Determination of Medicinal and Aromatic Plants Sold by Herbalists in Afyonkarahisar Province and Their Usage Purposes

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Abstract
This study was carried out to determine natural plants sold in herbalists of Afyonkarahisar province and to identify the intended use of these plants. Between 2019-2020, a face to face interview was conducted with 10 herbalists. According to the results of the survey, 50 different plants were sold and especially sage, black seed, poppy, lime, clove, black pepper, thyme, red pepper, cumin, rosehip, mint, chamomile, fennel, sumac, sesame, cinnamon, green tea, ginger and it has been determined that the sales of turmeric plants are intense. The most common sales are in the winter months. Especially, plant are sold like strengthen the immune system and cure the common cold. In summer, an increase is in the sales of plants that have a debilitating feature. According to the opinion of herbalists, preference of people's purchasing to plants are affected by doctor advice, other people, media, and books. In order to increase the use of medicinal plants, it has been necessary to examine the plants extensively by different experts, increase scientific studies, contribute to the development of plant exports and sell controlled, registered plants.

Keywords: Afyonkarahisar, Herbalist, Medicinal and aromatic plants, Ethnobotany, interview.

Afonkarahisar İli Aktarlarında Satılan Tıbbi ve Aromatik Bitkiler ve Kullanım Amaçlarının Belirlenmesi

Öz
Bu çalışma Afyonkarahisar ili merkez ilçesi aktarlarında satılan doğal bitkileri tespit etmek ve bu bitkilerin kullanım amaçlarını belirlenmesi için yapmıştır. 2019-2020 yılları arasında 10 aktar ile yüz yüz e sözli görüşme yapılmıştır. Araştırma sonucuna göre 50 farklı bitkinin satıldığı ve özellikle adaçayı, çörek otu, hıshas, ıhlamur, karanfil, kara biber, kekik, kırmızı biber, kumyın, kuşburnu, nane, papatya, rezene, sumak, susam, tarçın, yeşil çay, zencefil ve zerdeçal bitkilerinin satışın yoğun olduğu belirlenmiştir. Mevsim olarak en yoğun satışın kiş aylarında yapıldığı ve özellikle soğuk algılı bitkilerin satıldığı tespit edilmişdir. Yaz aylarında ise zayıflatıcı özelliği olan bitkilerin satışında artış görülmüştür. İnsanların bitkileri satın almadaaki tercihlerini doktor tavsiyesi, aile ve çevredeki insanlar, görsel ve işitsel basın, reklamlar ve kitap/dergiler etkilemektedir. Tibbi bitkilerin kullanımını artırmak için, bitkilerin farklı uzmanlar tarafından kapsamlı şekilde incelenip, bilimsel çalışmaların arttırılması, bitki ihracatının gelişmesine katkı sağlanması ve kontrollü, kayıtlı bitkilerin satışının gerekliğine varılmıştır.

Anahtar Kelimeler: Afyonkarahisar, Aktar, Tıbbi ve aromatik bitkiler, etnobotanik, sözli görüşme.

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1. Introduction

The relationship between nature and human has turned into an accumulation with the knowledge, experiences, intensive studies and religious beliefs that have been passed on from generation to generation, and today the ethnobotanical science branch has emerged, which the whole world accepts its importance (Arıhan, 2003; Bağgel, 2005; Faydaoğlu & Sürücüoğlu, 2011; Yiğit, 2014).

In recent years, due to the high side effects of drugs produced by synthetic means, the trend towards natural herbs has increased. People consume herbs and herbal teas due to their beneficial effects, and use herbal medicines in the treatment of minor and minor diseases (Sayar et al., 1995; Gelse, 2012; Özdemir, 2019). Folk remedies in Anatolia have reached today as a result of long-lasting experiences. Many drugs used in modern medicine are obtained from plants (Faydaoğlu & Sürücüoğlu, 2011; Yiğit, 2014). The social values of being a habit dating from the Ottoman and Anatolian people by transferring up to today and herbal treatments were carried out with traditional knowledge in Turkey. Today, Anatolian people have not lost their faith in herbal medicines. People both practice the diagnosis and treatment of medicine, as well as use the herbs they buy from herbalists for some diseases as preventive and therapeutic (Koçtürk et al., 2009; Açıkgöz et al., 2012; Yiğit, 2014).

This research was carried out in Afyonkarahisar province, which has a very special cuisine culture that is dependent on its traditions and customs and where the use of spices is intense. It was aimed to determine the natural plants sold in the central district of Afyonkarahisar province and to determine the intended use of these plants and the way of supply, the plants that people consume heavily, the seasonal intensive sales times, the consumed parts of the plants and the factors that affect the people's preferences in purchasing the plants.

2. Material and Method

10 herbalists that interviewed in this study, medicinal-aromatic plants and the products on sale obtained from these plants constitute the material of the study. In 2019 and 2020, an interview study was conducted with 10 herbalists in Afyonkarahisar province in the form of face-to-face interviews through questionnaire forms. The questions in the table below were asked to 10 herbalists in the central district of Afyonkarahisar province and their answers were recorded. In addition, the photos of the products in the shops of the permitted herbalists were taken (Figure 1; Table 1).
Table 1. Inquiry questions

| No | Questions |
|----|------------|
| 1. | What is your educational background? |
| 2. | Have you educated on medicinal and aromatic plants? |
| 3. | How do you get the natural herbs that you sell? |
| 4. | Which plants do you sell? |
| 5. | What are the plants people take densely? |
| 6. | Which season is the busiest sale? |
| 7. | Which plants are taken intensively in winter? |
| 8. | Which plants are taken intensively in summer period? |
| 9. | What parts of the plants are consumed? |
| 10. | For what purposes people buy plants? |
| 11. | What or who influences people’s preferences for purchasing herbs? |
| 12. | Do you have any recommendations for increasing the use of medicinal herbs? If so, what is it? |

3. Results and Discussion

In interviews, the first question posed to herbalists is their education status. In Afyonkarahisar province, most of the herbalists are secondary school-high school graduates, while a few of them are undergraduate graduates. To the question of whether you have received training on medicinal and aromatic plants, it was determined that a small part of them attended training and seminars related to herbalism, but the majority grew up as a family profession. When asked about how they obtained the natural plants they sell, they answered that they bought from herbal drug exporters and plant collectors in the villages. In addition, they stated that they obtained herbal products used for various purposes from factories processing non-wood products. Which plants they sell, which plants are sold intensively, which parts of the plants are used and for what purposes are given in Table 2. It differs in the plants people buy in summer and winter.

Table 2. Plants for sale, used parts and intended uses

| Plant name | Botanical name | Family | Used part | Usage | Purpose of usage |
|------------|----------------|--------|-----------|-------|-----------------|
| 1. Allspice | Pimenta racemosa Mill. | Myrtaceae | Seed | Spice | In the treatment of digestive system problems and muscle pain |
| 2. Anise | Pimpinella anisum L. | Apiaceae | Fruit, Seed | Tea, Medicine | Increasing breast milk, cough, bee roasting |
| 3. Balm | Melissa officinalis L. | Lamiaceae | Leaf | Tea | Calming for nerves and stress |
| 4. Basil | Ocimum basilicum L. | Lamiaceae | Leaf | Spice, Food | Stomach and digestive system ailments, calming against nervous and stress, insomnia |
| 5. Berberry | Berberis vulgaris L. | Berberidaceae | Root, Leaf, Fruit | Food, Medicine | Cancer treatment, in the treatment of heart palpitations |
| 6. Black Cumin | Nigella sativa L. | Ranunculaceae | Seed | Spice, Medicine | Treatment of cancer, stomach ailments and blood purification |
| 7. Black pepper | Piper nigrum L. | Piperaceae | Seed | Spice, Food | Clapper crisis, anti-paralysis, anti-cancer, debilitating |
| 8. Calendula | Calendula officinalis L. | Asteraceae | Flower | Medicine, Cosmetic | Blood purifier, jaundice, intestinal ulcer, fungus, skin diseases and blemishes treatment |
| 9. Cardamom | Elettaria cardamomum Roxb. | Zingiberaceae | Fruit | Spice, Food | Detox, digestive system regulator |
| 10. Carob | Ceratonia siliqua L. | Fabaceae | Fruit, Seed | Food, Medicine | Strengthening the immune system, energizing, in the treatment of anemia |
| 11. Centaury | Hypericum perforatum L. | Hypericaceae | Leaf, Flower | Medicine, Cosmetic | Treatment of wounds, treatment of headache and insomnia |
| 12. Cherry stalk | Prunus avium L. | Rosaceae | Stem | Tea, Medicine | Slimming, menstrual pain relief, diuretic, anti-edema and detox |
| 13. Cinnamon | Cinnamomum zeylanicum L. | Lauraceae | Bark | Spice, Food | Anti-diabetes, antioxidant, against infections and flavoring |
| Plant name | Botanical name                      | Family       | Used part | Usage       | Purpose of usage                                                                 |
|------------|------------------------------------|--------------|-----------|-------------|----------------------------------------------------------------------------------|
| Clove      | Caryophyllus aromaticum L.         | Myrtaceae    | Flower bud| Spice, Food, Tea                        | Strengthening the immune system, against toothache, nausea, antioxidant and blood circulation regulator |
| Corn       | Zea mays L.                        | Poaceae      | Tuft, Fruit| Food, Tea, Medicine                     | As digestive system regulator, cholesterol balancing, anemia and energizer                           |
| Coriander  | Coriandrum sativum L.              | Apiaceae     | Fruit     | Spice, Food                               | Diuretic, antioxidant, cholesterol and blood sugar regulator                                       |
| Coven      | Gypsophila arrostiti Guss.         | Caryophyllaceae | Root   | Medicine, Cosmetic                        | Treatment of constipation and diuretic                                                             |
| Cumin      | Cuminum cyminum L.                 | Apiaceae     | Seed      | Spice, Food                               | Strengthening the immune system, digestive system regulator, cholesterol stabilizer and carminative |
| Daisy      | Matricaria chamomilla L.           | Asteraceae   | Flower    | Tea, Cosmetic                             | Sedative, migraine, abdominal pain and hair in lightening the color                                 |
| Daphne     | Laurus nobilis L.                  | Lauraceae    | Leaf      | Spice, Medicine, Cosmetic                 | In the treatment of common cold, flu, infection, pain relief and menstrual problems                 |
| Echinacea  | Echinacea purpurea (L.) Moench     | Asteraceae   | Leaf, Flower| Tea, Medicine, Cosmetic                   | Strengthening the immune system, Treatment of upper respiratory tract infection and flu and cold     |
| Eucalyptus | Eucalyptus globulus L.              | Myrtaceae    | Leaf      | Medicine                                  | In the treatment of upper respiratory tract diseases, expectorant, in the treatment of fungus      |
| Fennel     | Foeniculum vulgare Mill.           | Apiaceae     | Fruit, Seed| Tea, Medicine                             | Breast milk enhancer, carminative and detox                                                        |
| Ginger     | Zingiber officinale Rosc.          | Zingiberaceae| Root, Rhizome| Spice, Food                              | Strengthening the immune system, Upper respiratory tract infection and Slimming                     |
| Green tea  | Camellia sinensis L.               | Theaceae     | Leaf      | Tea                                      | Detox and Slimming                                                                                  |
| Heather    | Erica vulgaris L.                  | Ericaceae    | Leaf      | Tea, Medicine                             | Diarrhea, in the treatment of diarrhea and kidney stones, debilitating, against skin diseases other than oil |
| Jasmine    | Jasminum officinale L.             | Oleaceae     | Flower    | Tea, Cosmetic                             | Antioxidant, cancer, cardiovascular health and sedative                                               |
| Lavender   | Lavandula angustifolia Mill.       | Lamiaceae    | Leaf, Flower| Cosmetic, Medicine                       | In the treatment of stomach and liver diseases, sedatives, migraine treatment, moth repellent and fragrance |
| Lavender   | Lavandula stoechas L.              | Lamiaceae    | Leaf, Flower| Tea, Medicine                            | In the treatment of sinusitis, cough, chronic cold and feverish cold, preventive of vascular occlusion |
| Liden      | Tilia platyphyllos Scop.           | Tilaceae     | Leaf, Flower| Tea, Medicine                            | In the treatment of cold, flu and cold                                                               |
| Mahaleb    | Prunus mahaleb L.                  | Rosaceae     | Fruit     | Food                                      | Strengthening the immune system, In the treatment of cough and asthma                               |
| Marshmallow| Althaea officinalis L.             | Malvaceae    | Seed, Flower| Tea, Spice                               | In the treatment of gastritis, reflux, common cold, flu and cold                                    |
| Mate       | Ilex paraguariensis L.             | Aquifoliaceae| Leaf, Stem| Tea, Medicine                            | Detox, appetite suppressant, debilitating, immune system                                           |
| Plant name | Botanical name | Family | Used part | Usage | Purpose of usage |
|------------|----------------|--------|-----------|-------|-----------------|
| **Booster** | **Mint** Mentha piperita L. | Lamiaceae | Leaf | Spice, Food, Tea | Treatment of common cold, nausea and oil in the treatment of headache |
| **35. Mistletoe** Viscum album L. | Santalaceae | Leaf, Fruit | Medicine | In balancing blood pressure, in the treatment of diabetes, upper respiratory diseases and against stress |
| **36. Olive** Olea europaea L. | Oleaceae | Leaf | Tea, Medicine | Blood coagulation, Antioxidant, Diabetes, Vitamin E and skin health |
| **37. Poppy** Papaver somniferum L. | Papaveraceae | Seed | Spice, Food | Digestive disorders, constipation, heart disease and pain relief |
| **38. Red pepper** Capsicum annuum L. | Solanaceae | Fruit | Spice, Food | Strengthening the immune system, vitamin C, antioxidant, pain reliever, metabolism accelerator and cholesterol regulator |
| **39. Rosehip** Rosa canina L. | Rosaceae | Fruit | Food, Tea | In cold, flu, diabetes, vitamin C and for making marmalade |
| **40. Rosemary** Rosmarinus officinalis L. | Lamiaceae | Leaf, Flower | Tea, Spice, Medicine | In migraine treatment, edema relief, fat burner and cholesterol treatment |
| **41. Safflower** Carthamus tinctorius L. | Asteraceae | Seed, Flower | Tea, Medicine | In the treatment of blood sugar, cholesterol and skin inflammation |
| **42. Saffron** Crocus sativus L. | Iridaceae | Leaf, Flower, Stem | Spice, Food, Tea | Antioxidant, cancer treatment, skin cleanser, good for liver and heart |
| **43. Sage** Salvia officinalis L. | Lamiaceae | Leaf, Flower | Tea, Medicine | In the treatment of common cold, flu and cold |
| **44. Sahlep** Orchis L. sp. | Orchidaceae | Root | Food | Constipation, hemeroid, digestive system problems, chest diseases and memory enhancement |
| **45. Senna** Cassia angustifolia L. | Fabaceae | Leaf | Tea, Medicine | In the treatment of constipation |
| **46. Sesame** Sesamum indicum L. | Pedaliaceae | Seed | Spice, Food | Cancer, heart health, cholesterol, skin rejuvenation and bone health |
| **47. Sumac** Rhus coriaria L. | Anacardiaceae | Leaf, Seed | Spice, Food | Antioxidant, diuretic and gynecological diseases |
| **48. Thyme** Thymus vulgaris L. | Lamiaceae | Leaf, Flower | Spice, Food, Tea | Strengthening the immune system, In the treatment of cold, flu and cold, in eliminating digestive system problems |
| **49. Turmeric** Curcuma longa L. | Zingiberaceae | Root | Spice, Food | Strengthening the immune system, against cough, sore throat and liver ailments |
| **50. Walnut** Juglans regia L. | Juglandaceae | Leaf, Fruit | Tea, Food | Alzheimer, diabetes, cancer, cholesterol, blood pressure regulation and weight loss |

* The intensely sold plants are written in bold font.

Customers prefer various teas such as rosemary, green tea, cherry stalk, mate, heather, senna for slimming in summer, while in winter, immune-enhancing and cold-curing herbs such as linden, thyme, sage, cinnamon, rosehip, echinacea, clove, mint are at the forefront People's preference for purchasing plants is influenced by doctor's advice, family and people around, visual and audio media, advertisements and information in books / magazines. In order to better understand the applications of medicinal plants and their use in a wide range of areas from pharmaceutical and food industry to cosmetic and taste industries, traditional and alternative therapists, and the drugs derived from these plants, their botanical properties, chemistry,
pharmacology, toxicology and clinical effects are well researched and their usefulness should be demonstrated. Turkey is one of most important countries in terms of medicinal and aromatic plants. However, these plants export are not yet at desired levels. Herbalists want the necessary studies to fulfilled for the development of medicinal and aromatic plant exports. They recommend that people shop from the herbalists they know and trust, and if they do not know, they should research well. They also emphasized the importance of choosing packaged products. Because they stated that with the development of technology, every packaged product has a business number and it is possible to query the products even on the internet.

4. Conclusions and Recommendations

There are some studies on medicinal and aromatic plants sold in herbalists. In the study conducted in Konya by Tulukçu and Sağdıç (2011) during the summer of 2008 and 2009, the medicinal plants found in herbalists, depending on the interest of the public (flax, black cumin, thyme, nettle and such as chamomile) are divided into two groups, those in high demand and those that are less in demand. It was determined that most of the drugs found in herbalists in Konya consist of plant organs such as leaves, seeds, fruits, flowers, roots, branches, rhizomes and onions and their dried parts.

Sarkaya (2019) determined sage, anise, rosemary, black cumin, laurel, basil, heather, poppy, linden, femininity, century, cardamom, cloves, black pepper, black pepper, carob, thyme, red pepper as sold plants in herbalist of Kütahya. Plants such as chili pepper, cumin, coriander, rosehip, lavender, mahaleb, mate, corn tassel, mint, lemon balm, chamomile, fennel, saffron, salep, senna, sumac, sesame, cinnamon, jasmine, ginger, turmeric are the most preferred. Results that determined in these studies support our study.

According to the results of the study, most of the herbalists continue the family profession and have been trained for the herbalist profession from an early age. 50 different herbs are sold, sage, black cumin, poppy, lime, clove, black pepper, thyme, red pepper, cumin, rosehip, mint, chamomile, fennel, sumac, sesame, cinnamon, green tea, ginger and turmeric herbs are sold extensively has been determined. It has been determined that the most intensive sales are made during the winter months and plants that treat colds and strengthen the immune system are sold especially. In order to increase the use of medicinal plants, it is necessary to increase comprehensive scientific studies and to support the development of plant exports. Similar results are emphasized in other studies (Korkmaz et al., 2011; Akyol et al., 2017).

It is known that some of the medicinal plant trade is known by official records, and a significant portion is uncontrolled and unconscious. The producer and place of production of many plants that are widely traded are unknown. This is an important problem in terms of the reliability of the product as well as commercial, and it is recommended to switch to a registered and certified system. Particularly, there is an increase in the interest in plants with hearsay information among the media, internet and the public. Sometimes, as a result of misdirection, situations that threaten human health arise. In order to prevent such situations, detailed scientific studies on medicinal and aromatic plants and their active ingredients should be increased and the people should use the plants consciously. It has been determined that the storage conditions of the plants sold in the herbalists until they are collected, dried and transferred to the herbalists are unknown. It should be ensured that this process is converted into a recorded and traceable format. Plants collected from nature by irregular and wrong methods cause the destruction of our biological diversity and even the extinction of some plants. In order to prevent plant diversity from decreasing, it should be ensured that plant collectors become aware of conscious and quota collection methods and that the species that are in danger of extinction are included in culture.

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