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Review

A Review on Medicinal Plants Used for Women's Diseases and Health in Anatolia (Turkey)

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Abstract: Anatolia is of great importance in terms of researching plants used as traditional folk medicine, as Turkey has a rich flora in terms of biological diversity and has hosted many ancient civilizations. This study, it is aimed to scientifically determine the plants used by the people in traditional treatment for women's diseases and health and to compile local information about them. Within the scope of this study, many literatures were reviewed. In general studies, it has been seen that researchers show more interest in medicinal plants, but they do not do enough research in terms of women's diseases and health. Within the scope of this study, it has been determined that 141 plant species belonging to 54 families are used in women diseases and health. Accordingly, the first 5 families are Asteraceae (24), Lamiaceae (12), Rosaceae (9), Fabaceae (7) and, Apiaceae (6). It has been determined that important plant species such as *Allium cepa* L., *Alcea apterocarpa* Boiss., *Ficus carica* L., *Malva sylvestris* L., *Papaver bracteatum* Lindl., *Prunus spinosa* L. and *Zea mays* L. are used in women diseases and health. In this study, 72 references has been examined to determine the women's diseases in Anatolia.

Keywords: Biodiversity, Health, Traditional folk medicine, Women's diseases

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1. Introduction

Turkey hosts a very important plant diversity with 167 families, 1320 genera, and 11707 taxa (Güner et al., 2012). Since Turkey has around 4000 endemic plant taxa, it is one of the world's very rich and interesting countries in terms of flora (Güner et al., 2012).

Ethnobotany, it has its root ethno-study of people, and botany means the study of plants or plant science. We can also define the term ethnobotany as a science that expresses plant-human relations in different human communities, or more broadly, as an interdisciplinary field that studies the relationship between plants and humans (Balick et al., 1996; Ertuğ, 2014). The term ethnobotany; in a broad sense, it is defined as "human-plant relations in the historical process", and in a narrow sense as "the knowledge of the people living in a region to benefit from the plants in their vicinity to meet their various needs and their effects on plants".

Since ancient times, human beings have benefited from plants for different purposes and in various ways. The use of wild plants by collecting them from nature has gradually led them to culture and agriculture (Asil and Şar, 1984). In addition to the use of wild plants as food raw materials, they have been used as spice and beverage as an appetizer, easing digestion and curing diseases (Özer et al., 2004).

The information obtained through trial and error has been transferred from the past to the present. Local knowledge of the use of plants is based on the wisdom and experience of the local community since ancient times. The use of medicinal plants for thousands of years to treat various diseases has played a major role in the emergence of ethnobotany. Ethnobotanical books or documents from ancient times to the present are on the use of medicinal plants. The use of plants for medicinal purposes by human beings dates back to the prehistoric period (Sadıkoğlu, 1998).

Phytotherapy means "treatment with medicinal plants". Phytotherapy is considered among the subjects of alternative medicine today and has pioneered many medical sciences with its accumulation, development and application throughout history. Chronologically, phytotherapy is not an alternative to classical medicine methods and medical rules, on the contrary, other treatment methods have developed as an alternative to phytotherapy. In countries such as Germany, France, Switzerland, there is a strong tendency to combine herbal medicine with modern medicine (Çubukçu et al., 2002).

Women often seek complementary and alternative medicine methods to treat or prevent health problems. Numerous physiological changes such as morning sickness and insomnia that occur during pregnancy reveal the need to find a safer solution than the use of drugs. Although there is a lack of information about the safety of using herbal products during pregnancy, the use of herbal products is increasing due to cultural and regional factors, the fact that plants are known to be of natural origin, and drugs can be teratogenic. The most commonly used herbs during pregnancy are chamomile, ginger, blueberry, echinacea and raspberry leaves. As with drugs, herbal products can cause undesirable results, side effects, drug interactions, and pregnancy-related complications. In conclusion, despite the limited information about

them, the use of herbal products during pregnancy is widespread and popular. Health professionals should not ignore the use of herbs during pregnancy and should have information about the properties of herbs. In this review, herbal supplements used during pregnancy and their effects on pregnancy are discussed (Adigüzel and Samur, 2012).

Traditional folk remedies and treatment methods continue to be important in the world, especially in places where modern health services are not sufficient. Due to the side effects and production costs of synthetically produced drugs, herbal treatment has gained importance again. According to the studies conducted by the World Health Organization, it has been determined that the majority of the world's population is treated only with herbal medicines (Emre Bulut, 2003). In herbal medicines, various organs of plants (flowers, roots, fruits, leaves, etc.) or the whole plant or secondary herbal substances (balm, resin, turpentine, etc.) are used. Plants are used directly or in various ways (infusion, decoction, pill, patch) as medicine (Şenkardeş and Tuzlacı, 2010).

The use of plants for therapeutic purposes differs according to the development level of the countries. In developing countries, 80% of the population benefits from herbal products for therapeutic purposes. In some countries of regions such as Asia, Africa and the Middle East, this rate rises to 95%. In developed countries, this rate is less. 40-50% in Germany, 42% in the USA, 48% in Australia and 49% in France. However, the most important trade centers of medicinal plants are also located in Germany, USA, Japan and England. The World Health Organization predicts that the treatment with herbs will increase all over the world in the coming years. According to the World Health Organization, 25% of the pharmaceutical drugs used today are produced from medicinal plants. Again, according to FAO (Food and Agriculture Organization), 30% of drugs sold worldwide contain compounds derived from plant materials (FAO, 2005). The use of herbal medicines in countries that practice traditional medicine; Although the experiences differ according to the recommendations of the people who practice traditional/alternative medicine or the experiences they have gained, in some countries, education is given in universities related to complementary medicine. For example, in the universities of many countries in the Economic Community of West African States, there are complementary medicine courses in the curricula of pharmacy and medical students in the Democratic Republic of Congo, South Africa and Tanzania (WHO, 2014). Complementary medicine is seen as a primary health care service in African countries. For example, while the ratio of traditional healers to the population in Africa is 1/40 000, the ratio of medical doctors is 1/500 (Abdullahi, 2011). The number of medicinal plants popular worldwide is 4-6 thousand, and the number of traded species is 3 thousand.

It is estimated that at least 1 000 of the species in Turkey country are used in various ways and 400 of them are traded (Arslan, 2014). A significant part of the medicinal and aromatic plants traded in Turkey are collected from nature. However, there are also some cultivated plants.

Gynecological diseases in modern Medicine are Vaginal Fungus, fibroids, ovarian cyst, polyp, pelvic infection and uterine inflammation, thickening of the uterine wall, vaginal bleeding (irregular bleeding) and cervical cancer. In Turkey, women's menstrual problems, sexually transmitted diseases, hymen problems and prevention of pregnancy come to mind (Kara and Aydın, 2002).

Some publications related with women diseases are Özbek (2005), Edirne et al. (2010), Ayaz and Yaman (2010), Duran et al. (2012), Adigüzel and Samur (2012), Ogenler et al. (2013), Kolancı (2017), Ahmed et al. (2017), Kissal et al. (2017), Aygin et al. (2018), Alay et al. (2018), Balbontin et al. (2019), Kilci and Ertem (2019), Yılmaz, et al. (2020), Özcan et al. (2020), Uçak (2020), Cumhuri (2020), Kaygusuz (2020), Kapdan et al. (2021), Bozkurt (2021), Ünal (2021), Tanrikulu (2021), Şen and Dinç (2021), Kargar & Kızıltan (2022), Demirel et al. (2022) and Meschino (2023). The aim of this study is to research the medicinal plants used in herbal treatment for women diseases and health in the literature and to include their applications in folk medicine in Anatolia (Turkey).

2. Materials and Methods

In this study, medicinal plants used for women diseases and health were included and relevant literature was reviewed. In this context, Google Academic, TR Index, Dergi Park and National Thesis Center online databases were used to identify ethnobotanical researches and studies on human-plant relationship in the past. The plant names were checked according to the site "theplantlist".

Among the web sites for checking the literature:

- National Center for Complementary and Integrative Health (NCCIH) - <https://nccih.nih.gov/>
- National Institutes of Health (NIH) - <https://www.nih.gov/>
- PubMed - <https://pubmed.ncbi.nlm.nih.gov/>
- World Health Organization (WHO) - <https://www.who.int/en>

Scope of work; all articles related to the subject, which are available in Turkish and/or English, accepted in the National Thesis Center and accepted in national and international journals and other publications, especially master's and doctoral theses in 1990 and later, were examined and were taken as a basis for evaluation in the study.

3. Results

Within the scope of the research, Table 1 showing which plant species were mostly identified and for what purpose the identified plants were used by women were prepared and general evaluations were made on these lists.

Table 1. Medicinal plants used for women diseases in Anatolia, Turkey.

Family	Taxon	Vernacular name	Used part	Usage function	Cited literature
Adoxaceae	<i>Sambucus ebulus</i> L.	Dwarf elderberry (E)	Fruits	Menstrual pains, Regulation of menstrual cycle	Mustafa et al. (2012)
Adoxaceae	<i>Sambucus nigra</i> L.	Mürver otu (T), Elderberry herb (E) Gihayir Revia (K)	leaf, flower	used to increase breast milk	Bakır Sade and Akan (2015)
Adoxaceae	<i>Viburnum prunifolium</i> L.	Gilabru (T), Germişek (K),	fruit	used for excessive menstrual bleeding	Kara and Aydın (2002); Çubukçu et al. (2002); Gürkan et al. (2003); Özbek, (2005)
Altingiaceae	<i>Liquidambar orientalis</i> Mill.	Günlük (T), Daily(E)	stem	used in excessive menstrual bleeding	Özbek (2005)
Amaranthaceae	<i>Amaranthus retroflexus</i> L.	Horoz ibiği (T)	leaf	infertility	Özgökçe and Özçelik (2004)
Amaranthaceae	<i>Chenopodium album</i> L. ssp. <i>album</i> var. <i>album</i>	Cenizo (E)	abovegroud parts	infertility	Öztürk et al. (2016), Öztürk et al. (2018)
Amaranthaceae	<i>Chenopodium murale</i> L.	ısırgan yapraklı kaz ayağı (T)	abovegroud parts	infertility	Öztürk et al. (2016)
Amaranthaceae	<i>Dysphania botrys</i> (L.) Mos-yakin & Clemants	Tüylü sardunya, yapışkan kaz ayağı (T)	abovegroud parts	infertility	Öztürk et al. (2016)
Amaryllidaceae	<i>Allium cepa</i> L.	Pivaz (K), Soğan (T)	bulb	Menstruation pain	Alay et al. (2018); Nadiroğlu et al. (2019),
Amaryllidaceae	<i>Allium sativum</i> L.	Sarımsak (T), Garlic (E)	bulb	used in infertility, increasing breast milk and in pregnancy	Ayaz and Yaman (2010); Kıssal et al. (2017); Ünal (2021)
Amaryllidaceae	<i>Narcissus pseudonarcissus</i> L.	Yabani nergis (T), Wild daffodil (E)	leaves	infertility	Edime et al. (2010)
Apiaceae	<i>Apium graveolens</i> L.	Kereviz (T), Celery (E)	root, leaf	it is used to regulate menstrual bleeding	Kara and Aydın (2002); Çubukçu et al. (2002); Gürkan et al.

					(2003); Özbek (2005)
Apiaceae	<i>Coriandrum sativum</i> L.	Kişniş, Kinzi (T), Coriander (E)	seed	it is used to facilitate childbirth	Bakır Sade and Akan (2015)
Apiaceae	<i>Foeniculum vulgare</i> Mill.	Razyana, Rezene, Boy, Sıra (T), Fennel (E)	Leaf, seed, fruit	Milk enhancer, menstruation facilitative,	Bağcı et al. (2006); Duran et al. (2012); Sağıroğlu et al. (2013); Bakır Sade and Akan (2015); Kıssal et al. (2017); Alay et al. (2018); Yılmaz et al. (2020); Uçak (2020); Yalçın et al. (2021); Kargar and kızılitan (2022)
				Menstrual regulations, Milk enhancer, regulate uterine and ovary inflammation	Kara and Aydın (2002); Çubukçu et al. (2002); Gürkan et al. (2003); Özbek (2005); Savran et al. (2009); Duran et al. (2012); Akaydın et al. (2013); Ogenler et al. (2013); Korkmaz (2014); Alay et al. (2018); Korkmaz (2014); Yalçın et al. (2021)
Apiaceae	<i>Petroselinum crispum</i> (Mill.) Fuss	Maydanoz (T), Parsley (E)	abovegroud parts		
Apiaceae	<i>Pimpinella anisetum</i> Boiss. et Bal	Anason (T), Anise (E)	seed, fruit	Milk enhancer and decreasing painful menstrual problems	Korkmaz (2014); Yalçın et al. (2021)
Apiaceae	<i>Smyrnium connatum</i> Boiss. & Kotschy	Baldıran (T)	root	Infertility	Güneş et al. (2017)
Araceae	<i>Arum detrunctum</i> C. A. Meyer ex Schott var. <i>detrunctum</i>	Nivic (K)	Leaf	Pains after birth	Yeşil and Akalın (2009)
Araceae	<i>Arum elognatum</i> Steven.	Kardun (T), Kardı (K)	leaves	labor pains	Polat et al. (2015)

Araceae	<i>Arum rupicola</i> Boiss.	Dağsorsalı (T) Kardi (K), Tırşkardi (K), Zibebuabd	leaves	used to relieve the pains of women in childbirth	Kılıç (2019)
Araliaceae	<i>Hedera helix</i> L.	Sarmaşık (T)	leaves	abortifacient	Koca and Yıldırım (2010)
Araliaceae	<i>Panax ginseng</i> C.A.Mey.	Ginseng (E)	root	used to help with fatigue, feel-good, and infertility in the menopausal transition process	Korkmaz (2014); Aygin et al. (2018)
Arecaceae	<i>Phoenix dactylifera</i> L.	Hurma (T), Date (E)	fruit	used for facilitates childbirth and infertility	Cumhur (2020)
Aristolachiaceae	<i>Aristolochia pontica</i> Lam.	Loğusa otu (T), Puerperium (E)	root	used for gynecological disorder	Bozkurt (2021)
Asteraceae	<i>Achillea biebersteinii</i> Afan.	Gorik (K), Hirtkesan (T), San Civanperçemi (T), Yellow Yarrow (E)	abovegroud parts	Menstrual pains, women's sterility	Yeşil and Akalın (2009); Ogenler et al. (2013); Korkmaz (2014); Polat et al. (2015), Tanrıkulu (2021)
Asteraceae	<i>Achillea cappadocica</i> Hausskn. & Bornm.*	Hirtkesan (T)	abovegroud parts	Menstrual pains, women's sterility	Yeşil and Akalın (2009)
Asteraceae	<i>Achillea gonioccephala</i> Boiss. & Balansa.	Binyaprakotu (T), Yaraotu (T), Akbaşotu (T)	Flower	Gynaecological diseases	Akdoğan and Akgün (2006)
Asteraceae	<i>Achillea millefolium</i> L.	Beyaz Civanperçemi (T), White Yarrow (E)	Whole plant	Menstruation disorders, Milk enhancer, regulate uterine inflammation and menstrual pains	Çubukçu et al. (2002); Kara and Aydın (2002); Gürkan et al. (2003); Özbek (2005); Polat et al. (2011), Polat and Satıl (2012), Korkmaz (2014); Öztürk et al. (2018); Tanrıkulu (2021); Babacan et al. (2022);

Asteraceae	<i>Achillea setacea</i> Waldst. & Kit.	Hirtkesani (K)	ispi aboveground parts	Menstrual pains, birth pains	Yeşil and Akalın (2009)
Asteraceae	<i>Achille wilhelmsii</i> C. Koch.	Hirtkesan (T)	aboveground parts	Menstrual pains, women's sterility	Yeşil and Akalın (2009)
Asteraceae	<i>Anthemis arvensis</i> L.	Papatya (T), Daisy (E)	flower	used for menstrual cramps, painful menstrual pain, infertility, pregnancy and various gynecological diseases	Özbek (2005); Ayaz and Yaman (2010); Alay et al. (2018), Yılmaz et al. (2020) Özcan et al. (2020); Ünal (2021); Kargar and Kızıltan (2022)
Asteraceae	<i>Anthemis austriaca</i> Jacq.	Papatya (T)	Flowers	Ovary diseases, dysmenorrhea	Uysal et al. (2010), Toksoy et al. (2010)
Asteraceae	<i>Anthemis cotula</i> L.	Köpek Papatyası (T)	flower	Women diseases	Saraç et al. (2013)
Asteraceae	<i>Anthemis tinctoria</i> L. var. <i>pallida</i> DC.	Boyacı papatyası (T)	flower	Women diseases	Saraç et al. (2013)
Asteraceae	<i>Artemisia absinthium</i> L.	Pelin otu (T), Wormwood (E)	leaf, flower	used for menstrual remover	Özbek (2005); Bağcı et al. (2006)
Asteraceae	<i>Artemisia annua</i> L.	Tatlı pelin (T), Sweet wormwood (E)	leaf, flower	used for gynecological diseases	Tanrıkulu (2021)
Asteraceae	<i>Artemisia vulgaris</i> L.	Adi pelin (T), Wormwood (E)	leaf, flower	used as an expectorant	Kara and Aydın (2002); Çubukçu et al. (2002), Gürkan et al. (2003), Özbek (2005),
Asteraceae	<i>Carthamus tinctorius</i> L.	Aspir, Haspir, Diken, Yalancı safran, Zafur	flower	menstrual remover	Yalçın et al. (2021)
Asteraceae	<i>Helichrysum arenarium</i> (L.) Moench	Altın Out (T), Golden grass (E)	flower	used in gynecological diseases	Bakır Sade and Akan (2015)
Asteraceae	<i>Inula heterolepis</i> Boiss.	Çakşır çayı (T), çekşir çayı (T)	Flowering branches	Infertility	Polat and Satıl (2012)
Asteraceae	<i>Senecio vernalis</i> Waldst. & Kit.	Kanaryaotu (T), Ragweed (E)	aboveground	used in gynecological diseases	Şahin Fidan & Akan (2019)

Asteraceae	<i>Saussurea costus</i> (Falc.) Lipsch.	Deve diken (T), Thistle (E)	seed	infertility	Cumhur (2020)
Asteraceae	<i>Scorzonera latifolia</i> L.	Kanok (K)	roots	infertility	Özgökçe and Özçelik (2004)
Asteraceae	<i>Tanacetum parthenium</i> (L.) Schultz Bip.	Gümüş düğme (T)	flower	Women diseases	Saraç et al. (2013)
Asteraceae	<i>Taraxacum officinale</i> Weber	Karahindiba (T)	seed	Milk enhancer	Bağcı et al. (2006)
Asteraceae	<i>Tripleurospermum parviflorum</i> (Willd.) Pobed.	Beybunuk (K)	abovegroud parts	Facilitating childbirth	Babacan et al. (2022)
Asteraceae	<i>Turanecio eriospermus</i> (DC.) Hamzaoglu	Melle (K)	leaves	Milk enhancer	Nadiroğlu et al. (2019)
Asteraceae	<i>Tussilago farfara</i> L.	Devetabanı (T), Aslanpençesi (T), Öksürük Otu (T), coltsfoot (E)	flower	used during menopause problems	Ogenler et al. (2013); Korkmaz (2014)
Betulaceae	<i>Betula litwinowii</i> Doluch.	Karaağaç (T)	Root	Women pains	Yeşil and Akalın (2009)
Berberidaceae	<i>Caulophyllum thalictroides</i> (L.) Michx.	Mavi kohuş (T), Blue cohosh (E)	root	used as a labor inducer	Adıgüzel and Samur (2012)
Berberidaceae	<i>Leontice leontopetalum</i> L.	Aslan pençesi (T)	Leaf, flower	Women diseases	Kurt and Karaoğlu (2018)
Boraginaceae	<i>Alkanna megacarpa</i> DC.	Havaciva kökü (T)	root	pain reliever in postpartum women	Çakılcıoğlu et al. (2007)
Boraginaceae	<i>Anchusa azurea</i> Mill. var. <i>azurea</i>	Siğirdili (T)	leaves	women sterility	Polat et al. (2015)
Brassicaceae	<i>Anastatica hierochuntica</i> L.	Fatma ana eli out (T), Fatma mother hand herb (E)	root	used for infertility and birth diseases	Cumhur (2020); Şen and Dinç (2021)
Brassicaceae	<i>Brassica oleracea</i> L.	Lahana (T), Cabbage (E)	seed, flower	used for contraceptive	Özbek (2005)
Brassicaceae	<i>Capsella bursa-pastoris</i> (L.) Medik.	Çingiraklı ot, Kuş otu, Kuşkuş otu Çobançantası (T)	abovegroud parts	menstrual reducer and regulato menstrual remover	Çakılcıoğlu et al. (2007); Korkmaz (2014); Yalçın et al. (2021)
Brassicaceae	<i>Lepidium meyenii</i> Walp.	Maca turpu (T), Maca radish (E)	root	used for increases fertility, and menopausal symptoms	Aygin et al. (2018)

Brassicaceae	<i>Nasturtium officinale</i> R.Br.	Su Teresi (T), Kerdene Otu (T), Düzzik (K), Watercress (E)	leaf	used for female diseases and also beautifies the skin	Bakır Sade and Akan (2015)
Burseraceae	<i>Gummi olibanum</i> Hunk.	Akgünlük (T), daily life (E)	fruit	used for regulate menstrual bleeding bleeding.	Bakır Sade and Akan (2015)
Cannabaceae	<i>Humulus lupulus</i> L.	Common hop (E)	abovegroud parts	Menstrual cycle regulator	Mustafa et al. (2012)
Caryophyllaceae	<i>Saponaria officinalis</i> L.	Çöven otu (T), chives (E)	root	used in gynecological diseases	Ogenler et al. (2013); Cumhur (2020)
Cistaceae	<i>Cistus salviifolius</i> L.	Beyaz laden (T), White spruce (E)	leaf and flower	used for gynecological disorders	Bozkurt (2021)
Convolvulaceae	<i>Calystegia silvatica</i> (Kit.) Griesb	Bürük (K)	leaves	Gynecological diseases	Polat et al. (2015)
Cupressaceae	<i>Juniperus oxycedrus</i> subsp. <i>oxycedrus</i> L.	Ardıç (T)	Seeds	menstruation facilitative	Sağıroğlu et al. (2013)
Cupressaceae	<i>Thuja</i> sp.	Mazı (T), (E)	Past leaf	used for menstrual remover	Özbek (2005)
Ericaceae	<i>Colluna vulgaris</i> L.	Funda (T), Heather (E)	leaf	used for gynecological diseases	Korkmaz (2014)
Ericaceae	<i>Vaccinium myrtillus</i> L.	Yaban mersini (T), Blueberries (E)	fruit, leaf	used in gynecological diseases and pregnancy	Özcan et al. (2020)
Fabaceae	<i>Ceratonia siliqua</i> L.	Keçiboynuzu (T), Carob (E)	fruit	used for infertility	Cumhur (2020)
Fabaceae	<i>Glycine max</i> (L.) Merr.	Soya(T), Soy(E)	seed	used for reducing menopausal symptoms	Demirel et al. (2022)
Fabaceae	<i>Glycyrrhiza glabra</i> L.	Bıyan (K), Meyan (T)	Roots	Postpartum fatigue, infertility	Öztürk et al. (2016); Babacan et al. (2022)
Fabaceae	<i>Lotus gebelia</i> Vent.	Gazalboynuzu	Whole plant	Milk enhancer	Babacan et al. (2022)
Fabaceae	<i>Trifolium pratense</i> L.	Nefera sor Kırmızı Yonca (T), Red Clover (E)	abovegroud parts	Menstruation pain, Milk enhancer, used for healing vaginal atrophy	Nadiroğlu et al. (2019), Babacan et al. (2022),

					Demirel et al. (2022)
Fabaceae	<i>Trifolium repens</i> L.	Nefera sıpi (k)	abovegroud parts	Menstruation pain	Nadiroğlu et al. (2019)
Fabaceae	<i>Trigonella foenum-graecum</i> L.	Çemen (T), Pastırma (T) çemeni (T), cemen grass (E) Fenugreek (E)	seed	used to reduce the symptoms of menopause, to increase breast milk, to relieve infertility and menstrual pain	Özbek (2005); Bakır Sade and Akan (2015); Cumhur (2020)
Ginkgoaceae	<i>Ginkgo biloba</i> L.	Mabet ağacı (T), Temple tree (E)	leaves	used for menopause transition process	Aygin et al. (2018)
Hypericaceae	<i>Hypericum perforatum</i> L.	Sarı Kantaron (T)	above ground	used for menopausal symptoms and depression during pregnancy	Adıgüzel and Samur (2012); Kilci and Ertem (2019); Özcan et al. (2020); Demirel et al. (2022)
Hypericaceae	<i>Hypericum confertum</i> Choisy subsp. <i>stenobotrys</i> (Boiss.) Holmboe	Kantaron (T)	root	Menstruation	Güneş et al. (2017)
Hypericaceae	<i>Hypericum lydiu</i> m Boiss.	Kulilka zar (K), Sancı otu (T), Mayasıl otu (T)	abovegroud parts	Menstrual	Savran et al; (2009); Yeşil and Akalın (2009)
Hypericaceae	<i>Hypericum orientale</i> L.	Kantaron (T), Centaury (E)	flower	used for gynecological disorder	Bozkurt (2021)
Hypericaceae	<i>Hypericum scabrum</i> L.	Kulilka zar (K), Kantaron(T) Hard Red Crescent (E)	abovegroud parts	Menstrual, abdominal, used for menstrual pains	Yeşil and Akalın (2009), Oğuz and Tepe (2017); Öztürk et al. (2018)
Hypericaceae	<i>Hypericum trigetrefolium</i> Turra, Farselia Now	Kızılıcık (T)	abovegroud parts	Gynaecological diseases	Sağıroğlu et al. (2013)
Iridaceae	<i>Crocus sativus</i> L.	Safran (T), saffron (E)	flower	used to increase sexual function in women	Aygin et al. (2018)
Juglandaceae	<i>Juglans regia</i> L.	Ceviz (T), Guz (K)	Fruit barks	Women's sterility	Yeşil and Akalın (2009)

Lamiaceae	<i>Lavandula stoechas</i> L. subsp. <i>stoechas</i>	Karabaş otu (T), Karabaş(T)	Flowering branches	menstrual regulari	Polat and Satıl (2012)
Lamiaceae	<i>Melissa officinalis</i> L.	Limon otu (T), Lemon grass (E)	stem	used in pregnancy	Alay et al. (2018)
Lamiaceae	<i>Mentha pulegium</i> L.	Kaya yarpuzu (T), Punge tahte (K), Tüylü nane (T)	abovegroud parts	menstrual remover	Yalçın et al. (2021)
Lamiaceae	<i>Mentha x piperita</i> L.	Nane (T), Mint (E)	leaf, flower and branch	used in dissolves the milk knot, infertility, painful menstrual problems, pregnancy and facilitating childbirth	Ayaz and Yaman (2010); Kayğusuz (2020)
Lamiaceae	<i>Phlomis armeniaca</i> Willd.	Pazağ (K)	Flower, leaves	Milk enhancer	Nadiroğlu et al. (2019)
Lamiaceae	<i>Phlomis pungens</i> Willd. var. <i>Seticalycina</i> (Nab.) Hub.- Mor.	Silvanok (T)	above ground	used for abdominal and menstrual pain	Oğuz and Tepe (2017)
Lamiaceae	<i>Rosmarinus officinalis</i> L.	Kuşdili (T), Biberiye(T)	Leaves	menstrual remover, gynecological disorders, Menopausal complaints	Akaydın et al. (2013), Sağiroğlu et al. (2013); Yalçın et al. (2021)
Lamiaceae	<i>Salvia officinalis</i> L.	Adaçayı (T), Sage tea (E)	leaf	used in gynecological diseases and painful menstrual pain	Duran et al. (2012); Alay et al. (2018); Özcan et al. (2020)
Lamiaceae	<i>Teucrium polium</i> L.	Kefen otu (T)	root	Menstruation, Birth pains	Güneş et al. (2017)
Lamiaceae	<i>Thymus longicaulis</i> C. Persl.	Kekik (T)	leaf	Relieves cramping pains during the menstrual period and relieves menstrual bleeding regulates.	Bağcı et al. (2006)
Lamiaceae	<i>Thymus vulgaris</i> L.	Kekik (T), Oregano (E)	leaf	used in pregnancy	Kayğusuz (2020)

Lamiaceae	<i>Vitex agnus-castus</i> L.	Hayıt (T)	seed	Milk enhancer, Gynaecological diseases	Sağıroğlu et al. (2013); Yalçın et al. (2021)
Lauraceae	<i>Laurus nobilis</i> L.	Defne (T), Har yaprağı (T)	Leaves	Infertility	Polat and Satıl (2012)
Linaceae	<i>Linum usitatissimum</i> L.	Keten (T), linen (E)	seed	used for reducing menopausal symptoms and painful menstrual problems	Duran et al. (2012); Demirel et al. (2022)
Loranthaceae	<i>Viscum album</i> L.	Ökse Otu (T), Çekem Otu (T), Mistletoe (E)	leaf	used for stopping menstrual bleeding, uterine pain and infertility.	Bakır Sade and Akan (2015); Cumhuriyet (2020)
Lythraceae	<i>Punica granatum</i> L.	Nar (T), Pomegranate (E)	fruit	used in the relief of menopausal period troubles and vaginal discharges	Bakır Sade and Akan (2015)
Malvaceae	<i>Alcea apterocarpa</i> Boiss.	Hiro (K)	Seeds, leaves	Menstruation pain, Uterine cyst, Women's sterility	Yeşil and Akalın (2009); Nadiroğlu et al. (2019)
Malvaceae	<i>Malva neglecta</i> Wallr.	Tolık (K)	whole plant	Infertility, menstrual disorder, Women's sterility, Miscarriage	Çakılcıoğlu et al. (2007), Yeşil and Akalın (2009); Çakılcıoğlu et al. (2010); Nadiroğlu et al. (2019)
Malvaceae	<i>Malva sylvestris</i> L.	Ebegümeçi (T), Hibiscus (E)	flower	used in gynecological diseases	Özcan et al. (2020)
Malvaceae	<i>Tilia cordata</i> Mill.	İhlamur (T), Linden (E)	leaf	used in painful menstrual pain, gynecological diseases and pregnancy	Duran et al. (2012); Yılmaz et al. (2020); Özcan et al. (2020); Kaygusuz (2020)
Moraceae	<i>Ficus carica</i> L.	Kerik (K), İncir (T), Fig (E)	fruit	used to increase milk in lactating mothers and gynecological diseases	Akan and Ayaz (2016); Alay et al. (2018)

Nitrariaceae	<i>Peganum harmala</i> L.	Üzerlik (T), peganum (E)	seed	used in gynecological diseases and infertility	Çakılcıoğlu et al. (2007), Ogenler et al. (2013); Cumhuri (2020), Yalçın et al. (2021)
Nymphaeaceae	<i>Nymphaea</i> sp.	Nilüfer (T), Lotus (E)	flower	used for craving	Özbek (2005)
Oleaceae	<i>Olea europaea</i> L.	Zeytin (T), olive (E)	fruit ve leaf	used for infertility and various gynecological diseases	Özbek (2005); Ayaz and Yaman (2010); Uçak (2020)
Papaveraceae	<i>Papaver bracteatum</i> Lindl.	Gelincik (T), Poppy (E)	flower	used for menstrual pain	Oğuz Ve Tepe (2017)
Pinaceae	<i>Larix decidua</i> Mill.	Avrupa karaçamı (T), european larch (E)	stem	used for infertility	Edirne et al. (2010)
Plantaginaceae	<i>Plantago lanceolata</i> L.	Marşal otu (T), Sivrisilik otu (T)	leaves	gynecologic diseases	Polat et al. (2015)
Plantaginaceae	<i>Plantago major</i> L.	Sinir ot (nerve weed)	leaves	used for gynecological diseases	Korkmaz (2014)
Plumbaginaceae	<i>Plumbago europaea</i> L.	Artoğa (K)	roots	used to get pregnant	Akan et al. (2008)
Poaceae	<i>Zea mays</i> L.	Mısır (T)	seeds	Milk enhancer	Babacan et al. (2022)
Polygalaceae	<i>Polygala pruinosa</i> Boiss. subsp. <i>pruinosa</i>	Süt otu (T)		Milk enhancer	Çakılcıoğlu et al. (2007)
Polygonaceae	<i>Polygonum cognatum</i> Meisn.	Madımak (T), Madımalak (T), Kiwigrass(E)	whole plant	treats birth wounds	Korkmaz (2014)
Polygonaceae	<i>Rheum officinale</i> Baill.	Çin Ravendi (T), Chinese Rhubarb (E)	root	provider of pregnancy	Özbek (2005)
Ranunculaceae	<i>Cimicifuga racemosa</i> (L.) Nutt.	Karayılan otu (T), Black cohosh (E)	root	used in menopause	Adıgüzel and Samur (2012)
Ranunculaceae	<i>Hydrastis canadensis</i> L.	Hidrastis (T), Hydrastis(E)	root	used for excessive menstrual bleeding	Kara and Aydın (2002); Çubukçu et al. (2002); Gürkan et al. (2003); Özbek (2005)

Ranunculaceae	<i>Nigella sativa</i> L.	Çörek otu (T), black cumin (E)	seed	Milk enhancer, regulate menstruation	Özbek (2005); Yalçın et al. (2021), Özcan et al. (2020)
Rosaceae	<i>Alchemilla bursensis</i> B. Pawl.*	Aslanpençesi (T)	Leaves	Menstruation disorders	Polat et al. (2011)
Rosaceae	<i>Alchemilla hirsutiflora</i> (Buser) Rothm	Aslan Pençesi (T)	Leaves	Gynaecological diseases	Kalankan et al. (2015)
Rosaceae	<i>Alchemilla vulgaris</i> L.	Aslanpençesi (T), Lion claw (E)	abovegroud parts	menstrual organizer	Alay et al. (2018); Yalçın et al. (2021)
Rosaceae	<i>Cydonia oblonga</i> Mill.	Ayva (T), Quince (E)	Fruit, Leaves and Flowers	used for painful menstrual pain, uterine cancer	Duran et al. (2012), Sağiroğlu et al. (2013)
Rosaceae	<i>Potentilla anserina</i> L.	Beşparmakotu (T), quincegrass (E)	leaf	anti menstrual cramps	Çubukçu et al. (2002); Kara and Aydın (2002); Gürkan et al. (2003); Özbek (2005)
Rosaceae	<i>Prunus spinosa</i> L.	Çakal Eriği (T), Jackal Plum (E)	fruit	breast milk enhancer	Korkmaz (2014)
Rosaceae	<i>Rosa canina</i> L.	Köpek gülü (T), kuşburnu (T), rosehip (E)	fruit	used in pregnancy and gynecological diseases	Özcan et al. (2020)
Rosaceae	<i>Rubus idaeus</i> L.	Frambuaz (T), Ahududu (T), Raspberry (E)	leaf	used in pregnancy, relieve nausea of pregnant women and to tighten the uterus	Adigüzel and Samur (2012);
Rosaceae	<i>Rubus sanctus</i> Schreber Icon.	Dırık (K), Böğürtlen (T)	Roots, branches	Menstruation disorders	Polat et al. (2011); Sağiroğlu et al. (2013)
Rubiaceae	<i>Galium tricornutum</i> Dandy	Siğil meyvesi (T)	abovegroud parts	Gynecological diseases	Öztürk et al. (2016)
Scrophulariaceae	<i>Verbascum songaricum</i> Schrenk.	Mazijanik (K)	Flower	Menstruation, Infertility	Nadiroğlu et al. (2019)
Solanaceae	<i>Solanum melongena</i> L.	Patlıcan (T), aubergine (E)	stem	Used in gynecological diseases	Ogenler et al. (2013)
Solanaceae	<i>Withania somnifera</i> (L.) Dunal	Kış kirazı (T), winter cherry (E)	root	regulates female sexual function	Aygin et al. (2018)
Thymelaeaceae	<i>Daphne sericea</i> Vahl.	Develik (T)	stem branch	Menstruation	Güneş et al. (2017)

Urticaceae	<i>Urtica dioica</i> L.	Isırgan (T), Gerzunek (K), Isırgan otu (T), Dead nettle (E)	Whole plant	Genital disorders, Infertility, femine ailments, milk enhancer	Ayaz and Yaman (2010); Edirne et al. (2010); Uysal et al. (2010), Akaydin et al. (2013), Korkmaz (2014); Polat et al. (2015), Alay et al. (2018); Özcan et al. (2020)
Urticaceae	<i>Parietaria judaica</i> L.	Yapışkan otu (T), Sticky grass (E)	branch	used for infertility	Cumhur (2020)
Verbenaceae	<i>Vitex agnus-castus</i> L.	Hayıt (T), Küf (K), nope (E)	seed	Used for menstrual pain, infertility relief and gynecological diseases.	Ogenler et al. (2013); Bakır Sade and Akan (2015); Kolancı (2017); Alay et al. (2018); Kapdan et al. (2021); Tanrıku (2021)
Violaceae	<i>Viola</i> sp.	Menekşe (T), Violet (E)	flower	used for treatment of craving	Özbek (2005)
Vitaceae	<i>Vitis vinifera</i> L.	kuru üzüm (T), Raisins (E)	fruit	used for excessive menstrual bleeding	Özbek (2005)
Zingiberaceae	<i>Zingiber officinale</i> Roscoe	Zencefil (T), Ginger (E)	root	used in pregnancy, to relieve nausea of pregnant women and in gynecological diseases	Adıgüzel and Samur (2012); Yılmaz et al. (2020); Özcan et al. (2020)
Zygophyllaceae	<i>Tribulus terrestris</i> L.	Gumik (K), Çobançökerten (T), Demir diken (T), İron thistle (E)	fruit	used as a pain reliever in menstrual pain, and increase the sexual desire	Akan and Ayaz (2016); Aygin et al. (2018)
Zygophyllaceae	<i>Zygophyllum fabago</i> L.	Yabani kimyon (T)	aboveground parts	infertility	Öztürk et al. (2016)

T: Turkish, E: English, K: Kurdish,

4. Discussion

Within the scope of this study, it has been determined that 141 plant species belonging to 54 families are used in gynecological diseases and health (Figure 5.2). Accordingly, the first 5 families are Asteraceae (24), Lamiaceae (12), Rosaceae (9), Fabaceae (7) and Apiaceae (6) (Figure 1).

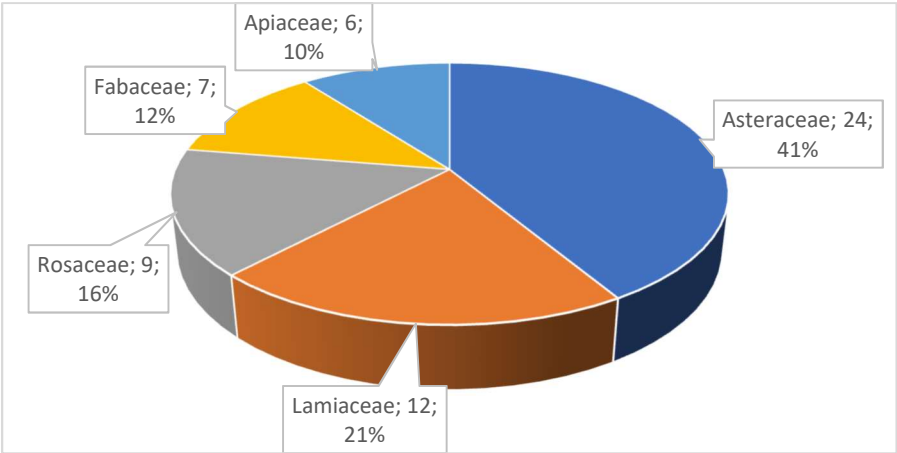


Figure 1. The first 5 families identified in the study.

The important genera that come to the fore in the study are *Achillea* (6), *Hypericum* (6), *Anthemis* (4), *Artemisia* (3) and *Arum* (3) (Figure 2).

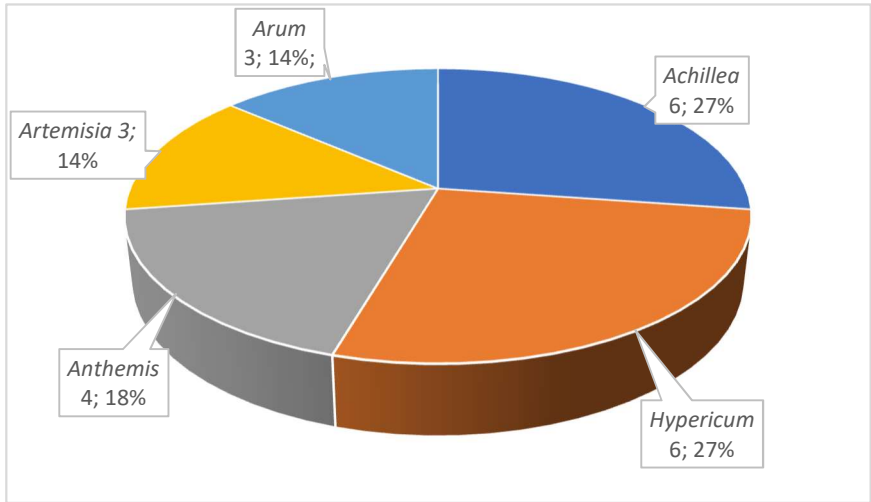


Figure 2. The first 5 genera identified in the study.

The parts of the plants used in our study are Leaf (40), Flower (28), above ground parts (23), Root (22), Fruit (17), and Seed (17) (Figure 3).

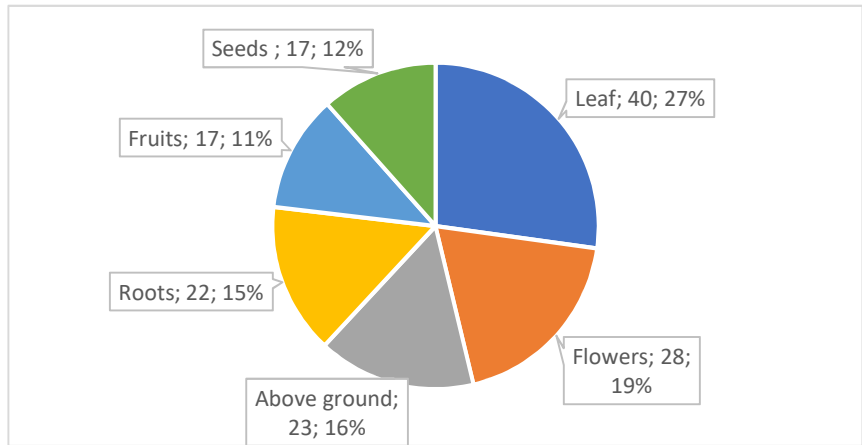


Figure 3. Most used parts of plants.

The uses of the plants for which the intended use is determined, menstrual diseases (60), infertility (28), pregnancy (24), vaginal diseases (24), increasing breast milk (16), menopause (13), abortion (7) and uterine diseases (6) (Figure 4).

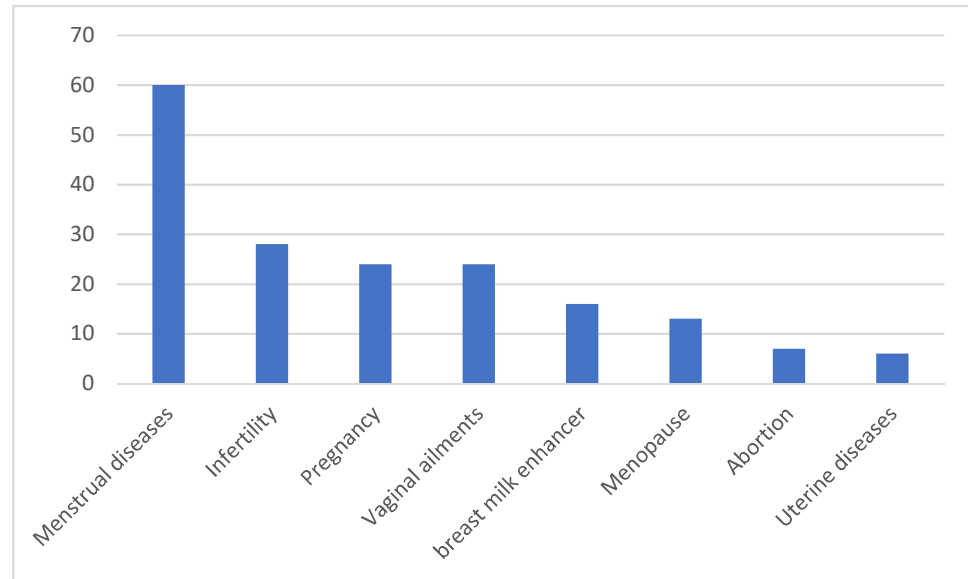


Figure 4. Determination of taxa according to their intended use.

5. Conclusions

As a conclusion, there are some general medicinal plants along with their potential uses for women's health:

- a) Chaste Tree Berry (*Vitex agnus-castus*) - used for premenstrual syndrome (PMS) and hormonal imbalance.
- d) Red Raspberry Leaf (*Rubus idaeus*) - traditionally used during pregnancy to support uterine health.
- c) Fenugreek (*Trigonella foenum-graecum*) - used to promote lactation in breastfeeding mothers.
- d) Blueberries (*Vaccinium myrtillus*) - Used to prevent and alleviate urinary tract infections (UTIs).
- e) Fennel (*Foeniculum vulgare*)- used for Milk enhancer, menstruation facilitative, while these herbs have a long history of use, individual responses to herbal remedies can vary. Some herbs may interact with medications or have contraindications for specific health conditions. It's crucial to consult with a healthcare professional or qualified herbalist before incorporating any herbs into your healthcare regimen, especially for menstrual disorders. Additionally, scientific research is ongoing, so staying informed about the latest findings is important.

Conflicts of Interests

The Authors declare that there is no conflict of interests

Financial Disclosure

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Statement contribution of the authors

This study's experimentation, analysis and writing, etc. all steps were made by the authors.

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