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ETHNOBOTANY OF LOCAL PEOPLE IN GLLOBOÇICA (REPUBLIC OF KOSOVO)

Besnik REXHEPI[1], Qëndresa LUMA[1], Ani BAJRAMI[2], Agim HAZIRI[3]

[1]Department of Biology, Faculty of Natural Sciences and Mathematics, University of Tetova, MK*
[1,3]Department of Biology, Faculty of Natural Sciences and Mathematics, University of Tetova, MK
[2] Museum of Natural Sciences "Sabiha Kasimati", Faculty of Natural Sciences, University of Tirana
[*]Corresponding Author: e-mail: Besnik.rexhepi@unite.edu.mk

Abstract

During the last decades, the traditional botanical knowledge (TBK) in the Sharr Mountains has been the focus of a relatively small number of researchers. However, this effort has resulted in the documentation of the interactions of local people with their natural resources. Although, in certain areas, TBK remains untouched. Therefore, in this paper, we focused on pointing out the relations of the local inhabitants of Gllboçicë (Republic of Kosovo) with their local flora. Semi-structured interviews were conducted in January-February 2023 with 13 Albanian residents with empirical knowledge (9 women; and 4 men) and aged over 45 years. During this period, information was gathered on more than 53 plant species belonging to 26 families that are used in traditional medicine. The most representative families were (*Rosaceae*, *Lamiaceae*, and *Asteraceae*). To the cultural reality and local biodiversity, the form of decoction (hot aqueous extract) dominates as a method of preparation. Additionally, modernization, migration of residents, and outage of the vertical transmission of traditional knowledge are considered key factors contributing to the loss of biocultural knowledge.

*Keywords:*Ethnobotany, Kosovo, Gllboçica, biocultural knowledge, Traditional botanical knowledge.

1. Introduction

Ethnobotany as a discipline of ethnobiology, according to the criteria of many authors that have undertaken its theoretical aspects, may be considered in different ways, often overlapping with the goals of other disciplines, but presenting the analysis of the link, interaction, relationship, and contact between people and plants as a common denominator, whatever it is the sense addressed when studying this link (Albuquerque 2016).

One of the main goals of ethnobotanical studies is to document the dynamics of traditional knowledge about plants primarily gathered by rural communities (Martin 2014). Ethnobotanical knowledge within a defined microsystem is represented mainly by experiential knowledge shared among community members identifying with a specific culture. Although this is influenced by the introduction of outside ideas and practices, the core body of knowledge is consistently associated with the use of indigenous plants for various purposes. It also shows how people of a particular culture and region make use of Indigenous plants for various purposes (Ashebo 2019), (Rexhepi, et al. 2013), (Rexhepi. B. 2018)

The gradual loss of Traditional Botanical Knowledge is associated with an increasing concern in studies documenting the remaining scraps of this heritage. However, it is very difficult to estimate the exact change in plant uses which have occurred over the last decades or centuries, due to the lack of older ethnobotanical studies. In Europe, in some countries, the 19th and early 20th century use of plants by peasants, both for food and medicine, was well-documented (Lukasz 2012), (Dal Cero M 2022), etc. On the other hand, in the Mediterranean Basin and in the Balkans, despite their incredibly rich plant folklore, fewer such studies were made and it

has been only over the few past decades that ethnobotanists have started documenting this domain (Gómez-Baggethun 2013), (Renata Sõukand 2015).
Balkan possesses a tremendous reservoir of Traditional Botanical Knowledge (TBK) related to wild plants. The mountain areas of Western Balkan countries are predominantly covered by forests, rich in biodiversity. Sharr Mountain represents a mountain massif where traditional botanical knowledge (TBK) has been the focus of a relatively small number of researchers. However, this effort has resulted in the documentation of the interactions of local people with their natural resources. Although, in certain areas of this mountain range, TBK remains untouched.
Believing in exploring uncharted territories to discover new ethnobotanical knowledge the aim of the study was to document the diversity of uses and the relations of the local inhabitants of Glloboçica (Republic of Kosovo) as a small and isolated country with their local flora. The present study would prove very fruitful in depicting the traditional affiliation and dependence of rural people on the plant resources of the area.

2. Material and Methods

2.1. Study Area: Kacanik includes the southeastern part of Kosovo with an area of 211.13 km², respectively 1.94% of the total area of Kosovo (10,887 km²). The municipality of Kaçanik consists of 31 settlements, 1 urban and 30 rural, while it is bordered by the municipalities of Vitia, Ferizaj, Štrpce and in the south by Hani i Elezit and the Republic of North Macedonia (Rks-gov.net 2023).
Glloboçica claims a position in the southeast of the Republic of Kosovo, along the borderline with the Republic of North Macedonia. It is located on the edge of Sharr Mountain, a position which has also influenced its physiognomy. The country is characterized by a considerable area, it belongs to the distributed type of villages organized with 6 neighborhoods with a population of 1289 inhabitants according to the 2011 census.
The main factors that give the climatic characteristics of this municipality are latitude, altitude, relief, etc. Kosovo as well as the municipality of Kaçanik are located in the middle latitudes geographically, therefore this municipality has a medium continental climate. The climate of a country is also influenced by microclimatic factors that influence each space more or less to have some specifics themselves. In Globoçica, the main influence is the relief, namely the mountains and their height. In the higher parts, the mountain climate dominates, which is harsher than the continental average climate.

2.2. Selection of Informants: A total of 13 informants (4 male and 9 female) aged over 45 years were selected based on the neighborhood, but also within the larger families of the village. From a total of 13 informants, most of the interviewees were born and grew up in the village, while others were residents born in the surrounding villages but, have lived in this village for more than twenty years. The residents who agreed to help us were people who use medicinal plants for self-care but do not identify themselves as plant specialists or traditional healers.

2.3. Ethnobotanical Data Collected: Ethnobotanical data were collected between January and February 2023. Ethnobotanical data were collected in very close interaction with informants using semi-structured interviews. The ethical principles of the International Society of Ethnobiology (Ethnobiology 2006) were considered and oral informed consent was given by the informants. Each participant was guaranteed anonymity. The questions that were asked were adapted to the local context. As a sign of respect that some interviewees may lack the ability to read or write, information was provided orally individually before each interview. In advance, each interviewee was informed about the purpose of this work and the context of the field of

Ethnobotany. The participants refused to be recorded during the interview. A semi-structured interview was conducted in (Zhuo Cheng1 2020) Albanian, where the interviewer asked questions and wrote the answers. To quantify herbal knowledge (number of herbs reported) for X use case, people were asked if they knew or had ever used one, two or several local plants, and were assured that they did not have to be specialists in the subject to feel comfortable being interviewed. Important ethnobotanical information was gathered that was provided by informants.

2.4. Analysis of Ethnobotanical Data : The ethnobotanical data were analyzed using qualitative methods of data analysis. Descriptive statistics such as percentages and graphs were used to analyze the data collected in Microsoft Office Excel.

2.5. Identification of plants: Because sometimes there are different local synonyms for the same type of plant, but also as happened in most cases the lack of knowledge about the local name of the plant, the identification of the specimens was carried out using the herbarium and photographs that we took during the last year in this country. Plants were identified to species level. Scientific names of species as well as families were obtained from "Flora Ekskursioniste e Shqipërisë" and "Flora of Macedonia".

3. Results and Discussion

3.1. Informants Sociodemographic: A total of thirteen informants were used for the study purposes; out of them, four (31%) male and nine (69%) female informants took part in this study. Most of them were over 45 years old. Their financial status was as follows: six (46%) were employed and seven (54%) were unemployed. The diversity of uses and the relation of inhabitants-local plants in the study area were obtained from the older informants compared to the younger ones. Even though they still have considerable traditional ethnobotanical knowledge, today they do not prefer to use this knowledge for their daily needs, with small exceptions who continue and preserve this tradition from their parents and grandparents.

3.2. Taxonomic Diversity of Plants in the Study Area: In total, 53 species belonging to 26 families were identified in the studied area. The detailed inventory is provided in *Table 1*, which includes family name, scientific name, local name, life form, habitat, condition of preparation, route, method of preparation, and the purpose of use.
The most representative family turned out to be the *Rosaceae* family with 13 species, followed by the *Asteraceae* family with 6 species, the *Lamiaceae* family with 4 species, families such as *Alliaceae, Caprifoliaceae, Ericaceae, Plantaginaceae, Malvaceae, Moraceae, Gentianaceae* with 2 species each and *Violaceae, Cornaceae, Primulaceae, Brasicaceae, Cupressaceae, Urticaceae, Polygoniaceae, Fabaceae, Poaceae, Juglandaceae, Oleaceae, Crassulaceae, Schrophulariaceae, Equisetaceae, Papaveraceae, Hypericaceae*, with one species per family.

Table 1. The ethnobotanical data

Family	Scientific name	Local name	Life form	Habitat	Part used	Co	Route	Method of preparation	Used for
Asteraceae	*Achillea millefolium L.*	Barpezmi	H	W	H	D	Oral	Decoction	Cough
Rosaceae	*Alchemilla vulgaris L.*	Alkemila mjekësore	H	W	L	F	Oral	Decoction	Menstrual pain
Malvaceae	*Althea officinalis L.*	Mullaga e bardhë	H	W	R	D	Oral	Decoction	Expectorant

Alliaceae	*Allium cepa*	Qepa	H	C	L and B	F	Oral	Mixed with honey	Bronchitis,
Alliaceae	*Allium ursinum*	Hudra e egër	H	W	H	D	Oral	Spice	Food
Asteraceae	*Artemisia absinthium L.*	Pelini	H	W	H	D	Oral	Decoction	For heart disease, Against breast irritation (after stopping breastfeeding)
Ericaceae	*Arctostaphylos uva-ursi (L.) Spreng.*	Uvini	S.SH	W	L	D	Oral	Decoction	Kidney pain
Rosaceae	*Agrimonia eupatoria L.*	Lule gjarprit	H	W	H	F	Dermal	Soaked	Snakebite
Brasicaceae	*Brassica oleracea var. capitata L.*	Lakra	H	C	L	F	Dermal	Soaked	Leg pain, chest pain
Asteraceae	*Carlina acaulis L.*	Ushojza	H	W	R	D	Oral	Decoction	Anti rheumatism
Gentianaceae	*Centaurium erythrea L.*	Bari i etheve	H	W	H	D	Oral	Infusion	Epilepsy
Papaveraceae	*Chelidonium majus L.*	Tamblagjaku	H	W	Lat.	F	Dermal	Soaked	Removal of warts
Rosaceae	*Crataegus monogyna Jacq.*	Murrizi	T	W	Fruit	D	Oral	Decoction	For improving the respiratory tract
Asteraceae	*Cichorium intybus L.*	Qikorja	H	W	H	D	Oral	Infusion	Stomach pain
Cornaceae	*Cornus mas*	Thana	T	W	Fruit	F	Oral	Decoction	Tea
Rosaceae	*Cydonia oblonga Mill.*	Ftoi	T	C	Fruit and L	F and D	Oral	Soaked, Infusion	Jam, Tea
Equisetaceae	*Equisetum arvense L.*	Këputja e arave	H	W	H	D	Oral	Decoction	Kidney pain
Moraceae	*Ficus carica L.*	Fiku	T	C	Fruit and L	F and D	Oral and Dermal	Soaked	F- for cleaning the TGI as well as for regulating tension, L-against warts

Oleaceae	*Fraxinus nigra Marsh.*	Frashëri i zi	T	W	P and L	F	Oral	Decoction	P - for chicken dermis L- stomach ache
Rosaceae	*Fragaria vesca L.*	Dredhza e malit	H	W	Fruit	F	Oral	Soaked	Jam, Fresh fruit
Gentianaceae	*Gentiana lutea L.*	Sanza	H	W	R and F	D	Oral	Decoction	R- Against flatulence F-hair loss
Hypericaceae	*Hypericum perforatum L.*	Kantarion	H	W	H and F	F and D	Oral and Dermal	Decoction, Mixed with oil	skin regeneration, Hemorrhoids antidepressant,
		Lulebalsami							
Juglandaceae	*Juglans regia L.*	Arra	T	C	Fruit	F	Oral	Mixed with honey	Against cholesterol Thyroid gland
Cupressaceae	*Juniperus communis L.*	Dëllinja e zezë,	SH	W	Fruit	F	Oral	Decoction	Rheumatism Regulation of blood pressure
Malvaceae	*Malva sylvestris L.*	Mëllaga e egër,	H	W	L	D	Oral	Infusion	Stomach pain
Rosaceae	*Malus sylvestris (L.) Mill*	Molla e egër	T	W	Fruit	F	Oral and Dermal	Juice	Lowering blood pressure, Against the expansion of veins
Asteraceae	*Matricaria chamomilia L.*	Kamomili,	H	W	Flow.	D	Oral	Infusion	Cough
Lamiaceae	*Mentha piperita L.*	Minti Nenëgjiku	H	W	L	F	Oral	Infusion	sedative
Rosaceae	*Mespilus germanica*	Mishmolla	T	C	Fruit and L	F	Oral	Soaked and L- Decoction	Jam , L- Against constipation in children
Moraceae	*Morus alba L.*	Mani i bardhë	T	C	Fruit and L	F	Oral	Boiled	Irritation of the oral mucosa
Lamiaceae	*Ocimum basilicum L.*	Borziloku	H	W	L	F	Dermal	Soaked	Disinfection of the wound
Lamiaceae	*Origanum vulgare L.*	Qaj i livadhit	H	W	H	D	Oral	Infusion	sedative

Fabaceae	*Phaseolus vulgaris L.*	Grosha	L	C	Fruit	F	Oral and Dermal	Baked, Boiled	Wound healing (in humans and animals)
Rosaceae	*Prunus spinosa L.*	Kulumbria	SH	W	Fruit	F	Oral	Decoction	Diabetes
Primulaceae	*Primula veris L.*	Aguliçe e vërtetë	H	W	Flow.	F	Oral	Infusion	Expectorant
Rosaceae	*Prunus cerasifera Ehrh.*	Kumbulla e egër	T	W	Fruit	F	Oral	Boiled	Jam
Plantaginaceae	*Plantago major L.*	Gjethedielli	H	W	L	F	Dermal	Poultice	Removal of breast cysts
Plantaginaceae	*Plantago lanceolata L.*	Gjethedelli heshtorë	H	W	L	F	Dermal	Paste	Against insect bites
Rosaceae	*Rosa canina L.*	Kaqa	SH	W	Fruit	F	Oral	Soaked	Against cholesterol
Rosaceae	*Rubus caesius L.*	Manaferra	SH	W	Fruit and L	F	Oral and Dermal	Soaked	L- Removal of pus from the skin F-jam
Rosaceae	*Rubus idaeus L.*	Mjedra	SH	C	Fruit	F	Oral	Soaked	Fresh fruit
Polygonaceae	*Rumex sp.*	Lëpjeta	H	W	L	F	Oral	Soaked	Food
Caprifoliaceae	*Sambucus ebulus L.*	Shtogu barishtor	H	W	Fruit	F	Oral	Decoction	Against cancer
Caprifoliaceae	*Sambucus nigra L.*	Shtogu i zi	T	W	F and P	F	Dermal	Paste ,Decoction	P-wound healing Bronchitis F- Drink
Crassulaceae	*Sempervivum tectorum*	Lule veshit	S	W	Lat.	F	Dermal	Soaked	Ear pain
Lamiaceae	*Sideritis scardica Griseb.*	Qaji i bjeshkës	H	W	H	D	Oral	Infusion	Cough
Asteraceae	*Taraxacum officinale L.*	Luleshurdha	H	W	Flow. and R	D	Oral	Infusion	F Expectorant F Diuretic R- Problems with intestines

Tiliaceae	*Tilia cordata L.*	Bliri	T	W	Flow.	D	Oral	Infusion	Flu, Stomach pain
Urticaceae	*Urtica dioica L.*	Hithra	H	W	H, S,and R	F and D	Oral	Decoction	S-Anemia R-Hair loss, infections, pregnancy. Herb – for food, as an insecticide
Ericaceae	*Vaccinium myrtillus L.*	Boronica	SH	W	F	F and D	Oral	Decoction	Juice
Scrophulariaceae	*Verbascum thapsus L.*	Bari i peshkut	H	W	Flow.	D	Oral	Infusion	Asthma
Violaceae	*Viola odorata L.*	Manushaqja	H	W	Flow.	F	Oral	Infusion	Juice
Poaceae	*Zea mays L.*	Misri	H	C	Corn silk	D	Oral	Infusion	Kidney pain

Habitat (H:herb, T: tree, S: shrub, L: lian); habitat (C: cultivated, W: wild); part used (Bu: bulb, Fruit, L: leaf, R: root, S: seed, H: Herab, F: Flower); cocondition of preparation (F: fresh, D: dry).

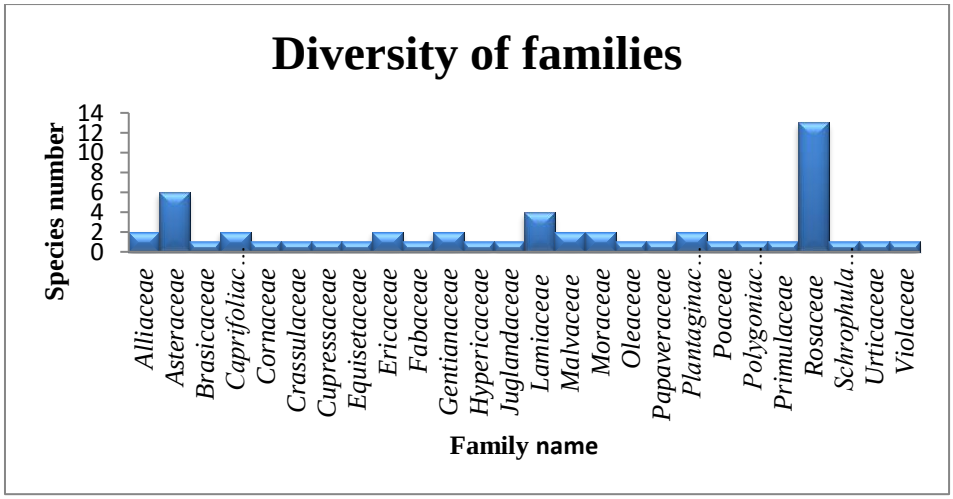

Figure 1. Chart of Representation of All Families

3.3. Classification of Plant Uses: The study showed that people of the area, nowadays are not so much dependent on the native flora for acquiring their basic requirements such as food, medicines, or other uses, if we compare them with the great floristic wealth that characterizes this village. The analysis of ethnobotanical data shows that a large number of plant species were used for traditional medicinal recipes 76%, food and drinks 19% and veterinary use 5%.
Various skin diseases such as burns, wounds, eczema, warts, then ear infections, kidney pain, asthma, bronchitis, flu, high blood pressure, anemia, hemorrhoids, etc., are some of the diseases that have worried adults but even children and their treatment in domestic conditions has been possible thanks to the use of different types of plants, of which there are many medicinal aromatic species, wild fruit trees and some cultivated species.
The preparation of jams and drinks from wild fruits also occupies an important place in the framework of indigenous knowledge of these residents, and from all other categories of uses it continues to be applied today.

3.4. Plant Habitats and Life Forms: From the total number of species, 44 (83%) grow as wild plants, while 9 (17%) are cultivated. The largest number grows as wild plants in the mountainous area, both aromatic medicinal plants and wild fruit trees. The village has a great wealth of aromatic plants and wild fruit trees.
The life form of local plants used by inhabitants in the study area showed that herbs are the dominant life form. Among the reported plants, herbs consisted 31 species (58%) followed by shrubs comprising 11 (21%), trees 9 (17%), lianas 1 (2 %) and succulents 1 (2%).

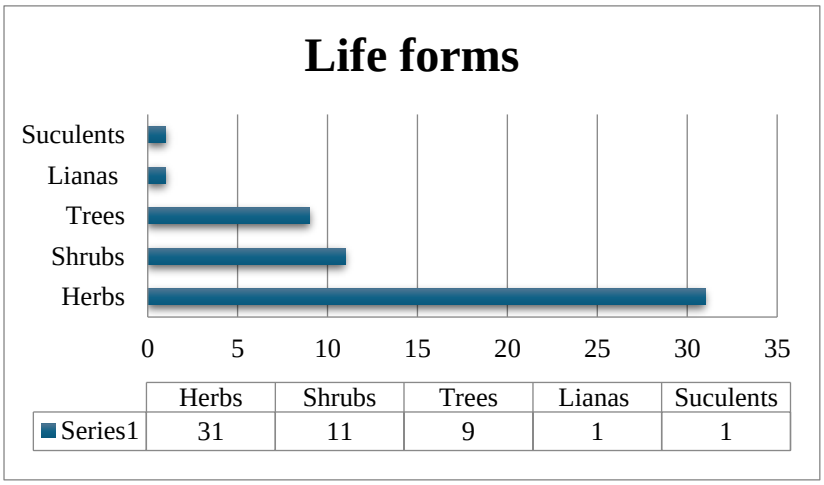

Figure 2. Chart of life forms

3.5. Plant Parts Used and Conditions for Preparation of Herbal Remedies: Different parts of plants are used in various types of plants, for example, herbs, leaves, roots, seeds, bark, flowers, and fruits. After analyzing our collected data, we had two cases; those types of plants in which only one part of them is used and types in which two or more parts of them are used. We have classified the plants in which only one part of them was used, from those in which two or three parts were used. The percentage of plants in which only a part was used is:13species (32%) are used for their fruits,9 species (22%) for the leaves, 9 species (22%) for the herbs, 5 species (12%) for the flower, 2 species for the root (5%), 2 for latex (5%), and1 specie for their silk (2%). The most useful part turns out to be the fruit.

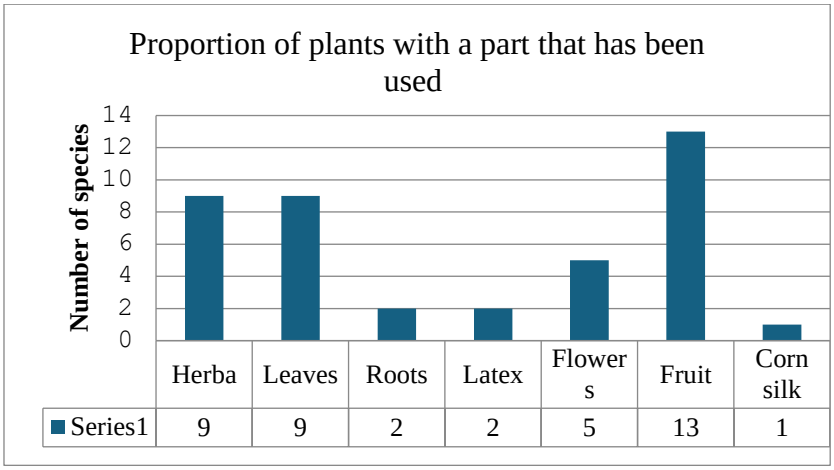

Figure 3. Plants in which only one part of them was used

A smaller part of the reported plants were those in which two or more of their parts were used. We have presented their participation as below: Fruit and leaves with 5 species, leaves and bulb, flower and peel, herbal and flower, peel and leaves, root and flower, seeds, herbs and root with one representative species.

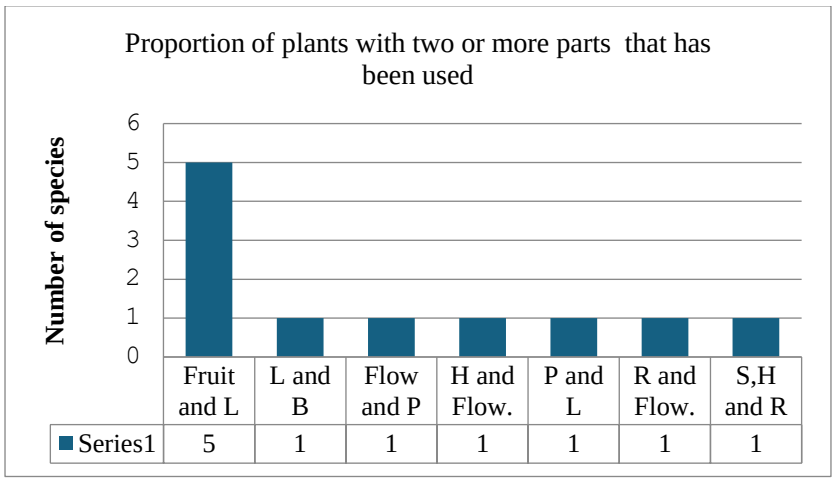

Figure 4. Plants in which two or three parts of them was used

The local people of the study area reported that they prepare remedies using fresh, dried, or both types of plant materials. Statistical analyses show that 29 species (55%) of the preparations were in fresh form, 19 (36%) were in dry form, and, 5 species (9%) were fresh and dry. The dependence of residents on fresh materials is mainly due to the effectiveness of fresh medicinal plants in treatment since the content is not lost before use, while the dried ones can be used even during the winter.

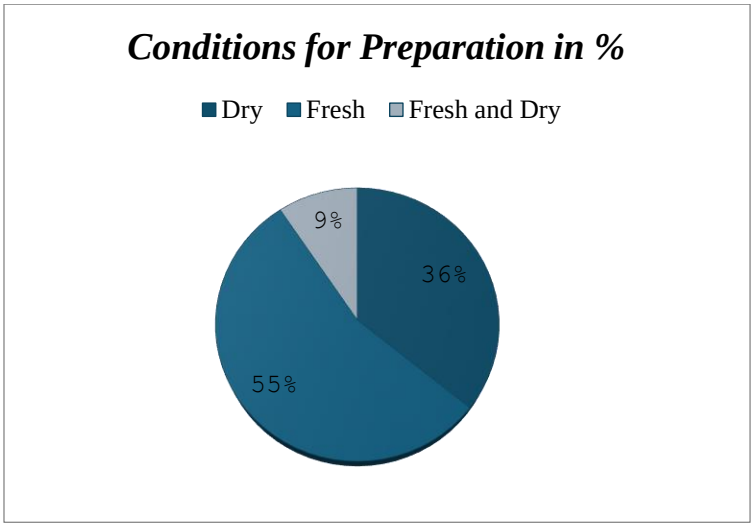

Figure 5. Chart of the used form of plants

3.6. Route of Administration and Method of Preparation: Concerning modes of administration, medicinal plants were reported to be applied through several routes of administration based on the method of preparation, the actual site of alignments, and the type of disease treated. Oral administration is the dominant route (76%), followed by the dermal route (15%) and both (9%). Internal diseases were usually treated by forcing the patient to drink herbal preparations and vice versa skin wounds for example, by applying directly on the wound.
The main methods of preparation turned out to be in the form of decoction and infusion, while other methods were less applicable, such as: a combination with honey, oil, or direct application. In terms of dosage, residents referred to various units of measurement such as finger length (e.g. for root), half or tip of a spoon (for honey or oil), and numbers (e.g. for leaves, seeds, fruits, and flowers). Lack of precise dosage is one of the drawbacks of traditional medicinal plants. According to the respondents, preparations were prescribed to sick persons in different ways for certain age groups. Dose prescription for children e.g. was mostly lower than for adults.

3.7. Ethnobotanical Knowledge: Ethnobotanical knowledge is mainly focused on the elderly who still enjoy health and eventually on their descendants over the age of 45, very rarely on the younger ages under 40. In their transmission from the elderly to the young generation, there are many obstacles, but they are mainly related to the improvement of the general living conditions. Most of the respondents preferred to transmit their local knowledge to their family verbally, and the other participants affirmed that they were the last of the family who would have this information, because of the lack of interest from their descendants. The transmission of indigenous knowledge to the new generation is considered weak, which may cause erosion of this knowledge. Based on this study, the transmission of traditional botanical knowledge to the new generation is mostly affected by modernization and migration from the countryside to the city. This may be explained by the decreasing interest of the younger generation in local traditional botanical knowledge.

4. Conclusions

This research on discovering new ethnobotanical knowledge, the diversity of uses, and the relations between the community of Gllobo̧ica and plants, estimated that there is considerable knowledge; a total of 53 plant species, the largest number of which are used in the treatment of diseases, but also as part of their food diet. The family with the largest number of species turned out to be the *Rosaceae* family (24%). 44 species grow as wild plants and 9 are cultivated. Herbs are the forms with a higher percentage, while fruits and leaves are the most used parts.

Traditional recipes include the use of a single plant or part, and the main way of preparation was in the form of decoction. The loss of indigenous knowledge among our respondents was serious due to the lack of interest of the younger generation in families or local traditions. More importantly, modernization and migration were considered key factors in erosion and loss of local biocultural knowledge in general, more specifically, traditional botanical knowledge.

Acknowledgments

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References

[1] Albuquerque, Ulysses Paulino. *Introduction to Ethnobiology.* Springer International Publishing, 2016.

[2] Ashebo, Takele. "A Review on the Qualitative Method of the Study of People-Plants' Relationship in their Environment." *Int J Environ Sci Nat Res.*, 2019.

[3] Behxhet Mustafa, Avni Hajdari , Bledar Pulaj , Cassandra L. Quave , Andrea Pieroni. "Medical and food ethnobotany among Albanians and Serbs living in the Shtërpcë/Štrpce area, South Kosovo." *Journal of Herbal Medicine*, 2020: Volume 22,.

[4] Dal Cero M, Saller R, Leonti M, Weckerle CS. "Trends of Medicinal Plant Use over the Last 2000 Years in Central Europe." *Plants (Basel)*, 2022.

[5] Ejaz Ahmed, Muhammad Arshad, M., Saboor, A., Qureshi, R., Mustafa, G., Sadiq, S., & Chaudhari, S. K. "Ethnobotanical appraisal and medicinal use of plants in Patriata, New Murree, evidence from Pakistan." *ournal of Ethnobiology and Ethnomedicine*, 2013: Volume 9.

[6] Ethnobiology, International Society of. "ISE CODE OF ETHICS." 2006.

[7] Gómez-Baggethun, Mónica Hernández-Morcillo Janis Hoberg Elisa Oteros-Rozas Tobias Plieninger Erik. "Traditional Ecological Knowledge in Europe: Status Quo and Insigh." *Environment: Science and Policy for Sustainable Development*, 2013: 3-17.

[8] Lukasz, Luczaj, Pieroni, Andrea, Tardio, Javier, Pardo-De-Santayana, Manuel, Soukand, Renata, Svanberg, Ingvar, and Kalle, Raivo. "Wild Food Plant Use in 21st Century Europe: The Disappearance of Old Traditions and the Search for New Cuisines Involving Wild." *ACTA SOCIETATIS BOTANICORUM POLONIAE* , 2012.

[9] Martin, Gary J. *Ethnobotany.* Springer, 2014.

[10] Menković N, Savikin K, Tasić S, Zdunić G, Stesević D, Milosavljević S, Vincek D. "Ethnobotanical study on traditional uses of wild medicinal plants in Prokletije Mountains (Montenegro)." *J Ethnopharmacol*, Jan 2011.

[11] Renata Sõukand, Andrea Pieroni. "An ethnobotanical perspective on traditional fermented plant foods and beverages in Eastern Europe." *Journal of Ethnopharmacology*, 2015: 284-296.

[12] Rks-gov.net. 2023. https://kk.rks-gov.net/kacanik/qyteti/historiku/ (accessed 2024).

[13] Siraj, Jafer. "Ethnobotany." 2022.

[14] Rexhepi, B., Mustafa, B., Hajdari, A., Rushidi-Rexhepi, J., Quave, C. L., & Pieroni, A. (2013). Traditional medicinal plant knowledge among Albanians, Macedonians and Gorani in the Sharr Mountains (Republic of Macedonia). Genetic Resources and Crop Evolution, 60(7), 2055-2080.

[15] Rexhepi. B., 2017. Ethnobotanical Study of Some Medicinal and Edible Plants in Northeastern Statistical Region of Macedonia. Academicsera. International Conference, Istanbul, Turkey: 19-25.

[16] Rexhepi. B., Bajrami. A., Mustafa. B., 2017. Ethnobotanical Study of Wild Edible Plants in Pelagonia Region (Southwestern Macedonia). Academicsera. International Conference, Istanbul, Turkey: 29-33..

[17] Rexhepi. B., Bajrami. A., Mustafa. B., 2018. Three Ethnic groups, One Territory: Perspectives of an ethnobotanical study from Southwestern Macedonia. International Journal of Education, Science, Technology, Innovation, Health and Environment. Vol. 04 (1).