Research Article

Medicinal Plants Used to Treat Human and Livestock Ailments in Basona Werana District, North Shewa Zone, Amhara Region, Ethiopia

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Received 15 February 2022; Accepted 22 March 2022; Published 14 April 2022

Academic Editor: Woon-Man Kung

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This study was conducted on medicinal plants used for the treatment of human and livestock ailments in Basona Werana District, North Shewa Zone, Amhara Region. Data were collected through semi-structured interviews, field walk observation, preference, and direct matrix ranking with randomly and purposefully selected informants. A total of 80 respondents (46 men and 14 women) and 20 (16 men and 4 women) traditional healers participated in this study. A total of 76 plant species distributed in 75 genera and 45 families were collected and identified. Of the 76 medicinal plants collected from the study area, 85.5% were used to treat human ailments. The Lamiaceae came out as a leading family with 8 (10.5%) species followed by Asteraceae and 7 (9%) medicinal plant species each, while Solanaceae followed with 6 (7.8%) species. The majority of medicinal plants were collected from wild habitat and accounted for 56 plant species (73.6%). The result of growth form analysis showed that herbs constituted the highest proportion of medicinal plants represented by 33 species (43.4%), followed by shrubs with 30 species (39.4%) and trees with 10 species (13.1%). The medicinal plants were administered through oral, which accounts for 54 species (48.1%), followed by dermal with 38 species (33.9%) and nasal with 9 species (8%), respectively. Leaves were the most frequently used plant parts for the preparation of traditional herbal medicines in the study area. Crushing was the widely used preparation method (33.9%) followed by pounding (16%). Cucumis ficifolius A. Rich. was the most preferred plant used to treat stomachache. Phytochemical and pharmacological studies of this type of plant are recommended to get the most out of the plant.

1. Introduction

Medicinal plants are playing a vital role in the treatment of human and livestock ailments. It is estimated that up to 80% of the world’s population living in the developing world rely on medicinal plants as a primary source of healthcare [1]. Rural communities in developing countries mainly depend on medicinal plants due to lack of modern health facilities, cultural priorities, beliefs, cost of modern drugs, and effectiveness of medicinal plants against certain diseases that cannot be cured by modern drugs [2–5]. In developed nations, during the COVID-19 pandemic, the demand for medicinal plants has increased. In a study conducted in several countries, increased consumption of ginger, garlic, onion, turmeric, and lemon as “immune boosters” during the pandemic was reported [6, 7].

Ethiopia is comprised of various climatic zones and consists of 6,000 species of vascular plants of which 10% are reported as medicinal plants (floras). Several studies have been conducted in Ethiopia to document medicinal plants and associated knowledge [8–12], where many of such studies were conducted in Oromia and South Nation Nationalities People Regions [13–15]. In addition, the studies reported that the knowledge on medicinal plants of the country is getting lost due to various reasons. The indigenous knowledge on medicinal plants transfers from generation to generation orally. In this regard, basic information on the use of plants and parts used, methods of drug
preparation, and others may be lost in the knowledge transfer system [4]. The expansion of modern education, agricultural expansion, urbanization, overexploitation, and firewood collection were also reported as the main threats to medicinal plants in Ethiopia [16–18].

Basona Werana is one of the districts in the Amhara Region of Ethiopia located in the eastern parts of the Ethiopian Highlands in the Semien Shewa Zone, Amhara Region. All most all inhabitants practiced Ethiopian Orthodox Christianity. The largest ethnic group reported in Basona Werana was the Amhara, and Amharic was spoken as a first language. The top human diseases that are common in Basona Werana District are dyspepsia, typhus fever, pneumonia, diarrhoea, typhoid fever, Helminthiases, tonsillitis, urinary tract infection, and arthritis, while the top livestock diseases in the study area are diarrhoea, sudden disease, stomachache, leech, wound, cough, and rabies. Although there are various health posts in the district, the number of patients and the number of health post are not equivalent. Hence, local communities visit local healers or traditional medicine mainly for the treatment of livestock ailments.

One of the areas where ethnobotanical research is lacking is Basona Werana District. Like other communities living in different parts of Ethiopia, local people living in Basona Werana District use many plant species in human and livestock ailment treatment. However, the knowledge may vanish before a proper documentation as it was evidenced by various studies. Therefore, the main objective of this research was to document medicinal plants and associated indigenous knowledge of local people of Basona Werana District. The study also aimed to assess threats to the medicinal plants of the study area. The findings of this study may serve as a stepping stone for further phytochemical and pharmacological studies.

2. Methods

2.1. Description of the Study Area. Basona Werana is one of the districts in the Amhara Region of Ethiopia located in the eastern edge of the Ethiopian Highlands in the Semien Shewa Zone, Amhara Region (Figure 1). It is 130 km far from the capital city of Ethiopia, Addis Ababa. Basona Werana is bordered on the south by Angolallana Tera, on the southwest by Abichuna Gnea, on the west by Siyadebrina Wayu, on the northwest by Moretna Jiru, on the north by Mojana Wadera, on the northeast by Tarmaber, and on the east by Ankober District.

2.2. Climate. In Basona Werana District, the geographical distribution is divided into four agro-climatic zones. These are Dega (50%), Woina Dega (46%), Wurch (2%), and Kola (2%). The annual rainfall of the district is 966 mm, and the mean annual temperature of the district is 13.3°C (Figure 2).

2.3. Reconnaissance Survey and Selection of the Study Sites. Basona Werana is a district of Amhara Region of Ethiopia. A reconnaissance survey was conducted from January 30 to February 15, 2020, to select five kebeles based on the availability of traditional medicine history, practitioners, availability of medicinal plants, altitudinal variation, and distribution of climatic conditions between kebeles. Based on this information, five kebeles were selected. These are Weshawushign, Dibute, Bakilo (highland), Goshe Bado (midland), and Kasima (lowland) (Figure 1).

2.4. Selection of Informants. A total of 80 informants were selected for ethnobotanical data collection from each study site. Of which, 60 (46 men and 14 women) were nontraditional healers, whereas 20 (16 men and 4 women) were traditional healers. Informants were selected randomly, while traditional healers were selected purposefully and considered as key informants. As pointed out by [19], the selection of key informants is commonly purposeful. The age of the informants included in the study ranged from 25 to 70. About 31 informants were aged 56–70, which accounted for 29% followed by 41–55 accounting for 27 (34%), and 27% of informants were aged 25–40. The educational levels of the informants were from illiteracy to college level. Most of the informants were illiterate (53, 66%) followed by elementary school (20, 25%), High school and college-level education accounted for 6% and 3%, respectively.

The selection of key informants was based on the recommendations of knowledgeable elders, religious leaders, kebele administrators, literate people, and personal observations of the researcher from the community group. After that, the key informants were identified, later on, interviewed, and followed for further detail. The selection of key informants was made by asking different questions to traditional herbalists who gave different medicines for human and animal ailments.

2.5. Ethnobotanical Data Collection. Ethnobotanical data collection was conducted from February 20 to April 30, 2020, to collect information from the informants. A semi-structured interview was the main data collection tool used during the study. A list of questions based on the objective of the study was prepared in English and translated into Amharic local language of the study area. During the interview, information on vernacular name of the medicinal plants, type of disease treated, parts of the plant used, methods of preparation, mode of administration, conservation practices, and use other than medicinal value was recorded. In addition to semi-structured interviews, data were collected through group discussions and guided field walks with key informants for field observations.

The discussion was conducted with 5 to 10 key informants, mainly focusing on threats to medicinal plants, methods of conservation, and how knowledge is maintained and transferred from one generation to another generation (Figure 3).

Field observation with interviews was also conducted in both the wild and the home gardens of the study sites to collect the voucher specimens (Figure 4).
2.6. Specimen Collection and Identification. Medicinal plants were collected (from wild and cultivated areas), pressed, and dried for identification. For some species, preliminary identification was conducted in the field. In addition, further identification was done using various volumes of the flora of Ethiopia and Eritrea. After that, the specimens were taken to Madda Walabu University Mini Herbarium.

2.7. Ethnobotanical Data Analysis. The collected data about medicinal plants were entered into an Excel spreadsheet 2010 and summarized using descriptive statistical methods such as frequency and percentages. On top of that, informant consensus factor, preference ranking, and direct matrix ranking were used according to [19, 20].
2.7.1. Preference Ranking. Preference ranking was conducted following the recommendation by [19, 20] for the most preferred medicinal plants used to treat stomachache. For this activity, ten informants were selected. Each informant was provided with the mentioned medicinal plants reported to cure the illness with the leaves of the medicinal plants used being paper tagged and then was asked to assign the highest value (6) for the most preferred species against the illness and the lowest value (1) for the least preferred plant. The value of each species was summed up, and the rank for each species was determined based on the total score.

2.7.2. Direct Matrix Ranking. Based on [19, 20], a direct matrix ranking was performed to compare the multipurpose use of a particular species and set this in relation to the extent of its use. To carry out this activity, 10 key informants were selected according to their response during the interview and asked to assign usage values (5 = best, 4 = very good, 3 = good, 2 = less used, 1 = least used, and 0 = not used). Accordingly, each key informant, use values for the multipurpose medicinal plant species, and average value of each use diversity for a species are summed up and ranked.

2.7.3. Informant Consensus Factor (ICF). The ICF was calculated to assess the reliability of the information and identify the informant’s response to the cure of the reported disease category according to the formula [21]. The ICF was calculated as follows: the number of citations used for each disease (nur) minus the number of species used for that disease (nt) is divided by the number of citations used for each disease minus one to obtain the following formula:

\[
ICF = \frac{nur - nt}{nur - 1}
\]

where \(nt\) = number of species used and \(nur\) = number of citations used for each ailment.

3. Results

3.1. Medicinal Plants Collected from the Study Area. A total of 76 medicinal plant species were collected and identified, with 75 genera and 45 families represented. Lamiaceae was the most used plant, with 8 (10.5%) species, followed by Asteraceae with 7 (9%) species and Solanaceae with 6 (7.8%) species.

Of the 76 species of medicinal plants collected from the study area, 56 (73.6%) species of them were obtained from the wild, whereas 14 (18.4%) species were from both wild and home garden and only 6 (8%) species were collected from home garden (Table 1). Of 76 medicinal plant species, 65 (85.5%) species were claimed to treat human health problems; 6 (8%) species were claimed to treat livestock ailments; and 5 (6.5%) species were for both human and livestock ailments (Figure 5).

3.2. Growth Form and Plant Parts Used to Treat Diseases. Herbs are represented by 33 species (43.4%), shrubs by 30 species (39.4%), and trees by ten species (13.1%), according to the growth form analysis of medicinal plants (Figure 6).

The informants in the study area stated that leaves were the most commonly used plant part for remedy preparation in the study area, accounting for 53 (47.3%) preparations, followed by roots and seeds, which accounted for 19 (16.9%) and 10 (8.9%) preparations, respectively (Figure 7).

3.3. Preparation Methods, Condition, and Route of Administration of Traditional Medicine. Crushing was the most common type of traditional medicinal plant preparation, accounting for 38 preparations (33.9%), followed by pounding (18 preparations, 16%) and powdering (11 preparations, 9.8%), respectively. The remaining traditional medicinal preparation methods were organized as others, which accounted for 28% (Table 2).

Local communities in the study area employ medicinal plants in fresh, dried, and fresh or dried forms to make traditional herbal preparations. Fresh forms of medicinal plants were reported to be utilized the most (69.9%),
| Scientific name | Family | Local name (CN) | GH | Habitat | Part used | CD | Health problem treated | Route of application | Used for | Mode of preparation of the remedies |
|-----------------|--------|-----------------|----|---------|-----------|----|------------------------|---------------------|---------|----------------------------------|
| Achyranthes aspera L. | Amaranthaceae | Teleji (NT 66) | H | Wild | Root | D | Stomachache | Oral | Human | Root of A. aspera with Rumex nepalensis Spreng, powdered and mixed with water and then drunk. Crushed the leaf and stem and then creamed repeatedly on the affected dermal part. |
| Acmella caulirhiza Del. | Asteraceae | Yemider berbere (NT 67) | H | Wild | Leaf | F | Wound | Dermal | Both | Crushed and tied on the dermal part. Shoot apex are taken from Olinia rochetiana and A. caulirhiza and then pounded and placed on pain tooth. |
| Acokanthera schimperi (A.D.C.) Schweinf. | Apocynaceae | Merenze (NT 28) | Sh | Wild | Root | D | Rabies | Oral | Livestock | Pounded and mixed in water and then drunk. |
| Aeonium leucoblepharum Webb ex A. Rich. | Crassulaceae | Tibitiba (NT 34) | H | Wild | Root | F/D | Rheumatism | Dermal | Human | A. leucoblepharum and R. nepalensis roots are crushed and applied to the affected part. |
| Ajuga integrifolia Buch. Ham. | Lamiaceae | Armagusu (NT 70) | H | Wild | Root | F/D | Herpes | Dermal | Human | Crushed the root and leaf and then heated on fire and placed on the affected body part. |
| Aloe debrana Christian | Asphodelaceae | Eret (NT 41) | Sh | Wild | Leaf | F | Hemorrhoids | Anal | Human | Tied A. debrana's jelly on the affected area. |
| Artemisia abyssinica Sch. Bip. ex A. Rich. | Asteraceae | Chikugn (NT 73) | H | Wild or home garden | Root | F/D | Diarrhoea | Oral | Livestock | The root and leaves of A. abyssinica are crushed and mixed with water and then drenched in goat and sheep. The fresh root and leaves are crushed and mixed with water and then drunk. The root of A. abyssinica, Verbena officinalis, and C. ficifolius pounded with A. sativum bulb and Lepidium sativum L. seed and then mixed with water and drunk. |
| Asparagus africanus Lam. | Asparagaceae | Yeset-qest (NT 11) | Sh | Wild | Root | F/D | Bleeding after delivery | Fumigation | Human | Mix the roots of A. africans, Carissa spinarum, Clerodendrum myricoides (Hochst.) R. Br. ex Vatke, and Capparis tomentosa Lam. and then fumigate the body. |
| Scientific name                        | Family                  | Local name (CN) | GH Habit | Part used | CD Health problem treated | Route of application | Part used | CD Health problem treated | Route of application | Mode of preparation of the remedies | Mode of preparation of the remedies |
|---------------------------------------|-------------------------|-----------------|----------|-----------|---------------------------|----------------------|-----------|---------------------------|----------------------|-------------------------------------|-------------------------------------|
| *Berberis holstii* Engl.              | Berberidaceae           | Zenkila (NT 19) | Sh       | Wild      | Root D                    | Eye disease          | D         | Wound                     | D                    | Human                              | Human                              |
| *Brassica nigra* (L.) W.D.K. Koch.    | Brassicaceae            | Sinafch (NT 74) | H        | Wild or   | Seed D                   | D                    | Wound     | D                         | D                    | Human                              | Human                              |
| *Buddleja polystachya* Fresen.        | Scrophulariaceae        | Anfar (NT 31)   | Sh       | Wild      | Leaf and root F           | Hemorrhoids          | D         | D                         | D                    | Human                              | Human                              |
| *Calotropis procera* (Aiton) Dryand.  | Apocynaceae             | Kinbo (NT 5)    | T        | Wild      | Root and leaf F          | Hemorrhoids          | D         | D                         | D                    | Human                              | Human                              |
| *Carissa spinarum* L.                 | Apocynaceae             | Agam (NT 48)    | Sh       | Wild      | Leaf F                   | Diarrhoea            | D         | Wound                     | D                    | Human                              | Human                              |
| *Citrus x limon* (L.) Osbeck          | Rutaceae                | Lomi (NT 40)    | Sh       | Home      | Fruit F                  | Skin fungus          | D         | D                         | D                    | Human                              | Human                              |
| *Clutia abyssinica* Jaub.              | Peraceae                | Fyele fej (NT 68)| Sh       | Home      | Stem F                   | Hemorrhoids          | F         | F                         | F                    | Human                              | Human                              |
| *Garcinia adoxa Joub. & Spach.*       | Peraceae                | Fyele fej (NT 68)| Sh       | Home      | Stem F                   | Anthemis             | F         | D                         | D                    | Human                              | Human                              |
| *Garcinia adoxa Joub. & Spach.*       | Peraceae                | Fyele fej (NT 68)| Sh       | Home      | Stem F                   | Anthelmintic        | F         | D                         | D                    | Human                              | Human                              |
| *Garcinia adoxa Joub. & Spach.*       | Peraceae                | Fyele fej (NT 68)| Sh       | Home      | Stem F                   | Hemorrhoids          | D         | D                         | D                    | Human                              | Human                              |
| *Garcinia adoxa Joub. & Spach.*       | Peraceae                | Fyele fej (NT 68)| Sh       | Home      | Stem F                   | Hemorrhoids          | D         | D                         | D                    | Human                              | Human                              |
| Scientific name                  | Family                | Local name (CN) | GH | Habitat                  | Part used       | CD | Health problem treated         | Route of application | Used for | Mode of preparation of the remedies                                                                 |
|---------------------------------|-----------------------|-----------------|----|--------------------------|-----------------|----|--------------------------------|----------------------|----------|------------------------------------------------------------------------------------------------------|
| *Cordia africana* Lam.          | Boraginaceae          | Wanza (NT 29)   | T  | Wild or home garden      | Root and seed   | F/D| Involuntary urination in bed   | Oral                 | Human   | Root and seed will be pounded together, mixed with honey, and swallowed                              |
| *Crinum abyssinicum* Hochst. ex A. Rich. | Amaryllidaceae      | Yejib-Shinkurt (NT 06) | H  | Wild                     | Root            | F  | Rheumatism                     | Dermal               | Human   | *C. abyssinicum* root mixed with *A. sativum* and hooted by fire and hold on the affected part or the powder of both of the above will be mixed with Vaseline and creamed on the affected area |
| *Croton macrostachyus* Hochst. ex Del. | Euphorbiaceae         | Bisana (NT 36)  | T  | Wild or home garden      | Leaf            | F  | Chirt                         | Dermal               | Human   | Shoot apex mixed with *Aloe trichosantha*’s A. Berger juice and tied on the affected part Crushed, pounded, mixed with water, and then drunk |}
| *Cucumis ficifolius* A. Rich.   | Cucurbitaceae         | Yemidirembuay (NT 32) | H  | Wild                     | Root and leaf   | F  | Stomachache                    | Oral                 | Human   | Fresh *C. ficifolius* stem fired and hold on wound                                                |
| *Cymbopogon citratus* (DC.) Stepf. | Poaceae               | Tejesar (NT 22) | H  | Wild                     | Root and leaf   | F  | Skin rash (Chifie)             | Dermal               | Human   | *C. ficifolius* root and leaf are boiled in water, and then the filtrate is drunk                  |
| *Cynoglossum geometricum* Bak. & Wright | Boraginaceae         | Chigot (NT 16)  | H  | Wild                     | Leaf            | F  | Stomachache                    | Oral                 | Human   | Roasted *C. ficifolius* with spider's web and then pounded and mixed with Vaseline or honey and smeared on infected parts Crushed and mixed with some water or milk and then drenched to cattle, goat, and sheep |
| *Cynoglossum coerulescens* Hochst. ex A.DC. | Boraginaceae         | Fkutena (NT 24) | H  | Wild                     | Root and seed   | D  | Syphilis                       | Dermal               | Human   | Pounded the seed and root and mixed with Vaseline and then creamed on the affected part             |
| *Datura stramonium* L.          | Solanaceae            | Astenager (NT 07) | H  | Wild                     | Leaf            | F  | Ear parasites                  | Ear                  | Human   | Leaf of *Nicotiana tabacum* L. squeezed and then added a few droplet of solution into ear           |
| *Discopodium penninervium* Hochst. | Solanaceae            | Ameraro (MT 37) | Sh | Wild                     | Leaf            | F  | Skin rash                      | Dermal               | Human   | Leaves from *A. integrifolia* and *C. macrostachyus* ground and then massaged on the affected part |
| Scientific name                  | Family           | Local name (CN) | GH | Habitat | Part used | CD | Health problem treated | Route of application | Used for | Mode of preparation of the remedies |
|----------------------------------|------------------|-----------------|----|---------|-----------|----|------------------------|----------------------|----------|-------------------------------------|
| Dodonaea viscosa subsp. angustifolia L.f. | Sapindaceae      | Kitkita (NT 62) | Sh | Wild    | Leaf      | F  | Skin rash (chife)       | Dermal               | Human    | Roasted and powdered the leaf and mixed with butter and creamed the affected part |
| Dombeya torrida (J.F. Gmel) Bamps | Malvaceae        | Wulkefa (NT 52) | T  | Wild    | Leaf      | F  | Fire burn               | Dermal               | Human    | Squeezed and creamed on the affected part |
| Dovyalis abyssinica (A. Rich.) Warb. | Salicaceae       | Koshm (NT 64)   | Sh | Wild    | Root, leaf, and seed | F/D | Bigunj                 | Dermal               | Human    | Fresh leaves, root, and seed are ground together and applied on Bigunj |
| Echinops kebericho Mesfin        | Asteraceae       | Kebercho (NT 55)| Sh | Wild    | Root      | D  | Evil eye                | Nasal                | Human    | Inhale the smoke                     |
| Eucalyptus Globulus Labill.      | Myrtaceae        | Nechbahirzaf (NT 14) | T | Wild or home garden | Leaf | F  | Influenza, Common cold, Foot fungi | Nasal                | Human    | Chopped, boiled, and inhaled |
|                                  |                  |                 |    |         |           |    |                        |                      | Human    | Boiled and fumigated                 |
|                                  |                  |                 |    |         |           |    |                        |                      | Human    | Collected the younger leaves and massaged/ placed them underfoot |
| Euclea racemosa L.               | Ebenaceae        | Dedho (NT 46)   | Sh | Wild    | Leaf      | F  | Skin rash (chife), Sudden disease | Dermal               | Oral     | O. rochetiana’s leaves will be ground/ pounded and smeared on infected part |
|                                  |                  |                 |    |         |           |    |                        |                      | Human    | Mix the powder in water and drink/drench |
| Ficus carica L.                  | Moraceae         | Beles (NT 49)   | Sh | Wild    | Leaf      | F  | Ear infection            | Ear                  | Human    | Squeezed the leaves by hand and dropped the juice into the ear canal |
| Fragaria x ananassa Duchesne     | Rosaceae         | Enjorie (NT 04) | H  | Wild or home garden | Fruit | F  | Coughing                | Oral                 | Human    | Boiled its fruits with “Suf” and drunk |
| Gymnosporia arbutifolia (Hochst. ex A. Rich.) Loes. | Celastraceae     | Atat (NT 39)    | Sh | Wild    | Root      | F/D | Kidney problem          | Oral                 | Human    | The root of C. macrostachyus crushed and powdered and then mixed with water and drunk |
| Gymnanthemum amygdalinum (Del.) Sch. Bip. | Asteraceae       | Grawua (NT 60)  | T  | Wild    | Leaf      | F  | Ascaris                 | Oral                 | Human    | Pound with L. ocyymifolia and drink with water |
|                                  |                  |                 |    |         |           |    |                         |                      | Human    | Crushed leaves of G. amygdalinum are mixed with water and washed |
| Hagenia abyssinica Bruce ex Steud.) J.F. Gmel. | Rosaceae         | Kosso (NT 50)   | T  | Wild    | Fruit     | F  | Tapeworm, Nightmare/delivery | Oral                 | Human    | After crushed and powdered, mixed with milk and boiled and then drunk |
|                                  |                  |                 |    |         |           |    |                         |                      | Human    | Eat with honey or only itself         |
| Hypericum quartianum A. Rich.    | Hypericaceae     | Ameja (NT 63)   | Sh | Wild    | Leaf      | F  | Stomachache for equine  | Oral                 | Livestock | Crushed the leaves and mixed with water and then drunk |
| Scientific name                     | Family          | Local name (CN) | GH  | Habitat | Part used | CD | Health problem treated | Route of application | Used for | Mode of preparation of the remedies                                                                 |
|-----------------------------------|-----------------|----------------|-----|---------|-----------|----|------------------------|----------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Pentanema confertiflora** (A. Rich.) Mart. Ort. | Asteraceae      | Wonagif (NT 30)  | Sh  | Wild    | Leaf      | F  | Toothache              | Oral                 | Human  | A. caulirhiza and O. rochetiana leaves are ground and placed on pain tooth Boiled with bark of Myrica salicifolia Hochst. ex A. Rich. and leaves of Rhamnus prinoides L’Her. and then drunk Seven twigs from each of I. confertiflora and R. nervosus are taken and then ground and tied on the head for three days Powdered and mixed with some water and applied to eye |
| **Jasminum abyssinicum** Hochst. ex DC. | Oleaceae        | Tenbelel (NT 51) | Cl  | Wild    | Leaf      | F  | Stomachache            | Oral                 | Human  | Seven twigs from each J. abyssinicum and Rydingia integrifolia and root from C. ficifolius are taken and pounded and then mixed with water and heated by warmed plough and then drunk |
| **Lens culinaris** Medik.          | Fabaceae        | Misir (NT 71)   | H   | Wild or home garden | Seed     | D  | Skin rash              | Dermal               | Human  | The seed are ground by teeth before eating food and placed on rash Boiled fresh leaves with water and then fumigated it or crushed the leaves and the juice was inserted into the nostrils Crushed and tied on the affected part of the body |
| **Leonotis ocymifolia** Burm. F.) Iwarsson | Lamiaceae       | Raskimr (NT 58) | Sh  | Wild    | Leaf      | F  | Cough and common cold  | Nasal                | Human  | Crushed the seed and mixed with milk and then drunk its solution Taken shoot apex from I. confertiflora, A. sativum, and M. salicifolia bark and leach and then roasted the mixtures pounded and then inserted in the affected eye |
| **Lepidium sativum** L.            | Brassicaceae    | Feto (NT 47)    | H   | Home garden | Seed     | D  | Diarrhoea that has blood | Oral                 | Human  | Powdered seed will be mixed with oil and creamed on the skin Leaves of L. sativum and R. chalepensis pounded together and smeared with Vaseline |
| **Maesa lanceolata** Forsk.        | Primulaceae     | Kelewa (NT 08)  | Sh  | Wild    | Seed      | F/D| Skin rash with itching | Dermal               | Human  | Leaves are crushed and massaged on the affected part, and placed for a long every day until recovery |
| **Myrtus communis** L.             | Myrtaceae       | Barsenet (NT 38) | Sh  | Wild    | Leaf      | F  | Wound                  | Dermal               | Human  | Leaves are crushed and massaged on the affected part, and placed for a long every day until recovery |
| **Nicandra physalodes** (L.) Gaertn. | Solanaceae      | Atefaris (NT 12) | H   | Wild    | Leaf      | F  | Dandruff               | Dermal               | Human  | Ground and mixed with water and then drenched |
| **Nicotiana tabacum** L.           | Solanaceae      | Tinbaho (NT 72) | Sh  | Wild or home garden | Leaf      | F  | Cough                  | Nasal                | Oral   | Ground and mixed with water and then drenched |

**Table 1: Continued.**
| Scientific name | Family | Local name (CN) | GH | Habitat | Part used | CD | Health problem treated | Route of application | Used for | Mode of preparation of the remedies |
|-----------------|--------|-----------------|----|---------|-----------|----|------------------------|----------------------|---------|-------------------------------------|
| Ocimum lamifolium Hochst. ex Benth. | Lamiaceae | Damakessi (NT 21) | Sh | Wild or home garden | Leaf | F | Febrile illness | Oral | Human | Crushed leaves of Lagerra crispa (Vahl) Hepper & J.R.I. Wood and Salvia nilotica Juss. ex Jacq, together drunk with coffee or tea |
| Olea europaea subsp. cuspidata (Wall. ex G. Don) Cif. | Oleaceae | Weyra (NT 42) | T | Wild | Leaf | F | Swelling pain | Dermal | Human | Pounded the leaves of O. europaea, Osyris lanceolata Hochst. & Stedud., and Myrsine africana L. and then tied it on the affected body part. The leaf is rubbed and the juice is put on cup and drunk |
| Olinia rochetiana A. Juss. | Penaeaceae | Tife (NT 02) | T | Wild | Leaf | F | Hemorrhoids | Dermal | Human | O. rochetiana and C. simensis leaves will be powdered and applied to the affected part Shoot apex are taken from O. rochetiana, O. lanceolata, M. africana, and O. europaea subsp. cuspidata and pounded together and then mixed with water and drunk |
| Osyris lanceolata Hochst. & Stedud. | Santalaceae | Keret (NT 45) | Sh | Wild | Leaf | F | Wound | Dermal | Human | The leaf is crushed and then placed and tied on wound |
| Rydingia integrifolia (Benth.) Scheen & V.A. Albert | Lamiaceae | Tinzut (NT 27) | Sh | Wild or home garden | Leaf | F | Breast pain/cancer | Dermal | Human | Ground with leaf of C. abyssinica and then tied on the affected breast part |
| Phytolacca dodecandra L’Her. | Phytolaccaceae | Endod (NT 61) | Sh | Wild | Leaf | F | Rabies | Oral | Human | Pounded the leaf and mixed with C. arabica and then drink with a tea cup every morning until recovery Shoot is crushed and mixed with water and then drunk |
| Plectranthus lactiflorus (Vatke) Agnew | Lamiaceae | Dibrk (NT 53) | H | Wild | Leaf | F | Diarrhoea | Oral | Human | Roots and leaves of P. lactiflorus are crushed; mixed with water and the filtrate is drunk |
| Rhamnus prinoides L’Her. | Rhamnaceae | Gesho (NT 33) | Sh | Wild | Leaf | F | Toothache | Oral | Human | Hold the leaf by the infected teeth during the feeling of ache |
| Rosa abyssinica R.Br. | Rosaceae | Kega (NT 35) | Sh | Wild | Fruit | F | Hypertension | Oral | Human | Powdered, mixed with water, and drunk |
| Rumex abyssinicus Jacq. | Polygonaceae | Mekmeko (NT 44) | H | Wild | Root | F/D | Hypertension | Oral | Human | Mix its powder with milk and then drink |
| Ruta chalepensis L. | Rutaceae | Tene adam (NT 59) | H | Home garden | Root, leaf, and stem | F | Stomachache and common cold | Oral | Human | The fruit, stem, and leaves are boiled together in water then drunk and fumigate |
| Scientific name            | Family            | Local name (CN) | GH | Habitat | Part used | CD | Health problem treated | Route of application | Used for | Mode of preparation of the remedies |
|---------------------------|-------------------|-----------------|----|---------|-----------|----|------------------------|----------------------|----------|-------------------------------------|
| *Salvia nilotica* Juss. Ex Jacq. | Lamiaceae         | Hulegeb (NT 54) | H  | Wild    | Leaf      | F  | Nose bleeding          | Nasal                | Human   | Massage/grind the leaf and insert in nose |
|                           |                   |                 |    |         |           |    |                        |                      |         | Crushed the leaves of *S. nilotica* and *O. lamiifolium* together and added them into coffee and drank |
|                           |                   |                 |    |         |           |    |                        |                      |         | Leaves of *S. nilotica*, *C. coeruleum*, and *O. lamiifolium* are mixed together and inserted their juice through ear |
| *Satureja punctata* (Benth.) Briq. | Lamiaceae         | Lomishet (NT 03) | H  | Wild    | Root      | F  | Hypertension           | Oral                 | Human   | The roots of *S. punctata* and *J. abyssinicum* are pounded and mixed with fresh cow milk and drank for seven days |
| *Schinus molle* L.        | Anacardaceae      | Kundo Berbere (NT 75) | T  | Wild    | Seed      | D  | Abdominal pain         | Oral                 | Human   | The seed is mixed with *A. sativum* and pounded and drunk |
| *Sida schimperiana* Hochst. ex A. Rich. | Malvaceae         | Chifreg (NT 15) | H  | Wild    | Root and leaf | F  | Wound                  | Dermal               | Human   | The leaf and root of *S. schimperiana* are pounded, powdered, and then applied to the affected part |
| *Solanecio gigas* (Vatke) C. Jeffrey | Asteraceae        | Shikoko gomen (NT 69) | Sh | Wild    | Leaf      | F  | Liver disease          | Oral                 | Human   | Seven shoot apexes are taken and squeezed into milk and sunflower, juiced, and then drunk |
| *Solanum americanum* Mill. | Solanaceae        | Yayt awut/Etse Eyesus | H  | Wild    | Leaf      | F  | Snake bite             | Oral                 | Human   | The shoot tips are chewed with leaves of *O. lamiifolium* |
| *Taraxacum officinale* (L.) Weber ex F.H. Wigg. | Asteraceae        | Nechilo (NT 20) | H  | Wild    | Leaf      | F/D| Headache               | Nasal                | Human   | The leaf of *T. officinale* is crushed and sniffed at the sickness time |
| *Thymus schimperi* Ronnier | Lamiaceae         | Tosign (NT 23)  | H  | Wild    | Leaf and seed | F/D| Hypertension          | Oral                 | Human   | Leaves and seeds powdered and drunk with tea |
| *Trigonella foemnugraecum L.* | Fabaceae          | Abshe (NT 26)   | H  | Wild or home garden | Seed | D  | Swelling              | Oral                 | Human   | The seed is crushed, powdered, mixed with honey and little water, and then boiled like porridge and eaten |
| *Urtica simensis* Hochst. ex A. Rich. | Urticaceae        | Sama (NT 10)    | Sh | Wild    | Leaf      | F  | Stomachache            | Oral                 | Human   | Boiled in water and drank |
| *Verbena officinalis* L. | Verbenaceae       | Atuch (NT 09)   | H  | wild    | Root and Stem | F  | Diarrhoea and vomiting | Oral                 | Human   | Pounded the leaf, stem, and root and mixed with water then drank |
| *Verbascum sinatiticum* Benth. | Scrophulariaceae  | Yeahya joro (25) | H  | Wild    | Leaf      | F  | Nose bleeding          | Nasal                | Livestock| Squeezing the leaf and inserting in nose |
| *Withania somnifera* (L.) Dun. | Solanaceae        | Gizawa (NT 56)  | H  | Wild    | Leaf      | F  | Demon/evil spirit      | Oral                 | Human   | Seven twigs/shoot apex are taken from *W. somnifera*, *L. ocymifoia*, and *I. confertiflora* and pounded together and mixed with night water or sweet honey and then drunk |
| Scientific name          | Family     | Local name (CN) | GH   | Habitat | Part used | CD  | Health problem treated | Route of application | Used for | Mode of preparation of the remedies |
|--------------------------|------------|-----------------|------|---------|-----------|-----|------------------------|----------------------|----------|-----------------------------------|
| *Zanthoxylum zanthoxyloides* | Rutaceae   | Zinga (H)       | CL   | Forest  | Fruitleaf | F   | Tonic                  | Oral                 | Human    | Collect and simmer for 20 min.    |
| *Zanthoxylum piperitum*   | Rutaceae   | Zinga (H)       | CL   | Forest  | Fruitleaf | F   | Tonic                  | Oral                 | Human    | Collect and simmer for 20 min.    |

Key: condition (CD): collection number (CN); growth habit (GH), herb (H), shrub (Sh), tree (T), climber (Cl), fresh (F), dried (D).
followed by dried forms (17%) and fresh and dried forms (13.1%), respectively.

Traditional medicine is usually administered orally in the study area. Oral accounts for 54 (48.1%) of the total, with dermal accounting for 38 (33.9%) and nasal accounting for 9 (8%) of the total (Figure 8).

3.4. Dosage and Antidote. Most traditional healers have utilized spoons, coffee cups, and tea glasses in the study area and have inserted their fingers into those tools to guess the necessary dosage. Counting the parts of the plants they used is one of the other approaches. The treatment is usually taken several times until the ailment is cured. Some traditional medicine preparations have been documented to produce diarrhoea and vomiting as side effects. Traditional healers give antidotes for patients to counteract these negative effects. Milk, honey, coffee, and tella (local beer) were given to counteract the overdose effect.

3.5. Ranking of Medicinal Plants. Ten traditional healers participated in the preference ranking, and Cucumis ficifolius stood first as it is the best preferred medicinal plant used to treat stomachache followed by Achyranthes aspera L. and Cymbopogon citratus (DC.) Stapf., respectively. Artemisia abyssinica Sch. Bip. ex A. Rich. was the least preferred medicinal plant for the treatment of stomachache (Table 3).

3.6. Direct Matrix Ranking. Based on the information gathered from the informants, six multipurpose plant species were selected randomly listed as all medicinal plants and the key informants assessed their relative importance used in their localities. With a score of 17 and 11 points, Croton macrostachyus Hochst. ex Del. was found to be the most versatile traditional medicinal plant, while Citrus x limon (L.) Burm F. was found to be the least multipurpose traditional medicinal plant (Table 4).

3.7. Informant Consensus Factor (ICF). In the study area, a total of 54 different types of diseases were found and categorized into eight different groups (Table 5). Dermatological disease (0.78) was the category with the highest ICF value, followed by gastrointestinal tract disease (0.77). In dermatological disease, most plant species (35 plant species) were employed. For instance, A. sativum, R. chalepensis, C. abyssinica, and C. citratus were frequently reported for use in respiratory organ-related disease, stomachache, and dermatological diseases (Figure 9).

3.8. Threats to Medicinal Plants in the Study Area. According to informants, medicinal plants are primarily threatened by human activity. Agricultural expansion, firewood collection, and charcoal production are the most
threatening factors for medicinal plants in the study area (Table 6). Currently, medicinal plants are not easy to harvest and traditional healers have to travel long distances to collect them. *H. abyssinica* (Bruce ex Steud.) J.F. Gmel. and *C. africana* are being harvested for timber production; and *O. europaea* subsp. *cuspidata*, *O. rochetiana*, *O. lanceolata*, and *C. spinarum* for charcoal and firewood.

### Table 3: Preference ranking of six selected medicinal plants used for treating stomachache.

| Plant species          | Informant (R1—R10) | Total | Rank |
|------------------------|---------------------|-------|------|
|                        | Ac                  |       |      |
| *Cucumis ficifolius*   | R1 5, R2 6, R3 5, R4 6, R5 6, R6 3, R7 5, R8 6, R9 5, R10 6 | 54    | 1st  |
| *Achyranthes aspera*   | R1 4, R2 5, R3 4, R4 3, R5 5, R6 4, R7 4, R8 5, R9 2, R10 4 | 45    | 2nd  |
| *Cymbopogon citratus*  | R1 3, R2 4, R3 6, R4 4, R5 4, R6 5, R7 5, R8 2, R9 4, R10 1 | 41    | 3rd  |
| *Ruta chalepensis*     | R1 6, R2 3, R3 2, R4 5, R5 3, R6 3, R7 6, R8 4, R9 2, R10 3 | 37    | 4th  |
| *Jasminum abyssinicum* | R1 2, R2 3, R3 1, R4 1, R5 2, R6 2, R7 1, R8 3, R9 3, R10 2 | 20    | 5th  |
| *Artemisia abyssinica* | R1 1, R2 1, R3 2, R4 1, R5 1, R6 1, R7 1, R8 1, R9 1, R10 1 | 13    | 6th  |

### Table 4: Average score for direct matrix ranking of six medicinal plant species.

| Plant species          | Use categories                      | Medicinal | Food | Fodder | Furniture and construction | Firewood | Charcoal | Fencing | Total | Rank |
|------------------------|-------------------------------------|-----------|------|--------|-----------------------------|----------|----------|---------|-------|------|
| *Citrus x limon*       | Medicinal                           | 4         | 2    | 0      | 0                           | 0        | 3        | 0       | 2     | 11   | 6th  |
| *Cordia africana*      | Medicinal                           | 2         | 0    | 1      | 5                           | 0        | 3        | 3       | 1     | 15   | 2nd  |
| *Croton macrostachyus* | Medicinal                           | 4         | 0    | 1      | 2                           | 5        | 2        | 3       | 17    | 1st  |
| *Dovyalis abyssinica*  | Medicinal                           | 2         | 1    | 3      | 0                           | 4        | 1        | 3       | 14    | 3rd  |
| *Ocimum lamiifolium*   | Medicinal                           | 5         | 1    | 4      | 0                           | 2        | 0        | 1       | 13    | 4th  |
| *Olinia rochetiana*    | Medicinal                           | 5         | 1    | 3      | 0                           | 1        | 0        | 2       | 12    | 5th  |

### Table 5: Informant consensus factor by category of diseases.

| No. | Disease category          | No. of plant species | %    | No. of use citation | %    | ICF  |
|-----|---------------------------|----------------------|------|---------------------|------|------|
| 1   | Dermatological disease    | 35                   | 31.8 | 162                 | 37.5 | 0.78 |
| 2   | Gastrointestinal tract    | 24                   | 21.8 | 105                 | 24.3 | 0.77 |
| 3   | Delicate organ-related diseases | 18             | 16.3 | 73                  | 16.8 | 0.76 |
| 4   | Respiratory organ-related disease | 14             | 12.7 | 46                  | 10.6 | 0.71 |
| 5   | Eye, teeth, and ear infections | 9               | 8.1  | 22                  | 5    | 0.61 |
| 6   | Snake bite and febrile illness | 5               | 4.5  | 15                  | 3.4  | 0.42 |
| 7   | Sexual transmitted diseases and kidney | 3              | 2.7  | 5                   | 1.1  | 0.5  |
| 8   | Evil eye                  | 2                    | 1.8  | 4                   | 0.9  | 0.6  |

**Figure 8: Route of administration of traditional medicine in the study area.**

### 3.9. Conservation of Medicinal Plants. In the study area, there were plant species that have multiple purpose use. However, local communities of Basona Werana District have no or exert little effort to conserve medicinal plants. Plant species such as *A. sativum*, *L. sativum*, *R. chalepensis*, and *Z. officinale* were the frequently grown medicinal plants in home garden.
4. Discussion

4.1. Diversity of Medicinal Plants. Seventy-six medicinal plants distributed to 75 genera and 45 families were identified and recorded in this study. Compared with the previous studies conducted in Ethiopia, this study reported high and low numbers of medicinal plant species. For instance, [9] collected 266 plant species used by communities of Sheka Zone for the treatment of human and livestock ailments. In a similar study, [16] collected 112 medicinal species, from Yilmana Densa and Quarit districts of Amhara region. The two authors reported a higher number of medicinal plants compared with this study. However, [8, 22, 23] reported 35, 51, and 63 species of medicinal plants, respectively. Vegetation type of the district, number of informants involved in the study, data collection time, and duration and culture could be the reason for the difference in the number of medicinal plants.

This study revealed that the family Lamiaceae has contributed the highest medicinal plant diversity, followed by Asteraceae and Solanaceae. These families are among the top plant families with contributing the largest medicinal plant species as reported from other parts of Ethiopia [8, 9, 18, 24] and elsewhere in the world [25, 26].

Of the 76 species of medicinal plants collected from the study area, the majority of them (56 (73.6%)) were obtained from the wild habitat. This finding is evidenced in other similar studies as medicinal plants are harvested mainly from wild habitats than home gardens [9, 27, 28]. Plant species grown in wild habitat are under pressure from various anthropogenic factors [29].

4.2. Growth Forms and Plant Parts Used for the Preparation of Traditional Medicine. Herbaceous species accounted for 33 (43.4%) of the therapeutic plants collected in the Basona Werana District. This may be due to the fact that herbs are more readily available and plentiful in the surrounding areas than shrubs and trees [18]. This result is consistent with the general trend of herbaceous species dominance found in numerous ethno-botanical studies conducted in Ethiopia [4, 8, 16, 18, 30, 31]. In contrast to the present finding, shrubs or trees were the dominant life forms as a contributor of medicinal plants in other findings [11, 17, 28, 32].

| Threats                          | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | Total | Rank |
|----------------------------------|----|----|----|----|----|----|----|----|----|-----|-------|------|
| Agricultural expansion           | 4  | 2  | 3  | 4  | 3  | 4  | 4  | 3  | 4  | 3   | 34    | 1st  |
| Firewood and charcoal            | 3  | 3  | 4  | 3  | 4  | 3  | 2  | 4  | 3  | 3   | 32    | 2nd  |
| Overgrazing                      | 4  | 3  | 4  | 3  | 2  | 2  | 3  | 2  | 4  | 3   | 31    | 3rd  |
| Draught                          | 2  | 1  | 3  | 4  | 2  | 4  | 3  | 3  | 2  | 4   | 28    | 4th  |

Figure 9: Frequently used medicinal plants for various disease treatments. (a) *C. citratus*. (b) *A. sativum*. (c) *R. chalepensis*. (d) *C. abyssinica*. 

Table 6: Threats to medicinal plants in Basona Werana District.
predominance of shrubs or trees over other forms of growth may be due to their annual availability and their relative ability to withstand drought, which may be useful for widespread use [33].

Local people of Basona Werana District used various plant parts for the preparation of traditional medicine. This study indicated that leaves were the most commonly used part of the plant. Similar studies list leaves and roots as the most common parts of plants used to prepare medicines. The studies that reported the leaves as the most utilized plant parts are [5, 8, 12, 30, 32]. The studies that reported the dominance of roots over other plant parts are [24, 28, 34]. Leaves are preferred over other plant parts due to their ease of availability and ease of medication preparation. Furthermore, secondary metabolite storage is beneficial to the medicinal plant’s biological characteristics [5]. Because roots and bark take longer to recover than leaves, harvesting them enhances a plant’s vulnerability [35].

4.3. Preparation Methods, Condition, and Route of Administration of Remedies. Crushing is the most common preparation method in the study area. Crushing as the most common type of preparation is also reported by [8, 18, 28] in different parts of Ethiopia. However, in a similar study on people of Yilmana Densa and Quarit districts, [16] reported that splicing was a dominant method of preparation of remedy. Pounding was the dominant method of traditional medicine preparation by local people of Melokoza District [11]. Most of the remedies from dried parts were prepared by pounding, while the remedies from freshly harvested parts were prepared by crushing [16].

The majority of medicinal plants (69.9%) were found to be used in fresh form in this study. Kassa et al. [9, 18, 36, 37] all reported using freshly collected plant parts for traditional medicine preparation. People’s reliance on fresh plant parts is frequently owing to the efficacy of fresh plant species in therapy, as the components are not lost before application, as is the case with dried plant forms [5]. Because local people took limited efforts in conserving dried plant matter, a frequent gathering of fresh plant parts may endanger the plants, especially during dry seasons. The dependency of peoples on fresh plant parts is often due to the effectiveness of fresh plant species in therapy as the ingredients are not lost before practice related to the dried plant forms [5]. Using fresh plant parts can threaten plants by frequent collection, even in the dry season, as locals minimize efforts to store dried plant material for later use [4, 9].

In Basona Werana District, traditional medicine is usually administered orally, which accounts for 48.1% of the total. In similar studies, other researchers reported oral administration as the leading route of application of traditional medicine [8, 17, 30].

4.4. Dosage Determination and Antidotes. Local communities use different methods to determine the dose. Spoons, coffee cups, tea glasses, and inserting a finger and counting the parts of the plants are among the approaches used to determine the dosage. This finding is consistent with the report of [9]. A lack of consistency regarding the dosage of medicines to be used was observed among the informants during the interview. It was reported that the lack of precise dosage is one drawback of traditional medicinal plants [38]. Lack of precise dosage will have an impact on the patient as taking overdosage may have many side effects. When such things happen, local healers counteract the side effects by giving milk. A similar finding was reported by [9].

4.5. Ranking of Medicinal Plants. The study revealed that all medicinal plants are not equally important for treating ailments. Local communities prefer one over another mainly based on efficacy and availability. In the preference ranking, C. ficifolius was the most preferred and ranked medicinal plants used to treat stomachache. In a similar study conducted in Sheka Zone of Ethiopia [9], C. macrostachyus was reported to be the most preferred medicinal plant against gastrointestinal problems. Similar finding for Hawassa Zuria showed that the most preferred medicinal plant reported to treat abdominal stomachache was Eucalyptus globulus [36]. A. sativum and Z. officinale were the most preferred medicinal plants for treating common colds in humans [39]. The various findings in different parts of Ethiopia indicate that local communities in their locality have their own preferred medicinal plants against different human and livestock ailments.

The direct matrix ranking indicated that C. macrostachyus and C. africana ranked first and second in the study area as a multipurpose plant species, respectively. C. macrostachyus was reported to be used mainly as medicine, firewood, and fencing. On the other hand, C. africana was used mainly for its use in construction and furniture. A various groups of researchers in Ethiopia reported different medicinal plants as a multipurpose plant species. For instance, [36] reported as Ensete ventricosum (Welw.) Cheesman was the most preferred medicinal plant used for various purposes by the local people of Hawassa Zuria District. The authors also reported that the plant was used as a type of food, as fodder, in house construction, and for making of a robe. In a similar study, [12] reported that Warburgia ugandensis Sprague was used by Guji Oromo of Ethiopia for multiple purposes such as charcoal production, for construction, and furniture. In other studies, conducted in Adwa District of Tigray Region, O. europaea subsp. cuspidata are regarded as multipurpose plant species mainly used for charcoal production, construction, and as a food [40]. The most commonly used plants are most threatened in the absence of proper conservation, management, and sustainable use measures [9]. Hence, additional conservation measures are urgently needed to prevent the disappearance of these multipurpose plant species [40].

4.6. Threat and Consetion of Medicinal Plants. According to the responses from key informants, the main causes of medicinal plant loss in the study area were agriculture expansion, firewood collection, overgrazing, and drought. Other researchers reported a similar finding to this study where agricultural expansion was the most threat to
medicinal plants of Damot Woyde District [39], Adwa [40], and Mojana Woderia [41]. The other reported threats to the medicinal plants of Ethiopia were climate change and the spread of invasive species. In Yalo District, the widespread of invasive species such as *Prospopis juliflora* (SW.) DC. is replacing the plants with cultural values and changing vegetation to monotype bushes and forests [42].

The conservation of medicinal plants in the study area was minimal; rather, the utilization of leaves for the preparation of traditional medicine may have some contributions to the conservation of medicinal plants as also reported by another study [4, 36]. In addition, traditional beliefs are also reported to have their own unintentional role in the conservation of medicinal plants [43]. The identification of various threats by current studies and other studies conducted in Ethiopia has shown that different conservation approaches are needed to save medicinal plants from further loss.

5. Conclusions

The results of the study revealed that communities of Basona Werana District use a number of medicinal plants for the treatment of human and livestock ailments. A total of 76 medicinal plants were recorded in this study where Lamiales was the highest contributor of medicinal plants. Leaves were the predominantly used plant part for the preparation of remedies. If the remedy is overdosed, local communities in the study area use antidotes such as milk and honey. This study also revealed that *C. ficifolius* is the most preferred medicinal plant in the study area used to treat the stomachache. *H. abyssinica, C. africana, O. europaea subsp. cuspidata, O. rochetiana, O. lanceolata, and C. spinarum* are the most threatened medicinal plants in the area. Thus, we recommend that local communities should apply conservation efforts to protect medicinal plants from further loss. A detailed phytochemical and pharmacological experiment is also recommended on the most preferred medicinal plants for future research in searching of modern drugs.

Data Availability

The data used in this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no conflicts of interest.

Authors’ Contributions

MM designed the study and drafted the manuscript. NT designed the study and carried out the fieldwork. Both authors read, corrected, and approved the final manuscript.

Acknowledgments

The authors would like to thank the administrative offices of the Basona Werana District and the agricultural development organization for supplying us with useful information during the data collection process. Their gratitude also goes out to the informants who volunteered their expertise in medicinal plants and were gracious during the interview process. Mr. Mola, who assisted throughout the fieldwork, is also due with thanks. The authors are also grateful to Madda Walabu University for financially supporting the study. This study was supported by Madda Walabu University Research and community services.

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