

## RESEARCH ARTICLE

# Herbalists and herbs in Southeastern Anatolia of Turkey

Veysi Acıbuca<sup>1</sup>, Zübeyir Güneş<sup>1\*</sup>, Dilek Bostan Budak<sup>2</sup>

<sup>1</sup>Mardin Artuklu University, Kızıltepe Vocational School, Department of Plant and Animal Production/Organic Agriculture PR., 47000, Mardin/Turkey, <sup>2</sup>Cukurova University, Faculty of Agriculture, Department of Agricultural Economics, 01330, Adana/Turkey

## ABSTRACT

In this study, interview technique (face to face) was used to collect data from 56 herbalists in three provinces of the Southeastern Anatolia Region of Turkey (Mardin, Diyarbakir and Sanliurfa). The main purpose of the study was to determine the education level, learning methods of their job, professional experiences, the parts of the plants used and the problems of the herbalists. The average age of the herbalists were 41,7 and majority of them had a high school diploma. They learned this job mainly from older family members or working at the herbal shop. They mainly obtained their products from local people and wholesalers. Especially spices, food supplements, treatments, cosmetic and weight loss products were sold by herbalists.

**Keywords:** Medicinal and aromatic plants; Herbalists; Traditional therapy

## INTRODUCTION

Herbalist's is a given name to the profession of people who have existed in Anatolia for centuries and sell products such as plant oils and spices, especially for therapeutic purposes. With the development of modern medicine and pharmacy in this profession where medicine production and traditional treatment are applied, the sale and production of medicines was prohibited with the Regulations of Herbalists and Fundamentalists published on April 25, 1884, and restrictions were imposed on the products they could sell with the circular No. 5777 on October 1, 1985 (Gurson et al., 2005) and with the circular No. 2016/8 of the Ministry of Turkey Health, the procedures and principles to be followed in the activities of herbalists, spice sellers and similar workplaces were redefined and restrictions were placed on the plants they can sell (Anonymous, 2016).

Today, herbalists who are known for selling medicinal plants, licensed therapeutic products and variety of spices, were touring some areas of villages and towns in Turkey, especially in Southeast Anatolia region, were selling also different products (such as needles, yarn, kitchen utensils, etc.) back in the day and were known as profession group called "attar". However, due to the increase in transportation facilities, income level and

urbanization, the attar profession lost its importance towards the later 1990s.

Although various products are sold in herbalists, the most important features known are therapeutic herbs, drugs and spices. Although traditional treatment methods are less preferred with the development of modern medicine, it is known that the demand for traditional treatment methods have increased worldwide, although it varies according to the level of development of the countries (Acıbuca and Budak, 2018). Due to the higher proportion of healers who use traditional treatment in African countries (Abdullahi, 2011), it has been documented in studies that traditional treatment methods are more acceptable and effective in curing many health problems that modern medicine cannot adequately treat (Mander et al., 2007; Ogunshe et al., 2008). Kaya et al., (2017) pointed out that especially spice plants have been used all over the world for centuries both in local kitchen and health. Studies conducted in developed countries also show that the use of different complementary and alternative treatments is increasingly common.

The use of manual therapies (massage therapy, chiropraxia, osteopathy, etc.), alternative medical systems (herbal therapy, homeopathy, etc.), traditional Asian treatments (Chinese medicine, acupuncture) and mind-body therapies

### \*Corresponding author:

Zübeyir Güneş, Mardin Artuklu University, Kızıltepe Vocational School, Department of Plant and Animal Production/Organic Agriculture PR., 47000, Mardin/Turkey. **E-mail:** zubeyirgunes@artuklu.edu.tr

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(hypnotherapy), was becoming more widespread in European countries. It has been found that more than 40% of the population in Germany and Switzerland uses at least one of these treatment methods (Kemppainen et al., 2018).

Many studies have reported that some foods and herbs have health benefits and are effective in the treatment/prevention of diseases (Liu, 2003; Rahmatullah et al., 2009; Kasole et al., 2019). The demand for alternative treatment methods is higher in people with serious health problems. It was found that more than 65% of cancer patients used at least one alternative treatment method in the USA (John et al., 2016). Although prevalence of traditional and complementary treatment is not known exactly in Turkey, patients with cancer and skin diseases alternative therapy use levels were found to be 46.1% and 52.7% (Kav et al., 2008; Guven et al., 2013). Conducted studies both in Turkey and the world's different countries show that the traditional treatment methods have been used by people with serious diseases at higher rates.

In order to continue this tradition and when people needed get help (Asil and Tasgın, 2018), the herbalists current form should be examined. Herbalists played an important role in people's life. The main purpose of the study was to determine the education level, learning methods of their job, professional experiences, the parts of plants used and the problems of the herbalists in the Southeastern Anatolia Region (Mardin, Diyarbakir and Sanliurfa).

## MATERIALS AND METHODS

The survey was conducted from September to December 2019, in three provinces of Turkey's Southeast Anatolia Region (Mardin, Diyarbakir and Sanliurfa) central districts (Artuklu/Mardin, Kayapinar/Diyarbakir, Sur/Diyarbakir, Bağlar/Diyarbakir, Eyyübiye/Sanliurfa). At the time of the study; 14 herbalist in Mardin, 20 herbalists in Sanliurfa and 22 herbalist in Diyarbakir were existed and all of them participated to the study voluntarily.

Previous studies (Tulukcu and Sagdıç, 2011; Kahveci et al., 2018; Celik et al., 2019) have been reviewed to create a questionnaire form to reach the purpose of study. Semi-structured questionnaire was used. The questionnaire was consisted of the demographic characteristics and the sources of information of herbalists, the most demanded products, mostly used part of plants and reason to use of products. The data was analyzed at Statistical Package for the Social Sciences (SPSS) package program. Analysis of variance (ANOVA) was used to see the differences between groups.

## RESULTS AND DISCUSSION

Ninetyfive percent of interviewed herbalists were male and five percent of them were female. But in some herbalists shope was registered on their wives. This situation occurs generally if man works in a government agency or women had a entrepreneurship certificate. Adıguzel and Kızılaslan (2016) found that 5.4% of herbalists was women in Istanbul, which is similar to this study. Other study which was conducted by Asil and Tasgın (2018) found that 11.0% herbalist was women in Hatay and Celik et al. (2019) determined that this number was 26.7% in Aydın. Herbalists interviewed were 27 to 60 years old. Herbalists over 40 and over years old accounted for 60.7%.

The average age of the herbalists were 41.7 and there was a significant ( $p = 0.031$ ) difference in provinces which was 38.7 in Diyarbakir, 41.2 in Şanlıurfa and 47.1 in Mardin. Similar result was found by Canelik (2020) in Sanliurfa which was 39.8 years old. As seen from Table 1, the educational status of the herbalists on a provincial basis was not significantly differ ( $p > 0.05$ ). Ozdemir (2019) conducted to a study in Diyarbakir and found that 90.9% of them had a high school level of education.

In Table 1, the educational status of the business owners on a provincial basis is shown, and accordingly the rate of those with high school and above education is 78.5% in Mardin, 77.2% in Diyarbakir and 45.0% in Şanlıurfa. There is no significant difference between provinces in terms of the educational status of the business owners ( $p > 0.05$ ).

Analysis of Variance (ANOVA) results of some characteristics of the herbalists are given in Table 2. The herbalists described their work as "aktarcı" (herbalist) (58.9%), 21.4% as "baharatçı" (spice seller), 14.3% as "şifacı" (healer), 7.1% as herbalist (herbalist), and 7.1% as "holistik tıp" (holistic medicine). It has been found that there is a significant difference between provinces at the level of 0.05 in terms of naming their work. It has been found that the herbalists in the province of Mardin differ from other. In Aydın (Celik et al., 2019) founded that most of the herbalists expressed their professions as a herbalist and a spice seller.

Only 19.6% of the herbalists stated that they are also doing another job, such as imam, teacher, farmer, carpenter and accountant. This rate was 35.7% in Mardin, 20.0% in Sanliurfa and 9.1% in Diyarbakir. It has been determined that there is no significant difference ( $p > 0.05$ ) in terms of the alternative sources of income.

Training is very important in every businesses. In this study only 8.9% of the herbalists stated that they received training

**Table 1: Educational status of herbalists**

Province	Educational Status (%)				
	Primary School	Middle School	High School	Associate Degree	License
Mardin	14.3	7.1	57.1	7.1	14.3
Şanlıurfa	25.0	25.0	45.0	0.0	5.0
Diyarbakır	18.2	4.5	63.6	13.6	0.0
Average	19.6	12.5	55.4	7.1	5.4

**Table 2: ANOVA results of some demographic characteristics of herbalists**

		Sum of Squares	Degree of freedom	Average of Squares	F
Name of Job	Between Groups	4,703	2	2,351	4,530*
	Within Groups	27,512	53	0,519	
	Total	32,214	55		
Alternative Income Sources	Between Groups	0,607	2	0,303	1,953
	Within Groups	8,232	53	0,155	
	Total	8,839	55		
Educational Status	Between Groups	0,742	2	0,371	5,158**
	Within Groups	3,812	53	0,072	
	Total	4,554	55		
Professional Experience	Between Groups	13,656	2	6,828	10,738**
	Within Groups	33,701	53	0,636	
	Total	47,357	55		
The Method of Learning the Job	Between Groups	8,206	2	4,103	1,397
	Within Groups	155,633	53	2,936	
	Total	163,839	55		
Selling a other products	Between Groups	6,341	2	3,171	22,412**
	Within Groups	7,498	53	0,141	
	Total	13,839	55		

\*\* : Significant at the 0.01 level \* : Significant at the 0.05 level

on medicinal and aromatic plants (MAP) and 90.1% did not attend any training programs. This was differ among provinces at 0.01 significant level. In Mardin 28.5% and 4.5% in Diyarbakır herbalists had a certificate on MAP use but in Sanlıurfa province none of the herbalist had attend any training program. It has been determined that there was a significant difference at the level of 0.01 between provinces on attending MAP educational programs. Kahveci et al., (2018) found that 79.0% of herbalists in Ordu had no certificate on MAP.

The professional experience of the herbalists has been determined as 16.9 years on average. This rate was 26.0 years in Mardin, 15.5 years in Sanlıurfa and 12.5 years in Diyarbakır. It was found that there is a significant difference ( $p < 0.01$ ) among provinces in time of years of experience. Among participants 28.6% of the herbalists had 1 to 10 years, 41.1% of them 11 to 20 years, 21.4% of them 21-30 years and 8.9% of them 31 years or more of professional experience as a herbalist. In the study of Asil and Taşgın (2018) which was conducted in Hatay province, 53.0% of the herbalists had more than 11 years of experience and in another study (Cancelik, 2020) 53.9% of the herbalists had 15 years and above experience in Sanlıurfa.

Herbalist learned this job in different ways. There is no significant difference ( $p > 0.05$ ) between the provinces in learning ways of this job. Respondents stated that they learned this job working in herbal shops (17.9%), learned by themselves (14.3%), learned from older family members (10.7%), working in herbal shop and learned by themselves (48.2%) and learned by themselves and receiving special education (8.9%). Kahveci et al. (2018), in the study of herbalists in the Central Black Sea Region, stated that 54.0% of the respondents learned their profession with their individual skills and Celik et al. (2019) found that 53.3% herbalists learned from their older family members in Aydın.

Herbalists (44.6%) declared that they also sell other products along with MAP. This rate was 86.4% in Diyarbakır, 21.4% in Mardin and 15.0% in Sanlıurfa. These products were generally dried nuts, delicatessen and legumes and there is a significant difference at the level of 0.01 among the provinces.

Satisfaction of job is very important in every business. In this study, 87.5% of the herbalist stated they were satisfied with their job, 8.9% were not satisfied and 3.6% were indecisive. There is no significant difference between

**Table 3: ANOVA results of some characteristics of herbalists**

		Sum of Squares	Degress of freedom	Average of Squares	F
Number of Employees	Between Groups	1,302	2	0,651	3,067*
	Within Groups	11,251	53	0,212	
	Total	12,554	55		
Training Required	Between Groups	0,027	2	0,014	0,059
	Within Groups	12,187	53	0,023	
	Total	12,214	55		
Certificate Permission	Between Groups	0,170	2	0,085	1,693
	Within Groups	2,669	53	0,050	
	Total	2,839	55		
Special Mixture	Between Groups	0,646	2	0,323	1,950
	Within Groups	8,782	53	0,166	
	Total	9,428	55		
Number of Products Sold	Between Groups	7,900	2	3,950	3,733*
	Within Groups	56,082	53	1,058	
	Total	63,982	55		
Origin of Products	Between Groups	8,959	2	4,480	1,926
	Within Groups	123,255	53	2,326	
	Total	132,214	55		

\*: Significant at the 0.05 level

provinces in terms of satisfaction level ( $p>0.05$ ). In the study conducted by Adıguzel and Kızılaslan (2016) in Istanbul, found that 93.4% of herbalists were satisfied with their job. In every herbal shop employee person in their businesses. While an average of 1.8 person were employed in Diyarbakir, 1.4 person Sanliurfa and 1.3 person in Mardin. There was significant difference at the level of 0.05 between provinces in terms of the number of personnel working in their shops.

In this study, 85.7% of the herbalists declared that training is necessary to sale MAP, 10.7% of them are undecided and 3.6% thought that training is not necessary. There is no significant difference between the provinces in terms of whether or not training is necessary to sell medicinal plants ( $p>0.05$ ) (Table 3).

Majority of herbalist (94.6%) had permission from the provincial health department for divergence and there was no significant difference between provinces ( $p>0.05$ ). To prepare herbal mixtures is forbidden for herbalists and in this study 78.6% of herbalist stated that they did not prepare the mixture themselves. However, 21.4% of them declared that they had special mixtures that they sold trusted customers. According to herbalists the most demanded mixture were prepared for stomach diseases, potency pastes, infertility, MS disease, sinusitis, epilepsy and cancer diseases (Table 3).

An average of 513.4 products was sold in the herbal shops, and this number was 579.5 in Diyarbakir, 364.3 in Mardin and 273.9 in Sanliurfa. There is a significant difference at the level of 0.05 in terms of the number of products

sold between provinces, and Diyarbakir province differs from other groups. Bayramoglu and Toksoy (2008) stated that an average of 507 products were sold in herbalists in the Eastern Black Sea Region, while Zeren et al. (2014) reported that an average of 132 products was sold in herbalists in Çorum. In general, almost all of the products origin was vegetable in the herbal shops, although a little bit of animal and mineral origin products were also sold.

Since the products sold in herbalists can be procured in different ways, the respondents were asked where they supply the products. According to them 53.6% were from wholesalers and local people, 32.1% only from wholesalers and 14.3% were both themselves and wholesalers and the region. There was no significant difference ( $p>0.05$ ) between provinces in terms of origin of the products supply. More than half of the herbalists (66.1%) stated that they process such as drying, sorting and sterilization after purchased from the local people. To purchase from local people is a common way (Adıguzel and Kızılaslan, 2016; Asil & Tasgım, 2018; Celik et al.,2019) for herbalist to have MAP.

The most purchased products from the local people are shown on a provincial basis. These products were mainly sage, hawthorn, blackberry, almond, mulberry, walnut leaves, black cumin, hibiscus, cassidony (lavandula stoechas), centaury, pepper, thyme, licorice root, mint, mahaleb, chamomile, basil, felty germander, pennyroyal and olive leaves (Table 4).

Herbalist declared that people bought MAP mainly to use as spices, products with therapeutic properties, food

**Table 4: Products purchased from local people**

Mardin	Diyarbakir	Sanliurfa
Sage ( <i>Salvia officinalis</i> L.)	Sage ( <i>Salvia officinalis</i> L.)	Blackberry ( <i>Rubus fruticosus</i> L.)
Hawthorn ( <i>Crataegus monogyna</i> L.)	Almond ( <i>Prunus dulcis</i> )	Nosebleed ( <i>Achillea millefolium</i> L.)
Walnut Leaf ( <i>Junglans regia</i> L.)	Okra ( <i>Abelmoschus esculentus</i> )	Black Cumin ( <i>Nigella Sativa</i> L.)
Nosebleed ( <i>Achillea millefolium</i> L.)	Blackberry ( <i>Rubus fruticosus</i> L.)	Oregano ( <i>Origanum</i> sp.)
Mulberry ( <i>Morus</i> Sp)	Walnut Leaf ( <i>Junglans regia</i> L.)	Acorus ( <i>Acorus calamus</i> )
Hibiscus ( <i>Hibiscus sabdariffa</i> )	Black Cumin ( <i>Nigella Sativa</i> L.)	Alcea ( <i>Althaea officinalis</i> L.)
Field poppy ( <i>Papaver rhoeas</i> )	Camel thorn ( <i>Silybum marianum</i> )	Cassidony ( <i>Lavandula stoechas</i> L.)
Agnus castus ( <i>Vitex agnus castus</i> )	Mulberry ( <i>Morus</i> sp)	Black pepper ( <i>Piper nigrum</i> L.)
Dead nettle ( <i>Urtica dioica</i> L.)	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Cayenne pepper ( <i>Capsicum annum</i> L.)
Dodder ( <i>Cuscuta</i> sp)	Field poppy ( <i>Papaver rhoeas</i> )	Cherry stalk ( <i>Ceresus mahaleb</i> L.)
Centaury ( <i>Hypericum perforatum</i> L.)	Dead nettle ( <i>Urtica dioica</i> L.)	Rose hip ( <i>Rosa canina</i> L.)
Thyme ( <i>Thymus vulgaris</i> L.)	Centaury ( <i>Hypericum perforatum</i> L.)	Mahaleb ( <i>Ceresus mahaleb</i> L.)
Mahaleb ( <i>Ceresus mahaleb</i> L.)	Thyme ( <i>Thymus vulgaris</i> L.)	Licorice root ( <i>Glycyrrhiza glabra</i> )
Licorice root ( <i>Glycyrrhiza glabra</i> )	Rose hip ( <i>Rosa canina</i> L.)	Speedwell ( <i>Teucrium polium</i> )
Mint ( <i>Mentha piperita</i> L.)	Mahaleb ( <i>Ceresus mahaleb</i> L.)	Stylus maydis ( <i>Zea mays</i> )
Chamomile ( <i>Anthemis</i> sp.)	Licorice root ( <i>Glycyrrhiza glabra</i> )	Mint ( <i>Mentha piperita</i> L.)
Plantain ( <i>Plantago lanceolata</i> L.)	Mint ( <i>Mentha piperita</i> L.)	Pomegranate Peel ( <i>Punica granatum</i> )
Moxibustion ( <i>Herba moxibustion</i> )	Chamomile ( <i>Anthemis</i> sp.)	Chamomile ( <i>Anthemis</i> sp.)
Veronica ( <i>Artemisia absinthium</i> L.)	Basil ( <i>Ocimum basilicum</i> L.)	Plantain ( <i>Plantago lanceolata</i> L.)
Olive leaf ( <i>Olea europaea</i> L.)	Pennyroyal ( <i>Mentha pulegium</i> )	Veronica ( <i>Artemisia absinthium</i> L.)

**Table 5: Usage purposes of the five most sold product groups**

Mardin	Diyarbakir	Sanliurfa
Spices	Spices	Spices
Food Supplement	Food Supplement	Herbal teas
Cosmetics	Cosmetics	Cosmetics
Stomach Diseases	Nuts	Therapeutic Products
Slimming Products	Therapeutic Products	Slimming Products

supplements, cosmetics and slimming products. The most demanded therapeutic products were black seed and oil (stomach diseases), winter tea (colds), caraway (jaundice), anise, fennel (carminative in babies), carob molasses (food supplement, blood maker), centaury oil (burns and stomach diseases), coconut oil, almond oil (skin and hair care), bitter gourd (stomach diseases), linden, ginger (common cold), sage (stress), herbal creams and strength pastes. Herbalists also stated that in the region because of eating habits, men usually preferring traditional therapeutic products for their stomach diseases (Table 5).

As seen in Table 6, different part of plants were used as a medicine for different health problems. Flowers (20,9%) were the most commonly cited plant parts by the herbalists, followed by leaves (16,3%), branch and leaves (18,6%), seeds (14,0%), root and fiber (11,6%), fruits (9,3%) and branch, leaves and flowers (9,3%).

## CONCLUSIONS

It is an undeniable fact that people selling medicinal products with names such as herbalists and healers have

existed for centuries in many countries, especially in African countries. Together with the development of modern medicine, although the demand for the products reduced for decades, in Turkey's all regions, herbalists are still continued and known by many people as traditional treatment. As a result majority of herbalist were men and did not receive any special training related to their job. Herbalism is mostly done by learning from family elders or by working in herbalists. Although it is prohibited, the information has been obtained that herbal mixtures are prepared in many businesses. In order to increase the reputation of the herbalist profession and to be competent, the people who do/want to do this job should have a certain training.

Unfortunately, it has been observed that in some shops products were not preserved under hygienic conditions. It is seen as an important issue to comply with legal regulations, if there's any, regarding the parts that can be used, storage conditions and expiry dates, or to bring some standards to enterprises in this regard.

It has been stated that herbalists seen as a family profession and have centuries of experience from older family members. Some of the mixtures they made have a positive effect on the treatment on many severe diseases, and it is thought that it may be beneficial to investigate these experiences, which can be scientifically proven, by phytotherapy specialists.

Although modern medicine has been developed today, considering that many drugs have many side effects, it is

**Table 6: Some plants sold in the investigated businesses, their used parts and their usage purposes**

Plant Name	Used Part	Purpose of usage	Plant Name	Used Part	Purpose of usage
Blackberry ( <i>Rubus fruticosus</i> )	Flower, Branch, Stem	Shortness of breath, Flu	Chamomile ( <i>Anthemis sp.</i> )	Flower	Cough, Skin Health
Field Poppy ( <i>Papaver rhoeas</i> )	Flower	Cough, Liver Diseases	Carob ( <i>Ceratonia siliqua</i> )	Fruit	Anemia
Black Buckwheat ( <i>Lavandula stoechas</i> )	Flower	Skin Health	Dodder ( <i>Cuscuta spp</i> )	Leaf, Branch	Jaundice, Liver Disorders
Thyme ( <i>Thymus vulgaris</i> )	Leaf, Branch	Spices, Stomach Diseases	Nosebleed (achillea) ( <i>Achillea millefolium</i> )	Brach, Flower	Hemorrhoids, Gynecology
Dandelion ( <i>Cichorium endivia</i> )	Leaf, branch	Digestive System Diseases	Linden ( <i>Tilia spp</i> )	Flowe, Leaf	Flu, Edema Relief
Black Cumin ( <i>Nigella Sativa</i> )	Seed	Stomach Diseases, Spice	Cemen grass ( <i>Trigonella foenum-graecum</i> )	Leaf, Brach	Spices, Gynecology
Toothwort ( <i>Amni visnaga L.</i> )	Seed, Flower	Bronchitis, Diuretic	Rosemary ( <i>Rosmarinus officinali</i> )	Leaf	Stress, Immune Booster
Anise ( <i>Pimpinella anisum</i> )	Seed	Stress	Coriander ( <i>Coriandrum sativum</i> )	Seed	Spice
Turmeric ( <i>Curcuma longa</i> )	Root	Effective in Many Diseases	Veronica ( <i>Artemisia absinthium</i> )	Flower	Pain Relief, Ulcer
Fennel ( <i>Foeniculum vulgare</i> )	Seed	Stress, Anemia	Walnut ( <i>Junglans regia</i> )	Leaves, Fruit	Hair Health, Cholesterol
Shepherd's Purse ( <i>Capsella pastoris</i> )	Branch, Leaf, Flower	Hemorrhoids, Pain Relief	Violet ( <i>Violaceae</i> )	Flower	Urinary Tract Diseases
Cumin ( <i>Cuminum cyminum</i> )	Seed	Spice, Muscle Diseases	Pennyroyal ( <i>Mentha pulegium</i> )	Leaf	Increasing Sexual Power in Men
St. John's Wort ( <i>Hypericum perforatum</i> )	Flower	Stomach Diseases, Burns	Hymbra spicata ( <i>Thymbra spicata</i> )	Leaf, Branch	Spices, Flu, Cough, Stomach Diseases
Dead nettle ( <i>Urtica dioica</i> )	Leaf	Cancer Diseases	Morus alba ( <i>Morus nigra</i> )	Fruit, Leaf	Stomach Diseases, Fruit
Mint ( <i>Mentha piperita</i> )	Leaf, Branch	Spice, Flue	Alcea ( <i>Althaea officinalis</i> )	Flower	Asthma, Diarrhea Relief
Mallow ( <i>Malva Vulgaris</i> )	Flower, Seed	Lung Diseases	Purple coneflowers ( <i>Echinacea ssp.</i> )	Flower	Immune Booster
Cinnamon ( <i>Cinnamomum zeylanicum</i> )	Bark	Spice, Diabetes	Valerian ( <i>Valeriana officinalis</i> )	Root	Gynecology
Sinameki ( <i>Folliculj Sennae</i> )	Leaf	Slimming	Peganum ( <i>Peganum harmala</i> )	Leaf, Branch	Avoiding the Evil Eye, Headache
Sumac ( <i>Rhus Coriaria</i> )	Fruit	Spice, Antipyretic	Baby's breath ( <i>Saponaria officinalis</i> )	Root	Skin Diseases, Rheumatism
Bay ( <i>Laurus nobilis</i> )	Leaf	Spices, Skin Diseases	Balsam apple ( <i>Momordica charantia</i> )	Seed	Stomach Diseases
Licorice ( <i>Glycyrrhiza glabra</i> )	Root, Fiber	Stomach Diseases	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Leaf	Immune Booster
Daffodil ( <i>Narcissus pseudonarcissu</i> )	Flower	Headache	Myrtle ( <i>Gummi Myrrihae</i> )	Gum	Expectorator
Clove ( <i>Syzygium aromaticum</i> )	Bud	Toothache	Agalwood ( <i>Aquilaria agallocha</i> )	Root	Antibiotic
Sage ( <i>Salvia fructicosa</i> )	Leaf	Depression	Mahaleb ( <i>Prunus mahaleb</i> )	Fruit, Core	Diabetes
Celtis ( <i>Celtis tournefortii Lam</i> )	Fruit	Cough, Diabetes	Oregano ( <i>Organum vulgare</i> )	Fruit, Seed	Enhancing Sexual Power
Hawthorn ( <i>Crataegus monogyna</i> )	Branch, Leaf, Fruit	Immune Booster	Ginger ( <i>Zingiber officinale</i> )	Root, Tuber	Spice is Effective in Many Diseases

important to scientifically investigate the optimum amount of drugs recommended by herbalists and their possible side effects.

Like other businesses, herbalists also faced several problems. These problems were listed as below:

1. Migrants from Syria introducing themselves as healers and sell herbal mixtures illegally.
2. People who do not have any knowledge and experience about MAP act as an expert on medicinal plants and advise people.
3. The awareness of the local people about the benefits and use of medicinal plants is not sufficient.
4. Almost everyone can benefited from a free state health services in Turkey and due to the fact that medicines can be purchased with very low contributions. For this reason people prefer modern treatment methods first and therefore the number of people applying to herbalists is low.
5. Nuts and legumes sellers also sells medicinal plants.
6. The emergence of network companies selling many therapeutic products and selling their products through people with insufficient education and knowledge.

## CONFLICT OF INTEREST

The authors declare that there are no conflict of interest.

### Authors' contributions

Veysi Acibuca: Investigation, Methodology, Formal analysis, Writing. Zübeyir Güneş: Investigation, Resources, Writing. Dilek Bostan Budak: Methodology, Formal analysis, Resources, Writing-Review and Editing.

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