

## Research Paper

# Study of Medicinal Herbs Used by Kurmanjis Kurdish of Bojnourd in North Khorasan Province of Iran

Running title: Medicinal herbs used by Kurmanjis Kurdish of Bojnourd

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Article information	Abstract
<p>Available online: 15 Sep. 2021            Copyright © 2021 Kerman Graduate University of Advanced Technology.            All rights reserved.</p> <p><b>Keywords:</b>            Medicinal plants            Traditional Usage            Kurmanjis Kurdish            Bojnourd            Iran</p>	<p>Traditional medicinal herbs are generally transmitted orally through a community, family and individuals, which is not documented. The present research was carried out with the aim of identifying the traditional application of medicinal herbs of Kurmanjis Kurdish of Bojnourd City for curing the diseases. In order to collect data on medicinal plants that was found in the wildlife ecosystems of Bojnourd; an investigation was performed. A questionnaire was administered only to people who had knowledge of medicinal herbs, through face to face interviews. After collecting the plant specimens, we displayed these specimens to the local people in their houses and farms. During the interviews, native names and utilized parts of the plants as well as information on the types of diseases treated using traditional medicinal plant species were recorded. In all, 201 medicinal plants belonging to 53 families grown in the study areas are traditionally used for the treatment of various diseases. The most common families are Asteraceae and Lamiaceae, with 25 and 24 species, respectively. Most of the parts of the plants that were collected consist of aerial parts, fruits, root, leaves, flowers and seeds orderly. The most species were reported to be used for digestive disorders, respiratory diseases and cardiovascular problems. Some of medicinal species in the wildlife ecosystems of area are endangered due to excessive use. The transfer of these plants to agricultural fields can be a great help to create employments and Protecting of these plants. The present study represents important ethnobotanical data on medical herbs which provides basic data for future pharmacological and phytochemical investigates.</p>

## 1. Introduction

History of herbal medicines dates back practically to the existence of human civilization. The first description of use of medicinal plants as remedies in Iran dates back to the earliest known civilizations, the Sumerians in 3000 B.C. (Price, 2001). Since ancient times, plants have been one of the first and most available resources used for treating diseases, and throughout history, there has always been a close relationship between humans and plants, and the herbal medicinal effects and their uses are well known. At present, according to the World Health Organization, up to 80% of the world's people depend on traditional medicine for their basic health needs (Joharchi & Amiri, 2012). There are between 35,000 and 70,000 plant species that have been used for medicinal purposes in the world, and about 6,500 species of which occur in Asia (Bhattarai, 2010). Nowadays, medicinal herbs play a special role in community health; have attracted special attention from

scientific and research centers. Iran is home to several indigenous tribes and cultures with a rich heritage of knowledge on the uses of medicinal herbs. Iran has varied climates and geographical regions that have caused a wide distribution of individual medicinal plant species such that each tribe has its own plants and customs. According to the National Document of Medicinal plants and Traditional Medicine in Iran, about 2300 species of plants are commonly used in traditional medicinal practices (Hosseini *et al.*, 2021). Ethnobotanical studies are very important to tell the past and present culture about plants in the world (Bulut & Tuzlaci, 2013). Ethnobotanical studies provide traditional data for traditional use of natural resources and effective protection of biodiversity (Hayat *et al.*, 2008). In many developing countries, medicinal herbs have not been well studied, tested, or documented. Most of the information is still in the hands of traditional healers and knowledge of healers is either lost or transmitted to next generation by the word of mouth

(Yirga, 2010). The amplitude of the knowledge of traditional medicine practice based on medicinal herbs should be recorded through botanical studies. Botanical collection and documentation of the associated ethnobotanical knowledge should be accomplished before such rich heredities are lost due to various anthropogenic and other natural causes (Martin, 1995).

In recent years, traditional use of herbs for medicinal considerations has drawn the attention of investigators in different areas of Iran as well (Dolatkhahi *et al.*, 2014; Mohamadi, 2015).

(Jafari footami and akbarlou, 2017) represented a list of 54 medicinal plants used in Hezar Jerib. Results show that the most reported botanical families were Lamiaceae, Asteraceae, Apiaceae and Rosaceae, with 22, 17, 5 and 4%, respectively. Also, between different parts of the plant, the leaves are mostly used. (Hosseini *et al.*, 2021) evaluate 402 medicinal plants in Kerman province which Asteraceae, Apiaceae, Lamiaceae, and Fabaceae were the dominant medicinally utilized plant families, respectively. Similarly, leaves, flower, fruit, and seed were the most part used in disease remedy. They also considered that many of mentioned species have active potential to improve different pains. (Sanzo *et al.*, 2013) examined of the Pollino National Park, Basilicata, Southern Italy. In total, 78 medicinal plants were identified. Among the species reported, 59 are used in human medicine, 18 for domestic use and 8 in veterinary medicine. Some other ethnobotanists studied Kordestan, and discover 144 medical plant species (Hooshidari, 2009). Ilam has about 122 plants that can be used as ailment therapy. Asteraceae and Lamiaceae were claimed to be the most taxa which contain these plants (Ghasemi Pirbalouti *et al.*, 2013).

However, there are no published registers on ethnobotanical information of medicinal herbs in Bojnourd. The aim of this study was to gather data on the traditional uses of medicinal plants species in Bojnourd Kurmanjis Kurdish and preserve it to be used by the next generations. In addition, the present study prepares fundamental data for future phytochemical, cultivated and pharmacological investigates.

## 2. Material and Method

### 2.1. Study Area

Bojnourd city is the capital of the northeastern Iranian province of North Khorasan and terminated to some other cities such as Raz and Jargalan (North), Esfarrayen (South), Maneh and Semelghan (from West) and Shirvan (East). Its approximate geographic location are 37° 13' to 38° 17' North latitude and 56° 19' to 57° 43' East longitudes with elevation ranging from 700 to 3010meter above sea level (Fig. 1). Moreover, it has a pleasant climate, fertile soil and appropriate position because of Atrak River, north of the Alborz mountain

range and south of the Koppeh Dagh Mountains. The city is noted for its multicultural background. Many people speak at least 2 different languages including Kurmanjis Kurdish, Farsi, Tati, Khorasani Turkic, and Turkmen. Kurmanji Kurdish speakers make up 46.1%, forming a plurality of the population. Kurmanjis Kurdish of the Bojnourd has a long history of utilizing medicinal plants to cure their diseases according to their cultural background. This area is important for plant biodiversity due to the presence of some important habitats such as Saluk National Park.

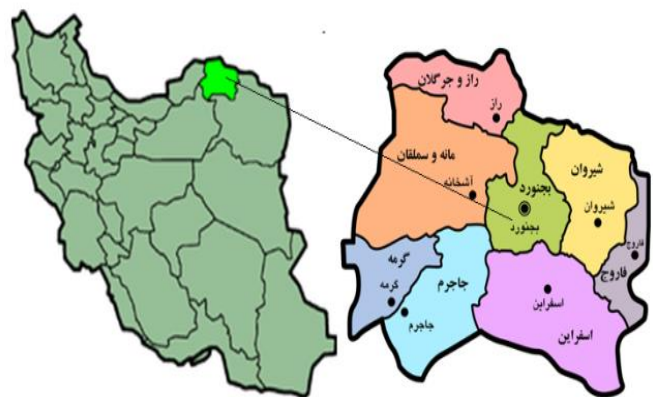


Fig. 1 Geographical Location of the study area.

### 2.2. Climatic Condition

According to the Bojnourd meteorological station data, the means of precipitation is 257 mm/year that maximum and minimum of precipitation occur in April and August-September respectively. The mean of annual temperature is 13.22 °C. The average maximum temperature is 34.2 °C in July and minimum temperature is -5.5 °C in January. The climate of this region with using of Koppen method is cold semi- arid. The diagram of Rainfall and Temperature distribution indicates that drought period is for 125 days of year and wet season start in October and continues until late May (Fig. 2).

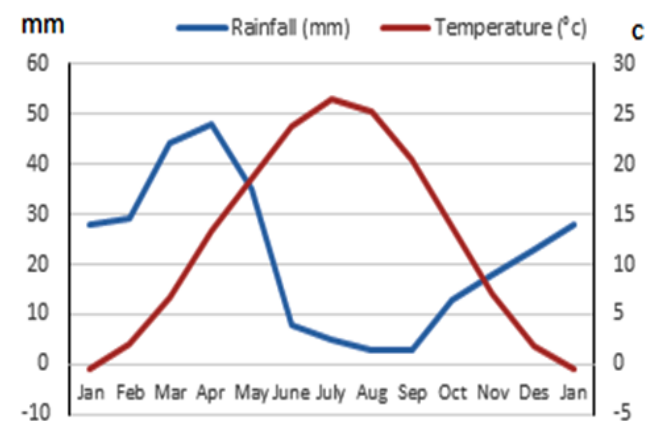


Fig. 2 Rainfall and Temperature diagram in the study area.

### 3.3 Plants Collection

In order to collect data on medicinal plants that was found in the wildlife ecosystems of Bojnourd, an investigation was performed during the years 2016-2019. Ethnobotanical interview was used as the basis for information collection. A questionnaire was administered only to Kurmanjis Kurdish (Men, Women, Herdsman in the age ranged from 42 to 85 years) who had knowledge of medicinal herbs, through face to face interviews. After collecting the plant specimens, we showed these specimens to the Kurmanjis Kurdish people in their houses and farms. Local traditional information of medicinal herbs, including the various data such as name and age of informants, local name of plants, utilized parts, purpose of usage, and preparation procedure were obtained through interviews and discussions. Collected plants were recognized and their families, genera, and species were identified using of Flora Iranica (Rechinger, 1963-2005), Flora of Iran (Assadi *et al.*, 1988-2011), Colored Flora of Iran (Ghahreman, 1978-2002), (Mozaffarian, 2004), (Zargari, 1989-1992) and (Akhani, 2005).

### 3. Result and Discussion

The species used for medicinal aims in the Kurmanjis Kurdish of Bojnourd are arranged in alphabetical order

of their family and botanical names, with the relevant information (Table 1). The present Ethnobotanical study gathered information on 201 plant species reported by the informants for their medicinal use. The results of research indicate that 201 medicinal species belong to 145 genera and 53 families have been identified. Among these families, 42 are dicotyledonous, 7 monocotyledonous, two belongs to gymnosperms and two families belong to cryptogams.

Asteraceae with 25 medicinal plants is the most abundant family in the area, followed by families of Lamiaceae, Apiaceae, and Rosaceae with 24, 21, and 17 species, respectively (Fig. 3). Similar to our research Asteraceae was dominant (Ramezani *et al.*, 2016; Delfan *et al.*, 2019), (Ghasemi Pirbalouti *et al.*, 2013) discloses 122 species by Kurd tribe in Ilam Province. Asteraceae, Lamiaceae and Rosaceae were the most common families, in another research, 50 species were investigated in Khabr and Rouchon. Lamiaceae and Asteraceae were commonly used in this region (Mohamadi *et al.*, 2015), in Boushehr city, 63 species belonging to 55 genera and 36 families have recognized. Asteraceae family was the largest taxon with nine species (Dolatkhahi & Nabipour, 2013), 78 medical plants were found out in The Pollino National Park in Southern Italy.

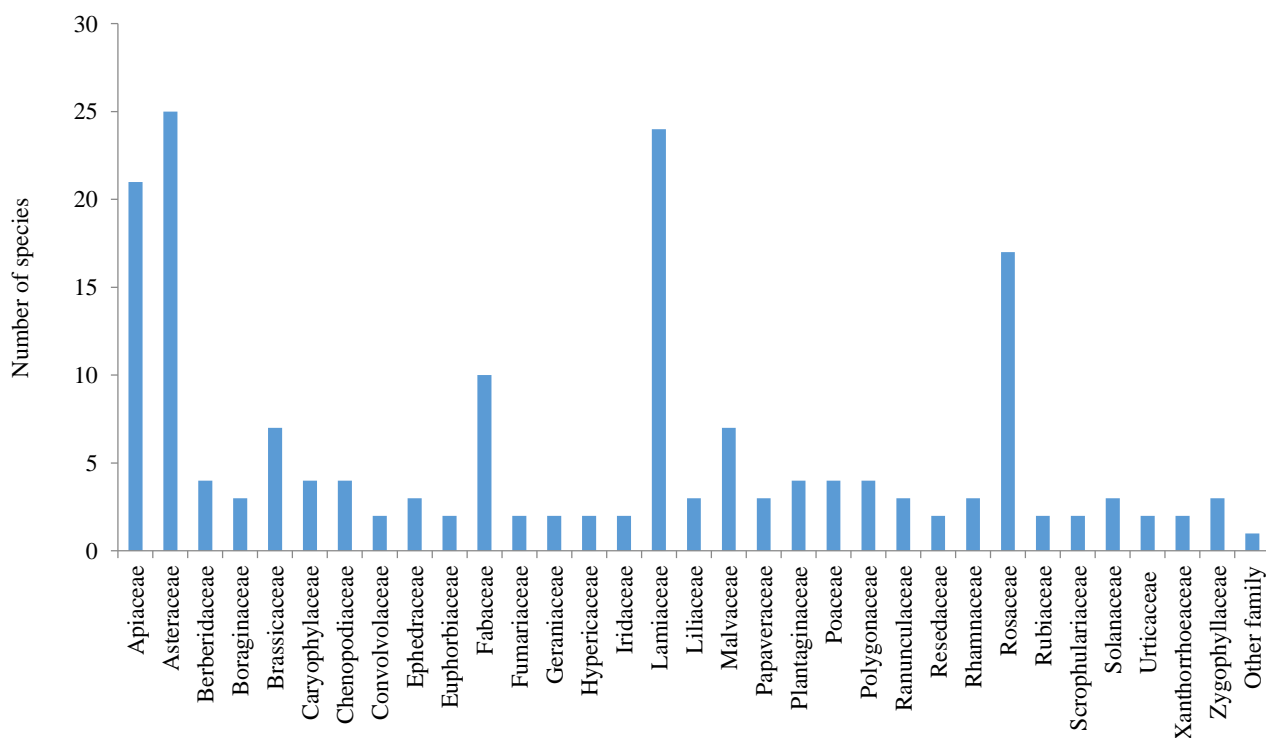


Fig. 3 Frequency (Number) of medicinal plants species based on plant families.

**Table 1** List of medicinal plant species used by Bojnourd Kurmanjis Kurdish.

Family	Scientific name	Farsi Name	Voucher No.	Kurmanjis name	Part used	Medicinal uses
Amaranthaceae	<i>Amaranthus retroflexus</i> L.	Tajekhoros	301	Salmake ner	Leave, Seed	Stomach ulcer , Anti diarrhea , Reduce cholesterol and blood pressure
Amarillydaceae	<i>Ixiolirion tataricum</i> (pall.) Schult. & Schult.f	Khiaarak	302	Khiaarak	Leave, Seed	Chest pain
Apiaceae	<i>Actinolema macrolema</i> Boiss.	Zolake bargdar	314	Nazar tikani	Fruit	Anti-septic
Apiaceae	<i>Anethum graveolence</i> L.	Shavid	308	Shavid	Whole plant	Blood Depurative, Abortion, Periodic, Galactogogue, Antihyperlipidemia, Carminative
Apiaceae	<i>Bunium cylindricum</i> (Boiss. & Hohen.) Drude	Zireh ostevaneyi	310	Zireh rash	Fruit	Carminative
Apiaceae	<i>Bunium persicum</i> (Boiss.) B.Fedtsch.	Zireh irani	305	Zireh rash	Fruit	Obesity, Galactogogue, Flavoring, Carminative, Calmative, Appetizer, Indigestion
Apiaceae	<i>Conium maculatum</i> L.	Shokaran	313	Kherkhendi	Root	Cholagogue, Dermal Allergies. Tumor
Apiaceae	<i>Dorema ammoniacum</i> D.Don	Vashagh	306	Kandal kama	Gum	Cough, Anti worm, Diuretic, Anti convulsion
Apiaceae	<i>Falcaria vulgaris</i> Bernh.	Ghaz yaghi	304	Panjah gherek	Leaves - Fruit	Cut, Wound healing, Stomach ulcer
Apiaceae	<i>Foeniculum vulgare</i> Mill.	Razianeh	303	Boian	Fruit	Galactogogue, Digestive, Bronchitis, Appetizer, Antacid, Anti flatulent
Apiaceae	<i>Ferula assa-foetida</i> L.	Anghuzeh	315	Anguzeh	Gum	Anti-convulsion, Anti worm, Colic, Diuretic, cough, Asthma
Apiaceae	<i>Ferula gummosa</i> Boiss.	Barijeh	311	Ghasni	Gum	Anti-worm, Flu, Anti allergic, Indigestion, Appetizer, Diuretic
Apiaceae	<i>Ferula ovina</i> (Boiss.) Boiss.	Koma	307	Hallez	Stem- Fruit	Anti-convulsion, Tonic, Constipation, Back ache
Apiaceae	<i>Ferula szowitziana</i> DC	Ghamagh mumi, Anghozeshirin	309	Hallez	Gum	Asthma, cough, dermal wounds, Stomachache
Apiaceae	<i>Ferulago angulata</i> (Schltdl.) Boiss.	Chavil, Chavir	312	Chavil	L eaves	Anti-septic, Kidney infection
Apiaceae	<i>Echinophora platyloba</i> DC.	Khosharizeh	322	Davdavi	Aerial parts	Kidney stone, Anti aphthous Mouth wash, Antifungal
Apiaceae	<i>Eryngium billardieri</i> Delile	Zole,Chichagh	316	Zile karan	Whole plant	Constipation, Calmative, antifungal, Arthritis pain reliever
Apiaceae	<i>Eryngium bungei</i> Boiss.	Zolee Khorasani	318	Zile karan	Aerial parts	Cough, Anti septic
Apiaceae	<i>Pimpinella anisum</i> L.	Badian roomi	317	Badian	Fruit	Anti-flatulent, Anti worm, Colic, Antacid, Stomachache, Anti diarrhea
Apiaceae	<i>Prangos acaulis</i> (DC.) Bornm.	Jashir cotoleh	319	Haleze ghendek	Fruit	Antibacterial, Increased immunity
Apiaceae	<i>Prangos gaubae</i> (Bornm.) Herrnstadt et Heya	Jashir karaji	321	Angorkok	Fruit	Tonic, Laxative, Carminative , Anti flatulent, Anathematic, Antifungal and anti-bacterial
Apiaceae	<i>Prangos uloptera</i> DC.	Jashire sakhrehrooy	320	Haleze kavri	Fruit- Flower	Tonic, Carminative,
Apiaceae	<i>Zosima orientalis</i> Hoffm.	Angedane roomi	323	Golpar	Fruit	Nerve Diseases, Indigestion
Asteraceae	<i>Achillea biebersteinii</i> Afan.	Bumadaran	324	Golchghar	Aerial parts	Anti-hemorrhoid, Bleeding stop, Chest Disease
Asteraceae	<i>Achillea wilhelmsii</i> C.Koch.	Bumadarun	325	Golchghar	Aerial parts	Carminative, Stomachache
Asteraceae	<i>Acroptilon repens</i> (L.) DC.	Talkheh	328	Talkhaeh	Aerial parts	Diabetic, Anti lipid of blood, Antiemetic

Asteraceae	<i>Arctium lappa</i> L.	Baba Adam	326	Ghankhord	Leaves- Root	Diuretic, Cholagogue, Depurative, Hypoglycemic,
Asteraceae	<i>Arctium minus</i> (Hild) Bernh.	Baba Adam Saghir	327	Gharakhord	Root, Leave, Fruit	Constipation, Diabetic
Asteraceae	<i>Artemisia absinthium</i> L.	Afsantin	330	Haush	Aerial parts	Anti-worm, Appetizer, Indigestion
Asteraceae	<i>Artemisia aucheri</i> Boiss.	Dormane Kohi	328	Havshaneh chian	Leaves	Foot contusion, Stomachache, Antiseptic
Asteraceae	<i>Artemisia siberi</i> Bessr	Dermaneh Dashti	329	Havshane- hivalak	whole plant	Burns, Earache, Antiseptic
Asteraceae	<i>Centaurea behen</i> L.	Gol gandome talaei	332	Golmoreh zar	Flowers, roots	Tonic, Jaundice , Heart diseases, Antidote, Relief impotence, Palpitations, Cardiac tonic,
Asteraceae	<i>Centaurea depressa</i> M.Bieb.	Gole Gandom	331	Golmorek	Aerial parts	Digestive, Fever, Cholagogue, Blood Depurative, Antigout
Asteraceae	<i>Cichorium intybus</i> L.	Kasni	333	Chighchighok	whole plant	Palpitation, Appetizer, Depurative, Furuncles, Jaundice, Fever, Anti allergic
Asteraceae	<i>Cirsium arvense</i> (L.) Scop.	Kharlateh	334	Karangeh san	Root	Dermal inflation, Appetizer
Asteraceae	<i>Cnicus benedictus</i> L.	Khare Moghadas	332	Tikan darman	Fruit	Galactagogue, Liver disease
Asteraceae	<i>Echinops cephalotes</i> DC.	Shekar Tighal	335	Otek- Chagher tikan	Latex	Cough, Anti asthmatic, Pharyngitis, Fever
Asteraceae	<i>Gundelia tournefortii</i> L.	Kangar	337	Karang	whole plant	Liver Tonic, Liver disease, Anti parasite, Anti lipid, Fever, Kidney stone , Edible
Asteraceae	<i>Matricaria chamomilla</i> L.	Gole babooneh	338	Gol boneh	Flower	Eczema, Cough, Flu, Hair Tonic, Colic, Periodic
Asteraceae	<i>Onopordon acanthium</i> L.	Khar panbeh	336	Tikan damari	flowers, stems, roots	Skin wounds, Stomach tonic, Appetizer, Baldness
Asteraceae	<i>Silybum marianum</i> (L.) Gaertn.	Khare Maryam	339	Karang karo	Seed, root	Jaundice, Fever, Liver disease, Liver Tonic, Antihypertensive, Anti lipid, Anti poison
Asteraceae	<i>Sonchus oleraceus</i> L.	Shirtighak	340	Shirik	Stem, Root, Leave, Latex	Constipation, Periodic, Anti hemorrhage
Asteraceae	<i>Tanacetum balsamita</i> L.	Minaei	341	Gol minayi	Aerial parts	Tonic, Anti diarrhea, Anticonvulsants, Periodic, Healing wound, coughs, colds, catarrh and stomach ache
Asteraceae	<i>Taraxacum officinale</i> L. Weber ex F.H. Wigg	Golghased	342	Ghanjir	Root, Leave, Latex	Stomach tonic, Scorpion and snake bite, Liver disease
Asteraceae	<i>Tripleurospermum disciforme</i> (C. A. Mey.) Sch.Bip.	Gole babooneh	344	Gol boneh zerav	Flower	Cough, Fever
Asteraceae	<i>Tussilago farfara</i> L.	Pa khari	343	Kar sum	Aerial parts	Cough, Mouth wounds, Furuncles
Asteraceae	<i>Xanthium spinosum</i> L.	Zardineh	346	Tikaneh chavezar	leaves - root	Calmative, Rheumatic, Appetizer, Diaphoretic, Diuretic, Laxative, Healing wound,
Asteraceae	<i>Xanthium strumarium</i> L.	Kharmastonak	345	Gernuk	whole plant	Rheumatoid arthritis, Anti worm, Anti inflammatory
Berberidaceae	<i>Berberis integririma</i> Bunge	Zereshk Kuhi	356	Gharamigh Rash	whole plant	Hypoglycemic, Antihypertensive, Blood and Liver Depurative, Jaundice, Fever, Antigout, Edible
Berberidaceae	<i>Berberis khorasanica</i> .	Zereshk Kuhi	355	Gharamighe Sir	whole plant	Antigout, Blood and Liver Depurative, Fever, Anti worm, Dysentery, Edible
Berberidaceae	<i>Bongardia chrysogonum</i> (L.) Boiss.	Zereshkeh olofeyhi	354	Ghaghezi	Tubers	Constipation, kidney problems, Edible
Berberidaceae	<i>Leontice leontopetalum</i> L.	Turob shir	353	Paghpagho	Tubers	Joint pain and inflammation, Rheumatism, headache, Calmative

Boraginaceae	<i>Anchusa italica</i> Retz.	Gavzaban	349	Golgozeman	Fruit	Respiratory problems, Cough
Boraginaceae	<i>Cynoglossum creticum</i> Miller	Sagzaban	347	Zemaneh san	Root, Stem, Leave	Cough, Anti diarrhea
Boraginaceae	<i>Echium amoenum</i> Fisch. & C.A.Mey.	Gole gavzaban	348	Gerize gan	Flower	Antihypertensive, Nerve Tonic, Diuretic, Anti stress, Blood Depurative, Cardiac Tonic, Calmative · Cough
Brassicaceae	<i>Alyssum alyssoides</i> (L.) L.	Ghodumeh	350	Ghudumeh	Seed	Pharyngitis, Cough, Fever, Laxative, Hoarseness
Brassicaceae	<i>Capsella bursa-pastoris</i> (L.) Medik.	Kiseh Keshish	357	Kisaeh	Seed, Latex	Period Regulator, Anti hemorrhage, Anti diarrhea
Brassicaceae	<i>Cardaria draba</i> (L.) Desv.	Tare tizak	352	Gheji	W hole plant	Diuretic, Stomach ulcers, Rheumatism, Antacid
Brassicaceae	<i>Crambe cordifolia</i>	Sipedeh	351	Kaveh gan	Root	Diabetic
Brassicaceae	<i>Crambe orientalis</i> L.	Sipedeh	358	Tateran	Aerial parts	Anti-septic
Brassicaceae	<i>Descurainia sophia</i> (L.) Webb ex Prantl	Khakshir	359	Khakshir	Seed	Blood and Liver Depurative, Jaundice, Fever, Furuncles, Anti-thirst, Laxative
Brassicaceae	<i>Sisymbrium loeselii</i> L.	Khakshir	360	Khakshir	Seed	Coughs, Asthma, Fever
Capparaceae	<i>Capparis spinosa</i> L.	Kavar	365	Kalo Kavar	Fruit-Root	Liver Tonic, Hepatitis, Appetizer, Anti worm, Stomach tonic, Diuretic, Antigout
Caprifoliaceae	<i>Lonicera nummulariifolia</i>	Pelakhor	361	Dughestani	Leaves	Disinfect, Washing wounds
Caryophyllaceae	<i>Acantophyllum glandulosum</i>	Choobak	363	Chughan	Root	Laxative
Caryophyllaceae	<i>Acanthophyllum sordidum</i> Bunge ex Boiss.	Choobak	366	Chughan	Root	Warts, Washing wounds
Caryophyllaceae	<i>Dianthus crinitus</i> Sm.	Mikhak	364	Shafer	Flower	Toothache, Stomach Tonic, Fever, Asthma
Caryophyllaceae	<i>Dianthus orietalis</i> Adams	Mikhak	362	Shafer	Aerial parts	Toothache calmative, Mouth aroma
Chenopodiaceae	<i>Chenopodium album</i> L.	Salmeh	367	Penjareh Salmak	Leaves, Fruits	Anti-worm
Chenopodiaceae	<i>Chenopodium botrys</i> L.	Salmeh	369	Penjareh Salmak	Leaves, Flower	Anti-worm
Chenopodiaceae	<i>Chenopodium foliosum</i> (Moench) Aschers .	Salmeh	368	Penjareh Salmak	Leaves	Diuretic
Chenopodiaceae	<i>Salsola kali</i> Lsubsp.iberica Sennen & pau.	Alafe-shor	370	Shor	Whole plant	Laxative, Diuretic, Anti worm, Blood Depurative
Colchicaceae	<i>Colchicum autumnale</i> L.	Suranjan	371	Goldaravin	Root	Antigout, Calmative
Convolvulaceae	<i>Convolvulus arvensis</i> L.	Pichak	372	Pichak	W hole plant	Laxative, Carminative
Convolvulaceae	<i>Cuscuta epithimum</i> Murray	Aftimun	373	Zereh- Sim	Aerial parts	Laxative, Anti hemorrhoid
Cornaceae	<i>Cornus australis</i> C.A.Mey.	Ale-Sia	375	Shaft	Fruit, Stembark	Antiemetic
Cupressaceae	<i>Juniperus polycarpus</i> C.Kech	Ors	374	Markh	Fruit	Anti-hemorrhoid, Antifungal and bacteria, Anti hemorrhage
Elaeagnaceae.	<i>Elaeagnus angustifolia</i> L	Senjed	380	Eida	Fruit	Joint pain, Anti diarrhea, Rheumatism, Stomach tonic, Fever, Anti-inflammatory
Ephedraceae	<i>Ephedra intermedia</i> Stanf	Rishe boz	378	Raj	Aerial parts	Stomach ulcer and disease
Ephedraceae	<i>Ephedra major</i> Host	Rishe boz	377	Raj	Aerial parts	Joints Pain
Ephedraceae	<i>Ephedra procera</i> Fisch. & Mey.	Rishe boz	376	Shevishk	Aerial parts	Cough, Fever, Calmative, Cold, Asthma
Equisetaceae	<i>Equisetum arvense</i> L.	Dome Asb	379	Doche main	Aerial parts	Obesity, Anti lithiasis, Antihypertensive, Prostate Disorders, Kidney disorders
Euphorbiaceae	<i>Euphorbia cheiradenia</i> Boiss. et Hohen.	Farfione-Khosheyi	381	Shire maran	Latex	Warts, Strong laxative
Euphorbiaceae	<i>Euphorbia helioscopia</i> L.	Farfion	382	Shirike maran	Latex	Corn and Warts, Strong laxative
Fabaceae	<i>Alhagi camelorum</i> Fisch.	Khar Shotor-Taranjabin	390	Dava tikani	Aerial parts - Latex	Diuretic, Jaundice, Fever, Laxative, Kidney stone, Cough, Chest pain
Fabaceae	<i>Astragalus hamosus</i> L.	Nakhonak	384	Chop	Fruit	Calmative, Kidney Stone, Diuretic, Joint pain, Carminative
Fabaceae	<i>Astragalus gossypinus</i> .	Katira	385	Zenj-Goniae sis	Gum	Mouth wounds, Tonic, Hair Tonic, Laxative, Cough, Constipation,

						Hoarseness
Fabaceae	<i>Astragalus verus</i> .	Katira	386	Zenj-Goniaea	Gum	Mouth wounds, Aphrodisiac, Hair Tonic
Fabaceae	<i>Colutea buhsei</i> (Boiss.) Shap.	Daghdaghak	388	Dar ganii	Leaves - Seed	Typhoid, Washing wound
Fabaceae	<i>Colutea persica</i> Boiss.	Daghdaghak	389	Dar ganii	Leaves - Seed	Purgative , Antiemetic
Fabaceae	<i>Coronilla varia</i>	Yonjeh baghi	383	Orenche baghan	whole plant	Laxative
Fabaceae	<i>Glycyrrhiza glabra</i> L.	Shirin Bayan	387	Sozek	Root	Cough, Antacid, Tonic, Stomach ulcer, Hypotension, Anemia
Fabaceae	<i>Medicago sativa</i> L.	Yunjeh	392	Orencha	Aerial parts	Appetizer, Tonic, Osteomalacia, Anti hemorrhage of Cutting
Fabaceae	<i>Melilous officinalis</i> (L.) Desr.	Sha afsare zard	391	Orenche kivi	Aerial parts	Wound repair
Fumariaceae	<i>Fumaria parviflora</i> Lam.	Shahtareh	393	Shahtareh	whole plant	Strengthening the gums, Chest softener, Astringent, Calmative, Digestive antiseptic, Stomach tonic
Fumariaceae	<i>Fumaria vaillantii</i> Loisel.	Shatareh	394	Shatareh	Aerial parts	Pustules, Fever, Blood-cleansing Psoriasis, Appetizer, Antacid, Jaundice,
Geraniaceae	<i>Bieberstainia multifida</i> DC.*	Adamak	397	Ghan tapar	Root-Tuber	Carminative, Backache, Calmative
Geraniaceae	<i>Erodium cicutarium</i> (L.) 'Her	Noklklaki	398	Darzie chevanan	Whole plant	Coagulation, Constipation, Stop internal bleeding, Wound healing, Anti diarrhea, Astringent
Hypericaceae	<i>Hypericum perforatum</i> L.	Gole raii	395	Chai golzar	Aerial parts	Digestible, Astringent, Calmative
Hypericaceae	<i>Hypericum scabrum</i> L.	Gole raii	396	Chae golzar	Flower	Anti-migraine, Stomach ulcer, Bleeding stop, Headache
Iridaceae	<i>Iris acutiloba</i> C.A.Mey.	Zanbagh sefid khati	399	Berre buz	Rhizome, leaves	Diuretic, Sputum, Burn
Iridaceae	<i>Iris germanica</i>	Zanbagh	400	Berre kask	Rhizome	Diuretic, Sputum, Anti worm, Strong laxative, Digestive
Lamiaceae	<i>Clinopodium graveolens</i> (M.Bieb) Kuntze	Faranjmeshk	409	Rihanak	Seed	Pharyngitis, Stomach ulcer, Nerve tonic
Lamiaceae	<i>Dracocephalum lindbergii</i> Rech.f	Badrangboieh	405	Anekhe kivi	Aerial parts	Reduce fever, Joint pain, rheumatism, Anti-inflammatory, immunity increase
Lamiaceae	<i>Hymenocrater calycinus</i> (Boiss). Benth.	Gole arvane	401	Sivtaleke dari	Aerial parts	Cardiac Tonic, Hypnotic, Cough, Carminative, Dyspnoea, Anti-stress, Convulsion
Lamiaceae	<i>Hymenocrater bituminosus</i> Fisch. et Mey.	Gole arvane	402	Sivtaleke golsis	Aerial parts	Flu, Diuretic, Antibacterial, Antifungal
Lamiaceae	<i>Hymenocrater elegans</i> Bunge.	Gole arvane	403	Sivtaleke golsir	Aerial parts	Flu, Diuretic, Antibacterial, Antifungal
Lamiaceae	<i>Lamium album</i> L.	Zazaneh sefid	406	Gazgazonake sis	Aerial parts	Rheumatism
Lamiaceae	<i>Marrubium vulgare</i> L.	Feration	404	Pushe san	Aerial parts	Liver tonic, Cough, Digestive disorders
Lamiaceae	<i>Mentha longifolia</i> (L.) Hudson	Puneh	407	Punge	Aerial parts	Herpes, Anti worm, Antacid, Carminative, Anti diarrhea, Digestive
Lamiaceae	<i>Mentha pulegium</i> L.	Puneh	408	Punge	Aerial parts	Digestive, Flatulence,colic, Antiseptic, Anti convulsion, Carminative, Diaphoretic, Calmative, Stimulant
Lamiaceae	<i>Origanum vulgare</i> L.	Marzanjush	417	Anekhe khenzir	Aerial parts	Colic, Sinusitis, Calmative, Cardiac tonic, Nerve tonic, Dyspnoea
Lamiaceae	<i>Perovskia abrotanoides</i> Kar.	Gol Kabud	414	Gol isagi	Aerial parts	Sinusitis, Toothache, Cough, Nerve tonic, Carminative, Calmative, Antiseptic, Anti worm, Colic
Lamiaceae	<i>Phlomis cancellata</i> Bung	Gush barreh	412	Mezhmezhuk-ghande kachek	Aerial parts	Diabetic
Lamiaceae	<i>Phlomis olivieri</i> Benth.	Gush barreh	413	Ghande lavuk	Flower	Cold and Gripes
Lamiaceae	<i>Salvia sclarea</i> L.	Maryam goly kabir	410	Kafkhoreke ger	Aerial parts	Kidney stone, its extract use as perfume, Antiseptic, Periodic

Lamiaceae	<i>Salvia nemorosa</i> L.	Maryam goly	411	Kafkhorek	Leaves, Flower	Periodic
Lamiaceae	<i>Satureja spicigera</i> (C.Koch) Boiss.	Marzeh	415	Marzeh chian	Aerial parts	Calmative, Anti-arthritis, Anti-herpes, Disinfectant, Food digestion, Carminative, Anti worm, Anti diarrhea
Lamiaceae	<i>Stachys lavandulifolia</i> Vahl	Chai Kuhi	418	Gol papok	Flower	Nerve tonic, Cold, Cardiac tonic, Colic, Appetizer, Sputum, Anti diarrhea, Infectious disease
Lamiaceae	<i>Stachys turcomanica</i> Trautv.	Chai Kuhi	419	Chai shevanan	Aerial parts	Foot inflammation, Toothache, Bronchitis, Influenza,
Lamiaceae	<i>Teucrium polium</i> L.	Kalpureh	416	Biram nukhudi	Aerial parts	Antacid, Indigestion, Diabetic, Colic, Anti diarrhea, calmative
Lamiaceae	<i>Thymus kotschyanus</i> Boiss.	Avishan	422	Anekhe goran	Aerial parts	Toothache ,Antiseptic, Calmative, Diuretic, Antibacterial, Antifungal, Insecticidal
Lamiaceae	<i>Thymus transcaspicus</i> Klokov	Avishan khorasani	421	Anekhe goran	Aerial parts	Toothache ,Antibacterial , Antifungal , Calmative , Antiparasitic , Anti-inflammatory, Anti convulsion
Lamiaceae	<i>Thymus trautvetteri</i> Klokov	Avishan taleshi	420	Anekhe goran	Aerial parts	Toothache ,Antiseptic, Calmative, Diuretic, Antibacterial, Antifungal, Insecticidal
Lamiaceae	<i>Zataria multiflora</i> Boiss.	Avishan Shirazi	425	Anekhe san	Aerial parts	Sinusitis, Menstrual pains, Dysmenorrheal, Anti worm, Antacid, Colic, Anti asthmatic, , Carminative
Lamiaceae	<i>Ziziphora clinopodioides</i> Lam.	Kakoti	424	Anekh	Aerial parts	Kidney Pain, Antacid, Carminative, Colic, Anti worm, Cough, Anti diarrhea, Digestive, Toothache
Lamiaceae	<i>Ziziphora tenuior</i> L	Avishane-barik	423	Gol tokhcham	Aerial parts	Digestive, Colic, Antacid, Antiseptic, Headache
Liliaceae	<i>Fritillaria imperialis</i> L.	Laleh Sarnegun	428	Golkalapa	Root, Seed, bulb	Joints Pain, Toothache, Gripes
Liliaceae	<i>Tulipa micheliana</i> Hoog.	Laleh	426	Golpivang-Golghagha	Bulb	Anti-septic
Linaceae	<i>Linum usitatissimum</i> L.	Katan	427	ketan	Seed	Cholesterol lowering, Cough, Laxative and Constipation, Obesity, Kidney stone, Cystitis, Stomachic ulcer
Malvaceae	<i>Abutilon theophrasti</i> Medicus	Gav panbeh	436	Kender	Flower, leaves, seed	Anti-septic, Diuretic; Stomachic ulcer, wound
Malvaceae	<i>Alcea wilhelminae</i> L.Riedl.	Gole Khatmi	432	Gol hiro zar	Flower	Chest softener, Anti inflammatory
Malvaceae	<i>Alcea rosea</i> L.	Gole Khatmi	433	Gol hiro	Flower	Cough, Fever, Pustules, Laxative, Depurative, Gum swelling
Malvaceae	<i>Althaea cannabina</i> L.	Khatmi kanafi	431	Charmeh gia	Flower- Root	Cough, women venereal disease, anti-inflammatory, bonesetting
Malvaceae	<i>Althaea officinalis</i> L.	Khatmi	430	Gol hiro	Root	Mouth Wounds, Bone Fracture, Bruises, Dysuria
Malvaceae	<i>Gossypium herbaceum</i> L.	Panbeh	429	Ghonda	Fruit	Bleeding stop
Malvaceae	<i>Malva neglecta</i> Wallr.	Nan Kalagh	434	Nane chuchek	Flower Root- Fruit	Pharyngitis, Cough, Fever
Malvaceae	<i>Malva sylvestris</i> L.	Panirak	435	Charmeh gia	Flower- Fruit- Root	Pharyngitis, Furuncle, Anti aphthous Ulcers , Fever, Cough, Jaundice, Laxative, Stomachic ulcer, Wounds
Moraceae	<i>Ficus carica</i> L.	Anjir	437	Anjir	Fruit, Latex	Anti-hemorrhoid, Laxative, Tonic, Diuretic, Wart, Edible
Orobanchaceae	<i>Orobanche alba</i> Stephan	Gole jaliz	438	Gole paloz	Root	Digestive disorders, Antiemetic , joint inflammations
Papaveraceae	<i>Glaucium elegans</i> F. et M.	Shaghayegh ziba	441	Gole kavan	Aerial parts	Diabetic, Hypnotic
Papaveraceae	<i>Papaver dubium</i> L.	Shaghayegh	440	Gezlargoly	Aerial parts	Poisonous, Calmative, anti-inflammatory, Pustules
Papaveraceae	<i>Roemeria hybrida</i> (L.) DC.	Gole arosak	439	Gezlargoly balak	Aerial parts	Prevent hair loss, Hair dyeing
Plantaginaceae	<i>Plantago lanceolata</i> L.	Barhang kardy	445	Bartange zerav	Whole plants	Jaundice, Sedative, Headache, Stomachache, Gripes, Flu



Plantaginaceae	<i>Plantago major</i> L.	Barhang kabir	442	Bartang	Whole plants	Eczema, Chest softener, Dirty wound, Fever, Laxative, Respiratory disease
Plantaginaceae	<i>Plantago media</i> L.	Barhang	443	Bartang	Leaves- Seed	Anti-inflammation, Respiratory disease
Plantaginaceae	<i>Plantago ovata</i> Forsk.	Esfarzeh	444	Havis	Seed	Flu, Palpitations, Laxative, Digestibility
Poaceae	<i>Arundo donax</i> L.	Tabashir-nei	448	Ghamish	Root- Rhizome	Anti-aphthous, Anti Thirst, Pustules, Fever, Alopecia , diuretic
Poaceae	<i>Avena wiestii</i> Steud.	Jo dosar	449	Aghbash	Seed	Pustules, Diabetic, Cholesterol
Poaceae	<i>Cynodon dactylon</i> (L.) Pers.	Margh	446	Chayer	whole plant	Skin disorders, Nosebleed prevention, Improvement of fresh wounds, Anti hemorrhage, Appetizer, Anti- Inflammation, Antigout, Liver diseases, Rheumatism, Nausea
Poaceae	<i>Phragmites australis</i>	Nei	447	Ber-Telijan	Rhizome	Blood depurative, Antiseptic wound
Polygonaceae	<i>Polygonum aviculare</i> L.	Alaf Haftband	450	Hazarbandi	Aerial parts	Diabetic, Colic, Anti diarrhea
Polygonaceae	<i>Rheum ribes</i> L.	Rivas	451	Tirshuk	Aerial parts	Making jam, Hair dyeing, Anti parasitic, Sight strengthening, Pustules, «skin inflammation
Polygonaceae	<i>Rumex acetosella</i> L.	Sagh Torshak	452	Penjare gan	Root	Jaundice, Fever
Polygonaceae	<i>Rumex crispus</i> L.	torshak	453	Penjare gan	Root	Fever, Anti diarrhea, Laxative
Portulacaceae	<i>Portulaca oleracea</i> L.	Khorfeh	455	Khelf	Fruit - Leaves	Cough, Fever, Anti thirst, Food digestion, Depurative, Diuretic, Anti hemorrhoid
Primulaceae	<i>Anagalis arvensis</i> L.	Anaghalis	454	Golnili	Fruit	Insect bites, Diuretic, Cough, Sputum
Pteridaceae	<i>Adiantum capillus-veneris</i> L.	Parsiavashan	456	Ghitaran	Aerial parts	Cough, Anti hemorrhoid, Pharyngitis , Fever, Jaundice, Laxative, Anti thirst, Flu, Periodic
Ranunculaceae	<i>Adonis aestivalis</i> L.	Chashmeh khoros	458	Ghezlar goli	Aerial parts	Kidney stone, Laxative, Nerve tonic, Diuretic
Ranunculaceae	<i>Delphinium semibarbatum</i> Bien. ex Boiss.	Zaban dar ghafa	457	Zeman la do	Flower	Dermal Allergies, Coloring
Ranunculaceae	<i>Ranunculus arvensis</i> L.	Alaleh	459	Pivang Gol zar	Flower	Diabetic, Stomachache
Resedaceae	<i>Reseda aucheri</i> Boiss.	Verse biabani	460	Kar khor	Leaves	The toxicity and sensitivity of snake bite, insect bite, scorpions bite
Resedaceae	<i>Reseda lutea</i> L.	Vers	461	Kar khorak	Flower	Anti Ascaris and vermicule
Rhamnaceae	<i>Paliurus spina-christi</i> Mill.	Siatalo	465	Ghara tikan	Whole plants	Oral infection, Bleeding stop
Rhamnaceae	<i>Rhamnus pallasii</i> Fisch. & C.A. Mey.	Tangras	463	Tangez	Fruit	Purgative, Grease
Rhamnaceae	<i>Ziziphus jujuba</i> Miller	Annab	462	Annave	Fruit	Blood depurative, Fever, Laxative, Jaundice, Cough, Thirst
Rosaceae	<i>Amygdalus eburnean</i> Spach.	Badam kuhi	464	Zardalo goran	Fruit- Gum	Allergy, Laxative, purgative, Prevent Hair Loss
Rosaceae	<i>Amygdalus scoparia</i>	Badam kuhi	466	Zardalo goran	Leaves- Fruit Gum	Prevent hair loss, Diabetic, Cough, Nausea, Intestinal parasites
Rosaceae	<i>Cerasus incana</i> (Pall.) Spachr	Albalo vahshi	468	Sorik	Fruit	Laxative, Edible
Rosaceae	<i>Cerasus microcarpa</i> (C.A. mey) Boiss.	Gilase vahshi	467	Rashik	Fruit	Laxative, Edible
Rosaceae	<i>Crataegus elbursensis</i> Rech.F.	Sia valik	469	Rikhokeh rash	Fruit-flowers Leaves	Cardiac Tonic, Constipation, Edible
Rosaceae	<i>Crataegus orientalis</i> M.Bieb.	Zalzalak	470	Gozheh chav rash	Fruit-flowers Leaves	Depurative, Anemia, Cardiac Tonic, Edible
Rosaceae	<i>Crataegus turkestanica</i> A.Pojrak	Sorkhe Valik	471	Rikhokeh	Fruit-flowers Leaves	Depurative, Repairs Blood Vessel, Edible
Rosaceae	<i>Cotoneaster nummularius</i> Fisch. C.A.Mey.	Shir Khesht	472	Chok	Latex	Jaundice, Fever, Laxative
Rosaceae	<i>Rosa beggeriana</i> Schrenk	Nastaran vahshi	476	Shilan	Fruit	Antihypertensive, Diuretic, Kidney Stone
Rosaceae	<i>Hulthemia persica</i> mich.	Varak	473	Varang	Fruit- Root	Diabetic

Rosaceae	<i>Mespilus germanica</i> L .	Azgil	475	Azgil	Fruit-Leaves	Anti-hemorrhoid , Simple Anti diarrhea, throat, Edible, Antihypertensive,
Rosaceae	<i>Pyrus boissieriana</i> Buhse	Golabi	474	Hermeh	Stem bark- Fruit	Laxative, Cardiac Tonic, Edible
Rosaceae	<i>Rosa canina</i> L.	Nastaran vahshi	477	Shilan	Fruit	Constipation, Snake bite, Anti lipid, kidney infection, Edible
Rosaceae	<i>Rosa damascena</i> Mill.	Gole Mohammai	478	Golbotah	Flower	Anti-hemorrhoid, Laxative, Calmative, Anti stress
Rosaceae	<i>Rosa foetida</i> Herrm.	Gole Zard	479	Shilan Zar	Flower	Ovary Tonic, Diuretic
Rosaceae	<i>Rubus caesius</i> L.	Tameshk	481	Dorreh	Fruit-flower-Root	Tonic· Astringent, Anti-diabetes · Bleeding stop, Blood depurative, Edible
Rosaceae	<i>Sanguisorba minor</i> Scop	Tote Roba	480	Ghitarmah	Leaves- Stem	Toothache, Kidney inflammation ,Blood depurative
Rubiaceae	<i>Galium verum</i> L	Alafeh Panir	482	Gol Panir	Aerial parts	Diuretic, Astringent
Rubiaceae	<i>Rubia tinctorum</i> L.	Ronas	483	Roin	Root	Hair Tonic, Hair dyeing, Kidney stone, Galactagogue, Constipation, Skin diseases
Rutaceae	<i>Haplophyllum perforatum</i> (M.B.) Kar. et Kir.	Sodabi	484	Kafkafok	Leaves	Antifungal, Fracture
Scrophulariaceae	<i>Verbascum cheiranthifolium</i> Boiss.	Mahor	486	Zell	Aerial parts	Indigestion, Anti diarrhea, Cough, Antiacid, Stomach tonic
Scrophulariaceae	<i>Verbascum songaricum</i> Schrenk.	Mahor	485	Zell	Aerial parts	Scorpion and snake bite cure
Solanaceae	<i>Datura stramonium</i> L.	Tatureh	487	Tatarang	Seed	Calmative, Addiction, Colic
Solanaceae	<i>Hyoscyamus niger</i> L.	Bangdaneh	488	Khenzir mash Hulbang	Seed- Leave	Calmative, Addiction, Toothache, Headache, Antigout
Solanaceae	<i>Solanum nigrum</i> L.	Tajrizi Sia	489	Teri Rivi	Fruit- Aerial parts	Reducing blood lipid, Diabetic, Constipation ,Toothache calmative, Anti worm ,
Tamaricaceae	<i>Tamarix ramosissima</i> Ledeb	Gaz	500	Gaz	Stem bark	Cough, Toothache, Anti diarrhea, Dysentery, Skin wound
Typhaceae	<i>Typha latifolia</i> L.	Loyi	491	Lokh	Stem- Flower	Anti-diarrhea, back pain, Wound healing, Fever, dysentery, Astringent
Ulmaceae	<i>Celtis caucasica</i> Willd.	Daghdaghan	495	Tavi	Stem bark- Fruit-Root	Cough, Disinfectants, Edible
Urticaceae	<i>Urtica dioica</i> L.	Gazaneh	493	Gazgazok	Whole plant	Diabetic, Prostate Hypertrophy, Anemia, Anti-inflammatory, Digestive
Urticaceae	<i>Urtica pilulifera</i> L.	Gazaneh Sag	494	Gazgazok	Seed	Laxative, Cough
Verbenaceae	<i>Verbena officinalis</i> L.	Shahpasand	492	Punge karan	Aerial parts	Appetizer, Indigestion, Astringent · Sputum, flu, kidney and bladder stone · Blood depurative
Violaceae	<i>Viola odorata</i> L.	Banafsheh	490	Golmanafsh	Flower	Eczema, Fever, Anti allergic, Blood depurative, Jaundice, Cold, Cough
Xanthorrhoeaceae	<i>Eremurus olgae</i> Regel	Cerish	496	Guleke mishin	Root-Leaves	Appetizer, Liver troubles, Stomach ulcer, Periodic
Xanthorrhoeaceae	<i>Eremurus spectabilis</i> M.Bieb.	Cerish	497	Guleke bezen	Root- Leave	Dermal infection, Sticking, Anti hyperlipidemia
Zygophyllaceae	<i>Peganum harmala</i> L.	Espan	498	Horzaling	Seed	Rheumatism, Calmative, Jaundice, anti-worm, Diabetes, Antiseptic, Hypnotic,
Zygophyllaceae	<i>Tribulus terrestris</i> L	Kharkhasak	499	Mikhcheh	Aerial parts	Diuretic, Kidney Stone, Prostate Hypertrophy, Dysuria, Urinary Antiseptic
Zygophyllaceae	<i>Zygophyllum fabago</i> L.	Ghich baghlayi	501	Horzaling buz	Seed	Digestive problems, Anti diarrhea

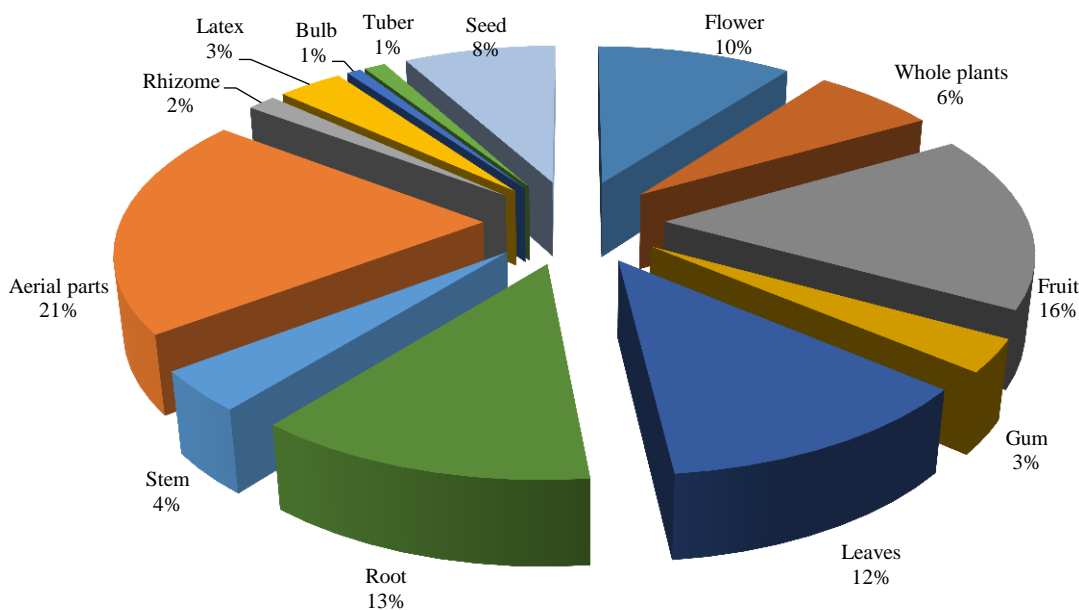


Fig. 4 Parts of plant used and their percentage.

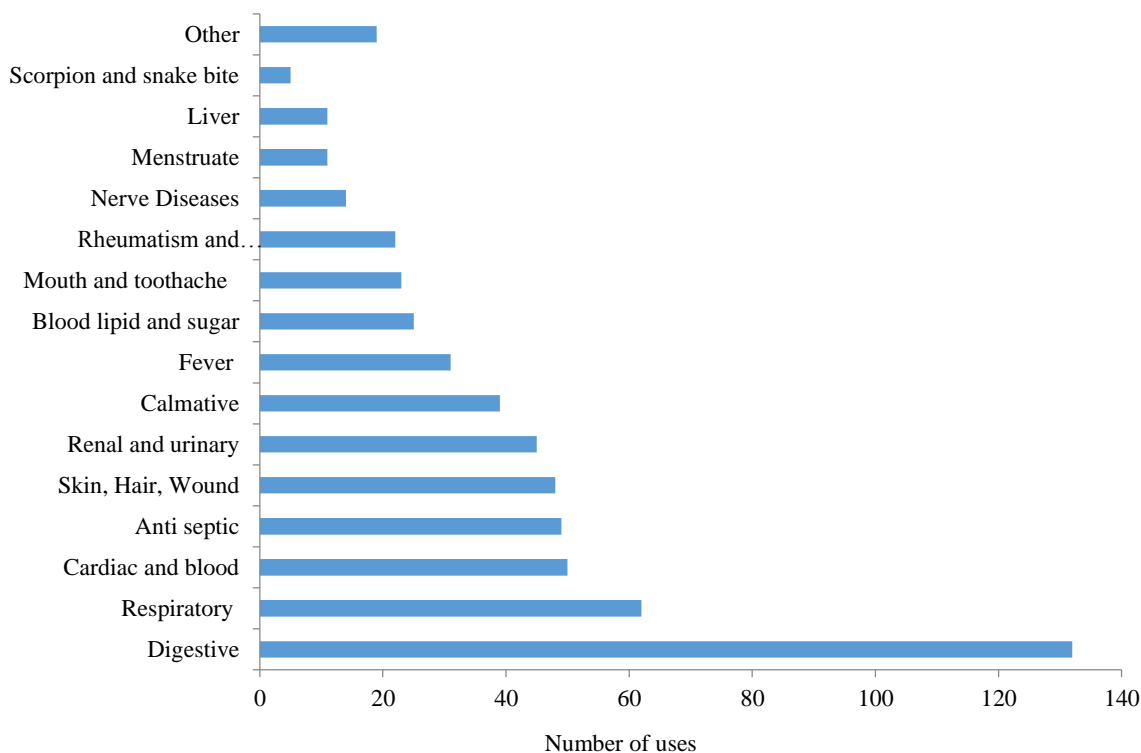


Fig. 5 Illnesses treated by medicinal plants along with their number.

Labiatae, Compositae, Rosaceae and Leguminosae conclude more usable taxa (Sanzo *et al.*, 2013). 33 families are represented by one or two species only. According to results of this experiment, the largest genera of plants were belonging to *Ferula* and *Plantago* with 4 species, followed by *Crataegus*, *Chenopodium*, *Ephedra* and *Hymenocrater* with 3 species of the study area. The results showed that Aerial parts (21%) were the most commonly used part by the informants

followed by fruits (16%), root (13%), leaves (12%), flowers (10%) and seeds (8%) as whole (6%), stem (4%), gum (3%), latex (3%), rhizome (2%), bulb and tubers (1%) (Fig. 4).

The reason that why aerial parts are used mostly is that they are easily available and also are active in photosynthesis and production of metabolites. Aerial part is one of the most usable parts in medical purposes which have reported in (Amiri and Joharchi, 2013)

research. (Mosaddegh *et al.*, 2012) and (Hosseini *et al.*, 2020) concluded that aerial parts are used more than other parts.

Traditional knowledge of illnesses treated by medicinal plants of this region prepares excellent results in the remedy of cough, colds, calmativ, jaundice, diarrhea, kidney stones, eczema, tonic, scorpion and snake bite, arthritis, diabetes, hemorrhoids, stomachache, Tumor, joints pains, respiratory problems, headache, skin problems, urinary troubles, wound, toothache, Depurative of blood and liver, constipation, anti-septic, herpes, and many other diseases.

In figure 5, the applications of medicinal herbals are reported. According to figure 5, the most stated medicinal uses were for digestive diseases particularly Laxative, ant diarrhea, Carminative, Appetizer and colic's, then respiratory, especially cough and colds, cardiovascular problems, anti-septic, skin and hair, urinary and kidney problems, calmativ, reduction of lipid and sugar. Clearly, many ailments can be cured using these medicinal herbs and most of these plants can remedy a variety of current diseases. It appears that the gastrointestinal system is the most prevalent use in researches in different regions of Iran (Dolatkhahi *et al.*, 2014; Hosseini *et al.*, 2021).

According to ethnobotanical investigation among the indigenous, most of the plants used in traditional medicine in Bojnourd Kurmanjis Kurdish include species from Ziziphora, Althaea, Malva, Teucrium, Plantago, Thymus, Hymenocrater, Dracocephalum, Achillea, Descurainia, Eremurus and Cichorium genera. The aerial parts of *Ziziphora clinopodioides* is used to the treatment of toothache, kidney Pain, Cough, digestive disorders, antibacterial and antifungal activities by the native people of the region. This plant is also used to treat different diseases as an antiseptic, cold, cough and wound-healing medicine (Ding *et al.*, 2014). The roots of *Althaea cannabina* claimed to be highly effective on the women venereal disease, anti-inflammatory, bonesetting and cough. The mucilage, or gummy secretion, in the leaves and particularly the root this plant is helpful for soothing sore throats, chapped skin, minor wounds (Grieve, 1984) and antibacterial (Ozturk & Ercisli, 2007). In traditional medicine, the people of this area used *Plantago* species as respiratory disease, digestive disorders and inflammation. Other studies cite various diseases that are treated by *Plantago* species such as lower blood cholesterol level and to maintain blood glucose homeostasis, which together is the most effective preventive measures against diabetes and cardiovascular disease (Deokar *et al.*, 2016). The aerial parts of *T. trautvetteri*, *T. kotschyanus* and *T. transcaspicus* are widely used by Kurmanjis Kurdish to toothache, calmativ, antibacterial and antifungal. In traditional medicine Thymus species are used as

antibacterial, antifungal, antiviral, anti-helminthic, antioxidative, antispasmodic, sedative, diaphoretic drugs (Kılıçgün & Korkmaz, 2016; Dogu-Baykut *et al.*, 2014), antidepressant and anticancer effects (El Astal *et al.*, 2005). Hymenocrater plants have many polyfunctional and active compounds that have flu, diuretic, antibacterial and antifungal promoting properties. Hymenocrater species are used as antifungal, antidiabetes, anticancer and antiparasite (Hoshyar *et al.*, 2015; Al-Anee *et al.*, 2015). *Dracocephalum lindbergii* is claimed to be effective on immunity increase, reduce fever, joint pain, rheumatism and inflammation. *Dracocephalum lindbergii* extract show various biological effects, such as anticancer, antioxidant, antihypoxic, and immunomodulatory activities (Zeng *et al.*, 2010).

The aerial parts of *Achillea wilhelmsii* is used to the treatment of stomachache. There are many other uses for this species, anti-hyperlipidemic, anti-hypertensive and anti-mycobacterial properties (Khazneh *et al.*, 2016). The aerial parts of *Medicago sativa* is used to the treatment of anti-bleeding due to incision, appetizer, tonic and osteomalacia by Kurmanjis Kurdish of the region. In addition, traditional medicinal use of *Medicago sativa* sprouts or leaves includes treatment of lowering cholesterol, arthritis, kidney problems, and boils (Hong *et al.*, 2009). The aerial parts of *Teucrium polium* is traditionally used by Kurmanjis Kurdish to colic, antacid, indigestion, diabetic, anti-diarrhea and calmativ. There are many other applications for this species, antipyretic and intestinal motility activities (Gharaibeh *et al.*, 1988; Suleiman *et al.*, 1988).

Some species have been recorded for edible and natural taints uses. Most of the edible plants used as savage vegetables and gathered in spring. For example, species of Panjah gherek, Davdavi and Pung (*Falcaria vulgaris*, *Echinophora platyloba* and *Mentha longifolia*) are collected as savage vegetables or *Eremurus olgae* and *Chenopodium* sp. are used in making Injinjeh and soup (kind of local food) or used as greens in local foods. Roots of *Glycyrrhiza glabra* are used as flavoring in making Davkali and Qara-qurut. Gulek (*Eremurus olgae* and *Eremurus spectabilis*) is a common savage vegetable in the region and in early spring it could be found in local markets. This plant has the potential to be cultivated as a vegetable in large scale in the area because of high application among people and its reception as a vegetable even by non-native people. Karang (*Gundelia tournefortii*) is a weed plant growing in different places, rangelands, roadsides and dry farming. The young shoots of this plant are eaten by local people as savage vegetable. Fruits of *Rubus caesius* and *Ficus carica* are collected for making jam. Fruits of *Berberis* sp. are collected for making food taste and sherbet. Non-edible utilizations also have been

recorded. For example, roots of *Rubia tinctorum* were used in past for dyeing textile for orange color or aerial parts of *Ephedra* sp. were used for water-skins dyeing.

#### 4. Conclusion

This study plainly demonstrates a deep-rooted ethnobotanical inheritance of Kurmanjis Kurdish in Bojnourd. Traditional information of local folks is relied on oral tradition passed from among several generations and most of these knowledge continuances only in the memory of the elderly persons and is now in hazard of extinction. This review exposit the requisiteness of ethnobotanical works in different areas of Iran to register all the folkloric knowledge practiced among native individuals and struggles to collect these dispersed data in order to help protecting cultural traditions.

Because of specific climatic importance owing to possess 11 climates out of 13 world climates, Iran is a rich fount of medicinal herbs, and some of them were employed in traditional medicine for centuries (Sharafzadeh & Alizadeh, 2012). North Khorasan province in Iran with diverse climatic situations has corresponded a wide range of plant communities especially herbs, spices and medicinal plants. In recent years, drought and low rain have harmed the vegetation of plants in area. In addition, over harvesting of some significant medicinal plants has increased from natural habitats in region. They are at peril of being lost to future generations. Some plants such as *Achillea wilhelmsii*, *Thymus transcaspicus*, *Thymus kotschyanus*, *Eremurus olgae*, *Eremurus spectabilis*, *Ziziphora clinopodioides*, *Cichorium intybus*, *Origanum vulgare*, *Glycyrrhiza glabra*, *Dracocephalum lindbergii* and *Teucrium polium* have been menaced as medicinal plants seller and traders employ the local persons for gathering these species due to the economic purposes. In addition, native people sometimes sell these medicinal herbs in the local market for their living. Many of these plants are potentially endangered and vulnerable taxa. However, it is essential to regulate gaits for biodiversity conservation, management and sustainable utilization and local community development.

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