Ethnopharmacological study of plants used in Diabar region, Azerbaijan

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Research

Abstract

Background: Medicinal plants play an important role in traditional healthcare systems worldwide, and ethnopharmacological studies are essential for documenting traditional knowledge. The Diabar region in Azerbaijan's Talysh mountains possesses a rich heritage of traditional medicine; however, such knowledge remains largely undocumented. This study aimed to systematically record and analyze the medicinal plants used by local communities in this under-researched area.

Methods: Ethnobotanical data were collected from 140 participants across 21 villages using semi-structured interviews and field surveys. Quantitative indices, including Use Value (UV) and Relative Frequency of Citation (RFC), were calculated to assess plant importance.

Results: The research documented 205 plant species from 60 families used to treat various ailments. The most cited families were Asteraceae (30 species) and Lamiaceae (20 species). *Cydonia oblonga* recorded the highest RFC (0.90). The most frequently treated conditions were cough (67 reports), digestive disorders (55), and inflammation (53). Quantitative analysis highlighted species with high cultural significance; notably, *Cydonia oblonga* also demonstrated a high Use Value (0.89), alongside *Thymus trautvetteri* (UV = 0.70) and *Morus nigra* (UV = 0.71). The data further revealed significant use of plants for liver disorders, infections, and as sedatives.

Conclusion : This study provides the first comprehensive inventory of medicinal plants in the Diabar region, preserving valuable traditional knowledge. The findings identify culturally important plants that warrant further phytochemical and pharmacological research to validate their therapeutic applications and potential for drug development.

Keywords: Azerbaijan, Diabar, ethnobotany, ethnopharmacology, medicinal plants, Talysh.

Background

Medicinal plants have been an essential component of traditional healthcare systems worldwide for centuries. Ethnopharmacological research plays a crucial role in documenting indigenous knowledge, preserving cultural heritage, and identifying plant species with potential therapeutic value. Currently, numerous studies on the use of medicinal plants in traditional medicine are being conducted worldwide, and related findings are increasingly being published (Abdelfettah *et al*. 2026; Ali *et al*. 2026; Doğan *et al*. 2026; Haq *et al*. 2022; Hardiman *et al*. 2025; Hedges *et al*. 2026; Islamova *et al*. 2026; Jalali *et al*. 2026; Maataoui *et al*. 2026; Rehman *et al*. 2023). Despite the global importance of medicinal plants, traditional knowledge in many regions remains insufficiently documented and is at risk of being lost due to modernization and socio-cultural changes. In this context, Azerbaijan represents a region with rich biodiversity and diverse cultural traditions related to the use of medicinal plants. The Republic of Azerbaijan is a multiethnic and multicultural country where Azerbaijani, Lezgi, Russian, Talysh, Avar, Turkish, Tatar, Tat, Ukrainian, Sakhur, Georgian, Jewish, Kurdish, Griz, Udin, and Khinalyg peoples have coexisted over centuries. Azerbaijan is located in the eastern part of the South Caucasus, at the intersection of Western Asia and Eastern Europe (Heydar Aliyev Foundation 2025; State Statistical Committee of the Republic of Azerbaijan 2025). The Caucasus region, historically known as a bridge between the Black and Caspian seas, has been recognized by the Worldwide Fund for Nature as one of the world's 200 global biodiversity hotspots (Alakbarli 2001). Azerbaijan shares borders with Georgia and Armenia to the west, Russia to the north, Iran and Turkey to the south, and is bordered by the Caspian Sea to the east (Gadimli *et al.* 2024). Its rich biodiversity is attributed to its geographical location and diverse landscape, including the Greater Caucasus, Lesser Caucasus, Talysh mountain systems, and the Kur-Araz lowland (WWF Azerbaijan 2025; Convention on Biological Diversity 2000; USAID 2020; Worldwide Fund for Nature 2025).

Azerbaijan is characterized by rich cultural and ethnic diversity, which is reflected in its folklore and traditional medicine practices, locally known as turkechare. Historical sources document centuries of plant use for food, medicine, construction, and agriculture (Bussmann *et al.* 2018; Damirov *et al.* 1983). However, ethnobotanical and ethnopharmacological studies in Azerbaijan remain limited, particularly in remote and understudied regions (Asgarov 2016; Grossheim 1949; Ibadullayeva *et al.* 2010; Ibadullayeva 2020; Pieroni & Sõukand 2019).

Medicinal plants have been widely used in folk medicine in the Diabar region, one of the ancient settlements of Azerbaijan. Despite long-standing traditional practices, no comprehensive ethnopharmacological studies had been conducted in this region prior to this research.

This study contributes to preserving local ethnobotanical knowledge and provides a foundation for future research, including phytochemical and pharmacological evaluation of lesser-studied species. The findings will enhance understanding of traditional herbal medicine practices in Azerbaijan and promote the sustainable use of medicinal plant resources (Isayev 2006; Isaev *et al.* 2016; Isayev *et al.* 2017; Isayev *et al.* 2024; Kerimov *et al.* 2010; Olennikov *et al.* 2019; Olennikov *et al.* 2022; Safarova & Isayev 2022).

The aim of this study is to document and analyze traditional knowledge regarding medicinal plants used for treating various diseases in the Diabar region. For the first time, an inventory of wild and cultivated medicinal plant species used by local inhabitants has been compiled, along with quantitative data on their therapeutic applications.

Materials and Methods

Study area

The Talysh mountainous region is located in the southeast of Azerbaijan and is represented by four ridges: the Talysh Ridge (with its highest peak, Kemyurkei Mt., 2493 m), the Peshtasar Ridge, the Dizgoni Ridge, the Burovar Ridge, and the Diabar (Zuvand) depression. This area is particularly rich in rare endemic flora. The region is predominantly rural, with communities engaged in agriculture, animal husbandry, and traditional crafts.

Diabar is considered one of twenty main geobotanical regions characterized by homogeneous and unique vegetation cover with high endemism (Grossheim 1949). It includes Lerik and Yardimli districts of Azerbaijan (Fig. 1).

Lerik district is located at elevations of 2000–2400 m and has a temperate climate, with annual precipitation ranging from 300 to 800 mm. Agriculture is the primary livelihood, including grain and potato farming, fruit cultivation (apple, pear, walnut) and livestock breeding (sheep and cattle) (WWF Azerbaijan 2025; Convention on Biological Diversity 2000; USAID 2020).

Yardimli district lies at elevations of 1000–1800 m and has a warm and humid climate with mild winters and hot summers. Agriculture is the main occupation, including grain, potato and tobacco farming, livestock breeding and beekeeping (State Statistical Committee of the Republic of Azerbaijan 2025). Rural healthcare facilities include Central District Hospitals (CDH), village site hospitals, village doctor ambulatories and feldsher-midwife points (FMP). Lerik has one CDH, one family health center and three village site hospitals (Peshtatuk, Aliabad and Veri). Yardimli has one CDH, two village site hospitals (Shefeqli and Berjan), 17 village ambulatories and 16 FMPs (Lerik District Executive Power 2025). Mountainous terrain and dispersed settlements make healthcare access difficult, particularly in winter, resulting in continued reliance on traditional healers (tabibs) and herbal remedies. Respiratory, gastrointestinal and cardiovascular disorders are common (State Statistical Committee of the Republic of Azerbaijan 2025).

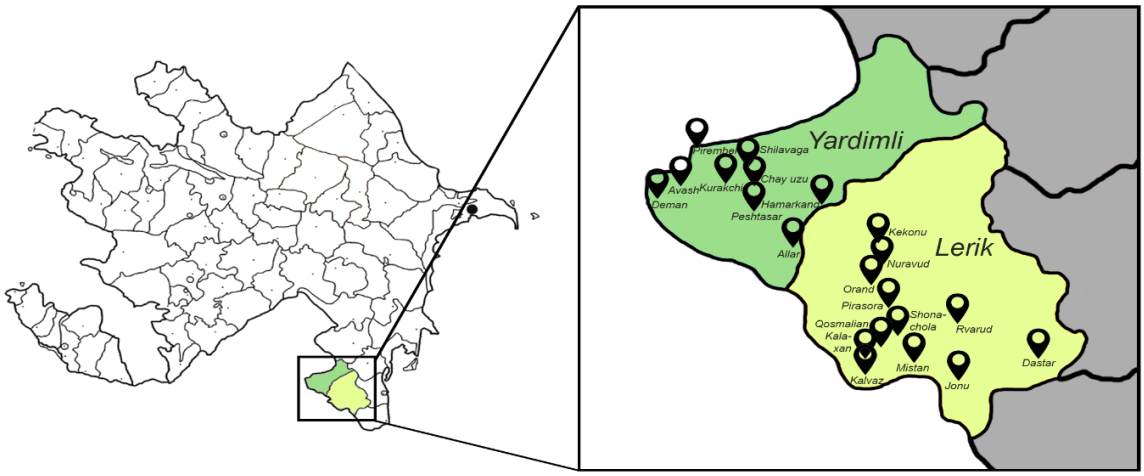

Figure 1. Map of the Diabar region, Azerbaijan, showing the ethnopharmacological study area.

Table 1. Ethnopharmacological sampling sites of the Diabar region with population and geographical data.

Name of the village	Population	Altitude	Latitude	Longitude
Pirasora	289	1758	48°22′51″E	38°43′14″N
Mistan	186	1400	48°25′55″E	38°38′46″N
Jonu	354	1300	48°30′38″E	38°36′54″N
Kalakhan	942	1600	48°20′56″E	38°39′00″N
Gosmalian	854	1800	48°23′34″E	38°41′20″N
Shonachola	552	1700	48°24′44″E	38°41′43″N
Rvarud	820	900	48°29′31″E	38°41′43″N
Kalvaz	270	1800	48°21′40″E	38°37′25″N
Kekonu	178	1700	48°18′58″E	38°47′38″N
Dastar	362	1400	48°36′22″E	38°38′48″N
Nuravud	1542	1500	48°21′09″E	38°46′23″N
Orand	1378	1600	48°20′46″E	38°44′55″N
Pirembel	557	1100	48°07′39″E	38°55′15″N
Shilavanga	388	1100	48°13′36″E	38°53′23″N
Avash	1047	1100	48°05′56″E	38°54′11″N
Deman	950	1300	48°02′27″E	38°52′40″N
Kurekchi	1851	900	48°07′45″E	38°53′01″N
Chayyuz	956	900	48°10′41″E	38°53′00″N
Hamarkand	722	1000	48°15′55″E	38°51′34″N
Peshtasar	459	1100	48°10′32″E	38°51′00″N
Allar	1674	1200	48°14′12″E	38°47′53″N

Fieldwork

The study involved three phases: literature review, field data collection and statistical analysis. Fieldwork was conducted from March 2022 to August 2024 in 12 villages of Lerik (Pirasora, Mistan, Jonu, Kalakhan, Gosmalian, Shonachola, Rvarud, Kalvaz, Kekonu, Dastar, Nuravud and Orand) and 9 villages of Yardimli (Pirembel, Shilavanga, Avash, Deman, Kurekchi, Chayyuz, Hamarkand, Peshtasar and Allar).

Interviews were carried out in participants 'homes and through "walk-in-the-woods" surveys in private gardens, plantations, pastures, forests and meadows. Participants were selected using a snowball sampling approach, where initial informants were identified based on their knowledge of traditional medicine and subsequently recommended other knowledgeable individuals within the community. Interviews were conducted in Azerbaijani and Talysh, with informed consent obtained. Semi-structured questionnaires captured demographic information (gender, age, education) and plant-use details (vernacular names, plant parts used, preparation and application). The free-listing technique was used to record all plants cited by informants (Quinlan *et al.* 2002). Photographs of plants were shown to assist recognition and ensure accurate identification (Phillips *et al.* 1994).

Plant Collection and Identification

Plant identification during fieldwork was carried out by Prof. Isayev J.I., utilizing the *Flora of Azerbaijan* (Grossheim 1949; Karyagin 1957) and *Azərbaycanın Bitki Aləmi* (Asgarov 2016). The herbarium specimens were deposited at the Institute of Botany, Azerbaijan Academy of Sciences. The Latin names of the specimens were verified using Plants of the World Online (2025) and World Flora Online (2023). Detailed photographs of plant specimens were taken for documentation purposes.

Data Analysis

A thorough review of recent ethnopharmacological literature was carried out to provide the foundational references for the analysis presented herein (Etkin 1993; Hussain *et al.* 2022; Irfan *et al.* 2021; Jan *et al.* 2024; Karakaya *et al.* 2020; Leonti 2022; Mamedov *et al.* 2015). Several key indices were employed in analyzing the data:

Family Importance Value (FIV)

The Family Importance Value Index (FIV) is an ethnobotanical metric that quantifies the significance of a plant family based on its cultural relevance and utility. Different researchers have used slightly varying definitions, but the core concept revolves around the prominence of a plant family within a studied community. Family Importance Value (FIV) was calculated according to Equation 1 (Asghar *et al.* 2018).

$$FIV = FC(Family)/N \times 100$$

FC – frequency of plant family citations, N – the total number of informants.

Use Value (UV)

UV quantifies the relative importance of each species within a community. It is calculated by dividing the total usage reports for a species by the number of participants. Use Value (UV) was calculated according to Equation 2 (Khan *et al.* 2018; Ali *et al.* 2023).

$$UV = \Sigma Ui/N$$

ΣU – the sum of all uses mentioned by each informant, N– the total number of participants.

Relative Frequency of Citation (RFC)

RFC identifies the preferred plant species for treating diseases by calculating the ratio of citations for a species to the total number of informants. Relative Frequency of Citation (RFC) was calculated according to Equation 3 (Birjees *et al.* 2022; Ullah *et al.* 2023).

$$RFC = FC/N$$

FC – the number of participants that report the uses of specific species, N – the total informants who are involved in the study. RFC values range between 0 and 1.

Informant Consensus Factor (ICF)

The values, ranging from 0 to 1, indicate the level of agreement among participants regarding plant usage for specific disease categories. Higher values suggest fewer species are commonly used by many informants, while lower values reflect a lack of consensus. Informant Consensus Factor (ICF) was calculated according to Equation 4 (Umair *et al.* 2017; Ayub *et al.* 2023).

$$ICF = Nur - Nt/Nur - 1$$

Nur – the number of use-reports for a particular ailment category , Nt – the number of species used for that ailment category Microsoft Excel was utilized for data processing and analysis.

Results

Demographic features of informants

A total of 140 individuals were questioned across several communities in the examined region. The participants' age ranged from 40 to 90, with a predominance in the 61–70 age group (47 people), and 9 participants were over 90 years old (Fig. 2). The age categories were defined based on the distribution of participants across age groups, with a higher representation of older individuals, consistent with their role in traditional knowledge practices. The younger generation demonstrates diminished interest in herbal therapies, likely due to the recent surge of over-the-counter pharmaceuticals, easily obtainable from pharmacies in nearby towns. Informants also indicated a reduction in the transmission of traditional knowledge on plant use.

As nine-year general secondary education is mandatory in the country, the majority of respondents (90) have at least a secondary education level; 43 are university graduates, and only 7 are uneducated. The analysis of participants' marital status revealed a predominance of married individuals, while the gender distribution was skewed towards males (48 women and 92 men), probably attributable to socio-cultural barriers (Fig. 2).

In terms of occupation of the survey participants, retired people represented the vast majority of the informants, followed by teachers and shepherds. Typically, practitioner-healers were hesitant to disclose their expertise in traditional plant usage; however, in certain instances, they exhibited greater openness and provided information on treating ailments such as the common flu, fever, and gastrointestinal issues, among others (Isayev *et al*. 2024; Isayev *et al*. 2025).

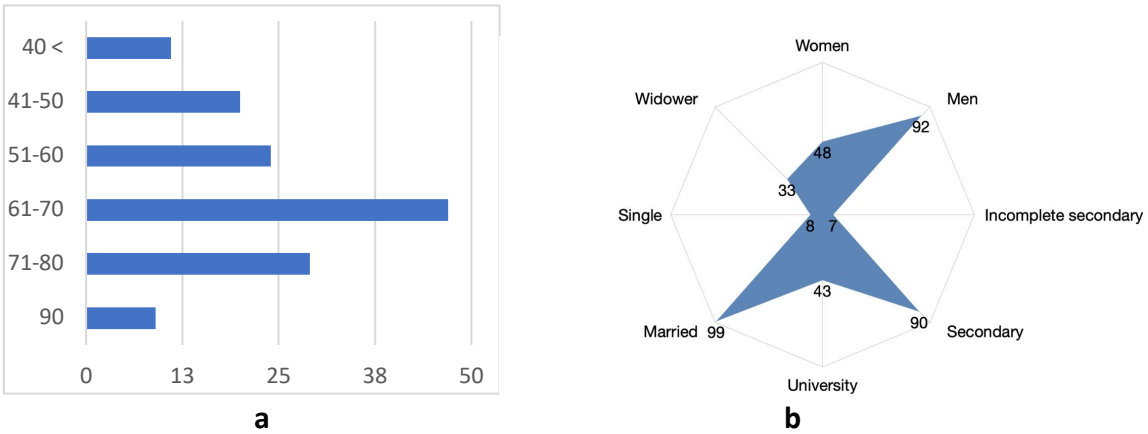

Figure 2. Demographic characteristics of informants: a – by age group; b – by gender, education, and marital status.

Family importance value (FIV)

A total of 205 plant species belonging to 60 families, including 176 dicotyledons, 26 monocotyledons, and 3 high spore-bearing plants, are mentioned in the survey (see Supplementary Table S1). The most mentioned families are Asteraceae with 30 species (14.63%), Lamiaceae with 20 species (9.76%), Rosaceae with 17 species (8.29%), Fabaceae with 14 species (6.82%), and Apiaceae with 10 species (4.88%). Six species from Malvaceae, Poaceae and Scrophulariaceae (2.93%), 5 species from Brassicaceae and Iridaceae (2.44%), and four species from Caryophyllaceae, Hyacinthaceae, Orchidaceae and Polygonaceae (7.80%) recorded to be useful in the treatment of different ailments. Other plant families were represented by two or just one species.

To consider the significance of the families represented by the limited number of species, the Family Importance Value Index was calculated (Fig. 3). This enabled identification of high values for plant families represented by single species like *Lythraceae* (FIV 72), *Pedaliaceae* (FIV 60), *Salicaceae* (FIV 48), or by 3 species like *Moraceae* (FIV 66).

Habit and status

The survey also includes mentions about such botanical characteristics as the life form and cultivation status of the plants. Among recorded plants, 168 (81.95%) were represented by herbs, 21 (10.24%) by trees, 11 (5.37%) by shrubs, 4 (1.95%) by subshrubs, and 1 (0.49%) liana. Out of the recorded 205 medicinal plant species, 32 are cultivars and 173 are wild varieties. Cultivated plants such as onion, garlic, fennel, beetroot, cabbage, pepper, cumin, saffron, pumpkin, anise, breadfruit, radish, spinach, sesame, beans, and corn serve both culinary and medicinal purposes.

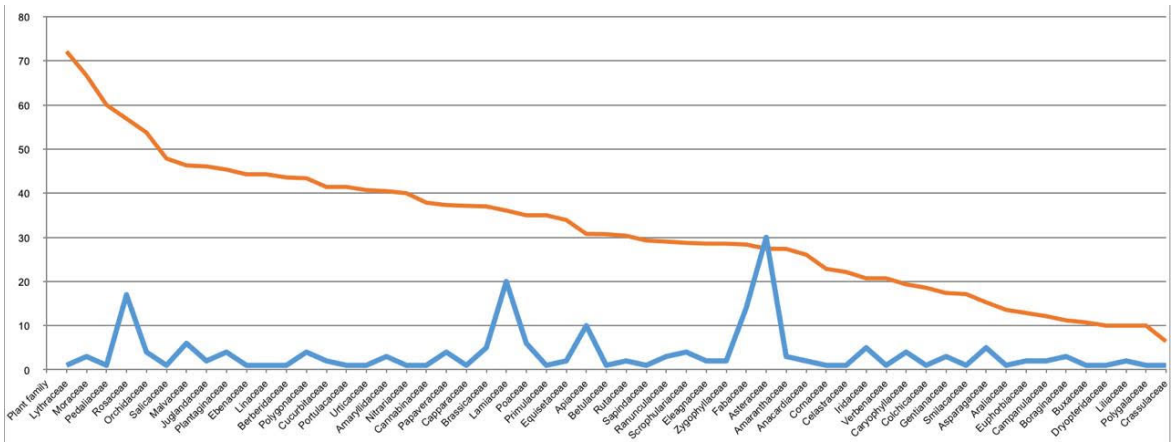

Figure 3. Relationship between the number of species in each plant family (blue line) and their corresponding Family Importance Value (FIV) (orange line).

Parts used

According to the results, whole plants (herbs) are the most used plant parts with 79 mentions (38.54%), following the fruits in 38 plants (18.54%), leaves in 21 plants (10.24%), flowers in 13 plants (6.34%), tubers in 10 plants (4.88%), rhizomes in 7 plants (3.41%), roots in 6 plants (2.93%), seeds in 5 plants (2.44%), bulbs in 3 plants (1.46%), tendrils and bark (0.49%) in one plant species (Fig. 4). For some plants, two different parts are mentioned. As for the preparation methods, infusion, decoction, extraction, fruit juice, fresh plant, ash, tar, and smoke (cigarette) are mentioned, with a predominance of infusion, decoction, and fresh plant.

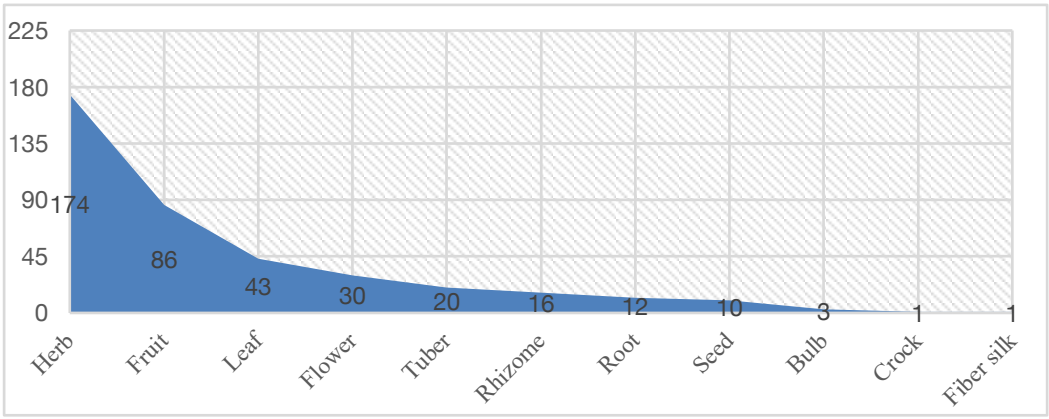

Figure 4. Distribution of plant parts used in traditional medicine, showing the number of use-reports for each plant part recorded during the survey.

Relative frequency of citation

The highest RFC values are recorded for *Cydonia oblonga* (0.90), *Crataegus pentagyna* (0.99), *Plantago major* L. (0.78), *Crataegus orientalis* (Mill.) M.Bieb. (0.99), *Glycyrrhiza glabra* (0.74), *Punica granatum* L. (0.89), *Morus nigra* L. (0.73), *Thymus trautvetteri* Klok. et Shost. (0.87), *Rumex confertus* Willd. (0.79), and *Rosa canina* L. (0.74).

The lowest values recorded for *Cirsium cinerlus* Bieb. (0.11), *Silene schafta* (0.16), *Rosularia cymbalaria* L. (0.08), *Euphorbia marschalliana* Boiss. (0.09), *Scrophularia zuvandica* Grossh. (0.10), *Onopordum acanthium* L. (0.05) indicate that these species cannot be considered important in terms of use in the treatment of specific ailments.

Use value (UV)

Cydonia oblonga Mill. (0.89), *Thymus trautvetteri* Klok. et Shost. (0.70), *Morus nigra* L. (0.71), *Althaea officinalis* L. (0.59), *Rosa canina* L. (0.69), *Rhaphanus sativus* L. (0.62), *Malva sylvestris* L. (0.66), *Thymus kotschyanus* Boiss. et Hohen. (0.61), *Ficus carica* L. (0.67), *Plantago major* L. (0.76), *Foeniculum vulgare* Mill. (0.55), *Calendula persica* C.A. Mey (0.49), *Zea mays* L. (0.49), *Achillea millefolium* L. (0.55), *Crataegus pentagyna* Waldst. et Kit. ex Willd. (0.81), *Glycyrrhiza glabra* L. (0.74), *Citrus limon* (L.) Osbeck (0.51), *Carum carvi* L. (0.52), *Cichorium intybus* L. (0.43), *Linum usitatissimum* L. (0.44), *Althaea cannabina*

L. (0.49), and *Nepeta mussini* Spreng. ex-Henck. (0.42) are among the species that demonstrated the highest UV values (Table S1).

Ailments cured

The ailments most frequently reported by informants include cough relief (67), digestive disorders (55), urinary problems (30), and skin conditions (29). Plants are also reported to be used as sedatives (25), choleretics (24), and in diabetes management (22), as well as for the common cold and as laxatives (19). Additionally, moderate use of plants as mouthwashes, for sleep disorders, joint pain, and as analgesic and anti-allergic agents was recorded (Fig. 5).

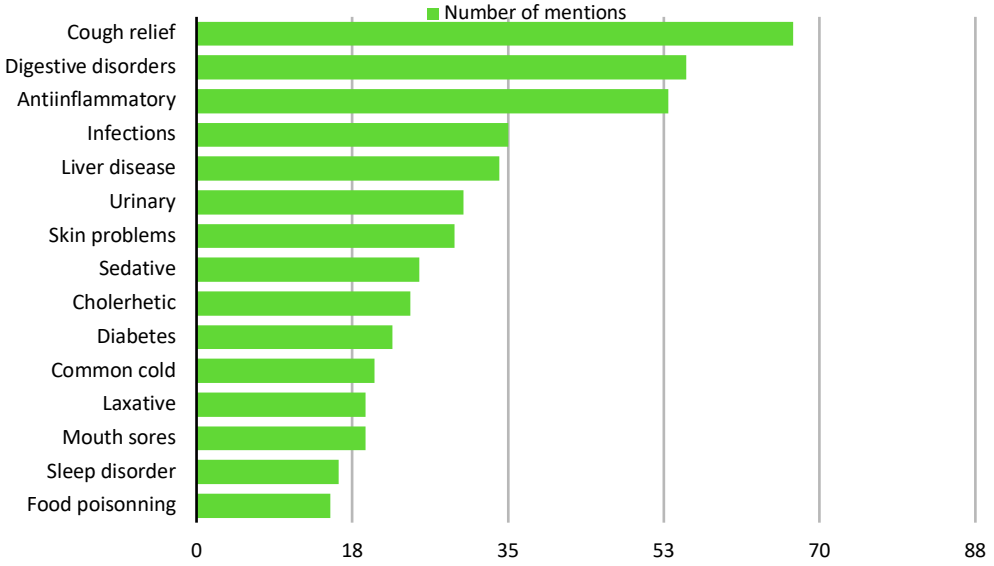

Figure 5. Distribution of medicinal plant uses across different disease categories, showing the number of use-reports recorded for each category.

Discussion

Through comparison of the recorded plant species and their corresponding uses in our dataset with those in the cited papers, we discerned both consistencies and discrepancies in the acquired ethnobotanical knowledge. As mentioned earlier, our study is the first ethnobotanical and ethnopharmacological investigation conducted in the Diabar region; therefore, we chose to compare existing research carried out in Azerbaijan and neighboring countries, including northern Iran, Turkey, and Georgia (Görhan *et al.* 2021). Overall, such comparisons with regional ethnobotanical studies highlight both similarities and differences in medicinal plant use (Bussmann *et al*. 2016; Bussmann *et al*. 2018; Pieroni & Sõukand 2019; Sõukand & Pieroni 2019; Younessi-Hamzekhanlu *et al*. 2020). While a high diversity of plant species has been documented across these regions, our findings show only limited overlap with those reported for the Diabar region.

Fourteen plants recorded in our survey are listed in the work of Ibadullayeva, with similar or differing medicinal use reports (Ibadullayeva *et al.* 2010; Ibadullayeva 2020). For instance, *Spinacia oleracea* L. and *Allium cepa* L. show alignment in therapeutic uses. In the case of *Amaranthus sylvestris*, treatment of diabetes and its use as a laxative noted in our report contrasts with the more general “use in digestive disorders.” *Beta vulgaris* L. showed a discrepancy in use: treatment of liver disease by informants vs. anemia reported by Ibadullayeva — possibly reflecting regional or cultural variations.

In addition, our findings are consistent with our previous ethnopharmacological study conducted in the Gadabay region of Azerbaijan (Isayev *et al*. 2025b), where traditional medicinal knowledge was also predominantly preserved among older generations and similar dominant plant families, including Asteraceae, Apiaceae, Rosaceae, and Lamiaceae, were reported. However, unlike the Gadabay study, which focused specifically on the treatment of urological diseases, the present research covers a broader range of ailments and provides a more comprehensive analysis of medicinal plant use in the Diabar region.

Furthermore, our findings can be compared with our previous quantitative ethnobotanical study conducted in the Zagatala District of Azerbaijan (Isayev *et al*. 2026), which documented 121 medicinal plant taxa belonging to 44 families. Similar to the present study, dominant families such as Asteraceae, Lamiaceae, and Rosaceae were prominently represented,

indicating consistent ethnopharmacological patterns across different regions of the country. In both studies, species such as *Cydonia oblonga* and *Thymus* spp. were identified as culturally important taxa with high quantitative indices.

In contrast, the present study revealed a substantially higher species diversity (205 species across 60 families), reflecting regional ecological variation and broader documentation of traditional knowledge in the Diabar region. Additionally, while both studies applied quantitative ethnobotanical indices, differences in the most cited species and therapeutic categories highlight the influence of local environmental conditions and cultural practices on medicinal plant use.

Twenty-eight plant taxa showed alignment with the ethnopharmacological study conducted in Khoy city, West Azerbaijan-Iran (Younessi-Hamzekhanlu *et al.* 2020). *Malva neglecta* Wallr., *Ficus carica* L., and *Verbascum thapsus* L. were cited for analogous therapeutic uses. *Morus alba*, *M. nigra*, *Punica granatum*, and *Portulaca oleracea* L. exhibited distinct medicinal applications compared with our observations. Despite differences in total species richness, both studies identified similar dominant families, including Asteraceae, Lamiaceae, Rosaceae, Fabaceae, and Apiaceae, suggesting common ethnopharmacological patterns across the region.

Twenty-nine taxa from our list were recorded in Ethnobotany of the Caucasus with broadly similar pharmacological uses (Bussmann 2017). In addition to comparative alignment of use-reports, the quantitative results of the present study also provided internal evidence of culturally preferred taxa and families. Asteraceae and Lamiaceae were the most represented families in the dataset and achieved high FIV scores, indicating that these families were repeatedly cited and highly valued in the local materia medica. Herbs were the dominant life-form, followed by trees and shrubs, suggesting that easily accessible taxa are more frequently integrated into remedies. Whole herbs, fruits, and leaves were the most commonly used plant parts, whereas roots, seeds, and bulbs were less frequently used — a pattern also reported in ethnomedicinal surveys from Pakistan and surrounding regions (Ullah *et al.* 2023; Irfan *et al.* 2023; Ullah *et al.* 2024).

In our study, species such as *Cydonia oblonga*, *Thymus* spp., *Morus nigra*, and *Rosa canina* attained high RFC and UV values, demonstrating their broad acceptability across respondents. Informant Consensus Factor values were highest for respiratory and digestive disorders, indicating widely shared traditional knowledge in these categories. Overall, the distribution of dominant plant families, habit types, plant parts used, and index-based rankings reinforces that medicinal plant use in the Diabar region follows clear cultural patterns rather than random selection.

This study has several limitations. Although the study area includes multiple ethnic groups, the data were analyzed collectively and therefore do not allow for comparative assessment among them. Furthermore, the cross-sectional design limits the ability to capture temporal variations in plant use. The data were based on self-reported information and may be subject to recall bias and subjective interpretation. Cultural factors may have constrained the willingness of some informants to disclose detailed knowledge. In addition, a preference for modern pharmaceuticals among certain participants may have influenced the reporting of plant-based practices.

Future research should prioritize the phytochemical and pharmacological evaluation of the most frequently cited plant species. The findings of this study will be disseminated among local communities to enhance awareness and support the preservation of ethnobotanical knowledge. Expanding investigations across diverse regions of Azerbaijan and over extended time frames will provide a more comprehensive understanding of the diversity and dynamics of traditional medicinal knowledge. In addition, comparative studies focusing on the same ethnic groups across different regions will offer valuable insights into spatial variations in traditional plant use and knowledge systems.

Conclusion

The health system in the Diabar region is shaped by its rural and mountainous context, combining conventional medicine with traditional practices involving the use of medicinal plants in their natural form or homemade remedies. This study allowed us to yield significant insights into these practices and identify areas for additional investigation or validation. Further research could focus on plants used by the Talysh ethnic group living in other regions of Azerbaijan, including Shirvan, Bilesuvar, Absheron and Sumgayit. Comparison of medicinal plant uses between different ethnicities living in Azerbaijan can help to understand the general approach to healing with plants that is used in the country, and also plants with consistent uses across the country could be prioritized for further phytochemical research and pharmacological validation.

Declarations

List of abbreviations: Not applicable.

Ethics approval and consent to participate: Prior to each interview, the aims of the study were explained to all participants, and verbal informed consent was obtained. Approval to conduct the study was granted by local authorities and community representatives. As the research involved non-clinical ethnobotanical data collection without medical intervention or the recording of sensitive personal health information, formal institutional ethical approval was not required. All procedures were carried out in accordance with accepted ethical standards for research involving human participants and followed the International Society of Ethnobiology Code of Ethics (ISE 2006). Participant anonymity was ensured throughout data collection, analysis, and reporting.

Consent for publications: Not applicable.

Availability of data and materials: The figures and tables supporting the results of this study are included in the article, and the original data sets are available from the first author upon request.

Competing interests: The authors declare that there are no conflicts of interest in this article.

Funding: Authors have not received any funding during this research.

Authors' contributions: J.I.I. conceptualized the study, led the overall research design, personally participated in field expeditions and community surveys, supervised the field and analytical phases, ensured scientific quality, and critically revised the final manuscript.

Kh.M.N. contributed to the core scientific concept, guided methodological development, and provided substantial intellectual input to data interpretation and manuscript preparation.

N.B.T., N.S.M., A.G.I., and G.J.S. conducted field surveys, administered questionnaires, collected ethnobotanical data, and assisted in initial data handling and draft preparation.

K.U.R., G.M.Sh., I.Kh. and F.U. contributed to scientific collaboration, supported methodological validation, and assisted in comparative literature review and contextual analysis.

All authors read and approved the final manuscript.

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Supplementary Table S1. Ethnopharmacological data on the uses of medicinal plant species in Diabar region, Azerbaijan.

Plant family	Latin name	Vernacular name	Disease category	Citation	ΣU	FIV	UV	FC	RFC
Amaranthaceae	*Amaranthus sylvestris* Desf. AZE-IJ-001	Pəncər, amarant *torə*	Diabetes	21	24	27.4	0.17	34	0.24
			Laxative	13					
	Beta vulgaris L. AZE-IJ-027	Çuğundur*çəğında*	Liver disease	47	55		0.39	74	0.53
			Diabetes	8					
			Laxative	19					
	Spinacia Oleracea L. AZE-IJ-178	İspanaq*sıveğ, ispanag*	Digestive disorder	33	36		0.26	58	0.41
			Holagogue	25					
Amaryllidaceae	*Allium cepa* L. AZE-IJ-007	Soğan*piyoz*	Infections	51	63	40.48	0.45	132	0.94
			Antiinflammatory	45					
			Common cold	36					
	Allium lenkoranicum Miscz ex Grossh. AZE-IJ-008	Lənkəran soğanı	Infections	20	29		0.21	62	0.44
			Diabetes	17					
			Mouth sores	25					
	Allium sativum L. AZE-IJ-009	Sarımsaq*sı*	Infections	51	78		0.56	113	0.81
			Common cold	22					
			Digestive disorder	40					
Anacardiaceae	*Pistacia vera* L. AZE-IJ-134	Püstə	Liver disease	31	27	26.07	0.19	35	0.25
			Laxative	26					
	Rhus coriaria L. AZE-IJ-153	Sumaq*tıtım, sumax*	Digestive disorder	69	46		0.33	66	0.47
			Skin problems	12					
Apiaceae	*Anethum graveolens* L. AZE-IJ-015	Şüyüd	Food poisonning	35	41	30.79	0.29	76	0.54
			Sedative	24					
			Sleep disorder	17					

	Bunium scabrellum Korovin AZE-IJ-030	Bunçətiri	Urinary	7	16	0.11	39	0.28
			Sedative	11				
			Common cold	15				
			Sleep disorder	6				
	Carum carvi L. AZE-IJ-038	Zirə	Cough relief	49	73	0.52	149	1.06
			Cough relief	34				
			Sedative	14				
			Digestive disorder	52				
	Coriandrum sativum L. AZE-IJ-048	Keşniş*keşnə*	Holagogue	42	68	0.49	118	0.84
			Sedative	19				
			Digestive disorder	57				
	Daucus carota L. AZE-IJ-061	Kök*bümərişə*	Liver disease	28	41	0.29	75	0.54
			Holagogue	33				
			Mouth sores	14				
	Eryngium caucasicum Trautv. AZE-IJ-070	Zımbırtikan	Skin problems	14	14	0.1	14	0.1
	Falcaria vulgaris Bernh. AZE-IJ-075	Qazayağı	Analgetic	7	13	0.09	19	0.14
			Sedative	12				
	Foeniculum vulgare Mill. AZE-IJ-077	Razyana	Cough relief	56	77	0.55	160	1.14
			Mucolytic	22				
			Food poisonning	10				
			Holagogue	25				
			Flatulence	47				
	Pimpinella anisum L. AZE-IJ-132	Cirə	Cough relief	40	52	0.37	110	0.79
			Mucolytic	25				
			Sleep disorder	17				
			Flatulence	28				

	Pimpinella tragium Vill. AZE-IJ-133	Qatışıq cirə	Cough relief	33	36		0.26	53	0.38
			Mucolytic	20					
Araliaceae	*Hedera pastuchovii* Woronow. AZE-IJ-084	Daşsarmaşığı	Cough relief	19	19	13.57	0.14	44	0.31
			Mucolytic	25					
Asparagaceae	*Bellevalia fominii* Woronow. AZE-IJ-025	Bellevalia	Antiinflammatory	12	12	15.29	0.09	12	0.09
	Danae racemosa (L.) Monech. AZE-IJ-060	Danaya	Infections	23	25		0.18	40	0.29
			Urinary	17					
	Muscari neglectum Guss. AZE-IJ-113	İlan soğanı	Cough relief	15	15		0.11	15	0.11
	Ornithogalum hyrcanum Grossh. AZE-IJ-127	Xıncalaus	Cough relief	35	41		0.29	56	0.4
			Mucolytic	21					
	Scilla caucasica Miscz. AZE-IJ-165	Zümrüdçiçəyi	Allergy	9	14		0.1	27	0.19
			Tonuslandırıcı	7					
			Urinary	11					
Asteraceae	*Achillea biebersteinii* Afan. AZE-IJ-003	Biberşteyn boymadərəni	Infections	17	39	27.45	0.28	89	0.64
			Skin problems	22					
			Liver disease	19					
			Food poisonning	11					
			Digestive disorder	20					
	Achillea millefolium L. AZE-IJ-004	Boymadərən	Infections	62	77		0.55	157	1.12
			Antiinflammatory	46					
			Liver disease	33					
			Mouth sores	16					
	Anthemis altissima L. AZE-IJ-016	Cığır gözü	Liver disease	7	18		0.13	37	0.26
			Holagogue	11					

			Analgetic	6				
			Urinary	13				
	Arctium lappa L. AZE-IJ-017	Atpıtrağı	Cough relief	20	57	0.41	114	0.81
			Mucolytic	33				
			Skin problems	12				
			Diabetes	17				
			Laxative	8				
			Joint pain	24				
	Artemisia vulgaris L. AZE-IJ-019	Yovşan*telə keşni*	Infections	26	32	0.23	58	0.41
			Skin problems	10				
			Allergy	6				
			Sedative	16				
	Bidens tripartita L. AZE-IJ-028	Üçbarmaq	Infections	25	41	0.29	116	0.83
			Skin problems	29				
			Allergy	35				
			Tonuslandırıcı	11				
			Urinary	16				
	Calendula persica C.A. Mey AZE-IJ-032	Gülümbahar*çoşdaxor*	Infections	40	69	0.49	158	1.13
			Skin problems	23				
			Antiinflammatory	28				
			Urinary	22				
			Women's disease	45				
	Carthamus tinctorius L. AZE-IJ-037	Ulaqqanqalı	Skin problems	5	37	0.26	79	0.56
			Liver disease	41				
			Holagogue	33				
	Centaurea cyanus L. AZE-IJ-039	Göyçiçək	Antipyreticsı	15	24	0.17	36	0.26
			Sleep disorder	21				

	Centaurea hyrcanica Bornm. AZE-IJ-040	Hirkan gülləvəri	Mouth sores	7	26	0.19	45	0.32
			Sleep disorder	17				
			Hairloss	21				
	Centaurea ovina Pall. ex Willd. AZE-IJ-041	Qoyun gülləvəri	Food poisonning	19	23	0.16	35	0.25
			Mouth sores	16				
	Centaurea salicifolia M.Bieb. ex Willd. AZE-IJ-042	Söyüdyarpaq gülləvər	Infections	25	41	0.29	91	0.65
			Diabetes	17				
			Urinary	33				
			Sedative	16				
	Cichorium intybus L. AZE-IJ-045	Kasnı	Cough relief	31	60	0.43	149	1.06
			Mucolytic	27				
			Digestive disorder	41				
			Diabetes	50				
	Cirsium cinerlus Bieb. AZE-IJ-046	Qanqal	Antipyretic	7	10	0.07	15	0.11
			Common cold	8				
	Echinops orientalis Trautv. AZE-IJ-066	Toppuztikan	Digestive disorder	14	14	0.1	140	1
	Hieracium cincinatum Fries. AZE-IJ-088	Qırğıotu	Sedative	5	14	0.1	17	0.12
			Common cold	12				
	Helichrysum araxinum Takht. et Kirp. AZE-IJ-085	Azərbaycan solmazçiçəyi	Holagogue	51	60	0.43	74	0.53
			Digestive disorder	23				
	Helichrysum plicatum DC. AZE-IJ-086	Qatlı solmazçiçək	Holagogue	44	51	0.36	81	0.58
			Digestive disorder	37				
	Inula orientalis Lam. AZE-IJ-092	Andız	Cough relief	51	64	0.46	107	0.76
			Mucolytic	19				

			Diabetes	27				
			Laxative	10				
	Lactuca sativa L. AZE-IJ-096	Kahı*kavü*	Digestive disorder	41	47	0.34	67	0.48
			Urinary	26				
	Laphangium luteo-album (L.) Tzvelev AZE-IJ-099	Qurucaotu	Liver disease	20	24	0.17	36	0.26
			Allergy	7				
			Cough relief	9				
	Onopordum acanthium L. AZE-IJ-122	Çaqqal qanqalı	Antiinflammatory	7	7	0.05	7	0.05
	Scorzonera leptophylla (DC.) Grossh. AZE-IJ-166	Nazikyarpaq təkəsaqqalı	Laxative	10	21	0.15	29	0.21
			Infections	19				
	Scorzonera parviflora Jacq. AZE-IJ-167	Xırdagül təkəsaqqalı	Laxative	23	23	0.16	23	0.16
	Silybum marianum (L.) Gaertn. AZE-IJ-175	Alaqanqal	Liver disease	49	58	0.41	105	0.75
			Holagogue	34				
			Laxative	22				
	Sonchus oleraceus L. AZE-IJ-177	Südotu	Skin problems	21	30	0.21	46	0.33
			Antiinflammatory	25				
	Taraxacum montanum DC. AZE-IJ-183	Acıqovuq	Liver disease	44	51	0.36	70	0.5
			Holagogue	26				
	Tragopogon sosnowskyi Kuth. AZE-IJ-187	Yemlik	Liver disease	24	29	0.21	44	0.31
			Appetizer	20				
	Tussilago farfara L. AZE-IJ-191	Dəvədabanı	Cough relief	77	85	0.61	122	0.87
			Mucolytic	45				
	Xanthium spinosum L. AZE-IJ-200	Pıtraq	Digestive disorder	8	21	0.15	36	0.26

			Joint pain	11					
			Tumors	17					
Berberidaceae	*Berberis vulgaris* L. AZE-IJ-026	Zirinc	Holagogue	53	61	43.57	0.44	99	0.71
			Digestive disorder	46					
Betulaceae	*Alnus subcordata* C.A.Mey. AZE-IJ-010	Qızılağac	Diarrhea	33	43	30.71	0.31	59	0.42
			Antiinflammatory	26					
Boraginaceae	*Onosma microcarpa* DC. AZE-IJ-123	Onosma	Tumors	12	12	11.19	0.09	12	0.09
	Symphytum asperum Lepech. AZE-IJ-181	Bərk xəndəkotu	Antiinflammatory	6	16		0.11	20	0.14
			Tumors	14					
	Symphytum caucasicum M.Bieb. AZE-IJ-182	Qafqaz xəndəkotu	Tumors	18	19		0.14	22	0.16
			Urinary	4					
Brassicaceae	*Alyssum trichostachum* Rupr. AZE-IJ-013	Çuğundurotu	Skin problems	8	22		0.16	34	0.24
			Antipyreticsı	16					
			Urinary	10					
	Brassica oleracea L. AZE-IJ-029	Kələm*kalem*	Diabetes	14	69		0.49	107	0.76
			Joint pain	40					
			Digestive disorder	53					
	Capsella bursa-pastoris Medik. AZE-IJ-035	Quşəppəyi*kijə pəni*	Liver disease	45	67		0.48	132	0.94
			Holagogue	37					
			Urinary	50					
	Erysimum argyrocarpum N.Busch. AZE-IJ-071	İsitməotu	Cardiac	12	14	37	0.1	28	0.2
			Antiinflammatory	16					
	Rhaphanus sativus L. AZE-IJ-152	Turp*təyf*	Cough relief	60	87		0.62	191	1.36
			Mucolytic	54					
			Digestive disorder	77					

Buxaceae	*Buxus hyrcana* Pojark. AZE-IJ-031	Şümşət	Infections	9	15	10.71	0.11	22	0.16
			Tumors	13					
Campanulaceae	*Campanula rapunculoides* L. AZE-IJ-033	Zəngçiçəyi	Allergy	13	16	12.14	0.11	31	0.22
			Analgetic	6					
			Mouth sores	12					
	Asyneuma amplexicaule (Willd.) Hand.-Mazz. AZE-IJ-022	Asineoma	Antiinflammatory	4	18		0.13	21	0.15
			Sedative	2					
			Common cold	15					
Cannabinaceae	*Humulus lupulus* L. AZE-IJ-091	Mayasarmaşığı	Cardiac	17	53	37.86	0.38	84	0.6
			Sedative	40					
			Sleep disorder	27					
Capparaceae	*Capparis herbacea* Willd. AZE-IJ-034	Kövər	Antiinflammatory	19	52	37.14	0.37	64	0.46
			Digestive disorder	45					
Caryophyllaceae	*Dianthus talyschensis* Boiss.&Buhse AZE-IJ-062	Qərənfil	Skin problems	15	18	19.35	0.13	32	0.23
			Antiinflammatory	10					
			Sedative	7					
	Stellaria holostea L. AZE-IJ-180	Cincilim*məğjor*	Diabetes	28	66		0.47	97	0.69
			Urinary	12					
			Digestive disorder	57					
	Silene schafta J.G.Gmel. ex Hohen. AZE-IJ-173	Qoyunqulağı	Common cold	7	14		0.07	18	0.09
			Infections	11					
	Silene talyschensis Schischk. AZE-IJ-174	Talış qoyunqulağı	Antiinflammatory	9	15		0.11	23	0.16
			Infections	14					
Celastraceae	*Euonymus velutinus* Fisch. et C.A.Mey. AZE-IJ-072	Gərməşov	Antiinflammatory	20	31	22.14	0.22	45	0.32

			Urinary	25					
Colchicaceae	*Merendera candidissima* Miscz. ex Grossh. AZE-IJ-110	Danaqıran	Diabetes	15	26	18.57	0.19	36	0.26
			Urinary	21					
Cornaceae	*Cornus mas* L. AZE-IJ-049	Zoğal*zoğal*	Infections	27	32	22.86	0.23	38	0.27
			Liver disease	11					
Crassulaceae	*Rosularia cymbalaria* L. AZE-IJ-157	Çətircik	Antiinflammatory	4	9	6.43	0.06	11	0.08
			Infections	7					
Cucurbitaceae	*Cucurbita maxima* Duchesne AZE-IJ-057	Balqabaq, boran*ıkü*	Digestive disorder	70	86	41.43	0.61	122	0.87
			Vermifuge	52					
	Ecbalium elaterium (L.) A. Rich. AZE-IJ-065	İtxiyarı	Skin problems	30	30		0.21	30	0.21
Dryopteridaceae	*Dryopteris raddeana* Fomin. AZE-IJ-064	Ayıdöşəyi	Vermifuge	14	14	10	0.1	14	0.1
Ebenaceae	*Diospyrus lotus* L. AZE-IJ-063	Xurma*hindəmo*	Digestive disorder	50	62	44.29	0.44	91	0.65
			Urinary	22					
			Common cold	19					
Eleagnaceae	*Elaeagnus angustifolia* L. AZE-IJ-067	İydə*iydə*	Liver disease	30	42	28.57	0.3	55	0.39
			Laxative	25					
	Hippophae rhamnoides L. AZE-IJ-089	Çaytikanı	Skin problems	29	38		0.27	62	0.44
			Sore treatment	33					
Euphorbiaceae	*Euphorbia hyrcana* Grossh. AZE-IJ-073	Südləyən	Infections	24	27	12.86	0.19	41	0.29
			Skin problems	17					
	Euphorbia marschalliana Boiss. AZE-IJ-074	Marşal südləyəni	Skin problems	8	9		0.06	13	0.09
			Antiinflammatory	5					

Equisetaceae	*Equisetum arvense* L. AZE-IJ-068	Qatırquyruğu*lampasilən*	Urinary	41	62	33.93	0.44	94	0.67
			Diuretic	53					
	Equisetum palustre L. AZE-IJ-069	Bataqlıq qatırquyruğu	Allergy	7	33		0.24	42	0.3
			Diabetes	9					
			Urinary	26					
Fabaceae	*Astragalus xiphidium* Bunge. AZE-IJ-020	Gəvən	Mouth sores	5	23	28.37	0.16	27	0.19
			Antiinflammatory	22					
	Astragalus zuvanticus Grossh. AZE-IJ-021	Astraqal	Holagogue	30	38		0.27	54	0.39
			Digestive disorder	24					
	Coronilla scorpiodes K.Koch AZE-IJ-050	Acıyonca	Skin problems	7	23		0.16	28	0.2
			Mouth sores	21					
	Glycyrrhiza glabra L. AZE-IJ-082	Biyan	Cough relief	90	103		0.74	153	1.09
			Mucolytic	63					
	Lens culinaris Medik. AZE-IJ-100	Mərci*məje*	Digestive disorder	12	14		0.1	18	0.13
			Tumors	6					
	Medicago caucasica Vassilez. AZE-IJ-106	Qarayonca	Common cold	19	38		0.27	52	0.37
			Digestive disorder	33					
	Onobrychis hohenackeriana C.A. Mey. AZE-IJ-120	Xaşa	Liver disease	30	51		0.36	74	0.53
			Digestive disorder	44					
	Onobrychis heterophylla C.A.Mey. AZE-IJ-119	Esparset	Skin problems	9	21		0.15	27	0.19
			Joint pain	18					
	Onobrychis transcaucasica Grossh. AZE-IJ-121	Zaqafqaziya esparseti	Liver disease	21	23		0.16	40	0.29
			Digestive disorder	19					

	Pisum sativum L. AZE-IJ-135	Göynoxudu	Liver disease	39	53		0.38	92	0.66
			Digestive disorder	42					
			Tumors	11					
	Vicia ciliatula Lipsky. AZE-IJ-197	Kiprikli lərgə	Digestive disorder	50	62		0.44	83	0.59
			Antiinflammatory	33					
	Vicia faba L. AZE-IJ-198	Paxla*bokla*	Laxative	30	36		0.26	51	0.36
			Antiinflammatory	21					
	Vicia tetrasperma (L.) Schreb. AZE-IJ-199	Lərgə*laqə*	Diabetes	19	39		0.28	51	0.36
			Digestive disorder	32					
	Trifolium lenkoranicum (Grossh.) Roskov AZE-IJ-189	Üçyarpaq yoncası	Holagogue	20	32		0.23	47	0.34
			Antiinflammatory	27					
Gentianaceae	*Centaurium erythraea* Rafin. AZE-IJ-043	İsitməotu	Liver disease	30	34	17.38	0.24	46	0.33
			Appetizer	16					
	Gentiana gelida M.Bieb. AZE-IJ-081	Soyuğadavamlı acıçiçək	Liver disease	22	39		0.28	57	0.41
			Holagogue	19					
			Diabetes	7					
			Enurez	9					
Iridaceae	*Crocus caspius* Fisch. et C.A.Mey. AZE-IJ-054	Xəzər zəfəranı	Skin problems	7	25	20.71	0.18	30	0.21
			Holagogue	23					
	Crocus sativus L. AZE-IJ-056	Zəfəran*zəfəron*	Cardiac	12	47		0.34	74	0.53
			Liver disease	29					
			Eye disease	33					
	Crocus polyanthus Grossh. AZE-IJ-055	Çoxçiçəkli zəfəran	Liver disease	16	19		0.14	29	0.21
			Antiinflammatory	13					

	Iris caucasica Hoffm. AZE-IJ-093	Qoyunqulağı, süsən	Cough relief	7	31		0.22	54	0.39
			Mucolytic	17					
			Hairloss	9					
			Joint pain	21					
	Iris medwedewii Fomin AZE-IJ-094	Süsən*doşanqulağı*	Antiinflammatory	18	23		0.16	41	0.29
			Food poisonning	8					
			Digestive disorder	15					
Juglandaceae	*Juglans regia* L. AZE-IJ-095	Qoz	Atherosclerosis	27	88	46.07	0.63	135	0.96
			Laxative	34					
			Mouth sores	29					
			Hypertension	45					
	Pterocarya fraxinifolia (Poir) Spach. AZE-IJ-147	Yalançıqoz	Atherosclerosis	30	41		0.29	66	0.47
			Laxative	25					
			Mouth sores	11					
Lamiaceae	*Lamium album* L. AZE-IJ-097	Dalamaz	Infections	20	49	36.07	0.35	119	0.85
			Antiinflammatory	33					
			Urinary	19					
			Common cold	30					
			Hairloss	17					
	Lamium purpureum L. AZE-IJ-098	Keçətük dalamaz	Food poisonning	9	43		0.31	67	0.48
			Sedative	24					
			Mouth sores	34					
	Melissa officinalis L. AZE-IJ-107	Dərman bədrənci	Sedative	43	52		0.37	109	0.78
			Food poisonning	10					
			Allergy	15					
			Sleep disorder	41					

	Mentha aquatica L. AZE-IJ-108	Yarpız*pünə*	Spasmolytic	51	67	0.48	119	0.85
			Food poisonning	16				
			Urinary	22				
			Sedative	30				
	Mentha pulegium L. AZE-IJ-109	Giləmərzə, pulqar yarpızı	Food poisonning	7	47	0.34	73	0.52
			Analgetic	19				
			Sedative	23				
			Mouth sores	18				
			Sleep disorder	6				
	Origanum vulgare L. AZE-IJ-126	Qaraqınıq	Urinary	30	42	0.3	84	0.6
			Sedative	16				
			Infections	38				
	Phlomis lenkoranica Knorring. AZE-IJ-130	Ödotu	Digestive disorder	44	51	0.36	63	0.45
			Antiinflammatory	19				
	Salvia aethiopis L. AZE-IJ-162	Sürvə	Infections	22	49	0.35	98	0.7
			Skin problems	14				
			Antiinflammatory	25				
			Food poisonning	14				
			Common cold	23				
	Salvia sclarea L. AZE-IJ-163	Adaçayı	Infections	12	36	0.26	89	0.64
			Skin problems	11				
			Antiinflammatory	25				
			Analgetic	14				
			Sedative	17				
			Hairloss	22				
	Satureja intermedia C.A.Mey. AZE-IJ-164	Çöl nanəsi	Infections	27	52	0.37	100	0.71
			Antiinflammatory	29				

			Digestive disorder	33				
			Mouth sores	11				
	Scutellaria grossheimiana Juz. AZE-IJ-170	Qrossheym başlıqotu	Common cold	27	31	0.22	43	0.31
			Antiinflammatory	16				
	Scutellaria prilipkoana Grossh. AZE-IJ-171	Başlıqotu	Diabetes	6	27	0.19	30	0.21
			Digestive disorder	24				
	Stachys talyschensis Kapell. AZE-IJ-179	Poruq	Infections	7	16	0.11	21	0.15
			Antiinflammatory	14				
	Teucrium chamaedrys L. AZE-IJ-184	Məryəmnoxudu	Diabetes	6	34	0.24	70	0.5
			Infections	19				
			Common cold	25				
			Women's disease	20				
	Thymus kotschyanus Boiss. et Hohen. AZE-IJ-185	Koçi kəklikotu	Cough relief	44	85	0.61	179	1.28
			Mucolytic	51				
			Common cold	66				
			Sleep disorder	18				
	Thymus trautvetteri Klok.et Shost. AZE-IJ-186	Kəklikotu*həlindor*	Cough relief	52	98	0.7	222	1.59
			Mucolytic	39				
			Urinary	36				
			Sedative	22				
			Common cold	73				
	Ziziphora persica Bunge AZE-IJ-202	Dağnanəsi	Skin problems	17	54	0.39	92	0.66
			Laxative	30				
			Spasmolytic	45				
	Nepeta betonicifolia C.A.Mey. AZE-IJ-114	Pişiknanəsi	Infections	30	41	0.29	94	0.67
			Antipyreticsı	21				

			Analgetic	8					
			Mouth sores	12					
			Sleep disorder	23					
	Nepeta mussini Spreng. ex Henck. AZE-IJ-115	Mussini pişiknanəsi	Infections	45	59		0.42	143	1.02
			Antipyreticsı	32					
			Food poisonning	16					
			Urinary	31					
			Sedative	19					
	Nepeta schischkinii Pojark. AZE-IJ-116	Şişkin pişiknanəsi	Antipyreticsı	26	77		0.55	124	0.89
			Tonifiying	22					
			Sedative	36					
			Digestive disorder	40					
Liliaceae	*Fritillaria grandiflora* Grossh. AZE-IJ-078	Zambaqça	Infections	7	14	10	0.1	23	0.16
			Sleep disorder	5					
			Women's disease	11					
	Gagea alexeenkoana Miscz AZE-IJ-080	Qazsoğanı	Skin problems	12	14		0.1	20	0.14
			Sedative	8					
Linaceae	*Linum usitatissimum* L. AZE-IJ-102	Zəyərək	Food poisonning	20	62	44.29	0.44	149	1.06
			Diabetes	16					
			Laxative	44					
			Mouth sores	17					
			Laxative	52					
Lythraceae	*Punica granatum* L. AZE-IJ-148	Nar	Digestive disorder	90	101	72.14	0.72	125	0.89
			Sleep disorder	22					
			Infections	13					
Malvaceae	*Alcea lenkoranica* İljin. AZE-IJ-005	Xətmigülü	Cough relief	54	66	46.31	0.47	98	0.7
			Allergy	12					

			Joint pain	32					
	Althaea cannabina L. AZE-IJ-011	Bəlğəmotu	Cough relief	30	68		0.49	144	1.03
			Mucolytic	43					
			Antiinflammatory	13					
			Laxative	17					
			Common cold	41					
	Althaea officinalis L. AZE-IJ-012	Gülxətmi	Cough relief	71	83		0.59	198	1.41
			Mucolytic	66					
			Mouth sores	19					
			Common cold	42					
	Hibiscus syriacus L. AZE-IJ-087	Hibiskus	Sedative	6	22		0.16	24	0.17
			Mouth sores	18					
	Malva neglecta Wallr. AZE-IJ-104	Alaq əməköməçi	Cough relief	24	58		0.41	94	0.67
			Mucolytic	41					
			Food poisonning	10					
			Mouth sores	19					
	Malva sylvestris L. AZE-IJ-105	Əməköməçi*pəllek*	Cough relief	77	92		0.66	189	1.35
			Mucolytic	53					
			Diarrhea	28					
			Common cold	31					
Moraceae	*Ficus carica* L. AZE-IJ-076	Ənci*rincil*	Cough relief	24	94	66.67	0.67	179	1.28
			Mucolytic	67					
			Laxative	88					
	Morus alba L. AZE-IJ-111	Ağ tut*tut, tüyəgilə*	Cough relief	44	87		0.62	192	1.37
			Mucolytic	52					
			Liver disease	55					
			Holagogue	41					

	Morus nigra L. AZE-IJ-112	Qara tut	Cough relief	67	99		0.71	203	1.45
			Mucolytic	61					
			Liver disease	40					
			Holagogue	35					
Nitrariaceae	*Peganum harmala* L. AZE-IJ-129	Üzərlik	Infections	47	56	40	0.4	66	0.47
			Analgetic	19					
Orchidaceae	*Anacamptigvbs pyramidalis* (L.) Rich. AZE-IJ-014	Bağsəhləbi	Cough relief	52	77	53.75	0.55	126	0.9
			Mucolytic	44					
			Diabetes	17					
			Joint pain	13					
	Ophrys apifera Huds. AZE-IJ-124	Qaşsəhləbi	Cough relief	67	81		0.58	121	0.86
			Mucolytic	54					
	Orchis mascula L. AZE-IJ-125	Erkək səhləb	Cough relief	79	93		0.66	135	0.96
			Mucolytic	56					
	Platanthera chlorantha (Custer) Reichenb. AZE-IJ-138	Ləçəkotu	Skin problems	21	50		0.36	94	0.67
			Cough relief	40					
			Mucolytic	33					
Papaveraceae	*Chelidonium majus* L. AZE-IJ-044	Dəmrovotu	Holagogue	61	70	37.32	0.5	83	0.59
			Tumors	22					
	Atropa caucasica Kreyer AZE-IJ-023	Xanımotu	Analgetic	7	22		0.16	26	0.19
			Joint pain	19					
	Capsicum annuum L. AZE-IJ-036	İstiot	Joint pain	44	51		0.36	67	0.48
			Antiinflammatory	23					
	Fumaria asepala Boiss. AZE-IJ-079	Şahtərə	Liver disease	54	66		0.47	78	0.56

			Diabetes	24					
Pedaliaceae	*Sesamum indicum* L. AZE-IJ-172	Küncüt*kıncı*	Liver disease	70	84	60	0.6	109	0.78
			Laxative	39					
Plantaginaceae	*Linaria pyramidalis* (Vent.) F. Dietr. AZE-IJ-101	Qurdotu	Antiinflammatory	11	13	45.36	0.09	19	0.14
			Infections	8					
	Plantago lanceolata L. AZE-IJ-136	Neştərşəkilli bağayarpağı	Cough relief	77	82		0.59	133	0.95
			Mucolytic	56					
	Plantago major L. AZE-IJ-137	Bağayarpağı*həvəlivə*	Cough relief	92	106		0.76	179	1.28
			Mucolytic	54					
			Antiinflammatory	33					
	Veronica crista-galli Stev. AZE-IJ-196	Bulaqotu	Digestive disorder	41	53		0.38	70	0.5
			Urinary	29					
Poaceae	*Avena barbata* Pott ex Link. AZE-IJ-024	Vələmir	Skin problems	37	47	35	0.34	52	0.37
			Digestive disorder	66					
	Hordeum vulgare L. AZE-IJ-090	Arpayəv, cəv	Skin problems	49	66		0.47	102	0.73
			Digestive disorder	53					
	Oryza sativa L. AZE-IJ-128	Düyü*bırz*	Skin problems	20	47		0.34	52	0.37
			Antiinflammatory	31					
	Phragmites australis (Cav.) Trin. Ex Steud. AZE-IJ-131	Qamış	Antiinflammatory	18	18		0.13	18	0.13
	Triticum aestivum L. AZE-IJ-190	Buğda	Diabetes	12	47		0.34	52	0.37
			Digestive disorder	44					
	Zea mays L. AZE-IJ-201	Qarğıdalı*məka*	Antiinflammatory	25	69		0.49	158	1.13
			Liver disease	37					

			Holagogue	40					
			Urinary	23					
			Common cold	14					
Polygalaceae	*Polygala grosshemii* Kem.- Nath. AZE-IJ-139	Südotu	Skin problems	7	14	10	0.1	18	0.13
			Antiinflammatory	11					
Polygonaceae	*Polygonum hyrcanicum* Rech.f. AZE-IJ-141	Quşbuğdası	Urinary	42	53	43.39	0.38	82	0.59
			Diuretic	27					
			Liver disease	13					
	Polygonum hydropiper L. AZE-IJ-140	Subibəri	Digestive disorder	30	31		0.22	37	0.26
				7					
	Rumex confertus Wild. AZE-IJ-159	At əvəliyi	Digestive disorder	88	97		0.69	111	0.79
			Liver disease	23					
	Rumex tuberosus L. AZE-IJ-160	Əvəlik*tora, seveğ*	Digestive disorder	59	62		0.44	66	0.47
			Antiinflammatory	7					
Portulacaceae	*Portulaca oleracea* L. AZE-IJ-142	Pərpərən	Digestive disorder	56	58	41.43	0.41	60	0.43
			Infections	4					
Primulaceae	*Cyclamen vernum* Sweet. AZE-IJ-058	Meşənovruzu	Cough relief	40	49	35	0.35	67	0.48
			Mucolytic	27					
Ranunculaceae	*Nigella sativa* L. AZE-IJ-118	Qara çörəkotu	Holagogue	33	67	29.05	0.48	110	0.79
			Respiratory	21					
			Digestive disorder	56					
	Nigella orientalis L. AZE-IJ-117	Çörəkotu	Infections	24	34		0.24	52	0.37
			Diabetes	9					
			Digestive disorder	19					

	Ranunculus oxyspermus Willd. AZE-IJ-151	Qaymaqçiçək	Allergy	5	21		0.15	24	0.17
			Antiinflammatory	19					
Rosaceae	*Alchemilla hyrcana* (Bus.) Juz. AZE-IJ-006	Şaxduran	Antiinflammatory	29	68	56.89	0.49	112	0.8
			Analgetic	6					
			Urinary	23					
			Digestive disorder	54					
	Armeniaca vulgaris Lam. AZE-IJ-018	Ərik*ərik*	Mouth sores	13	83		0.59	90	0.64
			Digestive disorder	77					
	Cotoneaster integerrimus Medik. AZE-IJ-051	Dovşanalması	Antiinflammatory	11	28		0.2	51	0.36
			Digestive disorder	23					
			Holagogue	17					
	Crataegus orientalis (Mill.) M.Bieb. AZE-IJ-052	Qaragilə	Cardiac	96	105		0.75	138	0.99
			Sleep disorder	42					
	Crataegus pentagyna Waldst. et Kit. ex Willd. AZE-IJ-053	Yemişan*qaragilə*	Cardiac	91	114		0.81	156	1.11
			Sedative	65					
	Cydonia oblonga Mill. AZE-IJ-059	Heyva*bi*	Cough relief	87	124		0.89	226	1.61
			Mucolytic	66					
			Liver disease	73					
	Malus orientalis Uglitzk. AZE-IJ-103	Alma*sef*	Sleep disorder	15	63		0.45	72	0.51
			Digestive disorder	57					
	Potentilla argentea L. AZE-IJ-143	Gümüşü qaytarma	Antiinflammatory	42	68		0.49	101	0.72
			Digestive disorder	59					
	Potentilla bifurca L. AZE-IJ-144	Yabaşəkilli qaytarma	Antiinflammatory	52	81		0.58	119	0.85
			Digestive disorder	67					

	Potentilla erecta L. AZE-IJ-145	Qaytarma	Antiinflammatory	77	90		0.64	127	0.91
			Digestive disorder	50					
	Prunus spinosa L. AZE-IJ-146	Gavalı*dambül*	Skin problems	12	65		0.46	71	0.51
			Laxative	59					
	Pyrus boissieriana Buhse. AZE-IJ-149	Armud*ambü*	Liver disease	55	62		0.44	87	0.62
			Digestive disorder	32					
	Pyrus hyrcana Fed. AZE-IJ-150	Hirkan armudu	Liver disease	42	77		0.55	105	0.75
			Digestive disorder	63					
	Rosa canina L. AZE-IJ-155	İtburnuseçet	Liver disease	71	97		0.69	194	1.39
			Holagogue	55					
			Urinary	68					
	Rosa candicans Weihe AZE-IJ-154	Hitkan itburnusu	Liver disease	60	83		0.59	117	0.84
			Diabetes	14					
			Antiinflammatory	43					
	Rosa tomentosa Smith. AZE-IJ-156	Tüklü itburnu	Liver disease	50	86		0.61	115	0.82
			Holagogue	21					
			Urinary	44					
	Rubus hyrcanus Juz. AZE-IJ-158	Böyürtkən*hındıl*	Joint pain	22	60		0.43	75	0.54
			Antiinflammatory	53					
Rutaceae	*Citrus limon* (L.) Osbeck AZE-IJ-047	Limon*limo*	Food poisonning	20	71	30.36	0.51	150	1.07
			Sedative	33					
			Sleep disorder	40					
			Atherosclerosis	57					
	Haplophyllum villosum G.Don. AZE-IJ-083	Sədovər	Antiinflammatory	7	14		0.1	19	0.14

			Infections	12					
Salicaceae	*Salix alba* L. AZE-IJ-161	Söyüd*viyə do*	Antipyreticsı	52	67	47.86	0.48	107	0.76
			Joint pain	49					
			Diabetes	6					
Sapindaceae	*Acer velutinum* Boiss. AZE-IJ-002	Ağcaqayın	Antiinflammatory	27	41	29.29	0.29	63	0.45
			Common cold	36					
Scrophulariaceae	*Scrophularia hyrcana* (Grossh.) Grossh. AZE-IJ-168	Hirkan qaraşəngi	Infections	4	11	28.75	0.08	13	0.09
			Antiinflammatory	9					
	Scrophularia zuvandica Grossh. AZE-IJ-169	Qaraşəngi	Digestive disorder	6	9		0.06	14	0.1
			Antiinflammatory	8					
	Verbascum gossypinum M.Bieb. AZE-IJ-193	Pambıqlı sığırquyruğu	Cough relief	59	72		0.51	100	0.71
			Mucolytic	41					
	Verbascum thapsus L. AZE-IJ-194	Sığırquyruğu	Cough relief	48	69		0.49	121	0.86
			Mucolytic	40					
			Antiinflammatory	33					
Smilacaceae	*Smilax excelsa* L. AZE-IJ-176	Mərəvcə	Digestive disorder	20	24	17.14	0.17	38	0.27
			Antiinflammatory	18					
Urticaceae	*Urtica dioica* L. AZE-IJ-192	Gicitkən*qəzənə*	Respiratory	42	57	40.71	0.41	129	0.92
			Women's disease	39					
			Urinary	48					
Verbenaceae	*Verbena officinalis* L. AZE-IJ-195	Minaçiçəyi	Infections	10	29	20.71	0.21	65	0.46
			Skin problems	16					
			Pain relieve	7					
			Sedative	20					
			Sleep disorder	12					

Zygophyllaceae	*Tribulus terrestris* L. AZE-IJ-188	Dəmirtikan	Urinary	17	40	28.57	0.29	73	0.52
			Antiinflammatory	22					
			Digestive disorder	34					

The titles given in italics are in Talysh vernacular.