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Reflections of Socio-economic and Demographic Structure of Urban and Rural on the Use of Medicinal and Aromatic Plants: The Sample of Trabzon Province

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ABSTRACT In this study, differences in how and why people in urban and rural regions use medicinal and aromatic plants were investigated within the scope of socio-economic and demographic features. To this end a total of 400 people were interviewed face-to-face in rural regions (289) and urban (111) of Trabzon. Accordingly, 24.1% of people in rural and 22.7% of people in urban use plants during treatment process. People in rural (45.2%) prefer preparing these plants or plant mixture on their own more than those in urban (17.3%). It was detected that there are 72 taxa from 41 families used for various purposes in the region. The highest number of plant species was found in *Rosaceae, Lamiaceae* and *Apiaceae* families. The mostly used parts of plants were leaf, fruit, flower, root and seeds. It was found that plants were consumed mostly as infusion, decoction, fresh and powder. Although *Plantago major, Rubus fruticosus, Petroselinum crispum, Laurocerasus officinalis* were used for similar purposes in rural areas, the medicinal use of these plants was not found in urban. Similarly, *Salvia forskahlei, Cassia angustifolia, Foeniculum vulgare, Zingiber officinale* were used only in urban and not found in rural. It was found that 813 records in rural and 146 records in urban were found related to health issues treated with medicinal and aromatic plants. According to statistical analysis. significant relationships were found between the use of herbal drugs and rural/urban, age groups and educational level.

INTRODUCTION

Traditional societies with deep-rooted history tend to adopt modern life in their daily lives and to bring their customs to future in order to protect and maintain cultural values. Ethnobotany science which emerged as a result, is one of the most commonly used method to reveal differences and changes in cultural values during modernization process of societies with reference to plant-human relationship (Heinrich et al. 2012; Kendir and Guvenc 2010). According to archeological findings, people have used plants primarily in order to get food and solve health problems since ancient eras. Information obtained with trial-error method reached our time with some changes and development in plant usages (Kocyigit 2005). Information about how to use wild plants, mostly from parents and older people are passed on to the younger generation (Yucel et al. 2010). Ethnobotany studies not only record mutual interaction between plants and human for centuries but also lay ground to use the benefits of this interaction for the development of rural people, protect biological diversity, determine used, exported and under-danger species and make legal regulations on this issue (Sadikoglu 1998). With her rich cultural heritage, Turkey has a very extensive ethnobotanic mine of information. According to Koyuncu (1990), there are 500 medical herbs in Turkey and according to Baser (2000), 1000 herbs are used for medical purposes. However, in parallel with migrations from rural to urban and developing technology, new generations are not aware of this treasure and thus there are some problems in handing down various properties of plants, their use for medicinal and nourishment purposes to next generations. As a result, such information about plants face the risk of being lost as they are not used (Lev and Amar 2000; Kendir and Guvenc 2010). In addition, modernization leads to the increase in construction lands and quality and amounts of plant resources in natural lands are adversely affected (Ahmad et al. 2013). In this scope, ethnobotany studies are of great importance to record any kind of information related to medicinal and aromatic use of plants and

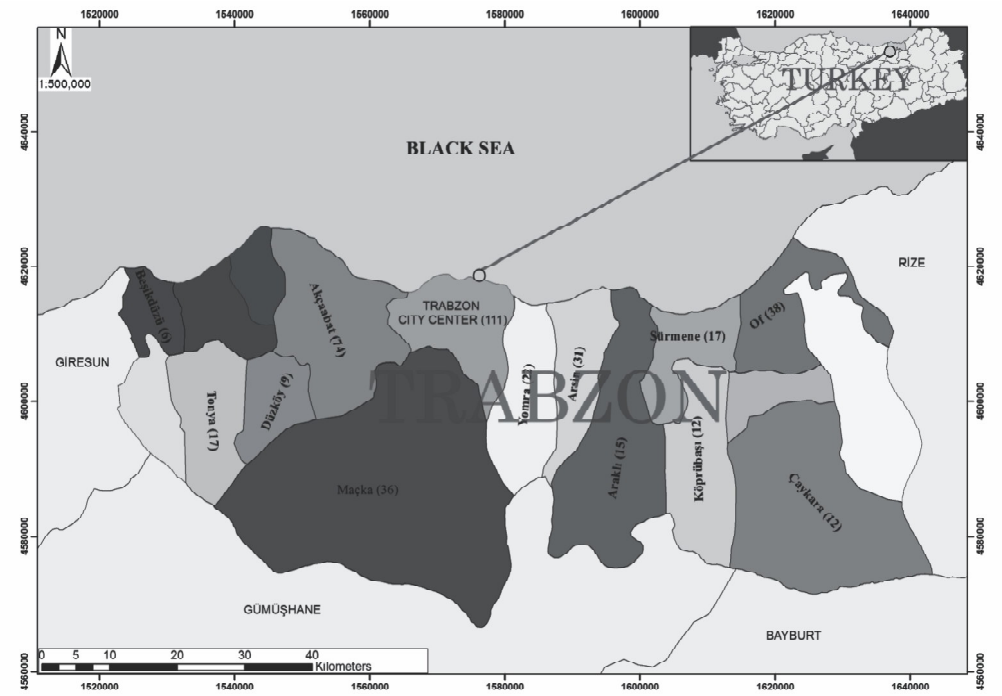

Fig. 1. The distribution of participants by districts

to maintain this usage. Especially historical and cultural values of Africa, South America and Turkey have a very rich cultural and floristic structure for ethnobotanic studies. According to WHO, 80% of population prefer medicinal plants firstly for the treatment of their health problems in developing countries (WHO 2002). According to Krastins et al. (1998), although the usage rate is lower in low-income people, alternative treatment is preferred by all socio-economic groups. Mundo et al. (2002) reported that majority of rural people use alternative medicine. It is well understood that there are some regional differences between rural and urban life and naturally there are differences in use of medicinal and aromatic plants with the effect of social and economic structures and cultural background of people.

MATERIAL AND METHODS

Study Area

The study aimed to reveal the difference of medicinal and aromatic plant usage of urban and rural people. The study area was in Trabzon province which has a rich structure for ethnobotany and floristic studies with its history and cultural values. Approximate surface area of Trabzon province located in Black Sea coast in north-east of Turkey (40°332 N–41°072 N; 37°072 E–40°302 E) is 4.865 km^2 and total population is 757.898. Of this population, 426.882 people live in urban or center of districts and 331.016 live in towns and villages (TSI 2012). Trabzon province was located on a major route of Silkroad between 1830 and 1900 (Tebriz-Erzurum-Trabzon) and had 275 merchant ships and 120.000 tons volume of goods in 1860; 517 steamships and 530.000 tons volume of goods in 1890, 487 ships and 522.000 tons volume of goods and 4.600 sails and 26.000 tons volume of goods in 1900 with its harbor (Issawi 1970). Okur and Usta (2009) reported that in that period, Turks, Rums, Armenians and Russians were living in Trabzon which was annexed by Ottoman Empire in 1461 and became a central district (sanjak). As for plant geography, Trabzon province is located in Colchis part having a very rich floristic structure within Euro-Siberian flora land (Ansin and Ozkan 1990). Various vegetation types can be found up to the altitude of 3376 m. These types are vegetations of sand dunes, moist stream, pseudomaquis, forest, wetland,

subalpine and alpine. Each of these rich vegetations hosts plenty of endemic plants which have a narrow expansion area and can grow solely in specific cultivation region. These taxa expand through cliffs of high mountainous areas. Especially Soðanlý and Zigana Mountains are of great importance in this scope and are significant biogenetic reserve areas as well (Terzioglu 1998; Mazlum et al. 2006). With its rich floristic structure, Trabzon province has a total of 937 plant taxa with 80 endemic species (TUBIVES 2013).

The study was conducted with data of questionnaire performed in urban, 12 district and 35 villages of Trabzon. Study area and the distribution of participants by districts are presented in Figure 1.

Study material consisted of the plants collected from Trabzon city center and districts; and some villages and plateaus and sold in the herbalist shops in Trabzon. For the identification of the plant specimens were used as a main source "Flora of Turkey and the East Aegean Islands" (Davis 1965-1985; Davis et al. 1988; Guner et al. 2000). "Flora of Trabzon-Meryemana Research Forest and Floristic Research Pure Oriental Spruce Stands" (Ansin 1979), "Vascular Flora of Forest Vegetation in Altindere Valley (Macka-Trabzon)" (Uzun and Terzioglu 2008), "Subalpin and Alpine Flora of Altindere Valley (Macka-Trabzon)" (Palabas and Ansin 2006), plant atlases with illustrations and photographs (Bonnier 1912-1934; Clapham et al. 1965; Polunin 1969; Hegi et al. 1977; Godet 1999; Polunin 1991; Wright 1992; Phillips 1994; Lanzara and Pizzetti 1997; Fitter et al. 1986) were also used. Additionally, plant specimens were compared to herbarium specimens in

Table 1: Results on demographic features of participants

Features	*Rural*		*Urban*	
	Number of customers	*Percentage(%)*	*Number of customers*	*Percentage (%)*
Age Groups				
18-32	13	4.5	52	46.8
33-47	72	25.1	43	38.7
48-60	103	35.9	16	14.4
>60	99	34.5	-	-
Gender				
Male	108	37.4	51	45.9
Female	181	62.6	60	54.1
Educational Status				
Elementary school	190	66.4	18	16.2
Secondary school	47	16.4	10	9
High school	37	12.9	36	32.4
University	12	4.2	47	42.3
Monthly Income (TL)				
<500	107	37.3	18	16.2
501-1000	122	42.5	29	26.1
1001-1500	40	13.9	15	13.5
>1500	18	6.3	49	44.1

Table 2: The most preferred 10 plant species in rural and urban

Rural		*Urban*	
Botanical name	*Family*	*Botanical name*	*Family*
Urtica dioica	Urticaceae	*Tilia platyphyllos*	Tiliaceae
Tilia platyphyllos	Tiliaceae	*Mentha pulegium*	Lamiaceae
Plantago major	Plantaginaceae	*Rosa canina*	Rosaceae
Mentha pulegium	Lamiaceae	*Urtica dioica*	Urticaceae
Rosa canina	Rosaceae	*Anthemis cotula*	Asteraceae
Rubus fruticosus	Rosaceae	*Salvia forskahlei.*	Lamiaceae
Petroselinum crispum	Apiaceae	*Thymbra spicata*	Lamiaceae
Laurocerasus officinalis	Ericaceae	*Cassia angustifolia*	Fabaceae
Thymbra spicata	Lamiaceae	*Zengiber officinale*	Zingiberaceae
Anthemis cotula	Asteraceae	*Foeniculum vulgare*	Apiaceae

KATO (Herbarium of the Faculty of Forestry, Karadeniz Technical University).

The study consists of questionnaire data performed with face-to-face method on medicinal and aromatic plant users in rural and urban of Trabzon province. In this scope, questionnaire form was prepared after the literature review. Open-ended and multiple choice questions were used in questionnaire. The questionnaire form consisted of 3 chapters. The first chapter consisted of questions on demographic features. The second chapter aimed to determine which plant species are used most and how and why people use these plants. The third chapter aimed to determine participants' approach and usage towards medicinal drugs. According to demographic features of participants, chi-square test was performed to test their participants' behaviors towards medicinal drugs and medicinal drug usage. In this study, snowball sampling method was applied as no commerce chamber or institution was found related to medicinal and aromatic plant trade in Turkey and frequency and cross tabulation were used to evaluate questionnaire data.

RESULTS AND DISCUSSION

The study consists of a questionnaire performed with a total of 400 people being 111 in urban and 289 in rural areas of Trabzon. Results on demographic features of participants are presented in Table 1. In the study, 24.1% of people in rural and 22.7% of people in urban were using plants during treatment process and 45.2% in rural, 17.3% in urban were preparing plants or plant mixture used for medicinal on their own.

This study found the most preferred plant species in both rural and urban. Examining species presented in Table 2, it can be seen that although 6 of the first 10 plant species are the same, there are differences in ranking. Being used in rural generally for hypertension, common cold, kidney stone; *Plantago major* was not found to be used in urban. Similarly, *Rubus fruticosus* was used as constipation and tonic; *Petroselinum crispum* was used for halitosis and prostate and *Laurocerasus officinalis* was used for diabetes in rural and these species were not found to be used in urban areas. On the other hand, *Salvia forskahlei* was used for constipation, stomach and calmative purposes; *Cassia angustifolia* was used for laxative and slimming; *Foeniculum vulgare* was used for redouble foremilk and *Zingiber officinale* was generally used for indigestion, common cold in urban; however they were not used in rural areas.

According to the results of the study; plant species, local names, used parts and usage purposes are presented in Table 3. To design Table 3, similar studies done in Turkey (Baytop 1999; Akbulut and Ozkan 2009; Toksoy et al. 2010; Polat and Satil 2012; Khatun et al. 2012; Akbulut and Bayramoglu 2013) and world (Vitalini et al. 2009; Koudouvo et al. 2010; Ong et al. 2012; Zheng et al. 2013) were used.

This study found a total of 41 families and 72 taxa. The highest number of plant species was found in *Rosaceae* (10), *Lamiaceae* (6) and *Apiaceae* (4) families. The most commonly used parts of plants were leaf (33 records), fruit (22 records), flower (10 records), root (8 records) and seeds (6 records). It was found that plants were consumed mostly as infusion (34 records), decoction (30 records), fresh (27 records) and powder (13 records).

It was found that 813 records in rural and 146 records in urban were found related to health issues treated with medicinal and aromatic plants. These records were classified and presented in Table 4 in percentage terms under titles of urban-rural.

According to Table 4, there are differences in usage purposes of medicinal and aromatic plants in rural and urban. While food-spices usage ranked the first in rural, it was on fourth rank in urban. *Zea mays, Beta vulgaris* var. *cicla, Urtica dioica, Brassica oleracea* were used as food species in rural and *Zingiber officinale*, *Capsicum annum, Mentha pulegium* were used in urban. Slimming and hair care usage purposes in urban did not take place in rural list. *Ceratonia siliqua*, *Cinnamomum cassia, Linum obtusatum* and *Malus* sp. were used for slimming and *Allium sativum, Anthemis cotula, Castanea sativa* and *Juglans regia* were used for hair care in urban. On the other hand, wound healing usage purpose in rural was not found in urban. *Alkanna tinctoria* subsp. *tinctoria, Cornus mas, Hypericum perforatum, Alchemilla compactilis* and *Alchemilla speciosa* were used for wound healing in rural. While cancer and diabetes ranked the first in rural, they were at the end of urban list. *Rosa canina* and *Urtica dioica* species were used for cancer and *Taraxacum buttleri*, *Capsella bursa-pastoris* and *Laurocerasus officinalis* were used for diabetes in rural.

Table 3: Merchandised medicinal and aromatic herbs used in Trabzon province

Family	*Botanical name*	*Area*	*Vernaculer name*	*Part used*	*Prepation*	*Medicinal use*
Adoxaceae	*Sambucus ebulus*	R	Otsu mürver	L, Fr	Decoction, fresh	Skin diseases, insect-fly-woodworm repeller
Amaranthaceae	*Beta vulgaris* var. *cicla*	R	Pazi	L, Se	Cooking, boiled	Hemostatic, tonic, food
Amaryllidaceae	*Allium sativum*	U/R	Sarimsak	B	Crushed, Fresh	Froncle, chlorothiazide, beard-hair loss
Apiaceae	*Anethum graveolens*	U/R	Dere otu	L	Decoction	Cholesterol lowering
Apiaceae	*Cuminum cyminum*	U	Kimyon	Fr	Infusion, powder	Stomach, carminative, sweaty, stimulant
Apiaceae	*Foeniculum vulgare*	U	Rezene	L, Fr, Ro	Infusion, powder, tablet	Stomach, carminative, to redouble foremilk, antitussive
Apiaceae	*Petroselinum crispum*	R	Maydanoz	L	Decoction, fresh	Cholesterol lowering, halitosis, food, prostate
Araceae	*Acorus calamus*	U	Egirotu	Rh	Infusion, powder	Carminative, antispastomic
Asteraceae	*Achillea millefolium* subsp. *millefolium* var. *millefolium*	U/R	Civanperçemi	F, L	Infusion	Hemorrhoid, diuretic, whet, carminative
Asteraceae	*Anthemis cotula*	U	Papatya	F	Decoction, infusion, oil	Kidney disease, prunella, stomach diseases, tranquiliser, chlorothiazide, hair care
Asteraceae	*Taraxacum buttleri*	R	Karahindiba	Pp, L, P	Fresh, infusion, drying	Food, cardiovascular, diabetes, animal feed to increase milk
Boraginaceae	*Alkanna tinctoria* subsp. *tinctoria*	R	Havaciva	Ro	Infusion	Constipation, wound healing
Boraginaceeae	*Trachystemon orientalis*	R	Tomara	L, Ro	Fresh, cooking	Food, diuretic, diaphoretic, antifebrile
Brassicaceae	*Brassica oleracea*	U/R	Lahana	L	Cooking	Food, digestive, expectorant
Brassicaceae	*Capsella bursa-pastoris*	R	Kusotu	S	Decoction, cooking	Food, diabetes, constipation, diuretic whet, diuretic, cholagogue
Brassicaceae	*Raphanus sativus* var. *niger*	U/R	Kara Turp	Ro	Fresh, juice	Diabetes, insomnia, laxative, wound healing
Cornaceae	*Cornus mas*	U/R	Kizilcik	L, Fr	Decoction, crushed, fresh	Against intestianl parasites, food
Cucurbitaceae	*Cucurbita maxima*	U/R	Kara Kabak	Se	Fresh, powder	Worm reducer, tonic, aphrodisiac
Cupressaceae	*Juniperus drupacea*	R	Andiz	C	Powder	Hemorrhoids, kidney stone
Equisetaceae	*Equisetum arvense*	R	Atkuyrugu	Br	Decoction, mix infusion	Bee culture, chlorothiazide
Ericaceae	*Rhododendron luteum*	R	Zifin	F	Food (made honey)	Bee culture, skin rubbing
Ericaceae	*Rhododendron ponticum*	R	Ormangülü	F, L	Food (made honey), fresh	Kidney diseases, food
Ericaceae	*Vaccinium arctostaphylos*	U/R	Ayi Üzümü	L, Fr, Br	Dried, infusion, fresh	Laxative, slimming
Fabaceae	*Cassia angustifolia*	U	Sinameki	Fr, S	Infusion	Diuretic, cancer, laxative, food
Fabaceae	*Ceratonia siliqua*	U	Keçibonuzu	Fr	Decoction, fresh, dried	

Table 3: Contd....

Family	*Botanical name*	*Area*	*Vernaculer name*	*Part used*	*Prepation*	*Medicinal use*
Fabaceae	*Glycyrrhiza glabra*	U	Meyan	F, Fr, Ro	Powder, infusion, decoction	Arthritis, diuretic, expectorant, skin disease, kidney, disease, common cold, antitussive
Fagaceae	*Castanea sativa*	U/R	Kestane	L, S, F	Wood flour, food, decoction	Skin rubbing, bee culture, hair dye, food, Constipation, chlorothiazide
Grossulariaceae	*Ribes alpinum*	R	Çoli Çilegi	Fr	Fresh, cooking	Food, diuretic, diaphoretic, antifebrile
Hippocastanaceae	*Aesculus hippocastanum*	U	At Kestanesi	Ba	Powder	constipation, antifebrile, hemor-rhoid, astringent
Hypericaceae	*Hypericum perforatum*	U/R	Sari Kantaron	P p	Infusion, medicinal oil	Tranquiliser, antipyrotic, wound healing
Juglandaceae	*Juglans regia*	U/R	Ceviz	L, Se	Maceration, fresh	Mice against in stables, cholesterol lowering, hair dye
Lamiaceae	*Lamium purpureum* var. *purpureum*	R	Ballibaba	Fr	Infusion	Constipation, tonic
Lamiaceae	*Lavandula angustifolia*	U	Lavanta	F	Infusion	Diuretic, rheumatism pains
Lamiaceae	*Mentha pulegium*	U/R	Nane	L	Decoction	Stomach diseases, qualm
Lamiaceae	*Salvia forskahlei*	U	Adaçayi	L	Infusion, oil	Constipation, stomach, calmatine
Lamiaceae	*Thymbra spicata*	R	Dagçayi	L, F	Infusion	Carminative, whet, stomach pain cutter
Lamiaceae	*Thymus pseudopulegioides*	U/R	Kekik	L, F	Infusion, oil	Stomach diseases, bronchial, antitussive
Lauraceae	*Cinnamomum cassiae*	U	Tarçin	Ba	Infusion, powder, tablet	Antiseptic, constipation, carmative, common cold, slimming
Lauraceae	*Laurus nobilis*	U	Defne	L, S, Se	Decoction, powder, dried	Liver and intestinal diseases, rheumatism pains, dyspnoea, spice
Liliaceae	*Smilax excelsa*	R	Zibilanga	Fr, S, Br	Infusion	Rheumatism pains, gastric ulcer, eczema
Linaceae	*Linum obtusatum*	U	Keten Tohumu	Se	Infusion	Slimming, digestive system inflamma tion, cholesterol lowering
Lycopodiaceae	*Lycopodium clavatum*	R	Kibrit Otu	P p	Decoction, dried	Carminative infants, skin diseases, intertrigo
Lythraceae	*Punica granatum*	U/R	Nar	Fr, Ba	Fresh, powder, juice	Cardiovascular diseases, against cestode (Tenia), Constipation, food
Moraceae	*Ficus carica*	U/R	Incir	Fr, La	Fresh, cooking	Scorpion sting, food, laxative
Paeoniaceae	*Paeonia mascula*	U	Sakayik	Ro	Infusion	Tranquiliser, Constipation, antitussive
Pedaliaceae	*Sesamum indicum*	U	Susam Yagi	Se	Oil	Constipation, diuretic, tonic, rheuatic disease

Table 3: Contd....

Family	*Botanical name*	*Area*	*Vernaculer name*	*Part used*	*Prepation*	*Medicinal use*
Pinaceae	*Picea orientalis*	R	Reçine	Re	Astringent, decoction	Skin diseases, wound and scotch, diabetes, gastric ulcer, intestinal disorder, kindling
Plantaginaceae	*Plantago lanceolata*	R	Yilan Dili	L	Crushed, infusion, decoction, fresh	Scotchs, expectorant, increase urine and sputum
Plantaginaceae	*Plantago major*	R	Damarotu	L, Se	Crushed, infusion, decoction, fresh	Coronary diseases, inflammation, stomach diseases, hemorrhoids, intestinal disorder, sinusitis, hyperten sion, common cold, kidney stone
Poaceae	*Zea mays*	U/R	Misir Püskülü	L, Stl, Fr	Decoction, dried, boiled	Urinary tract disorders, gonorrhoea, food, fodder, prostate
Polygonaceae	*Rumex alpinus*	R	Lapaza	L	Cooking, mush, decoction, fresh	Hemorrhoids, against the skin redness, food
Rosaceae	*Alchemilla compactilis*	U/R	Aslanpençesi	L, F	Decoction, infusion, fresh	Diabetes, kidney, intestinal, and stomach diseases, wound healing, fodder to increase milk and butter
Rosaceae	*Alchemilla speciosa*	U/R	Aslan Otu	L, F	Decoction, infusion, fresh	Diabetes, kidney, intestinal, and stomach diseases, wound healing, fodder to increase milk and butter
Rosaceae	*Cerasus avium*	U/R	Kiraz	Fr, Br	Decoction	Food, urinary tract disorders, Constipation, tonic, prostate
Rosaceae	*Cerasus vulgaris*	U/R	Visne	Fr, Br	Decoction	Urinary tract disorders, food, anemia
Rosaceae	*Cydonia oblonga*	R	Ayva	L, Br	Decoction, infusion	Common cold, cough, diarrhea, digestive
Rosaceae	*Laurocerasus officinalis*	R	Kavayemis	L, Fr, Se	Fresh, decoction, cooking	Fracture and pain, cracks in the skin, expectorant, food, diabetes, ingrown nails and iron, antitussive
Rosaceae	*Malus* sp.	U/R	Elma	Fr	Fresh, decoction	Peptic, slimming, food
Rosaceae	*Mespilus germanica*	R	Musmula	Fr, Se	Infusion, fresh	Food, diuretic, kidney stone, bladder stone
Rosaceae	*Rosa canina*	U/R	Kusburnu	Fr, Ro	Infusion, decoction, cooking	Food, tinea pedis, prostate cancer
Rosaceae	*Rubus fruticosus*	R	Bögürtlen	Fr, L, Ro, S	Fresh, decoction, infusion, cooking	Food, diarrhea, fracture, fodder to increase butter, hemororit, bronchial, haematinic, diabetes, constipation, tonic, amygdale inflammation, anemia
Rubiaceae	*Coffeae arabica*	U	Kahve	Se	Infusion, powder	Alkaloid intoxication, headache
Rutaceae	*Citrus limon*	U/R	Limon	Fr	Infusion, fresh	Hypertension, food, qualm

Table 3: Contd....

Family	*Botanical name*	*Area*	*Vernaculer name*	*Part used*	*Prepation*	*Medicinal use*
Rutaceae	*Dictamnus albus*	U	Gazel Otu	Flowering branches		Decoction Gastric, stimulant, antifebrile, tonic
Salicaceae	*Salix alba*	U/R	Aksögüt	L, Ba	Decoction	Cracks in the skin, tranquillizer, antifebrile, tonic, rheumatism pain
Solanaceae	*Atropa belladonna*	R	Güzelavrat Otu	L	Decoction	Against the eye worm, pain killer, antispasmodic
Solanaceae	*Capsicum annum*	U/R	Pulbiber	Fr	Powder, tablet	Spice, common cold, blood purifica tion, arthritis, anti-rheumatism, heart stimulant
Solanaceae	*Solanum tuberosum*	R	Patates	T	Fresh, boiled	Headache, food
Tiliaceae	*Tilia platyphyllos*	U/R	Ihlamur	L, F	Infusion	Malaria, common cold, sweaty, calmatine, hypnotic
Urticaceae	*Urtica dioica*	U/R	Isirgan	L, Se	Infusion, decoction, boiled, cooking	Skin diseases, measles, allergic diseases, rheumatism and low back pain, stomach diseases, anticancer, food
Vitaceae	*Vitis vinifera*	U/R	Üzüm	Fr, L	Fresh, infusion	Food, diuretic, tranquillizer, laxative, tonic
Zingiberaceae	*Zingiber officinale*	U	Zencefil	Rh	Infusion, powder	Spice, calmative, carminative, indigestion, common cold

B: bulb, Ba: bark, Br: branches, C: cone, F: flower, Fr: fruit, L: leaf, La: latex, Pp: The arial part of plants, R: rural, Re: resin, Rh: rhizom, Ro: root, S: shoot, Se: seed, St: steam, Stl: stilus, T: tuber, U: urban

Table 4: The most common usage purpose of medicinal and aromatic herbs

Rural		*Urban*	
Main therapeutic indications	*Percentage(%)*	*Main therapeutic indications*	*Percentage(%)*
Food-spices	13.9	Slimming	16.4
Cancer	11.2	Digestive system diseases	16.4
Wound healing	9.7	Respiratory disorder	13
Diabetes	6.9	Food-spices	10.9
Digestive system diseases	5.5	Hair care	8.2
Antitussive	5.0	Skin disease	6.8
Qualm	4.4	Nerve diseases	5.5
Respiratory disorder	4.3	Prostate	3.4
Diuretic	4.2	Cancer	2.1
Hemorrhoid	4.1	Cardiovascular disease	2
Expectorant	3.8	Halitosis	2
Anemia	3.7	Cholestrol	1.4
Pain Killer	3.6	Rheumatism	0.7
Cholestrol	3.6	Diabetes	0.7
Constipation	3.3		
Cardiovascular disease	3.3		
Rheumatism	3.3		
Skin disease	3.2		
Halitosis	3.0		

Table 5: The first choice of the location of the participants against health problems and the relationship between the use of plant

Are you go to hernalist for plant medicine or do it your self?					
Location	*Go to herbalist*		*Do myself*		*Total*
	n	*%*	*n*	*%*	*n*
Rural	115	35.9	95	29.7	210
Urban	91	28.4	19	5.9	110
Total	206	64.4	114	35.6	320

χ^2=24.617; df=1; p<0.05 (p=0.000)

Table 6: The first choice of the age groups of the participants against health problems and the relationship between the use of plant

Plant use and age groups										
Use	*18-32*		*33-47*		*48-60*		*60+*		*Total*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Go to herbalist	51	16	78	24.5	47	14.8	28	8.8	204	64.2
Do myself	12	3.8	26	8.2	40	12.6	36	11.3	96	35.8
Total	45	15.9	99	32.2	83	29.3	64	22.6	218	100

χ^2=25.519; df=3; p<0.05 (p=0.000)

Table 7: The first choice of the level of education of the participants against health problems and the relationship between the use of plant

Plant use by level of education of participants					
Eduiciation level	*Go to herbalist*		*Do myself*		*Total*
	n	*%*	*n*	*%*	*n*
Elemantry school	87	27.3	68	21.3	155
Secondary school	30	9.4	13	4.1	43
High school	53	16.6	12	3.8	65
University	36	11.3	20	6.3	56
Total	206	64.6	113	35.4	319

χ^2=13.519; df=3; p<0.05 (p=0.004)

Ceratonia siliqua and *Rosa canina* were used for cancer and *Alchemilla compactilis, Alchemilla speciosa* and *Cornus mas* were used for diabetes in urban. In both rural and urban, usage for digestive system diseases was found. *Thymbra spicata* was used in rural and *Cuminum cyminum, Foeniculum vulgare* and *Salvia forskahlei* were used in urban for digestive rural diseases. It was found that *Rhododendron luteum, Rhododendron ponticum* and *Castanea sativa* were used especially for bee culture activities in rural.

Chi-square test was applied to determine the statistically significant relationship between demographic features of participants. attitudes towards medicinal drug use and medicinal drug usage and significant results are presented in Table 5, Table 6 and Table 7.

According to results of Chi-square test, demographic features of participants were not much different and these features did not have any effect on the preference of medicinal drugs. Statistically significant relationships were found between participants' residences, age groups, educational levels and preparation of herbal drugs.

Trabzon is a rich region with great amount of taxa. However, this treasure is not used effectively and efficiently. The reasons of this situation can be counted as; medicinal and aromatic plants are not regularly recorded neither in region nor in whole Turkey; products sold in herbalist shops and generally used in urban are not standardized and it leads to losses in quality and quantity and there is no sufficient research and studies on this issue (Bayramoglu 2007; Akbulut 2009).

Information related to medicinal and aromatic plants and plant usage generally hand down to next generations as in mentor system. Urban people can obtain this information via internet, books, etc., but they should keep their connection with rural in order to obtain this information in ethnobotanic terms. Trabzon province can be regarded as a lucky region in this scope as people in urban have connection with those in rural. Especially in summer, most of people living in urban spend their vacations with their family members in rural. The finding that there is no big differences in plant species and usage purposes between rural and urban supports this idea. However there are some statistical difference. While rural people prepare their herbal drugs on their own, urban people buy them from shops. Ozudogru et al. (2011) and Knotek et al. (2002) found statistically significant relationship between educational level and medicinal and aromatic plant usages.

Usage purposes found in this study are similar to relevant studies in literature. *Ceratonia siliqua* - laxative (Pieroni et al. 2005), *Laurus nobilis* - intestinal diseases (Rihawy et al. 2010), *Hypericum perforatum* - wound healing (Mabona and Van Vunnren 2013), *Allium sativum* - chlorothiazide (Patil et al. 2011), *Plantago major* – wounds (Kala et al. 2006), *Zingiber officinale* – common cold (Sonowal and Barua 2011), *Foeniculum vulgare* – foremilk (Korkmaz et al. 2011). In Turkey, people believe that some medicinal and aromatic plants are effective in the treatment of some serious diseases (cancers, heart diseases, etc.). Akbulut and Bayramoglu (2013) and Simsek et al. (2002) similarly found that *Urtica dioica* are generally used for cancer in rural of Trabzon province. No endemic species was found in plant species revealed in this study. Only *Vaccinium arctostaphylos* is under danger according to European standards and although it is listed in Appendix I of BERN Convention (TROG 1984), there is no obstacle before its usage or commerce as there is no danger for its expansion and habitat in the region.

CONCLUSION

Being conducted in rural and urban of Trabzon province, this study determined usage purposes and methods of medicinal and aromatic plants in rural and urban.

With its cultural heritage and rich floristic structure, Tranzon province has a wide potential for ethnobotany studies. This heritage can be handed down to next generations by means of ethnobotany studies to be conducted in the region. Further scientific studies on these herbal drugs, called as folk remedy will contribute to find/explore new drugs. Most of first users of medicinal and aromatic plants in Trabzon live in rural. In this way, there is no ethnobotanic danger or problem related to access to information in the region although migration rates are above the average. The advantages of this situation should be used and necessary studies should be conducted. In this way. sustainable use of

medicinal and aromatic plants in the region should be ensured. To this end, plant gatherers in the regions should be educated. those who want to cultivate these plants should be trained and supplied with seed support. Thus, rural development can be supported providing a new economic income for rural people apart from sustainable use of medicinal and aromatic plants. Special attention should be paid to plants used in serious health issues and their usage methods. Especially herbalists in urban who do not have any responsibility and professional competency should be audited by public institutions; unconscious use and the abuse of medicinal and aromatic plant users should be prevented.

In this scope, a national data base should be built for correct distinction of aromatic and especially medicinal plants and for their proper use. Protection-use policies should be developed for plant species that face the risk of unsustainability and where necessary they should be cultured rather than being gathered from nature.

Although there is a great potential in the region. research institutes on investigation and development of active ingredients of plants should be improved. Facilities on increasing product varieties rather than solely raw material production should be promoted and supported.

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