

Plants used in traditional treatment against hemorrhoids in Turkey

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ABSTRACT: Due to its geographic location, variable climate and traditional culture, Turkey has a rich flora and the use of plants in folk medicine is very favorable. That practice and knowledge have been passed down from generation to generation. Ethnobotanical surveys are carried out to record traditional treatment methods of plants. In this study, which was prepared by screening of ethnobotanical researches made in Turkey, 241 taxa were recorded in the traditional treatment of hemorrhoids. Information about scientific and local names, families, used parts and usage patterns of these plants are given. According to the research results, the most commonly used plants in hemorrhoid treatment are plants belonging to Asteraceae, Lamiaceae, Rosaceae, Scrophulariaceae, Araceae, Polygonaceae and Cupressaceae families. The species commonly used in different regions of Turkey are *Achillea* sp., *Arum* sp., *Cichorium intybus* L., *Dracunculus vulgaris* Schott, *Ecballium elaterium* (L.) A. Rich., *Ficus carica* L., *Hypericum perforatum* L., *H. scabrum* L., *Juglans regia* L., *Peganum harmala* L., *Rosa canina* L., *Rubus* sp., *Sambucus ebulus* L., *S. nigra* L., *Teucrium polium* L., *Urtica dioica* L., *Verbascum* sp..

KEYWORDS: Hemorrhoids; Traditional treatment; Medicinal plants; Turkey.

1. INTRODUCTION

Hemorrhoids are swollen veins located around the anus or in the lower rectum. About 50 percent of adults experienced the symptoms of hemorrhoids by the age of 50. Hemorrhoids can either be internal or external. Internal hemorrhoids develop within the anus or rectum. External hemorrhoids develop outside of the anus. External hemorrhoids are the most common and most troublesome. Symptoms of hemorrhoids include irritation, pain and extreme itching around the anus, itchy or painful lump or swelling near anus, fecal leakage, painful bowel movements, blood on tissue after having a bowel movement. Possible hemorrhoids causes include straining during a bowel movement, complications from chronic constipation, sitting for a long period of time (especially on the toilet), pregnancy, obesity, a family history of hemorrhoids [1].

It is aimed to correct the underlying cause in hemorrhoid treatment. In simple cases, a fibrous diet, drinking a lot of water, local anesthetic creams for itching and pain are preferred. In symptomatic cases, treatments such as drug treatment, burning with infrared coagulant, tape-choking method, hemorrhoidal artery tying method are applied. In case progression of the disease, severe external and thrombosed hemorrhoids, definitive treatment is surgery [2].

Due to various side effects, drug interactions and high cost in synthetic drugs, interest in herbal medicines is increasing day by day. Among the population, the variety of plants used against hemorrhoids is quite high. In this study, 241 taxa were obtained against various hemorrhoids in various regions of Turkey. Scientific names, families, local names, used parts and usage of these taxa are shown in Table 1. This study includes ethnobotanical surveys made after 2004. The surveys prepared before 2004 were reported by Gürhan and Ezer [3].

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Table 1. The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Achillea aleppica</i> DC. var. <i>zederbaueri</i> (Hayek) Hub.-Mor.	Asteraceae	Yılan çiçeği	Leaf, Flower	Crushed, Ext.	[4]
<i>A. coarctata</i> Poir.	Asteraceae	Mayasıl otu	Aerial part	Dried, Inf., Int.	[5]
<i>A. bieberstenii</i> Afan.	Asteraceae	Arı çiçeği, Sarı papatya, Erkurtaran	Aerial part	Inf., Int. Dec., Sediment Ext.	[6] [7]
<i>A. millefolium</i> L.	Asteraceae	Civanperçemi, Akbaşı, Barsam otu	Leaf, Flower Aerial part	Inf., Int. Dec., Ext.	[8; 9] [10]
<i>A. millefolium</i> L. subsp. <i>millefolium</i>	Asteraceae	Beyaz civanperçemi, Binbir yaprak	Aerial part	Dried, Chipped off, +Honey, Eaten	[11; 12]
<i>A. millefolium</i> L. subsp. <i>pannonica</i> (Schelek) Hayek	Asteraceae	Civanperçemi, Dişotu, Ayvadana	Aerial part	Dec., Int.	[13]
<i>A. nobilis</i> L. subsp. <i>neilreichii</i> (Kerner) Formanek	Asteraceae	Mayasıl otu	Capitulum	Inf., Int.	(14)
<i>A. nobilis</i> L. subsp. <i>sipylea</i> (O.Schwarz) Bassler	Asteraceae	Kaba fesleğen, Mayasıl otu	Aerial part	Inf., Int.	[14]
<i>A. phyrgia</i> Boiss.&Bal.	Asteraceae	Ayvadana	Flower	Dried, Inf., Ext.	[15; 16]
<i>A. wilhemsii</i> C.Koch.	Asteraceae	Civanperçemi	Leaf Aerial part	Inf., Int. Dec., Ext.	[17; 18] [19]
<i>Aesculus hippocastanum</i> L.	Hippocastanaceae	At keşanesi	Seed	Not stated	[15; 16]
<i>Aesculus</i> sp.	Sapindaceae	At keşanesi	Seed	Crushed, Eaten	[20; 21]
<i>Ajuga chamaepitys</i> (L.) Schreber subsp. <i>chia</i> (Schreber) Arcangeli var. <i>chai</i>	Lamiaceae	Acı gıcı, Mayasıl otu, Kısa mahmutçuk	Aerial part Flower	Inf., Int. Dec., Int. Inf., Int.	[22] [19; 23] [17]
<i>A. chamaepitys</i> (L.) Schreber subsp. <i>chia</i> (Schreber) Arcangeli var. <i>ciliata</i> Brig.	Lamiaceae	Mayasıl otu	Flower Aerial part	Inf., Int. Dec., Int.	[24] [25]
<i>A. chamaepitys</i> (L.) Schreber subsp. <i>laevigata</i> (Banks Et Sol.) P.H.Davis	Lamiaceae	Mayasıl otu	Flower, Aerial part	Dec., Int.	[21]
<i>Ajuga</i> sp.	Lamiaceae	Mayasıl otu	Flower	Inf., Int.	[20]
<i>A. orientalis</i> L.	Lamiaceae	Mayasıl otu	Whole plant Flower	Dried, Dec. + <i>Mentha longifolium</i> L. subsp. <i>longifolium</i> (yarpuz) roots, Dec.	[26]
<i>Alkanna tinctoria</i> (L.) Tausch subsp. <i>glandulosa</i> Hub.-Mor.	Boraginaceae	Havacıya otu	Root	Dec., Int. and Ext.	[27]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Allium cepa</i> L.	Liliaceae	Soğan	Tuber	Heated and Crushed, Ext.	[13]
<i>A. porrum</i> L.	Liliaceae	Pırasa	Seed	Inf., Int.	[28]
<i>A. sativum</i> L.	Liliaceae	Sarımsak	Tuber	Swallowed	[29; 30]
<i>Alnus glutinosa</i> (L.) Gaertn subsp. <i>barbata</i> (C.A.Mey.) Yalt.	Betulaceae	Sakallı kızılğaç	Seed	Crushed +Honey, Eaten	[11; 12]
			Seed, Root	Dec., Int.	[31]
<i>A. glutinosa</i> (L.) Gaertn subsp. <i>glutinosa</i>	Betulaceae	Kızılğaç	Male flower	Dec., Ext.	[32]
<i>Amaranthus retroflexus</i> L.	Amaranthaceae	Selmik	Leaf, Branch	Inf., Int.	[17]
<i>Anethum graveolens</i> L.	Apiaceae	Dere otu	Whole plant, Seed	Dec.	[26]
			Seed, Leaf	Raw, Eaten	[33]
<i>Anthemis altissima</i> L.	Asteraceae	Papatya	Flower	Inf.	[9]
<i>A. cotula</i> L.	Asteraceae	Papatya, Yoğurt çiçeği	Flower	Dec., Sediment Ext.	[7]
<i>A. nobilis</i> L.	Asteraceae	Papatya	Flower	Inf.	[9]
<i>Anthemis</i> sp.	Asteraceae	Papatya	Flowering and leafy branch	Dec., Int.	[34]
<i>A. tinctoria</i> L. var. <i>tinctoria</i>	Asteraceae	Papatya	Flowering and leafy branch	Dec., Int.	[35]
			Aerial part	Boiled, Ext.	[13]
			Flower	Inf.	[9]
<i>Asphodelus aestivus</i> Brot.	Liliaceae	Çiriş ağusu, Kiriş, Givriş, Hıdırellez kamçısı, Nünü	Root	Raw, Sucked in	[36; 37]
				Ext. Dec., Int.	[14]
<i>Asplenium adiantum-nigrum</i> L.	Aspleniaceae	Mayasıl otu	Leaf	Inf., Int.	[14]
<i>A. trichomanes</i> L.	Aspleniaceae	Duvar bilonsi	Aerial part	Not stated	[12]
<i>Arctium minus</i> (Hill.) Bernh. subsp. <i>pubens</i> (Bab.) Arenes	Asteraceae	Deve pıtrağı, Kaba döşeği, Pıtrak	Leaf	Raw, Ext.	[38; 40; 41]
<i>A. minus</i> (Hill.) Bernh. subsp. <i>minus</i>	Asteraceae	Nallı pıtrak, Pıtrak, Bitrak	Leaf	Raw, Ext.	[42]
<i>Aristolochia bottae</i> Jaub. & Spach.	Aristolochiaceae	Not stated	Aerial part	Dec., Int.	[43]
<i>Arum detruncatum</i> (C.A.Meyer ex Schott.) subsp. <i>detruncatum</i>	Araceae	Yılan ekmeği, Yılan yastığı	Tuber	Like a pill, Swallowed	[4]
<i>A. dioscoridis</i> SM.	Araceae	Kabarcık, Ağrı	Fruit	Mature, Swallowed	[44]
<i>A. dioscoridis</i> SM. var. <i>luschanii</i> R. Mill.	Araceae	Pancar, Yılan pancarı	Seed	Dec., Int.	[20]
			Fruit	Inf., Int.	[21]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>A. elongatum</i> Steven subsp. <i>detruncatum</i> (C.A.Mey. ex Schott) H. Riedl	Araceae	Gabarcık, Kabarcık	Fruit	Swallowed	[45; 46]
<i>A. elongatum</i> Steven subsp. <i>elongatum</i> Steven	Araceae	Basur otu, Yılan yastığı	Tuber	Small part with bread, Swallowed	[27]
<i>A. italicum</i> Miller	Araceae	Flower otu, Yılan yastığı, Yılan otu, Zehir otu, Yılan soğanı, Yılan kılıcı, Yılcık, Domuz yandırıcı	Fruit Tuber Flower	Swallowed Like a pill, Swallowed Inf. Dec., Int.	[32; 47; 48] [49] [32]
<i>A. maculatum</i> L.	Araceae	Tirşik, Andırın doktoru, Pancar, Yılan ekmeği	Tuber Fruit	Crushed, Int. Dec., Int. Mature, Eaten Mature, Crushed, +Flour, Eaten	[24; 50] [13] [51] [52]
<i>Artemisia absinthium</i> L.	Asteraceae	Acı yavşan, Pelin otu	Aerial part Root Whole plant	+Ethanol, Mac. Without Shell, Swallowed Dec. and Inf., Int. Dec., Ext.	[53] [54]
<i>Asplenium trichomanes</i> L.	Aspleniaceae	Saçak otu	Leaf	<i>Achillea millefolium</i> L. and <i>Nasturtium officinale</i> R.Br. leaves, +Egg, Cooked, Eaten	[11]
<i>Berberis crataegina</i> DC.	Berberidaceae	Ziringç, Karamuk	Root	Dec., Int. Inf., Int.	[19] [55]
<i>Beta corolliflora</i> Zosimovic ex Butler	Chenopodiaceae	Kızılca, Yabani ıspanak, Sırk	Root	Dec., Int.	[19; 22]
<i>Bryonia multiflora</i> Boiss. & Heldr.	Cucurbitaceae	Abdulsalam, Akasma kökü	Root	Dec., Int.	[40]
<i>Caltha polypetala</i> Hochst.	Ranunculaceae	Lilipar	Flower	Dec.	[26]
<i>Capparis ovata</i> Desf.	Capparaceae	Gevil, Kafari	Root	Dec., Int.	[44]
<i>C. spinosa</i> L.	Capparaceae	Keper	Fruit	Dec., Int.	[19]
<i>C. spinosa</i> L. var. <i>spinosa</i>	Capparaceae	Kapari, Keditirnağı	Root	Dec., Int.	[33]
<i>Capsella bursa-pastoris</i> (L.) Medik	Brassicaceae	Kuşkuş otu, Çoban çantası	Leaf, Flower	Inf.	[49]
<i>Cardamine raphanifolia</i> Pourr.	Brassicaceae	Mayasıl otu, Kuş lahanası	Whole plant	Eaten	[56]

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Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Carduus acanthoides</i> L. subsp. <i>acanthoides</i>	Asteraceae	Küçük kenger	Aerial part	Dec., Int.	[13]
<i>C. nutans</i> L. subsp. <i>leiophyllus</i> (Petr.) Stoj. et Stef.	Asteraceae	Deve diken, Çakır diken, Eşek gengeri	Aerial part	Dec., Int.	[13]
<i>Castanea sativa</i> Miller	Fagaceae	Kestane	Stem bark, Fruit	Inf., Int.	[57]
<i>Caucalis platycarpus</i> L.	Apiaceae	Kara pıtrak	Aerial part	Dec., Int.	[58]
<i>Centaurea depressa</i> Bieb.	Asteraceae	Peygamber çiçeği	Aerial part	Dec., Int.	[6]
<i>C. solstitialis</i> L. subsp. <i>solstitialis</i>	Asteraceae	Çakır diken	Aerial part	Dec., Int.	[59]
<i>Centaureum erythraea</i> Rafn.	Gentianaceae	Mayasıl otu, Afyonotu, Kırmızı kantaron	Aerial part	Crushed, +Honey, Eaten. + <i>Juglans regia</i> L. leaves and <i>Mentha</i> sp. Dec., Ext. Dried, Cooked, with Gripin capsule, Swallowed	[28] [47]
<i>C. erythraea</i> Roth. subsp. <i>turcicum</i> (Velen.)	Gentianaceae	Küçük kantaron	Aerial part	Dec., Int.	[11; 12]
<i>Ceterach officinarum</i> DC.	Aspleniaceae	Altın otu	Leaf Leaf, Flower	Crushed and Ext. Inf.	[7] [49]
<i>Chelidonium majus</i> L.	Papaveraceae	Kurlangıç otu, Temre otu	Aerial part	Inf., Int.	[27]
<i>Chenopodium album</i> L. subsp. <i>album</i> var. <i>album</i>	Chenopodiaceae	Sılmık	Aerial part	Dec., Int.	[6]
<i>Cichorium intybus</i> L.	Asteraceae	Acı ot, Keklik otu, Talışk, Acıkök, Çıtlık, Çukurca, Yabani hindiba, Hindiba, Sakız otu, Mavihindiba, Radika	Capitulum Leaf Leaf and stem Aerial part Rosette leaf and root	Dec., Int. Boiled, Ext. + <i>Cucumis sativus</i> L. fruit shell, Inf., Int. Dec., and Cooed, Int. Inf., Ext. Not stated	[6] [30] [60] [47] [61] [23]
<i>Cirsium arvense</i> (L.) Scop. subsp. <i>vestitum</i> (Wimm. & Grab.) Petr.	Asteraceae	Çakır diken	Root	Dec., Int.	[19]
<i>Cnicus benedictus</i> L.	Asteraceae	Şevketi bostan, Mayasıl otu	Aerial part	Inf., Int.	[62]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Convolvulus arvensis</i> L.	Convolvulaceae	Dağ sarmaşığı, Basırık, Mahmude otu	Root	Latex, Dried, Swallowed	[63]
			Branch and leaf	Dec., Ext.	[7]
<i>Cotinus coggygia</i> Scop.	Anacardiaceae	Tetra	Leaf	Dec., Ext.	[13; 32]
<i>Crataegus meyeri</i> Pojark	Rosaceae	Alıç	Flower	Inf., Ext.	[61]
<i>C. monogyna</i> Jacq. subsp. <i>monogyna</i>	Rosaceae	Kızılarkörü, Kızılçöğür, Memişen	Fruit	Eaten	[64]
<i>Crepis zacintha</i> (L.) Babcock	Asteraceae	Mayasıl otu	Whole plant	Dec., Int.	[13]
<i>Cupressus sempervirens</i> L.	Cupressaceae	Selvi	Cone	Dec., Int.	[62; 65]
<i>C. sempervirens</i> L. var. <i>horizontalis</i>	Cupressaceae	Servi	Cone	Dec.	[49]
<i>Cydonia oblonga</i> Miller	Rosaceae	Ayva	Leaf	Dried Crushed, Inf., Int.	[32]
<i>Cynodon dactylon</i> (L.) Pers. var. <i>dactylon</i>	Poaceae	Beygir otu, Ayrikotu	Whole plant	Dec., Int.	[47]
			Aerial part	+ <i>Equisetum</i> sp., Dec., Int.	
<i>Daphne sericea</i> Vahl.	Thymelaeaceae	Zveytine, Dafne	Whole plant	Crushed, +Olive oil, Ext.	[20; 21]
<i>Datura stramonium</i> L.	Solanaceae	Afyonotu, Eşek diken	Seed	Swallowed	[47]
<i>Daucus carota</i> L.	Apiaceae	Arnamus otu, Kokar otu, Mayasıl otu	Aerial part	Inf., Int.	[14]
<i>Dianthus zonatus</i> Fenzl. var. <i>aristatus</i> (Boiss.) Reeve	Caryophyllaceae	Basur otu	Flower	Inf., Int.	[27]
<i>Dorycnium graecum</i> (L.) Ser.	Fabaceae	Dağ tifili	Flower	Dec., Int.	[66]
<i>Dracunculus vulgaris</i> Schott	Araceae	Yılan pancarı, Yılan ebesi, Yılan burçağı, Yılan otu, Yılan yastığı, Domuz şekeri, Kabarcık, Yılan kamçısı, Yılan mısırları	Fruit	Mature, +Flour, Swallowed	[14; 42; 62; 65]
				Eaten	[33; 64]
			Root	Like a pill, Swallowed	[5]
			Aerial part	+Olive oil, Dec.	[67]
			Tuber and seed	Eaten	[68]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Ecballium elaterium</i> (L.) A.Rich.	Cucurbitaceae	Yaban kavunu, Cırtlatan, Eşek hıyarı, Acı dülek, Acı kavun, Deli kavun, Şeytan keleş, Düvelek	Fruit	Sap, Ext.	[20; 21]
			Root	Crushed, Latex +Flour, Like a pill, Eaten	[13; 69]
				Crushed, Like a pill, Eaten	[13; 32; 65]
				Without shell, Like a pill, Swallowed	[62]
<i>Echinops orientalis</i> Trautv.	Asteraceae	Eşek kengeri	Flower	Sliced, Ext.	[6]
<i>Equisetum arvense</i> L.	Equisetaceae	Kırk kilit otu, Ulama otu, Ek otu, At kuyruğu, Çam otu	Stem and leaf	Dec., Int.	[8]
			Whole plant	Not stated	[54]
<i>Eryngium campestre</i> L.	Apiaceae	Şeker diken	Root	Dec., Ext.	[70]
<i>E. campestre</i> L. var. <i>virens</i> Link	Apiaceae	Eşek kengeri	Root	Raw, Eaten.	[6]
<i>Euphorbia cardiophylla</i> Boiss.et Heldr.	Euphorbiaceae	Sütleşen	Latex	Dec., Int.	[29]
<i>E. kotschyana</i> Fenzl	Euphorbiaceae	Sütleşen	Latex	Ext.	[71]
<i>E. macroclada</i> Boiss.	Euphorbiaceae	Sütleşen	Latex	Dried, Like a pill, Swallowed	[53]
<i>E. seguieriana</i> Necker	Euphorbiaceae	Yumru sütleşen	Latex	Ext.	[29]
<i>Ferula orientalis</i> L.	Apiaceae	Heliz, Çakşır otu	Root	Dec., Int.	[72]
			Aerial part	Dec., Int.	[17]
<i>Ferula</i> sp.	Apiaceae	Çakşır	Root, Leaf	Dec., Int.	[73]
<i>Ficus carica</i> L.	Moraceae	İncir, Yemiş	Leaf	Inf., Int.	[74]
			Fruit, Leaf	Dec., Int.	[10; 75]
				Dec., Ext.	[32]
				Raw, Ext.	[10]
<i>F. carica</i> L. subsp. <i>carica</i>	Moraceae	Deli yemiş, İncir, Yemiş	Fruit	Eaten, Compote, Int.	[76]
<i>Fragaria vesca</i> L.	Rosaceae	Dağ çileği	Young branches	Inf., Int.	[64]
<i>Fumaria asepal</i> Boiss.	Papaveraceae	Şahdere	Root	Dec., Int.	[54]
			Whole plant	Dec., Int.	[6]
<i>F. cilicica</i> Hausskn.	Papaveraceae	Şahdere	Flower, Leaf	Dec., Ext.	[18]
<i>F. orientalis</i> L.	Papaveraceae	Şahtere	Whole plant	Dec., Int.	[6]
				Dec., Int. and Ext.	[26]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Galium consanguineum</i> Boiss.	Rubiaceae	Babelisk	Aerial part	Ext.	[40]
<i>G. runcinatum</i> Ehrend et Schön.-Tem.	Rubiaceae	Yapışkan sarmaşık	Aerial part	Dec., Int.	[6]
<i>Glycyrrhiza echinata</i> L.	Fabaceae	Acı meyan	Root	Dec., Int.	[20; 21]
<i>Gundelia tournefortii</i> L. var. <i>tournefortii</i>	Asteraceae	Kenger	Fruit	Dried, Eaten.	[27]
<i>Heracleum platytaenium</i> Boiss.	Apiaceae	Ayı göbeği, Tavşan otu, Su pıtrağı otu	Aerial part	+ <i>Verbascum</i> sp. aerial part, Inf., Enema	[42; 77]
<i>Hyacinthus orientalis</i> L. subsp. <i>chionophilus</i> Wendelbo	Liliaceae	Sümbül	Leaf	Crushed, Ext.	[19]
<i>Hypericum montbretii</i> Spach	Hypericaceae	Çay çiçeği, Çay otu	Flowering branch	Dec., Int.	[19; 22]
<i>H. orientale</i> L.	Hypericaceae	Kırmızı kantaron	Aerial part	Inf., Int.	[4]
<i>H. perforatum</i> L.	Hypericaceae	Kantaron, Sarı kantaron, Mayasıl otu, Kızılçık otu	Flower, Aerial part	+Olive oil, Mac., Ext.	[74]
				Crushed, +Olive oil, Ext.	[4]
			Whole plant	+ <i>Salix alba</i> L. leaves, Dec., Ext.	[63]
			Flowering branch	Dec., Int.	[19; 22; 23; 78]
<i>H. scabrum</i> L.	Hypericaceae	Kantaron otu, Sarı kantaron, Serkil otu, Mayasıl otu, Kepir otu, Kızılçık otu		Oil, Int.	[64]
			Fruit	Inf., Int.	[30]
			Aerial part	Inf., Int.	[4]
				Dec., Int.	[19]
			Whole plant	Inf., Ext.	[18]
<i>Inula anatolica</i> Boiss.	Asteraceae	Basur otu		Dec., Int.	[79]
			Leaf, Flower	Dec. and Inf., Int., Ext.	[61]
			Flower	Dec., Ext.	[27]
<i>I. helenium</i> L. subsp. <i>vanesis</i> Grierson	Asteraceae	Andız otu, İngüz, Peniruk	Aerial part	Dried, Crushed, +Vaseline, Ext.	[40; 41]
			Leaf	Raw, Ext.	
<i>Ixiolirion tataricum</i> (Pall.) Schult. & Schult.f. subsp. <i>montanum</i> (Labill.)Takht.	Amaryllidaceae	Enjurok	Fruit	Eaten	[80]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

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<i>Juglans regia</i> L.	Juglandaceae	Ceviz, Giz, Güz, Koz	Seed	Crushed, +Honey, Heated, Ext.	[38; 40]
			Leaf	+Aerial part of <i>Centaureum erythraea</i> Rafn. and <i>Mentha</i> sp., Dec., Ext.	[28]
				Dec., Int.	[71; 81]
				Dec., Ext.	[19; 34; 71]
			Fruit	Swallowed	[60]
				Eaten	[13; 31; 34; 57]
				Mature endocarp, +Honey, Eaten.	[47]
				Crushed, +Honey, Eaten.	[14]
<i>Juniperus drupacea</i> Lab.	Cupressaceae	Andızağacı, Andız	Fruit	Molasses, Int.	[52; 82]
<i>J. excelsa</i> Bieb.	Cupressaceae	Ardıç	Fruit	Dec., Ext.	[19]
<i>J. oxycedrus</i> L.	Cupressaceae	Ardıç, Dikenli ardıç, Katran ardıcı	Tar	Like a pill, Swallowed and Ext.	[62; 65]
			Cone	Dec., Int.	[15]
			Seed	Roasted, Crushed, Int.	[32]
<i>J. oxycedrus</i> L. subsp. <i>oxycedrus</i>	Cupressaceae	Ardıç	Fruit	Eaten	[68]
				Inf., Int.	
			Cone	Dec., Int.	[16]
<i>Lactuca serriola</i> L.	Asteraceae	Hindiba, Kaju	Aerial part	Inf., Int.	[61]
<i>Lactuca</i> sp.	Asteraceae	Hindiba, Kaju	Stem	Inf., Int.	[60]
<i>Lauracerasus officinalis</i> Roemer	Rosaceae	Kastanicça karamişi	Seed	Crushed, Eaten.	[56]
			Leaf	Cooked, Ext.	
<i>Laurus nobilis</i> L.	Lauraceae	Defne	Oil	Ext.	[20; 21]
			Leaf	Dec., Int.	[68]
<i>Leontice leontopetalum</i> L. subsp. <i>leontopetalum</i>	Berberidaceae	Patlangaç	Tuber	Sliced, Like a pill, Swallowed	[69]
<i>Linaria genistifolia</i> (L.) Miller subsp. <i>genistifolia</i>	Scrophulariaceae	Not stated	Aerial part	Dec., Int.	[6]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>L. kurdica</i> Boiss. et Hohen. subsp. <i>kurdica</i>	Scrophulariaceae	Not stated	Aerial part	Dec., Int.	[6]
<i>Liquidambar orientalis</i> Miller	Hamamelidaceae	Günlük ağacı	Kortex	Balsam	[49]
<i>Lotus corniculatus</i> L. var. <i>corniculatus</i> (Bieb.) Arc.	Fabaceae	Yonca, Sancı otu, Böbrek otu	Aerial part	Dec., Int.	[19; 22]
<i>Malabaila dasyantha</i> (C. Koch) Grossh	Apiaceae	Mandak	Leaf	Dried or fresh, Ext.	[72]
<i>Malva neglecta</i> Wallr.	Malvaceae	Ebe gömeci, Ebe gümeci, Ebem gömeci, Ebem kömenci	Leaf	Dec., Int.	[30; 83]
			Aerial part	Dec., Int.	[17; 18; 70]
				Crushed, Ext.	[55]
			Root, Seed, Leaf	+ <i>Plantago major</i> leaves, Dec.	[26]
<i>M. sylvestris</i> L.	Malvaceae	Ebegümeci	Aerial part	Dec., Ext.	[13]
<i>Marrubium parviflorum</i> Fisch. & C.A. Mey. subsp. <i>parviflorum</i>	Lamiaceae	Not stated	Whole plant	Dec., Ext.	[54]
<i>Matricaria chamomilla</i> L.	Asteraceae	Papatya	Flower	Inf.	[49]
<i>Melia azedarach</i> L.	Meliaceae	Tespah ağacı, Zinzra	Fruit	Boiled, Crushed, +leblebi, Mush, Like a pill, Swallowed	[20; 21]
<i>Mentha longifolia</i> L. ssp. <i>longifolia</i>	Lamiaceae	Yarpuz, Yarbuz, Punk	Leaf, Root	+ <i>Camelia sinensis</i> , Inf., Ext.	[26]
			Aerial part	Dec. and Inf., Int.	[19]
<i>Morus nigra</i> L.	Moraceae	Karadut	Stem bark	Peeled, Like a pill, Swallowed	[32]
<i>Nasturtium officinale</i> R.Br.	Brassicaceae	Su teresi	Aerial part	Raw, Eaten	[11; 12]
<i>Nepeta trachonitica</i> Post	Lamiaceae	Dağ çayı	Aerial part	Inf., Int.	[6]
<i>Nerium oleander</i> L.	Apocynaceae	Zakkum, Difli	Flower	Crushed +butter, Ext.	[20; 21]
<i>Onopordum acanthium</i> L.	Asteraceae	Kivar	Flower	Dec., Int.	[31; 38]
<i>O. bracteatum</i> Boiss. et Heldr. var. <i>bracteatum</i> Boiss. et Heldr.	Asteraceae	Kangal	Seed	+Honey, Eaten	[19; 29]
<i>O. candidum</i> Nab.	Asteraceae	Kangal	Fruit	Crushed, Dec., Int.	[6]
<i>Onosma argentatum</i> Hub.-Mor.	Boraginaceae	Emzik	Aerial part	Dec., Int.	[6]
<i>Orchis punctulata</i> Steven Ex Lindley	Orchidaceae	Sahlep, Salep çiçeği, Sümbül	Tuber	Dec., Int.	[6]
<i>Origanum onites</i> L.	Lamiaceae	Kekik	Oil	Ext.	[84]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Paliurus spina-cristi</i> Miller	Rhamnaceae	Arı çalısı, Kara çalı, Çaltı	Fruit	Crushed, Dec., Int.	[6; 44]
			Seed	Crushed, Inf., Int.	[24]
<i>Papaver rhoeas</i> L.	Papaveraceae	Gelincik	Flower	Dec., Int.	[32]
<i>Peganum harmala</i> L.	Zygophyllaceae	Üzerlik, Harmal, Boğir, Bohal meleç, Yabani sedef otu, İlezik, Nazar otu	Aerial part	Dec., Ext.	[63]
			Fruit	Burned, Cinder +Barley flour and olive oil, Ext.	[78]
				Swallowed	[68; 85]
				Dried, Crushed and Roasted, Eaten	[78]
				Crushed, +Honey, Eaten	
			Seed	Roasted, Crushed, Eaten	[4; 65; 71]
				Dec., Int.	[19; 23]
				+Oil, Eaten	[62]
				Chewed, Eaten	[76]
				Crushed, Ext.	[57]
			Root	Dec., Int.	[19; 86]
<i>Petroselinum arispum</i> (Mill.) A.W.Hill	Apiaceae	Maydanoz, Maydenüs	Aerial part	Dec., Int.	[87]
			Stem and petiole	Dec., Sediment Ext.	[7]
<i>Phalaris arundinaceae</i> L.	Poaceae	Kaynaşı	Root	Dec., Int.	[84]
<i>Phyllitis scolopendrium</i> (L.) Newn.	Aspleniaceae	Geyikdili eğreltisi	Aerial part	+ <i>Viscum album</i> L., <i>Asplenium trichomanes</i> L., <i>Plantago major</i> L. subsp. <i>major</i> and <i>Urtica dioica</i> L. leaves, Dec., Int.	[11; 12]
<i>Picris strigosa</i> Bieb.	Asteraceae	Senameki	Root	Mush, Ext.	[19]
<i>Pinus brutia</i> Ten.	Pinaceae	Kızılçam	Flower	Crushed, +Water, Drunked	[16]
<i>Pistacia terebinthus</i> L. subsp. <i>terebinthus</i>	Anacardiaceae	Kokorağaç, Menengiç ağacı	Leaf	Dec., Int.	[13]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Plantago lanceolata</i> L.	Plantaginaceae	Giyamambel, Belpanık, Sinir otu, Sinirli ot, Yılan dili, Yılan otu	Leaf	Raw, Eaten	[38]
			Seed	Crushed, Dec.	[32]
<i>P. major</i> L.	Plantaginaceae	Sinir otu, Sinirli ot	Leaf	Burned, Ext.	[74]
<i>P. major</i> L. subsp. <i>intermedia</i> (Gilib.) Lange	Plantaginaceae	Sinir otu, Sinirli ot, Kesik otu, Bağa yaprağı, Kırkdamar otu	Fruit	+Honey, Eaten	[5]
			Leaf	Inf., Ext.	[19; 22]
				Soup, Drunked	[67]
<i>P. major</i> L. subsp. <i>major</i>	Plantaginaceae	Sinir otu	Aerial part	Dried, Dec. and Inf., Int.	[11]
			Seed	Dried, Eaten	[56]
			Leaf	Dec., Int.	[19]
				Dec., Ext.	[18]
<i>Platanus orientalis</i> L.	Platanaceae	Ayı otu, Eđer otu, Kavak, Çınar	Leaf	Inf., Int.	[64]
<i>Polygonum bistorta</i> L.	Polygonaceae	Çimen eveleği	Aerial part	Dec., Int.	[11]
<i>P. cognatum</i> Meisn	Polygonaceae	Madımak, Madımalak	Whole plant	Int.	[29]
<i>P. lapathifolium</i> L.	Polygonaceae	Dereotu, Dere biberi, Deve sürdeği	Aerial part	Dec., Ext.	[13]
<i>Populus tremula</i> L.	Salicaceae	Kavak	Gemma	+Olive oil	[29]
			Cortex	Dec., Int.	
<i>Potentilla reptans</i> L.	Rosaceae	Reşadın otu	Leaf	Inf., Int.	[78]
<i>Prunus persica</i> (L.) Batsch.	Rosaceae	Şeftali	Seed	Swallowed	[74]
<i>Pteridium aquilinum</i> (L.) Kuhn	Dennstaedtiaceae	Kartal eğrisi	Leaf	Not stated	[88]
<i>Pteris cretica</i> L.	Pteridaceae	Girit eğreltisi	Root	+ <i>Phedimus stoloniferus</i> (S.G.Gmel.), <i>Urtica dioica</i> L., <i>Hedera helix</i> L., <i>Ficus</i> L., <i>Laurocerasus</i> Duhamel, <i>Juglans</i> and <i>Alnus</i> leaves, Dec., Int.	[11]
<i>Punica granatum</i> L.	Punicaceae	Nar, Mekke gülü	Fruit bark	Dec., Int.	[8]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Quercus cerris</i> L. var. <i>cerris</i>	Fagaceae	Kızılmeşe, Meşe	Fruit	Dec., Int.	[27]
<i>Q. coccifera</i> L.	Fagaceae	Meşe	Fruit, Gall, Leaf	Not stated	[15; 16]
<i>Q. libani</i> Oliver	Fagaceae	Meşe	Fruit	Eaten	[6]
<i>Q. petraea</i> (Mattuschka) Liebl. subsp. <i>pinnatiloba</i> (C.Koch) Menitsky	Fagaceae	Meşe	Fruit	Eaten	[6]
<i>Ranunculus ficaria</i> L.	Ranunculaceae	Basur otu	Root	Boiled, Mush, Ext.	[89]
<i>R. ficaria</i> L. subsp. <i>ficariiformis</i> Rouy et Fouc.	Ranunculaceae	Altın tabak, Dügün çiçeği, Basur otu, Sarı çiçek, Mayıs çiçeği	Rosette leaf	Mush Ext.	[20]
			Flower	Inf., Int.	[27]
			Root	Crushed, Eaten	[69]
			Aerial part	Crushed, Ext.	[21]
<i>Reseda lutea</i> L.	Resedaceae	Eşek gerdanası	Aerial part	Inf., Int.	[4]
<i>Rheum ribes</i> L.	Polygonaceae	Işgın, Işkın, Rives, Gavalak, Gavalat	Root	Dec., Int.	[6; 19; 22; 86; 90]
				Roasted, +Honey, Swallowed	[91]
<i>Rosa canina</i> L.	Rosaceae	Kuşburnu, Şillan, Şılan, Yabani gül, Gül elması, Gülburnu, İtburnu	Flower, Fruit, Root	Not stated	[89]
			Fruit	Dec., Int.	[6; 19; 30; 64; 78]
				Dried, Marmalade, Int.	[27; 63]
				Raw, Eaten	[68]
				Dried, Eaten	[55]
				Inf., Int. and Ext.	[31]
			Flower and Fruit	Dec., Int.	[20; 21]
				Dec., Int.	[19; 32]
			Root	Dried cortex, Crushed and Dec., Int.	[72]
				With seed, Eaten and Mush	[91]
<i>R. dumalis</i> Bechst. var. <i>boissieri</i> (Chepin) O. Nilsson	Rosaceae	Kuşburnu	Fruit	With seed, Eaten and Mush	[91]
<i>R. montana</i> Chaix subsp. <i>woronowii</i> (Lonacz.) Ö.Nilsson	Rosaceae	Kuşburnu	Fruit, Flower	Marmalade, juice and tea, Int.	[29]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>R. pimpinellifolia</i> L.	Rosaceae	Koyungözü, Atgötü	Fruit	Dec., Int.	[19; 22]
<i>R. villosa</i> L. subsp. <i>mollis</i> (SM.) Keller et Gams	Rosaceae	Kıllı kuşburnu	Fruit, Flower	Marmalade, juice and tea, Int.	[29]
<i>Rubus caesius</i> L.	Rosaceae	Böğürtlen, Mora, Fuska diken, Pamuk diken, Handuka, Fiskofi	Fruit	Marmalade, Compote, Int.	[29]
			Root	Cooked, Eaten	[56]
<i>R. canescens</i> DC. var. <i>canescens</i>	Rosaceae	Böğürtlen	Leaf and Fruit	Dec., Int.	[23]
<i>R. canescens</i> var. <i>glabratus</i> (Godron) Davis et Meikle	Rosaceae	Böğürtlen, Mora	Fruit	Marmalade, Compote, Int.	[29]
<i>R. discolor</i> Wheihe & Nees.	Rosaceae	Böğürtlen	Root	Dec., Int.	[28]
<i>R. sanctus</i> Schreber	Rosaceae	Böğürtlen	Leaf and Flower	Crushed, Ext.	[20; 21]
			Root	Dec., Int.	[92]
<i>R. saxatilis</i> L.	Rosaceae	Böğürtlen, Mora	Fruit	Marmalade, Compote, Int.	[29]
<i>Rumex crispus</i> L.	Polygonaceae	Adem eveliği, Evelik	Leaf	Inf., Int.	[19; 22]
				Crushed, Ext.	[86]
<i>R. obtusifolius</i> L. subsp. <i>subalpinus</i> (Schur) Celak.	Polygonaceae	Lapaza	Seed	Dried, Dec., Int.	[56]
<i>R. patientia</i> L.	Polygonaceae	Kuzukulağı	Fruit	Dec., Int.	[6]
			Leaf	Inf., Int.	[19]
<i>Rumex</i> sp.	Polygonaceae	Labada, İlibada	Seed	Dried, Dec., Ext.	[74]
<i>Salix alba</i> L.	Salicaceae	Söğüt	Leaf	+ <i>Hypericum perforatum</i> L., Dec., Ext.	[63]
<i>Salvia cryptantha</i> Montbret et Aucher ex Benth	Lamiaceae	Adaçayı, Çalba, Kayışkran, Kokulu ot, Sarı şabla	Aerial part	Inf., Int.	[30; 83]
<i>Sambucus ebulus</i> L.	Caprifoliaceae	Mürver, Otsu mürver, Cüce mürver, Ayı boğan, Şahmelek otu, Sultan, Piran, Lüver, Lor, Memer	Fruit	Mature, Swallowed	[11; 32; 93; 94]
				Eaten	[47; 56]
				Dec., Int.	[13; 32]
			Seed	Eaten	[24]
			Aerial part	Dec., Ext.	[32]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>S. nigra</i> L.	Caprifoliaceae	Patpatik, Mürver, Siyah mürver, Köpek üzümü, Lüver, Lor, Sultan, Piran, Piren, Sultanotu, Melikşah	Flower	Inf., Int.	[6]
			Fruit	Dec., Int.	[13]
				Mature, Swallowed	[11; 47; 63]
				Crushed, Ext.	[57]
<i>Scolymus hispanicus</i> L.	Asteraceae	Suluca diken	Seed	Dec., Enema	[42; 77]
				Inf., Int.	[13]
<i>Scutellaria orientalis</i> L. subsp. <i>pichleri</i> (Stapf.) Edmondson	Asteraceae	Suluca diken	Root	Without shell, Crushed, Eaten	[58]
<i>Scutellaria orientalis</i> L. subsp. <i>virens</i> (Boiss. & Kotschy.) Edmondson	Lamiaceae	Keselmahmut	Aerial part	Dried, Crushed, Dec., Int.	[38]
<i>Sideritis bilgeriana</i> P.H.Davis	Lamiaceae	Keselmahmut	Aerial part	Dried, Crushed, Dec., Int.	[38]
<i>Silene saxatilis</i> Sims	Lamiaceae	Boz şabla, Kekik çayı, Yayla çayı	Aerial part	Inf., Ext.	[4]
<i>S. vulgaris</i> (Moench) Garcke	Caryophyllaceae	Mayasıl otu, Zembil, Gelin parmağı, Has pancarı	Leaf	Inf., Int.	[90]
<i>Silybum marianum</i> L.	Caryophyllaceae	Mayasıl otu, Zembil, Gelin parmağı	Leaf	Inf., Int.	[90]
<i>Solanum melongena</i> L.	Asteraceae	Deve diken	Flower	Dried, Smoked	[44]
<i>S. nigrum</i> L.	Solanaceae	İt üzümü	Fruit stalk	Dec., Int.	[74]
			Root	Burned, Embers, Ext.	[52]
<i>Sorbus aucuparia</i> L.	Solanaceae	İt üzümü	Leaf, Flower and Sprout	Inf.	[49]
<i>Stachys arvensis</i> L.	Rosaceae	Üvez	Fruit	Raw, Eaten	[13]
<i>Telephium imperati</i> L. subsp. <i>orientale</i> (Boiss.) Nyman	Lamiaceae	Karabaş, Koca soğulcan	Aerial part	Dried, Dec., Int.	[11; 12]
<i>Terminalia chebula</i> Retz.	Caryophyllaceae	Mayasıl otu	Leaf	Dec., Ext.	[19; 86]
<i>Teucrium chamaedrys</i> L.	Combretaceae	Karahelile	Seed	Not stated	[89; 95]
	Lamiaceae	Kısa mahmut, Mayasıl otu, Sancı otu	Aerial part	Inf., Int.	[4]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>T. chamaedrys</i> L. subsp. <i>chamaedrys</i>	Lamiaceae	Bodurmahmut, Sancı otu, Çoban sargısı, Kısacık mahmut, Mayasıl otu	Leaf, Flower Aerial part	Inf., Int. Crushed, Inf., and Dec., Int. Dec., Int. and Ext.	[27] [32; 53] [78]
<i>T. chamaedrys</i> L. subsp. <i>sinuatum</i> (Celak.) Rech. Fil.	Lamiaceae	Dağ kekiği	Aerial part	Inf., Int.	[6]
<i>T. chamaedrys</i> L. subsp. <i>tauricum</i> Rech. Fil.	Lamiaceae	Dağ kekiği	Aerial part	Inf., Int.	[24]
<i>T. parviflorum</i> Schreber	Lamiaceae	Dağ kekiği	Aerial part	Dec., Int.	[6; 19]
<i>T. polium</i> L.	Lamiaceae	Yavşan, Mayasıl otu, Acı ot, Ak sedef otu, Basur otu, Meryem otu, Sancı otu, Koyun otu, Bozot, Acı yavşan, Oğlan otu, Oğul otu, Peryavşan, Tiksinik otu	Leaf, Branch and Flower Stem Aerial part	Inf., Int. Dec., Int. and Ext. Dried, Dec., Int. Dried, Crushed, + <i>Vitis vinifera</i> L. fruits, Eaten Dec., Ext. Inf., Int. Crushed, +Honey, Eaten	[79; 82; 89] [27] [19; 71; 78; 96] [96] [44; 78] [14; 55; 64] [64]
<i>Thuja arborvitae</i> L.	Cupressaceae	Mazı	Leaf	Not stated	[89]
<i>Thymus fallax</i> Fisch. & C.A. Mey.	Lamiaceae	Catri	Leafy young branch Leaf	Dec., Int. Raw, Eaten, Ext.	[72]
<i>T. leucostomus</i> Hausskn. & Velen. var. <i>leucostomus</i>	Lamiaceae	Paryavşan, Kekik	Aerial part	Inf., Int.	[70]
<i>Thymus</i> sp.	Lamiaceae	Kekik, Kesik otu	Aerial part	Dec., Int.	[28]
<i>Tribulus terrestris</i> L.	Zygophyllaceae	Deve çökerten, Demir diken, Deve diken, Çoban çökerten	Aerial part Oil Leaf and Fruit	Dec., Int. Dec. and Inf., Int. Ext. Inf., Int.	[8] [33] [27] [49; 61]
<i>Trifolium ambiguum</i> Bieb.	Fabaceae	Alma otu, Eşek yoncası, Üç kulak otu	Aerial part	Dec., Int.	[22; 19]
<i>Trigonella foenum-graecum</i> L.	Fabaceae	Çemen	Seed	Oil	[76]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>Ulmus minor</i> Miller subsp. <i>canescens</i> (Melville) Browicz et Zielinski	Ulmaceae	Kara ağaç	Root	Shell, Dec., +Wheat, Mush, Ext.	[30]
<i>Urtica dioica</i> L.	Urticaceae	Isırgan otu, Kırsos, Isırgan, Acı ısırgan, Büyük ısırgan otu, Sırgan, Erkek çakır, Eşek çakırı, Eşek ısırganı, Dalagan, Gizirkan, Deli ısırgan	Aerial part	Dec., Int. Dried, Inf., Int. and Ext., Enema Inf., Int. + <i>Mentha longifolia</i> (L.) Huds., Dec., Int. and Ext. +Honey, Eaten	[13; 20; 21; 28] [42] [14; 31; 42] [78]
			Seed	+Honey, Eaten	[29]
			Leaf	+ <i>Phyllitis scolopendrium</i> (L.) Newn., Dec., +Honey, Int. Dec., Int. Dec. and Inf., Int.	[11] [62]
			Whole plant		[61]
<i>Urtica</i> sp.	Urticaceae	Isırgan	Seed	Inf., Int.	[60]
<i>Verbascum cheiranthifolium</i> Boiss. var. <i>cheiranthifolium</i>	Scrophulariaceae	Balık otu, Sığırkuyruğu	Leaf	Dec., Int. Ext.	[6] [38]
			Aerial part	Dec., Int.	[71; 81]
			Flower and Sprout	Dried, Dec., Int.	[96]
			Root and Base leaf	Dried, Crushed, Dec., Int.	
<i>V. dudleyanum</i> (Hub.-Mor.) Hub.-Mor.	Scrophulariaceae	Sığırkuyruğu	Flower, Leaf	+Sugar, Dec.	[26]
<i>V. glomeratum</i> Boiss.	Scrophulariaceae	Sığırkuyruğu	Leaf and Flower	Inf. and Dec., Int.	[53]
<i>V. lasianthum</i> Boiss. et Benth	Scrophulariaceae	Sığırkuyruğu, Yalangı, Yılangı	Flower	Inf., Int.	[30; 83]
			Root	Dried, Crushed +Raisins, Eaten	[43]
<i>V. oreophilum</i> C.Koch var. <i>joannis</i> (Bordz.) Hub.-Mor.	Scrophulariaceae	Masicerk	Aerial part	Dec., Int.	[38]
<i>V. pyramidatum</i> M. Bieb.	Scrophulariaceae	Masicerk	Aerial part	Dec., Int.	[38]

Table 1 (Continued). The plants used in traditional treatment against hemorrhoids in Turkey.

Botanical name	Family	Local name	Plant part used	Preparation, administration and use	Ref.
<i>V. sinuatum</i> L. var. <i>adenosepalum</i> Murb.	Scrophulariaceae	Sığırkuyruğu	Leaf	Dec., Int.	[6]
<i>Verbascum</i> sp.	Scrophulariaceae	Sığırkuyruğu, Tozluk, Tozkulak, Calba	Aerial part	+Tavşan otu (<i>Heracleum platytaenium</i> Boiss.) aerial part, Inf., Enema	[42]
			Flower	Inf. and Mush Int.	[33]
			Flower	Dec., Sediment Ext.	[7]
<i>V. speciosum</i> Schrader	Scrophulariaceae	Kabalak, Ayılahanası	Flower	Inf., Int.	[47]
			Root	Like a pill Swallowed	
<i>V. thapsus</i> L.	Scrophulariaceae	Sığırkuyruğu	Branch, Stem, Flower	Inf., Int.	[29]
<i>Verbena officinalis</i> L.	Verbenaceae	Basur otu, Basır otu	Aerial part	Dried, Crushed, Eaten	[71]
				Dec., Int.	
				Raw, Eaten	
				Ext.	
<i>Viscum album</i> L.	Loranthaceae	Ökse otu, Gövelek, Gövem	Whole plant	Dec., Int.	[11]
			Leafy branch	Dec. and Inf., Crushed, +Water, Mac.	[53]
<i>V. album</i> L. subsp. <i>album</i>	Loranthaceae	Ökse otu, Yapışkan ot, Çeküm	Whole plant	Dec., Int.	[6]
			Leaf	Inf., Int.	[64]
				Dried, Inf., Int.	[81]
				Dec., Ext.	[19]
<i>Vitex agnus-castus</i> L.	Verbenaceae	Hayıt	Seed	Dec., Int.	[58]
<i>Vitis sylvestris</i> L.	Vitaceae	Asma, Üzüm	Fruit, Leaf	Raw and Dec., Int. and Ext.	[17]
<i>V. vinifera</i> L.	Vitaceae	Üzüm	Fruit	Swallowed	[64]
<i>Xanthium strumarium</i> L.	Asteraceae	Domuz pıtrağı	Fruit	Mush, Int.	[33]
<i>Zea mays</i> L.	Poaceae	Mısır, Lazut	Stylus	Dec., Int.	[35]
				Inf., Int.	[86]

Int.: Internal, Ext.: External, Dec.: Decoction, Inf.: Infusion, Mac.: Maceration

2. MATERIALS AND METHODS

This study has been prepared by searching thesis at the National Higher Education Center and ethnobotanical surveys conducted in various parts of Turkey with selecting regional plants used for hemorrhoids treatment. Our study includes ethnobotanical surveys made after 2004. The surveys prepared before 2004 were reported by Gürhan G. and Ezer N. [3].

3. RESULTS

This study, prepared by screening of ethnobotanical researches, revealed 241 taxa belonging 62 families that were used against hemorrhoids among the population. These plants are mainly from Asteraceae (40 taxa), Lamiaceae (23 taxa), Rosaceae (19 taxa), Scrophulariaceae (12 taxa), Araceae (8 taxa), Polygonaceae (8 taxa) and Cupressaceae (7 taxa) (Figure 1). The most common species in ethnobotanical studies in different parts of Turkey are *Achillea* sp., *Arum* sp., *Cichorium intybus* L., *Dracunculus vulgaris* Schott, *Ecballium elaterium* (L.) A. Rich., *Ficus carica* L., *Hypericum perforatum* L., *H. scabrum* L., *Juglans regia* L., *Peganum harmala* L., *Rosa canina* L., *Rubus* sp., *Sambucus ebulus* L., *S. nigra* L., *Teucrium polium* L., *Urtica dioica* L., *Verbascum* sp. Our study includes 178 different taxa than previously reported [3].

Plant parts such as leaves, flowers containing volatile oil are prepared as infusion; seeds, roots are prepared as decoction; or they are prepared in form a pill. These forms are used internally. It is used externally by preparing mush, sitting in its vapour or preparing a bath.

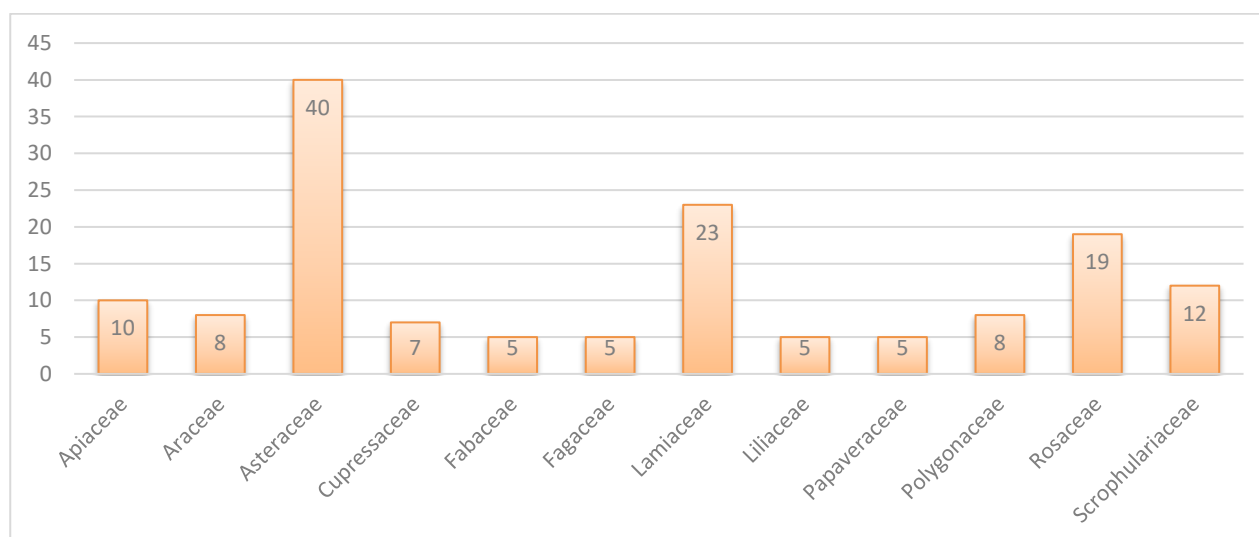


Figure 1. Main families used in traditional treatment against hemorrhoids in Turkey.

It is estimated that plants are used in hemorrhoids treatment because of their analgesic, antiinflammatory, antimicrobial, antiseptic, wound healing and vitamin P effects. Plants rich with flavonoid compounds (eg. *Sambucus* sp., *Rosa canina*, *Rubus* sp.) have vitamin P activity. Due to vitamin P effect, flavonoids strengthen the vessel walls, reduce capillary vascular permeability and prevent bleeding. Owing to this effect, capillary hemorrhages seen in hemorrhoids can be reduced. It is thought that hemorrhoid complaints can be healed with wound healing compounds (including plants eg. *Achillea* sp., *Arum* sp., *Dracunculus vulgaris*, *Ecballium elaterium*, *Ficus carica*, *Hypericum* sp.); analgesic, antiinflammatory compounds (including plants eg. *Salix alba*, *Cichorium intybus*); antimicrobial, antiseptic compounds (including plants eg. *Peganum harmala*, *Teucrium polium*, *Urtica dioica*, *Verbascum* sp.) [97; 98; 99; 100]. More detailed studies on the chemical components and biological activities of plants used in hemorrhoids treatment can be made. We hope that our study will contribute on the development of new drugs to be used in the treatment of hemorrhoids.

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