of the interviewees ranged from 17 to 85 years old. Most of the respondents (79%) were above 35 years of age. Informants reported different number of medicinal plants in the demographic characters considered. The statistical details that could show variation in medicinal plants reported in different demographic characters are presented in Table 5. A significant difference in the number of medicinal plants mentioned were found between the age groups, with greater number of medicinal plants mentioned by

elderly peoples (above 40 years) than young ones (15-40 years) (Mann-Whitney Rank Sum Test, $p < 0.05$). Educational level also showed significant differences in which the illiterates cited more plants than educated informants did. On average higher number of medicinal plants were cited by men but the statistical analysis showed no significant difference ($p > 0.05$). However, the presence of gender specific knowledge were reported.

Traditional knowledge transfer techniques in the study area were solely oral. Eighty two percent (82%) of the respondents knew about TM primarily through a family member and 18% from neighbors and relatives.

Table 5. Demographic characteristics and traditional knowledge of informants

Demographic categories		No. of informants	p-value
Gender	Female	102	0.275
	Male	138	
Age	15-40	78	0.001
	>40	162	
Educational level	Educated	66	0.013
	Illiterate	174	

Traditional belief and medicinal plants efficacy

There are practices or beliefs that the local community should follow during medicinal plant collection, preparation, and application. During medicinal plant preparation from *Clerodendrum myricoides* (Hochst.) Vatke it should be collected without making any sound or talking by the collector. In the case of using herbals to cure herpes zoster the person who administers the medicine should follow some locally accepted guidelines. These includes being virgin, had contracted the same disease before and treatment should have to be applied early in the morning. The local peoples also showed a preference to collect plant parts from *Croton macrostachyus* Del. from isolated tree that grows outside patch of trees. These practices and beliefs are believed to seriously affect the healing potential of medicinal herbs.

Habitat, availability and threats to medicinal plants

About 74% of the medicinal plants were from wild habitat collected freely from the immediate environment (forests, along streams, roadsides, crop fields, inside Eucalyptus plantation areas and fallow lands). Only 26% were reported to be cultivated in homegardens for their use as medicine or non-medicinal values.

The majority of the reported medicinal plants are abundantly available and accessed with less effort in the study area. However, some medicinal plants are rare. Rare as perceived by the locals for inaccessibility through time for immediate collection and use. Based on priority ranking exercise on eight

medicinal plants *Cucumis ficifolius* A. Rich. (in Mareqo, Meskan, Sodo,) and *Polygala sadebeckiana* Gurke (in Muhir-Aklil, Qebena and Cheha) were among the rare species in the study districts (Table 6).

In a group discussion with key informants, factors that are considered as the main threats for medicinal plants in the study area were recorded and priority ranking was done. Based on the destructive effects of each threatening factor, the primary threat for medicinal plants in all the studied areas was agricultural expansion followed by recurrent drought, deforestation and overgrazing respectively.

Current herbal use practices in the study area

Even though most (95%) of the informants agreed that TK as well its application has been declining, the informants also agreed that in special conditions it is still widely practiced. Factors that determine why, when and for which ailment types informants prefer to use TM were identified. Availability and effectiveness were the major determining factors why informants of the study area use TM. It is mostly used as healthcare option for many informants "before" they visit health centers (Table 7). Moreover, the respondents indicated that for eight health problems herbals remain dominant and highly preferred, irrespective of the presence of health center in the area. Higher percentages of informants for liver problems (in most of the study districts); evil spirit (in Meskan) and anthrax (Muhir-Aklil and Cheha) preferred the use of herbals than conventional healthcare systems (Table 8).

Table 6. Priority ranking of medicinal plants based on their availability in the study districts (a rank based on score of 24 key informants)

Species	Study districts					
	Cheha	Muhir-Aklil	Meskan	Sodo	Qebena	Mareqo
<i>Ajuga integrifolia</i>	3	3	5	4	2	4
<i>Artemisia afra</i>	4	4	4	5	3	5
<i>Bridelia micrantha</i>	-	-	-	-	4	-
<i>Cucumis ficifolius</i>	5	5	6	6	5	6
<i>Leucas argentea</i>	2	1	3	3	-	1
<i>Ocimum lamiifolium</i>	1	-	1	1	-	2
<i>Polygala sadebeckiana</i>	6	6	-	-	6	-
<i>Verbena officinalis</i>		1	2	2	1	3

Scores 1 to 6 were assigned for the level of rarity of a species where, '1' abundant, '6'-very rare; '-' medicinal plant not included for ranking in the respective district

Table 7. Percentage of informants for the attributes why and when the people prefer to use traditional medicine (TM)

	Study districts					
	Cheha	Muhir-Aklil	Meskan	Sodo	Qebena	Mareqo
Why prefer to use TM						
Effective	65	30	30	45	22.5	47.5
Accessible	10	25	17.5	32.5	50	27.5
Affordable	20	0	35	12.5	17.5	12.5
For minor health problems	5	45	17.5	10	7.5	10
Lack of better option (from health service)	-	-	-	-	2.5	2.5
When prefer to use TM						
After	15	5	12.5	7.5	2.5	22.5
Before	55	95	65	92.5	80	52.5
Before and After	25	0	22.5	0	15	20
I don't use	5	0	0	0	2.5	5

Note: When referees to 'before or after' visiting health center

Table 8. Percentage of informants for the ailments primarily treated with traditional medicine

Ailment types	Study districts					
	Cheha	Muhir-Aklil	Meskan	Sodo	Qebena	Mareqo
Liver problems	32.5	27.5	42.5	60	42.5	90
Evil spirit	10	-	42.5	10	5	5
Indigestion	20	-	2.5	-	15	-
Anthrax	32.5	67.5	-	-	27.5	-
Hemorrhoids	-	-	7.5	5	-	-
Pyoderma	-	-	-	-	-	-
Herpes zoster	-	-	2.5	-	-	-
Rabies	-	-	-	25	-	-
For any ailment	-	-	2.5	-	-	-
No preference	5	5	-	-	10	5

Discussion

The tendency for a few plant families to stand out is reported in many ethnomedicinal plant studies. In the present study the higher number of species that belong to few families (Asteraceae, Lamiaceae, Fabaceae, Solanaceae) could be attributed to the wider distribution and abundance of these families and associated knowledge in the study area and also among the flora of the country (Demsis 2013, Kelbessa & Demissew 2014). It is also reported that the best represented floristic families of a region are often suggested as being used frequently by the community (Moerman *et al.* 1999).

Herbs were the most widely used plant remedies followed by shrubs and trees. The wider application of herbs might be associated with their relatively higher efficacy which has been associated with their remarkably medicinal properties in TM system (Albuquerque & Lucena 2005, Baydoun *et al.* 2015). Many of the forest patches found in Gurage zone are degraded and topographically less accessible to

humans (Demsis 2013). This scenario could have also forced the local people to depend more on herbaceous medicinal plants which are relatively common (esp. in wet season) and also left the community to transfer primarily the knowledge related to the most accessible herbs.

In the present study leaves were commonly used plant part in herbal medicines. Previous studies also reported leaves as the most commonly used plant part (Belayneh & Bussa 2014, Kidane *et al.* 2014; Tuasha *et al.* 2018; Umair *et al.* 2019). Some findings suggested that leaves are rich in bioactive secondary metabolites which is secreted primarily to defend the plants against destructive entities are of medicinal values to the human body (Umair *et al.* 2019). The use of leaves is less destructive to the plant when compared to other part of the plant such as the roots. However, the second most used plant part were the roots which involves digging the whole plant especially in case of herbaceous plants or juvenile ones, which hinder the survival of the plant. As a

result, it is most likely that the plant parts used could affect the sustainable utilization of medicinal plant resources in the study area. In particular, the most culturally important medicinal plants such as *Cucumis ficifolius* (in Mareqo district), *Polygala sadebeckiana* (in Cheha, Qebena and Muhir-Aklil districts) and *Verbena officinalis* (in all study districts) were harvested for their roots. These species were also reported as being less available through time in the study area due to overexploitation.

High informant consensus was obtained for infectious and intestinal parasitic diseases, diseases of the respiratory system and diseases of the musculoskeletal system. These ailments were among the commonly reported ailments and high ICF values exhibits the presence of good agreement among the informants regarding therapeutic uses of reported medicinal plant species. Interestingly high ICF values for the same illness categories have been reported in Wonago District by and Mesfin *et al.* (2009) and by Enyew *et al.* (2014) in a study conducted in Fiche District, Ethiopia. Medicinal plants with higher informant consensus value could reflect the important number of use reports for a particular use category and can allow more particular identification of species. These in turn allow identification of species used for a particular use category. These species have been widely used by many people for a long period of time and could be used in further phytochemical and pharmacological studies (Baydoun *et al.* 2015).

About 56 different human diseases were recorded in the study area. Higher number of human ailments (as cited by more than 60% of informants) were often treated with herbal medicines. This citation frequency of plant remedies reflects the prevalence of health conditions in the study area as suggested by Vandebroek *et al.* (2008) in a comparison study conducted in Quechua community, Bolivia. It could also indicate the long existing practice of TK in the study area as shown in the preference of informants in using TM primarily for treating various ailments.

Conclusions

There is rich traditional herbal knowledge and system in Gurage zone. As a result, several health problems are widely addressed by traditionally used medicinal plant species. Especially, for treating certain types of ailments the local people prefer using TM regardless of accesses to primary (modern) healthcare service. In addition, irrespective of medicinal plants availability in the locality, plants that are widely accepted in the culture are frequently cited and best preferred across different districts. This shows that availability of a species, in a forest or other collecting sites, doesn't always limit its use

in a certain community. Due to combined effect of various threatening factors are posing threat as a result widely used medicinal plants are becoming locally rare.

Declarations

List of abbreviations: See in text

Ethics approval and consent to participate: All participants provided oral prior informed consent

Consent for publication : Not applicable

Availability of data and materials: All data are published in the manuscript.

Competing interests: The authors declare that they have no competing interests

Funding: This study did not receive funding.

Authors' contributions: All authors have equal contribution for this work, and all have read and approved the final manuscript.

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Additional file 1. List of medicinal plants used to treat human ailments: scientific name; plant family; vernacular name; growth form; plant parts used; ailment treated; condition of use; methods of preparation; routes of administration; other plant species mixed with or additives; study sites.

Key: Vernacular name: Guragigna (G); Qebena (Q); Mareqo (M); Amharic (A). Growth form (GF) - Tree (T); Shrub (S); Herb (H); Climber (C), Epiphyte. Part used (PU) -Leaf, L; Root, R; Fruit, Fr; Exocarp, Ex; Bark, B; Stem, St; Root bark, Rb; Flower, Fl; Bulb, Bu; Seed, Se; Corm, C; Tuber, Tu; Rhizome, Rh; Latex, Lat. Methods of preparation (MOP): Extract the Juice- Squeezed with little water added; Crushed – plant part material pounded/powdered; Infusion- soaked in water and filter; Decoction-boiled in water and filtered. Routes of administration (ROA). Study sites-Cheha (C); Qebena (Q); Mareqo (MQ); Meskan (ME); Muhir-Akilil (MA); Sodo (SO). Bold - Endemic, “**”-Cultivated.

Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Acacia abyssinica</i> Hochst. ex Benth. [Fabaceae]	Teme-gerar (Q)	T	B	Indigestion (Qiter)	Decoction	Oral	AT02
			L	Malaria	Infusion	Oral	
				Tonsillitis	Infusion	Gargle to rinse the throat	
				Wounds	Extract the juice / squeezed	Topical	
<i>Acacia seyal</i> Del. [Fabaceae]	Wacho-gerar (G, M), Urbu (G)	T	B	Indigestion (Qiter), Liver complaint (Qoya, Seme dinku)	Decoction	Oral	AT03
				Tonsillitis	Infusion	Gargle to rinse the throat	
			St	Tinea versicolor (Bechero)	Collect water from wet burning stem	Topical	
<i>Achyranthes aspera</i> L. [Amaranthaceae]	Sha-she-megene (G)	H	L	Toothache	Crushed	Hold with teeth	AT04
				General health (increase weight, improve strength and boost immunity of infants)	Decoction	Oral	
				Remove dirt from eyes	Extract the juice/ squeezed	Drop into the eyes	
				Skin burn	Crushed	Topical	
<i>Acmella caulirhiza</i> Del. [Asteraceae]	Anshet (G), Afetego (A)	H	Fl, L, R	Tonsillitis	Infusion	Gargle to rinse the throat	AT05
				Toothache	Crushed	Hold with teeth	
<i>Acokanthera schimperi</i> (A.DC.) Schweinf. [Apocynaceae]	Adere (G)	T	L	Indigestion (Qiter)	Infusion	Oral	AT06
<i>Agave sisalana</i> Perrine ex Engl. [Agavaceae]	Alage (A)	S	L, R	Evil spirit (Dorer, Likift, Buda), General malaise (Michi)	Boiled	Steam bath	AT08
			L	Abdominal bloating	Infusion	Oral	

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Agarista salicifolia</i> (Comm. ex Lam.) Don [Ericaceae]	Adia (G)	S	B	Abdominal pain	Decoction	Oral	AT09
<i>Ajuga integrifolia</i> Buch-Ham. [Lamiaceae] *	Anamuro, ema telit (G), Anamurcho (Q)	H	L	Anorexia, Rheumatic pain (Deme-tukiy), Abdominal pain	Infusion/Decoction	Oral	AT10
<i>Albizia schimperiana</i> Oliv. [Fabaceae]	Sasa (A)	T	Rb	Skin burn	Crushed	Topical	AT11
<i>Allium cepa</i> L. [Alliaceae]*	Besh- shinkurt (G)	H	Bu	Retained placenta	Crushed	Oral (Eat)	AT12
<i>Allium sativum</i> L. [Alliaceae]*	Tuma (G)	H	Bu	General malaise (Mich), Malaria, Abdominal pain,	Decoction/ Crushed	Oral	AT13
				Common cold, coughing, Pneumonia (Sinbabe)	Decoction	Oral	
				Toothache	Crushed	Hold with teeth	
<i>Aloe pubescens</i> Reyonolds. [Aloaceae]	Merdedeye, Yefuga gedel (G)	H	R, Lat, L	General health (increase weight, improve strength and boost immunity of infants), Stabbing pain, General malaise (Mich), Swelling	Decoction	Oral	AT14
			Lat	Wound	Extract latex (warm/cold)	Topical	
<i>Amaranthus lividus</i> L. [Amaranthaceae]	Meryit (G)	H	L	Indigestion (Qiter)	Boiled	Oral (eat)	AT15
<i>Apodytes dimidiata</i> E. Mey. ex Arn. [Icacinaeae]	Wendemu (A), Gefye (G)	T	B	Diarrheal disease (Child) (Ye-dengiye-qar or Ye-sequriye (Gu), cholera, General health (increase weight, improve strength and boost immunity of infants)	Decoction	Oral	AT16
<i>Argemone mexicana</i> L. [Papaveraceae]	Nech-lebash (A)	H	Lat	Wound, Dandruff	Extract the latex	Topical	AT17
<i>Artemisia abyssinica</i> Sch. Bip. ex A. Rich. [Asteraceae]	Chekugne (A, G) Chiyanchiye (G)	H	L	Coughing, Pneumonia (Sinbabe), Abdominal pain, Diarrhoea	Infusion	Oral	AT18
				Evil spirit (Dorer, Likift, Buda)	Infusion	Oral	
					Crushed	Smell	
<i>Artemisia afra</i> Jacq. ex Willd. [Asteraceae]*	Naterar (G)	H	L	Headache, General malaise	Extract juice/ squeezed	Nose drops	AT19
				Indigestion (Qiter)	Infusion	Oral	

Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Arundinaria alpina</i> K. Schum. [Poaceae]	Eneet, awsar(G)	S	L	Abdominal pain, Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequiyye (Gu), cholera)	Infusion	Oral	AT20
<i>Asparagus africanus</i> Lam. [Asparagaceae]	Yefur ded (G), Siriti (M)	C	L	Herpes zoster	Crushed	Topical and expose to sun	AT21
			R	Retained placenta	Decoction	Oral	
<i>Balanites aegyptiaca</i> (L.) Del. [Balanitaceae]	Bedeno (A, G)	T	Lat	Headache	Infusion	Nose drops	AT22
					Burn	Smell	
<i>Becium obovatum</i> (E. Mey. ex Benth.) N.E. Br. [Lamiaceae]		H	R	Anthrax (Shem-itere)	Infusion	Oral	AT23
<i>Bersama abyssinica</i> Fresen. [Melianthaceae]	Kurata, Hureta (G)	T	Se	Hemorrhoid, Skin burn, Dandruff, Scabies	Crushed	Topical	AT24
<i>Brassica carinata</i> A. Br. [Brassicaceae]*		H	Se	Anthrax (Shem- itere), Gastritis, Liver complaint (Qoya, Seme dinku)	Roast, grind and drink the infusion	Oral	AT25
<i>Brassica nigra</i> (L.) Koch [Brassicaceae]*	Senafich (A)	H	Se	Indigestion (Qiter), Amoebiasis	Grind and drink the infusion/eat as spice	Oral	AT26
<i>Bridelia micrantha</i> (Hochst.) Baill. [Euphorbiaceae]	Anenebu, Qibeber (G)	T	B	Indigestion (Qiter)	Decoction	Oral	AT27
<i>Brucea antidysenterica</i> J.F .Mill. [Simaroubaceae]	Yemoyet bosha (G)	T	L	Evil spirit (Dorer, Likift, Buda)	Crushed	Topical /holding	AT28
			Se	Wound (on male genital part)	Roast and grind	Topical	
<i>Buddleja polystachya</i> Fresen. [Loganiaceae]	Anfar (A, G)	S	R	Gonorrhea (Emate)	Infusion	Oral	AT29
			L	Tonsillitis	Infusion	Oral	
<i>Calpurnia aurea</i> (Ait.) Benth. [Fabaceae]	Zegnet, Singo (G)	S	L, St	Toothache	Crushed	Hold with teeth	AT31
<i>Capsicum annuum</i> L. [Solanaceae]*		H	Fr	Toothache	Crushed	Hold with teeth	
<i>Carduus schimperi</i> Sch. Bip. [Asteraceae]	Yete-soohe (G)	H	R	Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequiyye (Gu), cholera, Hyperemesis, General health (increase weight, improve strength and boost immunity of infants)	Infusion /Decoction	Oral	AT33
<i>Carica papaya</i> L. [Caricaceae]*	Papaya(A)	T	L, R	Malaria	Infusion / Decoction	Oral	AT34

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Carissa spinarum</i> L. [Apocynaceae]		S	R	General malaise	Infusion	Oral	AT35
			L	Malnutrition	Crushed	Tied/paste	
<i>Catha edulis</i> (Vahl) Forssk. ex Endl. [Celastraceae]*	Chat (A)	T	L	Tonsillitis	Infusion	Oral	AT36
<i>Caucanthus auriculatus</i> Forssk. [Malpighiaceae]		C	L	Epilipsy (Azurit)	Infusion	Oral	AT37
<i>Chenopodium</i> sp. [Chenopodiaceae]	Amedmado (A)	H	L	Haemorrhoids	Crushed	Topical	AT38
				Indigestion	Infusion	Oral	
<i>Citrus aurantifolia</i> (Christm.) Swingle [Rutaceae]*	Lomi (A)	T	L	Anthrax (Shem-itere)	Infusion	Oral	AT39
			Fr	Tonsillitis; Abdominal pain, Intestinal parasites;	Infusion	Oral	
				Wound, Tinea versicolor (Bechero), bad foot smell	Infusion	Topical	
				Toothache	Extract juice / squeezed	Apply on teeth	
<i>Citrus aurantium</i> L. [Rutaceae]*	Hometate (A)	T	Fr	Hyperemesis	Infusion	Oral	AT40
<i>Citrus medica</i> L. [Rutaceae]*	Terengo (A)	S	Ex, Fr	Evil spirit (Dorer, Likift, Buda)	Infusion	Oral	AT41
			R		Decoction	Oral	
<i>Clausena anisata</i> (Willd.) Benth. [Rutaceae]	Lemuche (A)	T	L	General malaise (Michi), Stabbing pain, Malaria, Evil spirit (Dorer, Likift, Buda)	Infusion	Oral	AT42
					Boiled	Steam bath	
<i>Clematis longicauda</i> Steud. ex A. Rich. [Ranunculaceae]		C	L	General malaise (Mich)	Infusion	Nose drops	AT43
			L	Hemorrhoid	Crushed	Topical	
<i>Clematis simensis</i> Fresen. [Ranunculaceae]	Fida (A), Yegawa wedero; Sem che cheniyit; Aze, Hanz'o (G)	C	L	Pyoderma (Wegfiy, Kofa), Wound	Crushed	Topical	AT44
				Tonsillitis	Infusion	Gargle to rinse the throat	
				Eye infection (Wucher)	Extract juice/ squeezed	Nose drops	
<i>Clerodendrum myricoides</i> (Hochst.) Vatke [Lamiaceae]	Aleg (A), Hanigo (G, Q)	H	L	Abdominal pain, Diarrheal disease (Child) (Ye-dengi-yaqar or Ye-sequriye (Gu), cholera, Tonsillitis	Infusion	Oral	AT45
				Evil spirit (Dorer, Likift, Buda)	Crushed, Infusion	Bath, oral	
<i>Clutia abyssinica</i> Kaub. & Spach. [Euphorbiaceae]	Yemar semat (G)	S	L	TB (Neqerese), Abdominal pain, Anthrax (Shem-itere)	Infusion	Oral	AT46
				Toothache	Crushed	Hold with teeth	

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Coffea arabica</i> L. [Rubiaceae]*		S	Se	Wound, Skin burn	Roast / grind	Topical	AT47
			L	General health (increase weight, improve strength and boost immunity of infants)	Decoction	Oral	
<i>Colocasia esculenta</i> (L.) Schott [Araceae]*	Godelyi (A)	H	Tu	Anthrax (Shem-itere), Wound, Swelling	Decoction	Topical	AT48
<i>Convolvulus sagittatus</i> Thunb. [Convolvulaceae]	Minen debo (M)	H	R	Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequriye (G), Indigestion (Qiter)	Infusion	Oral	AT49
<i>Convolvulus cf. kilimandschari</i> Engl. [Convolvulaceae]	Abeta (G)	C	R	Indigestion (Qiter), Abdominal pain	Infusion / Decoction	Oral	AT50
<i>Conyza abyssinica</i> Sch. Bip. ex A. Rich. [Asteraceae]	Yefur ded (G)	H	L	Wound	Crushed	Topical	AT51
<i>Crotalaria incana</i> L. [Fabaceae]	Meza qutel (G), Yejeb ater(A)	H	L	Wound, Skin burn	Crushed	Topical	AT52
<i>Croton macrostachyus</i> Del. [Euphorbiaceae]	Mekenisa (G, A), Wanshehena (G)	T	L (bud)	Wound, Blood clotting, Tinea versicolor (Bechero), Common wart	Crushed	Topical	AT53
				Nasal congestion	Extract juice/ squeezed	Nose drops	
			B, L	Indigestion (Qiter), Abdominal pain (and bloating, Intestinal parasite)	Infusion	Oral	
			L	General malaise (Michi), Headache	Decoction, boiled	Oral, Steam bath	
					Extract juice/ squeezed	Nose drops	
			L	Jaundice	Infusion	Oral	
			L	Swelling	Boiled	Steam bath	
			B, L	Retained placenta	Infusion / Decoction	Oral	
Se	Pyoderma (Wegfiy, Kofa)	Crushed	Topical				
<i>Cucumis ficifolius</i> A. Rich. [Cucurbitaceae]	Hulgerecho (M), Adene debaqla (Q), Yemedir qimbiba, Yafer-granger (G)	H	R	Anthrax (Shem-itere), Liver complaint (Qoya, Seme dinku), Abdominal pain, Diarrhoea, Indigestion (Qiter), Retained placenta	Infusion / Decoction	Oral	AT54

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
				Toothache	Crushed	Hold with teeth	
				Evil spirit (Dorer, Likift, Buda)	Infusion	Oral	
			Fr	Lose ability to move, Tonsillitis	Infusion	Oral	
<i>Cucurbita pepo</i> L. [Cucurbitaceae]*		H	Se	Mental disorder, Headache, Teniasis (Seto (K), Chima (G))	Roast, grind and drink the infusion	Oral	AT55
<i>Cyathula uncinulata</i> (Schrad.) Schinz [Amaranthaceae]	Awesan kanfua (G)	H	L	Swellings, General malaise (Mich)	Boiled	Steam bath	AT56
				Eye infection (Wucher)	Extract juice/squeezed	Drops into the eyes	
<i>Cymbopogon citratus</i> (DC. ex Nees) Stapf [Poaceae]*	Hiticho (M), Deg sar (G), Moseret (G)	H	L	Anthrax (Shem-itere), Dengetegna	Infusion	Oral	AT57
			R, L	Abdominal pain	Infusion	Oral	
<i>Cynoglossum coeruleum</i> Hochst. ex A.DC. [Boraginaceae]	Yitebtiye (G), Bertetusa (Q), Hatemaqo (Q)	H	L	General Malaise (Michi)	Extract juice/squeezed	Nose drops	AT58
				Wound	Extract juice/squeezed	Topical	
<i>Cyphostemma cyphopetalum</i> (Fresen.) Desc. Ex Wild & R.B. Dr umm [Vitaceae]	Toleje (G)	C	L	Wound (Silensa, on neck)	Crushed	Topical	AT59
<i>Cyphostemma niveum</i> (Hochst. Ex Schweinf.) Desc. [Vitaceae]		C	L	General malaise (Mich)	Boiled	Steam bath	AT60
			St	Swelling, Skin burn	Crushed	Topical	
<i>Dactyloctenium aegyptium</i> (L.) Willd. [Poaceae]		H	Se	Anthrax (Shem-itere)	Decoction	Oral	AT61
<i>Dregea schimperi</i> (Decne.) Bullock [Apocynaceae]		C	L	Ashma, Azurit	Infusion/decoc tion	Oral	AT62
<i>Datura stramonium</i> L. [Solanaceae]	Mechara (M), Azaza (G, Q)	H	Se	Toothache	Mix with butter and burn	Inhale the smoke direct into the teeth using tube	AT63
			Se, L	Dandruff, Pyroderma (Wegfiy, Kofa),	Crushed	Topical	
			Se	Headache, Hemorrhoid	Crushed	Topical	
			L	Inflammation (Insect bite)	Extract juice/squeezed	Topical	
<i>Dicrocephala integrifolia</i> (L. f.) Kuntze. [Asteraceae]	Muachera, Bekulubash (G)	H	L	Abdominal pain	Infusion	Oral	AT64
				Wound	Crushed	Topical	

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Discopodium penninervium</i> Hochst. [Solanaceae]	Enchochika (G)	T	L (Old / yellow)	Indigestion (Qiter), Abdominal pain (Children)	Infusion/ Decoction	Oral	AT65
			L	General health (increase weight, improve strength and boost immunity of infants)	Infusion	Oral	
<i>Dioscorea alata</i> L. [Dioscoreaceae]*	Boiyina (A, G)	H	L	Tinea versicolor (Bechero)	Crushed	Topical	AT66
<i>Dissotis senegambiensis</i> (Guill. & Perr.) Triana [Melastomataceae]		H	L	Pyoderma (Wegfiy, Kofa), Swelling	Crushed	Topical	AT67
<i>Dovyalis abyssinica</i> (A. Rich.) Warb. [Flacourtiaceae]	Koshim (A)	S	L, B	Indigestion (Qiter)	Infusion/ Decoction	Oral	AT68
<i>Echinops hispidus</i> Fresen. [Asteraceae]	Yimar-soohe, Dender (G), umar soohe (Q)	H	R	Abdominal pain, Diarrhea	Infusion	Oral	AT69
				Wound, Snake bite	Crushed	Topical	
			Fl	Swelling	Crushed	Topical	
<i>Echinops kebericho</i> Mesfin. [Asteraceae]*	Chosa (G), Kebericho (M, Q)	H	R	Abdominal pain, Indigestion (Qiter)	Crushed/Chewed, infusion	Oral	AT70
				General malaise (Michi)	Burn	Smell the smoke	
<i>Ekebergia capensis</i> Sparrm. [Meliaceae]	Guareba (G)	T	L	Toothache	Crush and Boil	Hold with teeth	AT71
			L, Se	Wound (bitten by hyena)	Crushed	Topical	
<i>Eleusine floccifolia</i> (Forssk.) Spreng. [Poaceae]		H	L	Spider bite	Crushed	Topical	AT72
<i>Embelia schimperi</i> Vatke [Myrsinaceae]	Enqueqwe (G), Enqoqo (A)	C	Se	Teniasis "Chima (G)", "Seto (K)"	Infusion	Oral	AT73
<i>Ensete ventricosum</i> (Welw.) Cheesman [Musaceae] *	Eset (G), Enset (A)	S	Cr	Liver complaint (Qoya, Seme dinku), Bone fracture, Retained placenta, Indigestion (Qiter), Toothache	Cooked	Oral	
			St		Extract watery juice from pseudo-stem	oral	
<i>Erica arborea</i> L. [Ericaceae]		S	L	Indigestion (Qiter), Abdominal bloating	Infusion	Oral	AT75
<i>Eucalyptus globulus</i> Labill. [Myrtaceae] *	Antakirt (G)	T	L	Common cold, Headache, General malaise "Mich"	Boiled	Steam bath	AT76
<i>Euclea divinorum</i> Hiern. [Ebenaceae]	Migiyar, Mesa (G)	T	L	Indigestion (Qiter)	Infusion	Oral	AT77
				Teniasis (Chima (G) Seto (K))	Decoction	Oral	
				After pains (Stomach cramp)	Infusion	Oral	
<i>Euphorbia cotinifolia</i> L. [Euphorbiaceae] *		S	Lat	Tinea versicolor (Bechero)	Extract latex	Topical	AT79

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<i>Euphorbia schimperiana</i> Scheele [Euphorbiaceae]	Edemo (G), Aybe-gedemo (M)	H	Lat	Common warts "Qintebiye (G)"	Extract latex	Topical	AT80
			R	Indigestion (Qiter)	Infusion	Oral	
<i>Euphorbia tirucalli</i> L. [Euphorbiaceae]		S	Lat	Piles, Common warts (Qintebiye (G)), Dandruff	Extract latex	Topical	AT81
<i>Ficus sur</i> Forssk. [Moraceae]	Sobial, Neche-warka (G)	T	Fr	Pyoderma (Wegfiy, Kofa)	Extract juice	Topical	AT82
<i>Ficus sycomorus</i> L. [Moraceae]	Wedisha (G)	T	Lat	Pyoderma "Wegfiy, Kofa"	Extract latex	Topical	AT83
<i>Ficus vasta</i> Forssk. [Moraceae]	Azodichito (Q), Shebra, Werha (G), Neche-shola (A)	T	B	Indigestion (Qiter)	Infusion	Oral	AT84
<i>Foeniculum vulgare</i> Miller [Apiaceae]*	Wet-ambo (G), Enshelal (Q), Ansho (M)	H	R, L	Gonorrhoea (Emate)	Infusion/Decoction	Oral	AT85
			L	Urinary retention, Abdominal pain	Infusion/Decoction	Oral	
				Epistaxis	Extract juice/squeeze	Nose drops	
				Evil spirit (Dorer, Likift, Buda), General malaise(Mich)	Infusion, boiled	Oral, Steam bath,	
<i>Fuerstia africana</i> T.C.E. Fr. [Lamiaceae]	Yegiye ensosla (G), Hureda (M)	H	L	General malaise (Mich), Headache	Infusion	Nose drops	AT86
<i>Gardenia ternifolia</i> Schumach. & Thonn. [Rubiaceae]*	Genbalyi (A), Habuliy (G)	T	L	Malaria	Decoction	Oral	AT87
<i>Geranium arabicum</i> Forssk. [Geraniaceae]		H	L	Wound	Extract juice	Topical	AT88
<i>Gladiolous abyssinicus</i> (Brongn. ex Lemaire) Goldblatt & de Vos [Iridaceae]	Inzerezyi (G)	H	Cr	Toothache, Anthrax (Shem-itere)	Crushed/chewed	Hold with teeth	AT89
<i>Gnidia stenophylla</i> Gilg [Thymelaceae]	Mesemes (G)	H	L, R	Indigestion (Qiter), Abdominal pain, Diarrhea	Infusion	Oral	AT90
			R	Retained placenta, Rabies	Infusion	Oral	
			L	Gonorrhoea (Emate, Chebeto)	Infusion	Oral	
<i>Guizotia abyssinica</i> (L. f.) Cass. [Asteraceae]*	Nug (A)	H	Se	Coughing, Common cold	Roast, grind and drink the decoction	Oral	AT91
<i>Guizotia schimperi</i> Sch. Bip. ex Walp. [Asteraceae]	Mocho (A)	H	L	Dandruff (with sores on the scalp), Wound	Crushed	Topical	AT92
				General malaise (Michi)	Infusion	Oral	

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<i>Hagenia abyssinica</i> (Bruce) J.F. Gmel. [Rosaceae]		T	Fl	Teniasis “Chima (G)”, “Seto (K)”, Abdominal pain, Diarrhea	Infusion	Oral	AT93
			Fl, Se	Anorexia, Indigestion (Qiter), Malaria	Infusion	Oral	
<i>Haplocarpha schimperi</i> (Sch. Bip.) Beauv. [Asteraceae]	Ayene beda (G)	H	R	Pyoderma “Wegfiy, Kofa”	Crushed	Topical	AT94
<i>Helianthus annuus</i> L. [Asteraceae]*	Suf (A)	H	Se	Coughing, Common cold	Decoction	Oral	AT95
<i>Helichrysum stenopterum</i> DC. [Asteraceae]		H	L	Eye infection (Wucher)	Extract juice/ squeeze	Drops into the eyes	AT96
<i>Hibiscus berberidifolius</i> A. Rich. [Malvaceae]	Yekesheshiye (G)	S	R	Amoebiasis	Infusion	Oral	AT97
			L	Wound (Silensa); Herpes zoster; Skin burn	Crushed	Topical	
<i>Hydnora johannis</i> Becc. [Hydnoraceae]	Dechemerech (M)	H/ Epi phyt e	Whole plant	Localized swelling	Crushed/ powdered	Topical	
<i>Hibiscus micranthus</i> L. f. [Malvaceae]	Badefacha (M)	H	L	Indigestion (Qiter) (dyspepsia)	Infusion	Oral	AT99
<i>Hypoestes forskalii</i> (Vahl) R. Br. [Acanthaceae]*	Yete beder (G)	H	L	Anemia, Amoebiasis, Gonorrhoea (Emate), Afterpains, Stabbing pain, Anthrax (Shem-itere), Retained placenta, Menstrual pain, General health (increase weight, improve strength and boost immunity of infants)	Decoction	Oral	AT100
<i>Impatiens tinctoria</i> A. Rich. [Balsaminaceae]	Inshoshela (A)	H	L	Eye infection (Wucher)	Extract juice/ squeeze	Drops into the eyes	AT101
				Indigestion (Qiter)	Infusion	Oral	
<i>Ipomoea purpurea</i> (L.) Roth. [Convolvulaceae]	Abeta (G)	H	L, St(twin gs)	Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequriyye (Gu), cholera, Abdominal pain, Sleeping problem (child)	Infusion	Oral	AT102
<i>Jasminum abyssinicum</i> Hochst. ex Dc. [Oleaceae]	Torso (G)	C	L	Eye disease	Extract juice/ squeeze	Topical	AT103
			R	Wound	Extract juice	Topical	
<i>Jatropha curcas</i> L. [Euphorbiaceae]*	Qondali (G)	S	Se	Epilepsy	Infusion	Oral	AT104

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Juniperus procera</i> Hochst. ex. Endl. [Cupressaceae]		T	L	Afterpains, Retained placenta	Decoction	Oral	AT105
<i>Justicia schimperiana</i> (Hochst. ex Nees) T. Anders. [Acanthaceae]	Abegafuye, Hneba (G), Temuga (M)	S	L	Liver complaint (Qoya, Seme dinku), Malaria; General malaise (Michi), Swelling, Rheumatic pain, Loose ability to move	Infusion/Decoction	Oral	AT106
					Boiled	Steam bath	
<i>Kalanchoe densiflora</i> Rolfe [Crassulaceae]	Andahula (A)	H	L, R	Tonsillitis	Infusion	Gargle to rinse the throat	AT107
			R	Abdominal pain (Children)	Infusion	Oral	
			L	Wound, To keep infected eye clean	Crushed (cold/warm)	Topical	
<i>Lactuca inermis</i> Forssk. [Asteraceae]		H	L, R	Pyoderma (Wegfiy, Kofa), Common wart (Qintebiye, Foshe foshat)	Crushed	Topical	AT110
<i>Lagenaria siceraria</i> (Molina) Standl. [Cucurbitaceae]	Qomet (G)	H	L	Dandruff (with sores on the scalp), Wound	Crushed	Topical	AT111
				Rabies	Infusion	Oral	
<i>Laggera crispata</i> (Vahl) Hepper & Wood. [Asteraceae]	Ge-fon-foo (G)	H	L	Eye infection, To keep infected eye clean, Wound	Crushed	Topical, leaf also used to clean the eyes	AT112
<i>Lannea schimperi</i> (A. Rich.) Engl. [Anacardiaceae]	Abariyet (G)	T	Se	Dandruff (with sores on the scalp)	Crushed	Topical	AT113
<i>Lens culinaris</i> Medik. [Fabaceae]*		H	Se	Herpes zoster	Crushed	Topical	AT115
<i>Leonotis ocymifolia</i> (Burm. f.) Iwarsson [Lamiaceae]	Chenbolibi (M)	S	L	Ascariasis	Infusion	Oral	AT116
<i>Lepidium sativum</i> L. [Brassicaceae]*	Feto (A)	H	Se	Abdominal pain, Diarrhea, Amoebiasis, Gonorrhoea (Emate) Stabbing pain, Indigestion (Qiter), Headache, Evil spirit (Dorer, Likift, Buda), General malaise (Michi),	Infusion	Oral	AT117
				Toothache	Crushed	Hold with teeth	
				Dandruff (Fore fore)	Crushed	Topical	
<i>Leucas argentea</i> Gurke [Lamiaceae]	Fiza, Kiza (G)	H	L	Indigestion (Qiter), Diarrhea, Abdominal pain, Constipation (Children)	Infusion/Decoction	Oral	AT118

Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Linum usitatissimum</i> L. [Linaceae]	Telba (A)	H	Se	Retained placenta, Amoebiasis, Abdominal pain, Gastritis, Constipation	Infusion/ Decoction	Oral	AT119
<i>Lippia adoensis</i> Hochst. ex Walp. var. <i>adoensis</i> [Verbenaceae]	Kesse (A)	S	L	Abdominal pain, Diarrhea, Indigestion (Qiter), General malaise (Michi)	Infusion	Oral	AT112
				Toothache	Crushed	Hold with teeth	
<i>Lycopersicon esculentum</i> Mill. [Solanaceae]*		H	L	Urinary retention	Decoction	Oral	AT121
<i>Lysimachia ruhmeriana</i> Vatke [Primulaceae]		H	L	Evil spirit (Dorer, Likift, Buda)	Infusion	Oral	AT122
<i>Maesa lanceolata</i> Forssk. [Myrsinaceae]	Aguaj (G), Qelew (A)	T	L	Malaria, Intestinal parasites	Infusion	Oral	AT123
<i>Maytenus heterophylla</i> (Eckl. & Zeyh.) Robson [Celastraceae]	Cheryi (G)	S	L	Tonsillitis	Infusion	Gargle to rinse the throat	AT126
				Epilepsy (Azurit)	Extract juice/ squeezed	Oral	
<i>Maytenus senegalensis</i> (Lam.) Exell [Celastraceae]	Cheryi (G)	S	L	Anthrax (Shem-itere)	Infusion/ Extract the juice	Oral/ Nose drops	AT127
<i>Melia azedarach</i> L. [Meliaceae]		T	L	Malaria	Infusion	Oral	AT128
				Hypertension	Decoction	Oral	
<i>Microglossa pyrifolia</i> (Lam.) O. Kuntze [Asteraceae]	Chinar (G)	S	L	Toothache	Crushed/ Chewed	Hold with teeth	AT129
<i>Momordica foetida</i> Schumach. [Cucurbitaceae]	Araret, Tere (G, S), Yehonzet beye (G)	H	L	Wound, Dandruff, Evil spirit (Dorer, Likift, Buda)	Crushed	Topical	AT130
				Herpes zoster	Crushed	Topical	
<i>Moringa stenopetala</i> (Bak. f.) Cuf. [Moringaceae]*	Shiferaw (A)	T	L	Malaria, Gastritis, Hypertension	Decoction	Oral	AT131
<i>Myrica salicifolia</i> A. Rich. [Myricaceae]	Cheta, telota (G)	T	B	Indigestion (Qiter)	Infusion/ Decoction	Oral	AT132
<i>Myrsine africana</i> L. [Myrsinaceae]	Qechemewe (G), Qechemo (A)	S	Se	Abdominal pain (also as prevention)	Infusion	Oral	AT133
<i>Nigella sativa</i> L. [Ranunculaceae] *	Tiqure azemud (A), Gmebel menzuta (Q)	H	Se	Abdominal pain, General malaise	Infusion	Oral	AT134
				Headache;	Grind,soak in water/ Infusion	Nose drops	
<i>Ocimum basilicum</i> L. [Lamiaceae]*	Meso bela (A)	H	L	Abdominal bloating	Infusion	Oral	AT135

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Ocimum lamiifolium</i> Hochst. ex Benth. [Lamiaceae]*	Damakese (A)	S	L	Common cold, coughing, pneumonia (Sinbabie), general malaise (Michi), Headache	Decoction	Bath	AT136
					Decoction	Oral	
					Extract juice/squeeze	Nose drops	
					Decoction	Oral	
				Amoebiasis; Abdominal pain, Abdominal bloating, Toothache	Crushed	Hold with teeth	
<i>Ocimum urticifolium</i> Roth [Lamiaceae]	Yelebe fuanfa, Delibekera (Q)	S	L	Toothache	Crushed	Hold with teeth	AT137
				General malaise (Michi), Common cold	Decoction, boiled	Oral, steam bath	
<i>Olea europaea</i> L. subsp. <i>cuspidata</i> (Wall. ex G. Don) [Oleaceae]*	Wera (A), Bunne (G)	T	St, L	Toothache	Crushed (warm)/ Chewed	Hold with teeth	AT138
			L	Indigestion (Qiter)	Infusion/ Decoction	Oral	
<i>Olinia rochetiana</i> A. Juss. [Oliniaceae]	Tife (A)	T	B, L, St	Wound, Pyoderma (Wegfiy, Kofa)	Crushed	Topical	AT139
				Toothache,	Crushed/ chewed	Hold with teeth	
<i>Otostegia tomentosa</i> A. Rich. [Lamiaceae]	Yesetan abeba (A)	S	L	Wound, Pyoderma (Wegfiy, Kofa)	Crushed	Topical	AT140
<i>Oxalis corniculata</i> L. [Oxalidaceae]	Yetay asebo (G)	H	Whole	Abdominal pain	Decoction	Oral	AT141
				Swelling	Crushed	Topical	
<i>Oxygonum sinuatum</i> (Meisn.) Dammer [Polygonaceae]		H	L	Wound	Crushed	Topical	AT142
<i>Pavonia urens</i> Cav. [Malvaceae]	Menatef (A, G)	H	L, R	Indigestion (Qiter), Diarrhea (Children), Abdominal bloating, Excess vomiting (Hyperemesis)	Infusion	Oral	AT143
<i>Pentas schimperiana</i> (A. Rich.) Vatke [Rubiaceae]	Mesabur (Q)	S	L, R	Back pain, Bone fracture	Infusion/ Decoction	Oral	AT144
<i>Persea americana</i> Mill. [Lauraceae]*	Abokato (A)	T	Fr	Dandruff	Crushed	Topical	AT145
			L	Anemia	Decoction	Oral	
<i>Persicaria senegalensis</i> (Meisn.) Sojak [Polygonaceae]	Nech azhe (G)	H	L	Retained placenta	Infusion	Oral	AT146
				Swelling esp. on neck "Kinta"	Crushed	Topical	
<i>Phragmanthera macrosolen</i> (A. Rich.) M. Gilbert [Loranthaceae]	Teqetla (A) (hemi-parasite growing on <i>Acacia</i> sp.)	S/E piphyte	Whole plant	Evil spirit (Dorer, Likift, Buda), General maliasis (micl)	Infusion	Oral	AT147
					Boiled	Steam bath	

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<i>Phytolacca dodecandra</i> L'Herit. [Phytolacaceae]	Endod (A)	S	R	Rabies	Infusion	Oral	AT148
			L, R	Tonsillitis	Infusion	Gargle to rinse the throat	
<i>Pittosporum viridiflorum</i> Sims [Pittosporaceae]	Ulaga (G)	T	L	Coughing, Pneumonia (Sinbabwe), TB, Abdominal pain	Infusion	Oral	AT149
<i>Plantago lanceolata</i> L. [Plantaginaceae]	Yefur enzir, Qoshqoshye (G)	H	L	Wound	Crushed	Topical	AT150
				Tonsillitis,	Infusion	Gargle to rinse the throat	
				General malaise (Michi)	Extract the juice/squeeze	Nose drops	
<i>Plantago palmata</i> Hook.f. [Plantaginaceae]		H	L	Wound	Crushed	Topical	AT151
<i>Plectranthus cylindraceus</i> Hochst. ex Benth. [Lamiaceae]	Qintele sat (G)	H	L	Swelling,	Crushed	Topical	AT152
				Evil spirit (Dorer, Likift, Buda), Rheumatism,	Crushed	Bath	
<i>Plectranthus edulis</i> (Vatke) Agnew [Lamiaceae]*	egurage denicha (A)	H	L	Malaria	Decoction	Oral	AT153
<i>Podocarpus falcatus</i> (Thunb) R. Br. ex Mirb. [Podocarpaceae]	Zigba (A, G)	T	B, L	Coughing	Decoction	Oral	AT155
<i>Polygala sadebeckiana</i> Gurke [Polygalaceae]		H	R	Toothache	Crushed	Hold with teeth	AT156
				Anthrax (Shem-itere), Abdominal pain, Indigestion (Qiter)	Infusion	Oral	
<i>Premna schimperi</i> Engl. [Lamiaceae]	Teqoqe (G), Wankisa (G, Q), Ye fiyel kolo (A)	S	L	Toothache	Crushed	Hold with teeth	AT157
<i>Prunus persica</i> (L.) Batsch [Rosaceae]*	Kok (A, G)	T	L	General malaise "Michi", Indigestion (Qiter), Stabbing pain, Anthrax (Shem-itere)	Infusion	Oral	AT158
<i>Pseudarthria hookeri</i> Wight & Arn. [Fabaceae]		H	R	Liver complaint (Qoya, Seme dink)	Crushed/Pounded	Smell	AT159
<i>Psidium guajava</i> L. [Myrtaceae]*	Zeyetun (A)	T	Ex	Wound, Dandruff	Crushed	Topical	AT160
			Fr	Constipation	Crushed	Oral	
			L	Hemorrhoids	Boiled	Wash	

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Pycnostachys abyssinica</i> Fresen. [Lamiaceae]	Fuanfa (G)	S	L	Abdominal pain, Diarrhea, Malaria, General malaise (Michi), General health (increase weight, improve strength and boost immunity of infants)	Infusion/Decoction	Oral	AT162
				Eye infection	Cut small pieces	Topical (Cleaner)	
<i>Ranunculus multifidus</i> Forssk. [Ranunculaceae]		H	R	Cancer, Ulcer, 'Neqersa', Pyoderma 'Wegfiy, Kofa'	Infusion	Oral	AT163
<i>Rhamnus prinoides</i> L. Herit. [Rhamnaceae]*		S	L (bud)	Tonsillitis	Infusion	Gargle to rinse the throat	AT164
<i>Rhus vulgaris</i> Meikle [Anacardiaceae]		S	St	Toothache	Crushed	Hold with teeth	AT167
<i>Rhynchosia minima</i> (L.) DC. [Fabaceae]	Yefur enzir (G)	H	L	herpes zoster (- wound on nose which expands in time)	Crushed	Topical	AT168
<i>Ricinus communis</i> L. [Euphorbiaceae]	Gulo (G)	S	Se	Chigger bites (Mujelia, Ferfer)	Infusion	Topical	AT169
			L, Se	Malaria, intestinal parasite	Infusion	Oral	
<i>Rosa hybrida</i> L. [Rosaceae]*	Mahle-weld (A)	S	Fl	Eye infection (Wucher)	Infusion	Drop into the eyes	AT170
<i>Rosmarinus officinalis</i> L. [Lamiaceae] *		S	L	Hypertension	Infusion/Decoction	Oral	AT171
<i>Rubia cordifolia</i> L. [Rubiaceae]	Enchiber (G)	H	R	Toothache	Crushed	Hold with teeth	AT172
				Swelling, Snake bite, Jaundice	Crushed	Bath	
			L	Evil sprit (Dorer)	Infusion/Extract juice	Oral	
				Toothache	Crushed	Hold with teeth	
<i>Rumex abyssinicus</i> Jacq. [Polygonaceae]	Hambo (G), Yebech-ambo, Weshe temo (Q)	H	R	Gonorrhoea (Emate),	Infusion/Decoction	Oral	AT173
				Liver complaint (Qoya, Seme dinku), Kidney problem	Infusion/Decoction	Oral	
<i>Rumex nepalensis</i> Spreng. [Polygonaceae]	Chabe (Q), Tumeya, tuya, yegrid amber(G)	H	R	Abdominal pain, Abdominal bloating, Diarrhea (Children), Indigestion (Qiter)	Infusion, Crushed/Chewed	Oral	AT174
				Wound, Dandruff (with sores on scalp)	Crushed	Topical	
			R, L	Tonsillitis	Extract juice	Gargle to rinse the throat	

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<i>Rumex nervosus</i> Vahl [Polygonaceae]	Angago, yegeye chima (G)	S	L (bud)	Herpes zoster, common wart, Tinea versicolor (Bechero)	Crushed	Topical	AT175
<i>Ruta chalepensis</i> L. [Rutaceae]*	Tena adam (A)	H	L, Se	Abdominal pain, Diarrhea, Abdominal bloating, General malaise (Michi), Evil spirit (Dorer, Likift, Buda), Rheumatic Pain, Afterpains, Common cold, Coughing, Headache, Stabbing pain, Loss of appetite (Anorexia), smelly flatus	Infusion	Oral	AT176
<i>Salvia nilotica</i> Jacq. [Lamiaceae]	Amam, Guneliye, Meza qutel (G)	H	L	Wound, Pyoderma "Wegfiy, Kofa", Skin burn, Eye infection "wucher, Meza"	Crushed	Topical	AT177
				General malaise (Michi)	Infusion/Decoction, boiled	Oral, Steam bath	
<i>Satureja abyssinica</i> (Benth.) Briq. [Lamiaceae]	Debeqqo (G)	H	L, St (twings)	Indigestion (Qiter), Abdominal pain, Abdominal bloating	Infusion	Oral	AT178
<i>Satureja punctata</i> (Benth.) Briq. [Lamiaceae]	Debeqqo (G)	H	L	Indigestion (Qiter)	Infusion	Oral	AT179
<i>Schinus molle</i> L. [Anacardiaceae]	Trumantre (G)	T	Fr	Tonsillitis	Infusion	Gargle to rinse the throat	AT180
<i>Scolopia theifolia</i> Gilg [Salicaceae]	Koshim (A), Aweta (G)	S	St	Stop weird pregnancy craving	Crushed	Oral	AT181
<i>Senna multiglandulosa</i> (Jacq.) Irwin & Bameby [Fabaceae]		S	Se	Gonorrhoea (Emate)	Infusion	Oral	AT182
<i>Senna septemtrionalis</i> (Viv.) Irwin & Bameby [Fabaceae]	Chachate (A), Sememeki (G)	S	L	Wound, Pyoderma "Wegfiy, Kofa", "Silensa", Dandruff, Common warts, Snake bite, Antrax	Crushed	Topical	AT183
<i>Sida rhombifolia</i> L. [Malvaceae]	Badefacha (M)	H	R	Abdominal pain, Diarrhea, amebiasis	Infusion	Oral	AT184
<i>Sida schimperiana</i> Hochst. ex A. Rich. [Malvaceae]	Chifereg (A), Anjajewet (G)	S	R	Teniasis "Chima (G)", "Seto (K)", Diarrhea, General malaises	Infusion	Oral	AT185
<i>Sideroxylon oxyacanthum</i> Baill. [Sapotaceae]	Miteja (G)	S	St, B	Indigestion (Qiter)	Infusion/ decoction	Oral	AT186

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Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Silene macrosolen</i> A. Rich. [Caryophyllaceae]	Wegert (A)	H	R	Evil spirit (Dorer, Likift, Buda), repel snake	Burn	Smell the smoke	AT187
<i>Smilax aspera</i> L. [Smilacaceae]	Yezogare gaje(G)	C	L	Liver complaint (Qoya, Seme dinku)	Infusion	Oral	AT188
<i>Solanecio gigas</i> (Vatke) C. Jeffrey [Asteraceae]	Tonbi (G), Yezogare gaje (G, Q)	S	L, R	Liver complaint (Qoya, Seme dinku, Awezager), Retained placenta, Abdominal pain	Infusion	Oral	AT189
			L	Malaria	Infusion	Oral	
			L	Swelling	Crushed	Bath	
<i>Solanecio mannii</i> (Hook. f.) C. Jeffrey [Asteraceae]	Gemar (G)	S	L	Liver complaint (Qoya, Seme dinku), Evil spirit (Dorer, Likift, Buda),	Infusion/ decoction	Oral	AT190
<i>Solanum anguivi</i> Lam. [Solanaceae]		S	Fr	Rabies, Snake bite	Infusion/ cooked	Oral	AT191
<i>Solanum giganteum</i> Jacq. [Solanaceae]		S	L	Common warts, Anthrax (Shem-itere)	Crushed	Topical	AT192
<i>Solanum incanum</i> L. [Solanaceae]	Embuay (A), Zereche (G)	S	R	Abdominal pain, Diarrhea, Indigestion (Qiter), General malaises (Michi)	Infusion / Chewed	Oral	AT193
			Fr	Anthrax (Shem-itere) , Swelling	Crushed	Topical	
			Fr, R	Dandruff, Wound	Crushed	Topical	
			L	Tonsillitis	Infusion	Gargle to rinse the throat	
<i>Solanum nigrum</i> L. [Solanaceae]	Emberebuniye(G)	H	Fr	Rabies	Infusion	Oral	AT194
			L	Wound, Dandruff (Sores on the scalp), common warts	Crushed	Topical	
<i>Stephania abyssinica</i> (Dillon & A.Rich.) Walp. [Menispermaceae]	Foreformat , Kelalla (G)	H	R	Indigestion (Qiter), Stabbing pain, Liver complaint (Qoya, Seme dinku), Malaria, Diarrhea, General malaise (Mich),	Infusion	Oral	AT195
<i>Stereospermum kunthianum</i> Cham. [Bignoniaceae]	Emequashiyet, Brete feje (G)	T	B	Indigestion (Qiter)	Infusion / Decoction	Oral	AT196
<i>Tagetes minuta</i> L. [Asteraceae]	Chiyanchiye (G)	H	L	Wound	Crushed	Topical	AT197

Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Tapinanthus globiferus</i> (A. Rich.) Tieghem [Loranthaceae]	Teqetla (A) (hemi-parasite growing on coffee, chat, peach)	S/E piph yte	Whole plant	Evil spirit (Dorer, Likift, Buda), Depression, General malaise (Michi)	Burn	Smell the smoke	AT198
				Retained placenta	Boiled	Steam bath	
					Infusion	Oral	
<i>Teclea nobilis</i> Del. [Rutaceae]	Ader (G)	T	L	Indigestion (Qiter), Abdominal pain	Infusion	Oral	AT199
<i>Thunbergia ruspolii</i> Lindau [Acanthaceae]	Yangacha qomet, Afuakiyi (G)	H	L, R	Abdominal pain, Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequriye (Gu), cholera, Liver complaint (Qoya, Seme dinku), General malaise (Michi), Hemorrhoid, General health (increase weight, improve strength and boost immunity of infants)	Infusion/Decoction	Oral	AT200
<i>Thymus schimperi</i> Ronniger [Lamiaceae]	Tosign (A)	H	L	Hypertension	Decoction	Oral	AT201
<i>Toddalia asiatica</i> (L.) Lam. [Rutaceae]	Asegomare, Biter, Zega berbero (G)	C	L	Teniasis "Chima (G)", "Seto (Q)"	Infusion	Oral	AT202
				Rheumatic pain	Crushed (Cold/warm)	Topical	
<i>Verbascum sinaiticum</i> Benth. [Scrophulariaceae]	Yemar enzir (G), Halemecha, Huleten huta (M), Yumar amel (Q)	H	Rb, R	Abdominal pain, Diarrhea, Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequriye (Gu), cholera, General health (increase weight, improve strength and boost immunity of infants), Indigestion (Qiter)	Infusion/Decoction	Oral	AT203
			L	Liver complaint (Qoya, Seme dinku), Indigestion (Qiter)	Infusion/Decoction	Oral	
				Evil spirit (Dorer, Likift, Buda)	Crushed	Bath	
<i>Verbena officinalis</i> L. [Verbenaceae]	Qesqes (G)	H	L, R	Abdominal pain, Diarrhea, Indigestion (Qiter), Malaria, Excess vomiting (Hyperemesis), General malise (Michi),	Infusion	Oral	AT204
<i>Vernonia myriantha</i> Hook. f. [Asteraceae]	Dengrita, Aguaje(G, Q)	S	L	Wound	Crushed	Topical	AT205

Scientific name [Family]	Vernacular name (Local language)	GF	PU	Ailment treated (Local name)	MOP	ROA	Voucher No.
<i>Vernonia amygdalina</i> Del. [Asteraceae]	Gola (G), Heba (M)	S	L, St	Intestinal parasites, Abdominal pain, Malaria, Gastritis, Retained placenta	Infusion	Oral	AT206
<i>Vernonia subligera</i> O. Hoffm. [Asteraceae]	Ereja (G)	S	L	Wound, Blood clotting	Crushed	Topical	AT207
				Eye infection	Extract juice/ squeeze	Drops into the eyes	
<i>Vernonia theophrastifolia</i> Scheinf. Ex Oliv. & Hiern [Asteraceae]		S	L	Spider bite	Crushed	Topical	AT208
<i>Vernonia thomsoniana</i> Oliv. & Hiern ex Oliv. [Asteraceae]	Agunba (Q)	S	L	Malaria, Indigestion (Qiter)	Infusion	Oral	AT209
<i>Withania somnifera</i> (L.) Dunal [Solanaceae]*	Gezawa (A)	S	L, R	Evil spirit (Dorer, Likift, Buda), General malaise (Michi), Swelling, Itching,	Infusion, Decoction, Boil, Burn	Oral, Steam bath, Smoke	AT210
				Evil spirit (Dorer, Likift, Buda), General malaise (Michi), Swelling, Itching,	Boil, Burn	Steam bath, Smoke	
				Abdominal pain, Diarrheal disease (Child) (Ye-dengiyya-qar or Ye-sequriye (Gu), cholera	Infusion	Oral	
<i>Xanthium strumarium</i> L. [Asteraceae]	Yetey- soohe (G), Gereba uta(M)	H	L	Tinea versicolor (bechero), Pyoderma "Wegfiy, Kofa"	Crushed	Topical	AT211
<i>Zea mays</i> L. [Poaceae] *		H	R	Indigestion (Qiter)	Infusion	Oral	AT212
<i>Zingiber officinale</i> Roscoe [Zingiberaceae] *		H	Rh	Tonsillitis, Abdominal pain, Toothache, Common cold, Coughing	Decoction, crushed/ chewed	Oral	AT213

Additional file 2. Major use categories and list of ailments/symptoms

Major use categories	Included ailment/symptoms (local name)
Infectious and intestinal parasitic diseases (IIP)	Diarrhea
	Abdominal bloating
	Abdominal pain or stomach cramps
	Intestinal parasite, Amoebiasis
	Cholera (Yesquriye)
Diseases of the digestive system (DDS)	Indigestion (Qiter)
	Gastritis
	Flatulence
Diseases of the respiratory system (DRS)	Common cold
	Strong cough (Sinbabi)
	Asthma
	Pneumonia
	TB (Neqeres)
	Tonsillitis
Diseases of the genitourinary system (DGS)	Gonorrhea (Emat)
	Urine retention
Diseases of the musculoskeletal system (DMS)	Lose ability to move or be paralyzed (Deme tukiy)
	Rheumatic pain
	Stabbing pain (Wegat)
	Back pain
	Fractures
Diseases of the skin and subcutaneous tissue (DSS)	Common wart (Qintebiye, Foshe foshat)
	Dandruff
	Pyoderma (Koffa, Wigefye, Silensa)
	Wound -with boils, abscesses
	Scabies and continuous itching
Diseases of the eye and adnexa (DEA)	Eye infection (Wucher)
Injury, poisoning and certain other consequences of external causes (IPE)	Skin burn
	Rabies
	Snake bite
	Herpes zoster
Headache, fever and malaria (HFM)	Fever
	Headache
	Malaria
	Severe headache (Dan felt)
Dental & oral diseases (DOD)	Toothache
Diseases of the circulatory system (DCS)	Hypertension
	Hemorrhoids
Pregnancy, childbirth and the puerperium (PCP)	Retained placenta
	Lack of milk
	Birth complications
Liver complaints (LC)	Hepatitis, Jaundice (Qoya, Seme dinku)
Inflammation related to Anthrax (IRA)	Anthrax, blackleg
Unclassified (OUH)	Epistaxis (nosebleed) (Neser)
	Anemia
	Epilepsy (Azurit)
	Evil spirit (Lekift)
	Febrile illness (General malaise)(Michi)
	General health (increase weight, improve strength and boost immunity for infants)
	Anorexia (loss of appetite)
	Localized swelling
	Hyperemesis (Excessive vomiting)

