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Traditional Medicinal Plants Used in Dermatologic Disorders in Ardahan, Iğdır and Kars

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Abstract

Ethnobotany is briefly defined as a "human-plant relationship". Mankind has used plants as a food source since ancient times, resorted to healing and accumulated their experiences. About 12.000 plant species grow in Turkey. The World Health Organization (WHO) has determined the number of herbal medicines as approximately 1900 and it has been determined that approximately 20,000 plants are grown in Turkey, 600 of which are used for therapeutic purposes. This investigation was conducted to document the species, family, and local names, usage types and localities of medicinal plants utilized by people living in and around Ardahan, Iğdır and Kars provinces between 2020-2021 for dermatologic disorders. To that end, medicinal plant species utilized by the local mankind for therapeutic aims were collected and detected. The visitations were organised to the investigation regions at regular intervals, and survey investigations were realized by interviewing and talking with the local people one-on-one. 82 medicinal plant taxa belonging to 31 plant families utilized in dermatologic disorders were collected from Ardahan, Iğdır and Kars provinces and their surroundings. Of these, 68 species are wild and 14 are cultivated plants. It has been reported that the most commonly utilized medicinal plant families in dermatologic disorders are Asteraceae (12), Scrophulariaceae (7), Boraginaceae (5), Fabaceae (5), and Salicaceae (5). As a conclusion, despite the deep-rooted history in such regions, the transmission and use of traditional knowledge have remained limited.

Keywords: Ardahan, Iğdır, Kars, dermatologic.

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1. INTRODUCTION

Throughout history, people have benefited from plants grown in their region for various purposes. Mankind started cultivating the plants he collected from nature frequently for the first time [1]. The term ethnobotany was firstly used by the American botanist Dr John William Hershberger and was used to describe his research, which he described as his work on "plants produced by primitive and indigenous peoples" during a conference in Philadelphia in 1895. Ethnobotany is briefly defined as "human-plant relationship". Ethnobotany is also the study of interactions and relationships between plants and humans in time and space. Mankind has used plants as a source of food since ancient times, resorted to their healing and accumulated their experiences. About 12.000 plant species grow in Turkey. It has been reported that more than 50,000 of the approximately 4.22 million flowering plants found in the world are used for medicinal purposes. The World Health Organization (WHO) said that 80% of the world's population is mainly dependent on indigenous medicines and most traditional treatments involve using plant extracts. According to WHO, threequarters of the world's population cannot afford modern medicines and rely on traditional herbal medicines. Until the middle of the 19th century, herbs were the main therapeutic agents used by humans, and their role in medicine is still valid today. In the late 19th century, ethnobotany began to develop as a science offering new tools for pharmaceutical research. Public institutions such as WHO and private pharmaceutical companies have started investing ethnobotanical discoveries. Medicinal plants are an important element of local medicinal systems around the world. Ethnobotanical accumulation is accepted as a part of the "traditional" knowledge of a culture. For many years, Europe benefited from the ancient accumulation of local cultures, especially in newly discovered regions, and most of the molecules modern drug phytotherapeutic preparations used today are

derived from plants included in the traditional knowledge of indigenous cultures. Eighteenthcentury explorers, British Richard Spruce and German Alexander von Humboldt, detailing the use of plants by indigenous communities, studied in detail the preparation of curare, which was used as an arrow poison in South America and later became famous as an important muscle relaxant. The role ethnobotany in the search for new drugs remained important until the second half of the 20th century, when other approaches became more 'fashionable'. In recent years, the use of such information in medicinal plant research has again attracted great interest in the media and some parts of the scientific community. In addition, 'Western' use of such information has come under increasing scrutiny and national and indigenous rights to these resources have been recognized by most academic and industrial researchers. WHO has determined the number of herbal medicines approximately 1900 and it has been determined that approximately 20,000 plants are grown in Turkey, 600 of which are used for therapeutic purposes. Most of the living in the Eastern Anatolia Region make their living from agriculture and animal husbandry. The fact that the plant diversity in the region is high also reinforces the closeness of the people of the region to the plants [2-5].

The Eastern Anatolia Region (EWA) covers an area of approximately 170.000 km2, 20% of Turkey, and is located in the Iran-Turanian phytogeographical region. More than 3000 plants are grown in the region and the region is among the richest regions of our country in terms of endemism, with a rate of 25%. Due to the geographical conditions of the region, the distance of the villages from the city centres, and the cold and long winter months, herbal treatment is still quite common today. Due to different ecological conditions, various climatic types and vegetation history, it has been observed that EAB has a rich flora. The region, which has a rich cultural heritage, also has a wide wealth of information in terms of ethnobotany, but due to the migration from rural areas to cities and advancing technology, the youngest generations do not know the value of this treasure and this treasure is facing loss [6].

Although skin diseases are not life-threatening, unlike other organ diseases, they affect the external appearance of the person; they can negatively affect their psychosocial status, personal relationships and daily activities. For this reason, it is important to determine the effects of the diseases on life apart from the clinical severity, to understand how the patients perceive the disease, and to determine the changes in the psychosocial status of the treatment results. "Good quality of life" is more relevant to dermatology than any other medical field, because the most of dermatology patients have chronic and incurable diseases. The effects of these diseases are subjective and depend on the person's circumstances [7].

Complementary and alternative medicine (CAM) is defined by the American National Center for Complementary and Alternative Medicine as a "complementary standard medical treatment" in various health care systems, practices and is referred to as "products". CAM, which is used all over the world today; alternative medical systems (homoeopathy, or traditional Chinese medicine), treatment methods based on the mind-body relationship (meditation, prayer, dance, art, music), biological-based treatments (herbal treatments, dietary supplements), and body-based treatments manipulative (chiropractic medicine, massage), energyfocused therapies (Ki gong, Reiki, touch) are classified under 5 main groups. The frequency of CAM use in dermatology has been reported as 35-69% due to studies conducted in different countries [8].

This research was carried out to document the parts and preparation methods of medicinal plants used in skin diseases by people living in and around Ardahan, Iğdır and Kars provinces between 2020 and 2021.

2. MATERIALS AND METHODS

2.1. Study Areas

The Eastern Anatolia Region has the largest surface area in Turkey and is the region with the lowest population density. The average altitude of the region is 2000 m. and three quarters of the region's land is approximately 1500-2500 m. is in the range. The Eastern Anatolia Region is located in the east of our country and it is a region that has borders with the Black Sea, Mediterranean, Southeastern Anatolia and Central Anatolia Regions and draws attention with its length of land border with neighboring countries. The region has borders with five neighboring countries (Nakhchivan (Azerbaijan), Iraq, Georgia, Armenia and Iran). Severe continental climate is seen in most of the region and low temperature values and long and snowy winter months dominate in the region [9] (Figure 1).

2.2. Data Collecting

Within the scope of the study, the information was compiled by face-to-face interview method in the field studies carried out in 120 villages (Ardahan-40, Iğdır-30 and Kars-50). In order to identify people with traditional knowledge, general information about the project was given by contacting the reeves beforehand, and information was obtained about people with traditional knowledge. In addition, interviewbased interviews in the form of questions and answers were held with people in village coffee shops, village/district mosques, solidarity/association associations, public education centers, agricultural chambers, and cooperatives. As much as possible, women over the age of 60, midwives, shepherds, people referred to as "cookers" or "healers" were interviewed. Before starting the fieldwork, a "Question List" was created regarding the questions to be asked to the interlocutors during the fieldwork, taking into account the following main headings and the detailed headings in the standard information forms. Thus, it was ensured that a fast and fluent compilation was made without skipping any title. Of the informants, 149 (35.82%) were women, while the remaining 267 were men.

2.3. Plant Samples

The plants were collected from the villages of Ardahan, Iğdır and Kars regions in 2020-2021. Identification of the collected plants was made by Prof. Dr. Özkan Aksakal.

3. RESULTS

The demographic characteristics of the participants were recorded through face-to-face interviews. 94 participants (36 women, 58 men) were interviewed in Ardahan. It was observed that 18.92% of the participants were illiterate. A total of 144 participants (50 women, 94 men) were interviewed in Iğdır. It was observed that 18.66% of the participants were illiterate. A total of 178 participants (63 women, 115 men) were interviewed in Kars. It was seen that 12.09% of the participants were illiterate.

82 medicinal plant taxa belonging to 31 plant families utilized in dermatologic disorders were collected from Ardahan, Iğdır and Kars provinces and their surroundings. Of these, 68 species are wild and 14 are cultivated plants. It has been reported that the most commonly utilized medicinal plant families in dermatologic disorders are Asteraceae (12), Scrophulariaceae (7),Boraginaceae Fabaceae (5), and Salicaceae (5). The most commonly used plants were biebersteinii (as a blood stopper for wounds), Achillea millefolium (as a blood stopper for wounds), Onosma armena (for wounds), Alkanna tinctoria (for burns and wounds), Alkanna orientalis(for burns and wounds), Euphorbia iberica (for warts and eczema), Astragalus microcephalus (for cracks of the hands), Medicago sativa (as a blood stopper for wounds), Malva neglecta (as a wound healer),

Pinus sylvestris (as a wound healer), Plantago major (as a wound healer), Plantago lanceolata (as a wound healer), Rumex crispus (as a wound healer), Salix fragilis (for "Demiro"), Salix armenorossica (for eczema), Verbascum agrimoniifolium (for fungus foot), Tamarix smyrnensis (for scabies), and Ulmus minör (as a wound healer). The 82 plants identified in the area were prepared according to the alphabetical order of the families and their botanical names are given in Table A1.

4. DISCUSSION

Ethnobotanical studies on the use of plants by the public increased, especially in the 90s and 2000s, in our country as well as all over the world, and as a result, the number of ethnobotanical studies has increased. Almost all of the research on the determination of traditional knowledge based on biodiversity in Ardahan, Iğdır and Kars environs have an ethnobotanical content, and most of the qualified studies belong to the recent past. As a result of the literature review, the most of ethnobotanical studies on Ardahan, Iğdır and Kars regions cover Eastern Anatolia. As in the studies carried out in Ardahan, Iğdır and Kars, it has been observed that Achillea millefolium, Eryngium campestre, Achillea biebersteinii, Arctium platylepis, Cichorium intybus, Glycyrrhiza glabra, Medicago sativa, Mentha longifolia, Malva neglecta, Plantago lanceolata, Rumex crispus, Galium verum, Ulmus minör, Urtica dioica, Juglans regia, Fumaria officinalis, Morus alba, and Pinus sylvestris are used for similar purposes [3, 10-13]. Factors such as the difficulty of the climatic conditions in the region, the difficulty in reaching modern methods due to the distance from the district and city centers, and the economic inadequacy have positively affected the use of existing traditional methods. However, this situation continued until the 1990s. With the death of people called "cooks" or "healers", whom rural people often refer to for all kinds of problems, a large part of the experiences based on traditional knowledge could not be transferred to new generations. In almost every village, the words "if you had come 20-30 years ago" were said to the project team, "if you had come when my healer-cooker grandfather, grandmother, midwife were alive". In addition, very precious traditional information with high potential to be used and popularized in the future has been recorded from the field.

The Eastern Anatolia Region is a mountainous and high region that is rich in terms of physical geography due to the mountains extending in the east-west direction and the basins between these mountains. While fertile agricultural areas are found in intermountain basins and tectonic depressions, high mountains are important grassland areas. In this context, the region can be considered as an important agriculture and animal husbandry area of our country. The region has difficult conditions, especially with its climatic and geographical structure. The reflection of environmental conditions on the cultural process and the traceability of this reflection through the data to be obtained through the studies to be carried out are of great importance [14, 15].



Figure 1 Ardahan, Iğdır and Kars Provinces Traditional Information Recorded Villages (Cirled)

Numerical data on the use of medicinal plants in Ilica (Erzurum) were evaluated and it was reported that the rate of plants used in skin problems was 14.5% [16]. Numerical data on the use of medicinal plants in Iğdır were

evaluated and it was reported that the rate of plants used in skin diseases was 11.05% [17].

5. CONCLUSION

Although it has a deep-rooted history, limited data have been reached in villages where the number of households has decreased due to various reasons, especially immigration. Those who settled in the villages, which are cultural transition areas, through migration, left a significant part of their traditional knowledge, manners and experiences in the places they came from. On the other hand, they had difficulty in learning and assimilating much of the traditional knowledge of the region they came from. For this reason, despite the deeprooted history in such villages, the transmission and use of traditional knowledge have remained limited. Despite the deep-rooted history in such villages, the transmission and use of traditional knowledge have remained limited.

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The Declaration of Conflict of Interest/ Common Interest

The authors have declared no conflict of interest.

Authors' Contribution

Concept: S.K., Z.K., S.V.Y., Ö.A., Y.Z.S., Ü.İ., A.P., Design: S.K., Z.K., Ö.A., Ü.İ., Data Collection or Processing: S.K., Z.K., S.V.Y., Ö.A., Y.Z.S., Ü.İ., A.P., Analysis or Interpretation S.K., Z.K., S.V.Y., Ö.A., Y.Z.S.,

Ü.İ., A.P., Literature Search: S.K., Z.K., Ü.İ., Writing: S.K., Z.K., Ü.İ.

The Declaration of Ethics Committee Approval

This study was carried out within the scope of the project named "Biyolojik Çeşitliliğe Dayalı Geleneksel Bilginin Kayıt Altına Alınması". Field studies in the related project were carried out under the coordination of the relevant village headmen, with the assignment of the Ministry of Agriculture and Forestry and the knowledge of the governorships.

The Declaration of Research and Publication Ethics

The authors of the paper declare that they comply with the scientific, ethical and quotation rules of SAUJS in all processes of the paper and that they do not make any falsification on the data collected. In addition, they declare that Sakarya University Journal of Science and its editorial board have no responsibility for any ethical violations that may be encountered, and that this study has not been evaluated in any academic publication environment other than Sakarya University Journal of Science.

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Traditional Medicinal Plants Used in Dermatologic Disorders in Ardahan, Iğdır and Kars

Table A1. Plants Used in Skin Diseases in Ardahan, Iğdır and Kars Provinces and Surroundings.

NO	Species Name	Family Name	Local Name	Usage Types	Localite
1.	Allium sativum L.*	Amaryllidaceae	Sarımsak	Garlic is crushed in the oil. A little salt is added. It is applied to "Demiro" skin disease.	Iğdır
				Garlic is used by crushing for the sty.	Iğdır
2.	Eryngium campestre L. var. virens Link	Apiaceae	Devetabanı	Fresh leaves are crushed and put on wounds.	Iğdır
3.	Achillea biebersteinii Afan.	Asteraceae	Kılıç otu, Sarı civanperçemi, Oymaderem, Zınıkaner	After the leaves of the plant are lightly beaten, they are placed on the cut area and wrapped in order to stop the bleeding.	Iğdır
				After the flowering aerial parts of the plant are boiled, the foot with fungus is washed with this water.	Kars
				After the leaves of the plant are crushed, they are placed on the cuts as a blood stopper.	Iğdır
				The fresh aerial parts of the plant are crushed and applied to the bleeding area.	Kars
				The leaves of the plant are crushed and used as an astringent.	Kars
4.	Achillea millefolium L.	Asteraceae	Kılıç otu, Pisik otu, Gılıç otu	After the leaves of the plant are lightly beaten, they are placed on the cut area and wrapped in order stop the bleeding.	Iğdır
				After the plant's leaves of are lightly beaten, they are placed on the cut area and wrapped in order to stop the bleeding.	Ardahan
				The plant's leaves are dried and powdered and used on wounds.	Kars
				After the plant's leaves are lightly beaten, they are placed on the cut area to stop the bleeding and wrapped.	Iğdır
				The resin of <i>Pinus sylvestris</i> and aerial parts of the plant are crushed into a paste. It is applied to the bleeding part.	Ardahan
				The plant's leaves are crushed and used as a blood stopper.	Kars
				The plant's leaves are crushed and mixed with lard oil and used as a wound healer.	Kars
				After the plant's leaves are crushed, they are mixed with butter and used in bruises after they become an ointment.	Kars
5.	Cichorium intybus L.	Asteraceae	Cıtlanguş, Çıtlı öz	It is used to treat burns after the aerial parts are burned.	Iğdır
				The aerial parts are cooked with eggs and used in sty treatment. Stems are burned for inflammatory wounds and boils; The resulting ash is placed on the wound until the inflammation dries up. Each time ash is added to the wound, and the previous deposits are not deleted. This ash is also used for scabies.	Iğdır Kars

6.	Xanthium spinosum L.	Asteraceae	Pitrak	The stems are crushed and put on the wound.	Iğdır
7.	L. Lactuca serriola L.	Asteraceae	Artok	Plant's aerial part is boiled and is applied to the area with alopecia. Plant aerial part juice is used for foot fungus.	Iğdır Iğdır
				The aerial parts of the plant are boiled. The area with foot fungus is washed with this water. The aerial part of the plant is boiled against eczema	Iğdır Iğdır
				and its water is used. The whole plant is boiled and the person with scabies is washed with its juice.	Iğdır
8.	Scorzonera cana (C.A.Mey.) O.Hoffm.	Asteraceae	Siping	The latex obtained from the plant's roots is used in the treatment of warts.	Iğdır
9.	Arctium platylepis (Boiss. & Bal.) Sosn. ex Grossh.	Asteraceae	Garahort	The plant's leaves are crushed and put on wounds.	Iğdır
10.	Tragopogon aureus Boiss.	Asteraceae	Siping	The latex obtained from the roots of the plant is applied in the itching.	Kars
11.	Cichorium glandulosum Boiss. & A.Huet	Asteraceae	Çakçak	After the plant's roots are burned and mixed with butter, it is applied to the wounds.	Kars
12.	Helichrysum plicatum DC.	Asteraceae	Altınbaş	The plant's flowers are boiled with garlic until they have the consistency of an ointment and applied to the wounds.	Kars
13.	Achillea tenuifolia Lam.	Asteraceae	Kiliç otu	The plant's leaves are crushed and used as a blood stopper.	Kars
14.	Tanacetum punctatum (Desr.) Grierson	Asteraceae	Sandal	The plant is added to the bath water. It is used for hair.	Ardahan
15.	Betula alba L.	Betulaceae	Kayın	The plant tar is applied directly to the area with fungus foot, 1-2 drops.	Ardahan
16.	Betula pendula Roth	Betulaceae	Huş	Plant bark tar is used as a healer in eczema wounds.	Ardahan
17.	Echium vulgare L.	Boraginaceae	Havaciva	The aerial parts are boiled and the water is applied to the burns.	Ardahan
18.	Onosma armena DC.	Boraginaceae	Havaotu, Yara yaprağı, Hevaju,	The plant's leaves are wetted with hot water. The softened leaves are closed on the wound.	Kars
			Havaju, Enlik	Roots are roasted in a pan. When the roots are roasted, the oil comes out. That oil is rubbed into the wounds.	Kars
				The plant's roots are roasted in a pan and the oil is extracted. It is used as a wound healer.	Kars
				The water obtained by boiling the root is used for eczema. This water is used until eczema dries up.	Kars
19.	Alkanna tinctoria (L.) Tausch	Boraginaceae	Havajo, Havaciva, Hevaco	The plant's roots are cooked with butter and used for red cream burns.	Iğdır
				The plant's root, which is roasted in oil to the consistency of ointment, is applied to the wound after it takes this state.	Kars
				The plant's root are boiled until they reach the consistency of ointment and this ointment is applied to the circumcision wounds.	Kars

				The plant's root is roasted and used to treat of burn	Kars
				wounds. The plant's root are collected, roasted in butter, wax is put on it and fried a little more, the prepared mixture is kept at room temperature and applied to wounds and cracks.	Ardahan
				The plant's root is roasted in butter with beeswax. When it becomes an ointment, it is applied directly to the wounds.	Ardahan
20.	Anchusa azurea Mill.	Boraginaceae	Havajo, Havaciva	The plant's root are cooked with butter and rubbed into the wounds.	Kars
				The root is boiled and mixed with unsalted butter and applied to burns and wounds.	Kars
21.	Alkanna orientalis Boiss.	Boraginaceae	Havaciva, Havago Hevaco, Havejo Havajo	The plant's root are cooked with butter and used as	Kars
				The plant's roots are cooked with butter and used to treat burns.	Kars
				The plant's root are cooked with butter and used for burns.	Kars
				It is combined with rosin, olive oil, the root of the plant, lime, white wax, beeswax, garlic, and 5 g of each. These crushed components are applied to the burned area like a cream.	Kars
				The plant's root are cooked with butter and used for burns.	Kars
				The poultice obtained after the roots of the plant are cooked with butter is used as a wound healer.	Iğdır
				30-40 g of plant root, which is put in 100 g of butter, is roasted until it reaches the consistency of ointment. The resulting arrangement is applied to the injured area.	Kars
22.	Cephalaria procera Fisch. & Avé-Lall.	Caprifoliaceae	Cipreş	The plant's aerial parts are crushed and used as a wound healer.	Kars
23.	Cuscuta campestris Yunck.	Convolvulaceae	Kevze	The whole plant is applied directly to the bleeding site.	Ardahan
24.	Elaeagnus angustifolia L.	Elaeagnaceae	İğde	Fruit peels are used for skin diseases and psoriasis.	Iğdır
25.	Euphorbia iberica Boiss.	Euphorbiaceae	Sütlegen, Hulişirk (Sütleğen),	For warts, 1-2 drops of plant milk are dripped.	Ardahan
			Sütlübiyan, Südyan	Its latex is used to dry fungal diseases or acne.	Iğdır
				The latex of the plant is used to cure eczema and warts.	Iğdır
				The latex of the plant is applied directly to the eczema and "Demiro "areas.	Iğdır
				Its latex is dripped onto the wounds on the skin. It dries the wound.	Kars

26.	Euphorbia orientalis L.	Euphorbiaceae	Sütligen	The latex on the body of the plant dries the wart.	Kars
27.	Euphorbia virgata Waldst. et Kıt.	Euphorbiaceae	Topuștopuğu	The milk of the plant is mixed with some water. The milk of this plant is good for skin wrinkles.	Kars
28.	Trifolium campestre Schreb.	Fabaceae	Üç yaprak yonca	The leaves of the plant are dried, ground into powder and mixed with Cichorium intybus. It is poured into watery wounds. It dries the wound.	Iğdır
29.	Medicago lupulina L.	Fabaceae	Kara yonca, Yabani yonca	The aerial parts of the plant are used as a blood thinner. It is applied by crushing lightly.	Iğdır
30.	Glycyrrhiza glabra L.*	Fabaceae	şirinbiyan	The resin obtained from the roots of the plant is used in foot wounds.	Iğdır
31.	Astragalus microcephalus Willd.	Fabaceae	Geven, Guni	The liquid obtained by squeezing the roots of the plant is applied externally to treat swelling and bruises caused by sprains.	Ardahan
				The root oil of the plant is applied to the cracks of the hands.	Iğdır
				The plant's root oil is applied to the cracks of the hands.	Ardahan
				The gum obtained from plant roots is used as a wound healer.	Kars
				The gum obtained from the roots of the plant is mixed with barley flour and applied as a wound healer.	Kars
				The root oil of the plant is applied to the cracks of the hands.	Kars
				The gum obtained from the roots of the plant is used as a wound healer.	Kars
32.	Medicago sativa L.	Fabaceae	Kara yonca, Yabani yonca, Oncarej	The plant is chewed a little in the mouth and pressed on the bleeding place.	Ardahan
			, J	The leaves of the plant are chewed and tied to the bleeding wound.	Iğdır
				The aerial part of the plant is chewed and tied to the bleeding wound.	Iğdır
				The aerial part of the plant is lightly chewed and wrapped as a blood thinner on cut wounds.	Iğdır
				The leaves of the plant, and the root of <i>Salix</i> sp. are pounded in a stony mortar and then clay is added.	Iğdır
				This mixture is suitable for mouth sores. The leaves of the plant are applied as a boil remover by chewing lightly in the mouth.	Iğdır
33.	Fagus orientalis Lipsky	Fagaceae	Kayın	The resin of the plant is used directly as a wound healer.	Ardahan
34.	Gentiana lutea L.	Gentianaceae	Camışkıran, Egzema otu	The person with scabies takes a bath with the boiled water of the plant's roots.	Ardahan
			Egzenia otu	The flowering plant is boiled above ground and drunk for eczema.	Kars
35.	Hypericum venustum Fenzl	Hypericaceae	Kantoron	The plant's aerial part of the is kept in olive oil for more than 40 days in the sun and is used as a	Kars
36.	Salvia verticillata L.	Lamiaceae	Dermanigali	wound healer. The aerial part of the plant is crushed and used when fresh as a blood thinner and a wound healer.	Kars

37.	Teucrium orientale L.	Lamiaceae	Mayasıl otu	Aerial parts with flowers are boiled and fungus feet are washed with water.	Kars
38.	Mentha longifolia Host	Lamiaceae	Yarpuz	Powdered leaves are used for aphthae. It is added to bath water and used to relieve itching.	Iğdır Ardahan
39.	Juglans regia L.*	Juglandaceae	Ceviz	Walnuts are crushed, and ezvay (<i>Aloe</i> sp.) is pounded and mixed. Henna is added to this mixture. This mixture is wrapped around the person's hair. If it is applied 2-3 times, hair loss stops.	Iğdır
				Henna and walnut inner membrane are crushed and applied to the area with fungus foot.	Kars
40.	Malva neglecta Wallr.	Malvaceae	Dolik, Ebegümeci, Dolig, Dolik, Dolig, Dalık	The leaves of the plant are boiled in water, mixed with chopped onion, some barley flour is added, mixed and applied to the boil.	Ardahan
			Dunk	The aerial parts of the plant are crushed and used for burns.	Iğdır
				The aerial parts of <i>M. neglecta</i> and <i>Plantago major</i> are crushed and mixed with linseed oil and used as a wound healer.	Iğdır
				After the leaves of the plant are lightly boiled, it is	Iğdır
				used as a wound healer. After the plant leaves are crushed, it is used as a wound healer.	Iğdır
				The plant's leaf is mixed with <i>Galium</i> sp. and used for burns.	Iğdır
				The leaves of the plant are boiled with red wheat flour, the dough is made and placed on the wounds	Kars
				for 3 days. After the aerial parts of the plant are crushed, they are mixed with milk and honey. On the 1st day, it is applied to the crushed and injured area. On the 2nd day, after the plant is crushed again, barley flour and milk are mixed and applied to the same area.	Kars
				The leaves are crushed and mixed with soft soap. It is applied to the furuncles. The leaves of the plant, which is boiled with milk,	Iğdır Kars
41	47 7		TT 1 "1"	are placed on the furuncles.	
41.	Alcea calvertii (Boiss.) Boiss.	Malvaceae	Hırılgülü	After the roots and flowers are crushed, it is cooked with milk and used externally on inflamed wounds.	Iğdır
42.	Alcea striata (DC.) Alef. subsp. rufescens (Boiss.) Cullen	Malvaceae	Hiro	The aerial parts of the plant are crushed and boiled. Its water is filtered and the pulp is placed on the wound.	Iğdır
43.	Gossypium hirsutum	Malvaceae	Pamuk	Papillomas are cured by burning with cotton.	Iğdır
44.	L.* Ficus carica L.*	Moraceae	İncir	The latex of the fig leaf is applied directly to the wart.	Iğdır
45.	Morus nigra L.*	Moraceae	Karadut	The latex of the fruit or leaf dries warts. The fruits of the plant are eaten against mouth	Iğdır Iğdır
46.	Orobanche minor Sm.	Orobanchaceae	Pişikotu	sores. The aerial parts of the plant are boiled and the water is rubbed into the rash.	Kars

47.	Fumaria officinalis	Papaveraceae	Egzema otu	After the aerial parts of the plant are boiled, the	Kars
	L.	-		places with eczema are washed.	
48.	Pinus sylvestris L.	Pinaceae	Sarıçam	The resin of the plant is mixed with "Raspberry (Pisik otu)". It is applied to bleeding wounds.	Ardahan
				The plant's resin is used as a healer for cracks in the hand.	Ardahan
				The tar of the plant is used as a wound healer.	Ardahan
				The plant's resin is mixed with wax and lime in a one-to-one ratio, turned into an ointment and	Ardahan
				applied to burns.	
				The plant's resin is wrapped around the wounds by being slightly heated.	Ardahan
				After the rotten dust of pine (called "putur ağaç") is finely sieved, its dust is applied to the	Ardahan
				circumcision wounds. The powder of the rotten plant tree is applied over	Ardahan
				the circumcision wound by passing it through cheesecloth.	
				Alkanna orientalis root, the plant's tar and butter are roasted. The resulting cream is used as a wound healer.	Ardahan
				The tar of the plant is used as a healer in eczema wounds.	Ardahan
				Pine tar is rubbed directly into the wounds.	Ardahan
				Pine tar is rubbed into hand cracks. Plant tar is used as a healer for hand cracks.	Ardahan Ardahan
				Plant tar is used as a healer for hand cracks. Plant tar is used as a healer in eczema wounds.	Ardahan
				The fine dust of rotten trees is used as a healer for the circumcision wound.	Kars
				Rotten wood dust is applied to the circumcision wound as a blood thinner.	Ardahan
				Plant tar is used as a healer in eczema wounds.	Ardahan
49.	Pinus nigra Aiton	Pinaceae	Karaçam	Karaçam reçinesi çıban tedavisi için yara üzerine tatbik edilir.	Ardahan
50.	Abies nordmanniana (Steven) Spach	Pinaceae	Köknar	The resin of the plant is roasted with butter and applied directly to the cracks of the hands.	Ardahan
51.	Plantago major L.	Plantaginaceae	Bağa yaprağı, Yara otu, Boz otu, Boğa	The leaf of the plant is wrapped directly on the finger with the entanglement.	Ardahan
			yaprağı, Belhevis, Yara yaprağı	The leaves of the plant are boiled and wrapped around the swellings in the body.	Ardahan
			Pelheves, Pelhevesek, Pelhevis, Belhevis,	The leaves of the plant are wrapped around the wound, either directly or by slightly crushing them.	Ardahan
			Belgeheves, Belhavis,	The leaf of the plant is directly attached to the non-tipped boils.	Ardahan
			Belgeheves,	The leaves of the plant are slightly crushed and	Kars
			Belgevis	wrapped around the finger. The leaves are boiled and the pulp is wrapped in wounds.	Kars
				For whittle, the leaf of the plant is directly coiled.	Kars
				After the leaves of the plant are slightly crushed, it is used externally in the treatment of fungus.	Kars
				Fresh leaves of the plant are put on the wound.	Kars
				The leaves of the plant are crushed and placed on the boil.	Kars

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				After the leaves of the plant are crushed, they are put on the wounds.	Kars
				The leaves of the plant are crushed and put on wounds.	Kars
				The leaves of the plant are placed in hot water,	Kars
				after adding granulated sugar, it is put on the	
				wounds. The aerial parts of the plant are dried and ground	Kars
				into powder. This powder is left on the open skin	ixais
				wound for 3 days. Fresh leaves can also be used by	
				covering the open wound directly. If the dry leaf is	
				to be placed directly, the leaf is wetted and then	
				placed on the wound. The leaf of the plant is lightly crushed and wrapped	Kars
				on a boil.	Tuis
				The fresh leaves of the plant clean the wound and	Ardahan
				expel the secretions.	A 1.1
				The fresh leaves of the plant clean the wound and expel the secretions.	Ardahan
				The fresh leaves of the plant are slightly crushed	Ardahan
				and put on the wound or boil and bandaged.	
				The fresh leaves of the plant are used as wound	Iğdır
				healing. The fresh leaves of the plant take the swelling of	Iğdır
				the wounds.	15011
				Fresh leaves are crushed and put on boils and	Iğdır
				pimples. The fresh leaves are used for boils.	Izda
				The leaves of the plant are crushed and put on the	Iğdır Iğdır
				wound as a wound healer.	-6
				The leaves of the plant are slightly crushed and put	Iğdır
				in place of wounds or boils and bandaged. After the leaves of the plant are crushed, it is used	Iğdır
				as a desiccant.	iguii
52.	Plantago lanceolata	Plantaginaceae	Kılıç otu, Zilleganer	Fresh leaves are used as a wound healer.	Iğdır
	L.		Pisik kuyruğu,	The fresh leaves of the plant are used as an anti-	Kars
			Kaynak otu, Belgeheves, Kılıç	inflammatory. The fresh leaf of the plant is wrapped directly over	Kars
			otu, Bağa yaprağı,	the bleeding cut.	11111
				The leaves of the plant are dried in the shade and	Ardahan
				ground. It is sprinkled on the bleeding places as a blood suppressant.	
				The leaves of the plant are slightly crushed and put	Iğdır
				in place of wounds or boils and bandaged.	
				The leaves of the plant are slightly crushed and put	Ardahan
				in place of wounds or boils and bandaged. The leaves of the plant are crushed into deep cuts	Iğdır
				and wounds.	igun
				The fresh leaf of the plant is used directly as a	Iğdır
				blood thinner. After the fresh leaves of the plant are arushed, they	Iădır
				After the fresh leaves of the plant are crushed, they are placed on the cuts as a blood stopper.	Iğdır
53.	Lolium perenne L.	Poaceae	Çimen	The person with the itching rolls naked in the wet	Ardahan
				grass.	
54.	Oryza sativa L.*	Poaceae	Pirinç	They use the oil obtained from the plant for temre.	Iğdır

55.	Triticum aestivum L.*	Poaceae	Buğday	The wheat is roasted in a pan and the oil is extracted. It is applied to the area with ringworm.	Kars
56.	Hordeum vulgare L.*	Poaceae	Arpa	Barley oil is extracted by roasting. It is applied to the psoriasis area.	Kars
57. 58.	Rumex acetosella L. Rumex crispus L.	Polygonaceae Polygonaceae	Evelik Evelik, Ğala, Evelik	The seeds are used for psoriasis. Dry leaves are boiled with milk, powdered onions are added, and then cooked with flour and oil. The mixture is used in burn treatment.	Ardahan Iğdır
				The leaves of the plant are applied directly to the boil, by crushing or slightly boiling. It causes the boil to burst by tipping. The root of the plant is cut into small pieces, mixed	Ardahan Ardahan
				with yogurt, left in the sun for 1 day and applied to the scabies area for 3 days.	
59.	Armeniaca vulgaris Lam.*	Rosaceae	Kayısı	The stems of the plant are peeled and the liquid inside is removed. This liquid is applied to children with a rash.	Iğdır
60.	Rosa canina L.	Rosaceae	Şilan	The tar obtained by dry distillation of the stems of the plant is used in "Demiro" skin disease.	Kars
61.	Prunus cerasifera Ehrh.*	Rosaceae	Alca, Erik	The fruits of the plant are crushed, mixed with vinegar, and applied directly to the areas with eczema.	Iğdır
62.	Galium verum L.	Rubiaceae	Sim otu	After crushing the flowers, linseed oil is added. This mixture is applied to reddened and swollen areas.	Kars
63.	Salix fragilis L.	Salicaceae	Civirsöğüt, Çivirsöğüt, Çivrebi Söğüt, Yabani söğüt	Dry branches of the plant are heated. The oil that comes out is rubbed into the area with ringworm.	Iğdır
				The fresh branch of the plant is heated, 1-2 drops are applied from the dripping water to the "Demiro" area.	Iğdır
				The fresh branches of the plant are kept close to the fire and heated, and the water dripping from the tip is applied directly to the areas with "Demiro" disease.	Iğdır
				The medicine prepared from the root of the plant is used for temre.	Iğdır
				For terms disease, the root of the plant is crushed and applied directly.	Iğdır
64.	Salix alba L.	Salicaceae	Söğüt, Yabani söğüt	The leaves of the plant are crushed in vinegar, the mixture is applied directly to the area with ringworm.	Iğdır
				For foot fungus, the branch of the plant is heated. The water that comes out is applied directly to the area with fungus foot.	Iğdır
65.	Salix armenorossica A. SKV.	Salicaceae	Duzik, Söğüt	Tar obtained from the wood of the plant is used in eczema.	Kars
				The leaf of the plant is boiled before the daylight strikes and the child is washed with that water against sunstroke (gün çalgını).	Kars
				The plant's branches are put on the wart after waiting for a while on the fire.	Kars

66.	Salix pseudomedemii E.Wolf	Salicaceae	Kara söğüt ağacı	When the outer bark of the plant is placed on the fire, it gives its sap. This water is applied to places with eczema once a day for 1 week.	Kars
67.	Salix babylonica L.	Salicaceae	Salkım söğüt	The branches and leaves of the plant are boiled and used externally for itching.	Kars
68.	Verbascum georgicum Benth.	Scrophulariaceae	Öküzkuyruğu, Sığırkuyruğu	The aerial parts of the plant are boiled in water. It is mixed with flour and turned into a slurry. This mixture is applied to the boiled area. The aerial part of the plant is boiled. The area with	Ardahan Ardahan
69.	Verbascum transcaucasicum E.Wulff	Scrophulariaceae	Sığırkuyruğu	foot fungus is washed with this water. The leaf of the plant is put on the sole of the shoe. It heals the fungus.	Iğdır
70.	Verbascum orephilum C.Koch var. joannis	Scrophulariaceae	Mejok	The base leaves of the plant are placed in the area of the foot fungus.	Iğdır
71.	Verbascum agrimoniifolium	Scrophulariaceae	Şahmerhemi, Sığırkuyruğu,	The root is boiled. The person with scabies is washed with this water.	Iğdır
	(K.Koch) Hub Mor.		Majork, Mayork, Marjek, Majalk	200-300 g of fresh oxtail is boiled. In the warm water, the feet with fungus are kept in the water for 30 minutes.	Kars
				The leaves of the plant are put directly between the fingers against fungus foot.	Kars
				The leaves and roots are boiled, a paste is made with the water obtained. The dough is wrapped on the inflamed swelling. The swelling goes down.	Kars
				The root of the plant is boiled. The person with scabies is washed with water.	Iğdır
				Tea made from its leaves is drunk by people for fungal diseases.	Iğdır
72.	Verbascum speciosum Schrad.	Scrophulariaceae	Sığırkuyruğu, Mejok, Majork	The aerial part of the plant is boiled, the person with scabies is washed with its water.	Kars
	Verbascum speciosum		Mejok	The aerial part of the plant is boiled and the fungus foot is washed with its water.	Kars
				The fresh base leaves of the plant are placed in the area of the foot fungus.	Iğdır
				The aerial part of plant is boiled and used against foot fungus.	Iğdır
73.	Verbascum orephilum C.Koch var. joannis	Scrophulariaceae	Mejok	The fresh base leaves of the plant are placed in the area of the foot fungus.	Iğdır
74.	Verbascum	Scrophulariaceae	sığırkuyruğu	The flowers of the plant are boiled and the hand	Iğdır
75.	songaricum Schrenk Solanum nigrum L.*	Solanaceae	Siyah baldırcan	with eczema is washed with its juice. Roasted eggplants are used for skin wounds and inflammations.	Iğdır
76.	Lycopersicon esculentum Mill.*	Solanaceae	Süper domates	Tomatoes are sliced, wrapped around the calloused area, and socks are put on. For foot fungus, tomato juice is squeezed and feet	Iğdır Iğdır
				are washed. The super tomato is sliced and tied to the callus	Iğdır
77.	Solanum tuberosum L.*	Solanaceae	Kartol	The super tomato is sliced and tied to the callus. A raw potato is placed on the burned part to heal the burn.	Iğdir Iğdir
78.	Tamarix tetrandra Pall. ex M.Bieb.	Tamaricaceae	Ilgın	The branches of the tree of the plant are heated. Dripping water is applied to the area with ringworm.	Iğdır

79.	Tamarix tetrandra Pall. ex M.Bieb.	Tamaricaceae	Ilgın	For temre disease, the branches of the plant are heated. The dripping water is applied directly to the relevant area.	Iğdır
				The fresh branches of the plant are brought close to the fire and the water is removed. The water is applied directly to the area with scabies.	Iğdır
				The fresh branches of the plant are brought close to the fire and the water is removed, which is applied directly to the area with the temre.	Iğdır
80.	Tamarix smyrnensis Bunge	Tamaricaceae	İlıgın, Kırmızı ılgın, Ilığın, Boz ılgın	When the plant is exposed to fire, it is watered and this water is applied to the temre.	Iğdır
	Ü			The branches of the plant are heated, the water that comes out is applied directly to the area with	Iğdır
				ringworm. The tar obtained by burning wood is used for scabies.	Iğdır
				The branches of the plant are heated. Dripping water is applied directly for ringworm disease.	Iğdır
				The branches of the plant are heated, the water that comes out is applied directly to the wart area.	Iğdır
				The branches of the plant are heated. Dripping water is directly dripped onto the wart area.	Iğdır
81.	Ulmus minor Mill.	Ulmaceae	Karaağaç	The ointment is made from the bark of the stem to heal wounds.	Iğdır
				The root bark of the plant and the onion are boiled together. It is made into an ointment. If it is applied to the boils, it will burst the boil and the pus will	Iğdır
				fall out. The root bark is boiled with water and used on wounds.	Iğdır
				The roots are boiled and used on wounds.	Iğdır
				The barks are boiled with milk and flour and oil are added. It is applied to open wounds.	Iğdır
				The plant's roots is crushed by pounding and applied directly to the non-spiky boil.	Kars
82.	Urtica dioica L.	Urticaceae	Isırgan, Gezgezik	The aerial part of the plant, green clover, barley flour, mallow are boiled together. The resulting water is rubbed on the swollen area.	Kars
				After boiling the aerial parts of the plant, its water is used as a hair thickener.	Kars

^{*} Cultivated plants