



Ustukhuddoos (*Lavandula Stoechas*): the Blessed Herb

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ABSTRACT

Ustukhuddoos has been used as a healing agent since ancient times. Renowned Unani physicians Jalinus and Desqueredus discovered varied medicinal properties of this plant origin drug. They recommended using this drug, especially in cerebral disorders. *Lavandula stoechas* Linn. belongs to Lamiaceae / Labiatae family. This is an evergreen shrub usually grows to 30-100 cm in height. The leaves are 1-4 cm long, greyish and tomentose. The flowers are pink to purple in color appear in late spring and early summer season. In Unani Medicine, it is commonly known as Ustukhuddoos. Unani literatures has mentioned many pharmacological actions of this drug such as Kasir-e-Riyah (Carminative), Mufatteh (Desiccative), Munzij (Attenuent), Muhallil (Resolvent), Mulattif (Demulcent), Muqawwi(Tonic), Munaqqi(Purifier), Jaroob-e-Dimagh (brain scavenger), Daf-e-Sauda (evacuation of black bile), Da-fe-Tashannuj (anti-convulsant), Mufarrahe-Qalb-Wa-Dimagh (exhilarant of heart and brain), Muqaww-i-Aasab (nervine tonic) etc, and it is used in several ailments such as Zof-e-Dimagh, Nisyan (dementia), Malankholia (malancholia), Waja al qalb (angina pectoris), Suda-e-Muzmin (a chronic headache), Faliq (paralysis), Laqwa (facial paralysis) etc. Many scientific studies have been proved that Ustukhuddoos is significantly useful in several neurological disorders such as anxiety, depression, convulsions and cerebral ischemia etc. The present review is an attempt to portray this wonder drug Ustukhuddoos in the light of scientific studies carried out.

Keywords: Kasir-e-Riyah; Mufatteh; Munzij; Mulattif; Munaqqi, Muqawwi-e-Asab Jaroob-e-Dimagh.

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INTRODUCTION

Lavandula stoechas is a plant of the *Lamiaceae* family that is widely used in folk medicine in different parts of the world. *Lavandula stoechas* also called Arabian or French Lavender. Plant of *Ustukhuddoos* is commonly cultivated in Arab and some of the middle countries of East, France, and Italy. Nowadays it is also cultivated in other tropical areas of the world. The whole herb or its flowers alone are used medicinally as described in ancient Unani literature. The odour of the herb is like camphor. Stoechas came from the Unani word Stecadas, the name of the Iceland where the herb cultivated, which is named Ustukhuddoos in Arabic. It has been mentioned in the book of *Dioscoridus* (70 AC) ¹.

MATERIALS AND METHOD

Review material collected from the different ancient Unani books, PG Dissertation, online authentic research Journals & different websites and summarized with the help of computer.



Synonyms ^{2,3,4,5,6,7,8,9}

Botanical Name: *Lavandula stoechas*

Family: Lamiaceae/Labiatae

Common English Name: Arabian Lavender, Bush Lavender, Butterfly Lavender

Urdu: Jaroob-e-dimagh

Hindi: Dharu

Farsi: Ustukhudoos

English: French lavender

Arbic: Unsul-Arwah, Mumsik-Arwah, Arshameesa, Arshaneesa, Astuhodus, Halhaal, Moqif Rwah, Meharga Sunbul Al-Ahaaniya, Ustookhudoos, Washa'i Al-Shaikh

Saryani:	Sanjawas
Marathi:	Alphajan
Bengali:	Tantane
Gujarati:	Lavendra-na-phula
Berber:	Amezzir, Timerza, Imezzir
Chinese:	Xun Yi Cao
Danish:	Sommerfuglelavendel, Vælsk Lavendel
Dutch:	Frans Lavendel, Kuiflavendel, Stechas Lavendel, Stechas Sort
Finnish:	Tupsupäälaventeli
French:	Lavande, Lavande Maritime, Lavande Papillon, Lavande Stéchade, Lavande Stéchas, Lavande À Toupet, Stoechas Arabique
German:	Ährenförmiger Lavendel, Schopf-Lavendel
Hungarian:	Spanyol Levendula
Italian:	Lavanda Di Monte, Lavanda Selvatica, Lavanda Stoechas.

Description in Unani Literature

Perennial shrub up to 90 cm in length and Grey-tomentose. It is an aromatic plant; outer surface of the root is rough. Leaves linear, entire, sessile with somewhat revolute margins and resembles to the leaves of Pudina. Flowers are lavender in colour, about 4 mm in diameter, long on dense short-peduncle spikes with terminal tuft of large purple bracts. Flower situated in the axial of downy, heart shaped bracts. Seeds are small and yellowish grey in colour, rubbing of seeds odour like camphor^{1,3, 8,10.}

Botanical Description

An evergreen shrub from 1/2-1 m in length. The narrow, linear, stalk less leaves are un-toothed, with (rolled) margins, usually giving a grey-green overall appearance. On spikes flowers are born in the axial of quite large, rhomboid, acuminate, leafy bracts. The bracts have prominent veins and measure 6.5-8.5 mm in breadth in the middle. The flowers are tubular, shortly stalked measuring 7-9mm in length with prominent veins. The calyx is tubular, not cleft but bears at its mouth single, tongue like ovate tooth at the back. It bears along its length 13 prominent nerves. Also, it bears on its surface dense tomentum of branched, stellate hairs and minute glands. A four chambered disc with 4 seeds is present at the base. The seeds are smooth and ovate in shape, measuring 1.4-1.5 mm in length and 0.9mm in breadth in the middle^{8.}

Habitat and Distribution:

Found in the canaries, Portugal and East ward throughout the Mediterranean region to Istanbul and Asia minor. Perennial, flowering occurs in June-July⁸.

Chemical Constituents:

The components are 67.29% are oxygenated monoterpene derivatives and 15.3% are hydrocarbons monoterpene. It seems that the components of the essential oil of *L. stoechas* are monoterpenes. The major components of this oil are: linalyl acetate (15.26%), linalool (10.68%), 1,8-cineol (10.25%), γ -terpinene (11.2%) and camphor (11.25%). Sun and Sun (2002) compared the chemical constituents of essential oils of *Lavandula* obtained by various methods of extraction. They found that the linalyl acetate (35.44%) and the linalool (18.70%) are prevalent in the essential oils obtained by steam distillation, while their values are respectively 2.63 and 4.04% in the case of solvent extraction; 36.80 and 43.47% in the case of extraction by microwave. The other constituents are alpha-pinene, beta-pinene, camphene, eucalyptol, para-cymene, linalol, borneol, borneol acetate, carvacrol, iso-eugenol, iso-eugenol-methylether^{11,12}.

Mizaj:

Hot 1 and dry 2, Hot 1 and Dry 1, Hot 2 and dry 2^{4,7,8,13,14,15}.

Parts Used:

Whole herb or its flowers⁶.

Function and Uses:

Kasir-e-Riyah (Carminative), Mufatteh (Desiccative), Munzij (Concoctive), Muhallil (Resolvent), Mulattif (Demulcent), Muqawwi (Tonic), Munaqqi (Purifier), Muqawwi-e-Asab (Nervine tonic)⁸.

Therapeutic Uses:

Used for treatment of Flatulence and gastric problems Most of the Unani physician described, it is used for treatment in various ailments, it evacuates abnormal humors from the brain, it is also useful in all kind of Headache, Sinusitis, Bell's Palsy, Hemiplegia, Epilepsy, Depression, Mania, Vertigo, , and in all other complains of brain arising from Cold humors. . This drug is used in the management of ascitis and arthtitis. It protect the Urinary tract and prevents from infection. Use of this drug has a significant result in the maintenance of black hair. It is extensively is recommended as an alexipharmic for different type of poison whether ingestion or a bite from insect^{1,3,4,5,8,10,14}.

Dose: 5-7 gram^{7,10,14,15}.

Adverse Effect: Nausea and vomiting⁷.

Corrective: Kateera^{8,14}, Sikanjabeen¹³.

Alternative: Akash bail^{8,14}.

Important Formulation:

Itrifal Ustukhudoos, Itrifal Aftimoon, Majun Najah, Majun Khadar ^{6,7,10}

SCIENTIFIC RESEARCH

1. Extracts from *Lavandula* plants have been found to cause antimuscarinic effects by blocking sodium and calcium ion channels in in vitro and in vivo studies. Extracts from *Lavandula* plants have been found to cause antimuscarinic effects by blocking sodium and calcium ion channels in in vitro and in vivo studies ¹⁶.
2. All the extracts except sarsaparilla showed different degrees of anti-oxidant activity. Lavender and myrtle at 200 µg/mL decreased cell viability by 63% and 59%, respectively, after 3 h of incubation. Neutrophil elimination through apoptosis could be implicated in the resolution of acute inflammation in the case of lavender, whereas the reduction of reactive oxygen species produced by neutrophils, such as the superoxide anion and the hydroxyl radical, could be implicated in the overall reduction of inflammation. These results may support the traditional use of these plants ¹⁷.
3. Essential oils from the stems/leaves (L) and flowers (F) of *Lavandula stoechas* L. ssp. *stoechas* growing wild in southern Sardinia (Italy) were extracted by hydrodistillation and analyzed by gas chromatography coupled with flame ionization detector and ion trap mass spectrometry. The major compound was fenchone, accounting for, on average, 52.60% in L and 66.20% in F, followed by camphor (13.13% versus 27.08%, in L and F, respectively). F essential oil yields (volume per dry weight) decreased from the beginning to the end of the flowering stage, whereas L yields remained constant during the year. The essential oils were tested for their antifungal activity using the paper disk diffusion method. The essential oils tested were effective on the inactivation of *Rhizoctonia solani* and *Fusarium oxysporum* and less effective against *Aspergillus flavus*. Among the single compounds tested, fenchone, limonene, and myrtenal appeared to be the more effective on the inhibition of *R. solani* growth ¹⁸.
4. An oil obtained from the dried leaves of *Lavandula stoechas* L. in 0.77% yield was analyzed by capillary GC and GC/MS. Fenchone (68.2%) and camphor (11.2%) were the main components of the 28 identified molecules. This oil has been tested for antimicrobial activity against six bacteria, and two fungi. The results showed that this oil was active against all of the tested strains; *Staphylococcus aureus* was the more sensitive strain ¹⁹.
5. Fractionation of ethyl acetate extract of *Lavandula stoechas* aerial parts revealed the presence of a novel acetylated glucoside (1) together with apigenin 7-O-glucoside (2) and

- luteolin 7-O-glucoside (3). The structures of these compounds were elucidated by spectroscopic analyses, notably UV, MS, and NMR ²⁰.
6. When tested in mice, LS (600 mg/kg) significantly reduced the severity and increased the latency of convulsions induced by pentylene tetrazole (PTZ). LS likewise reduced PTZ's lethality. LS up to a dose of 600 mg/kg was found devoid of any hypnotic effect in mice, however, animals were found to be dull, calm and relaxed. The sedative effect of the plant extract was confirmed, as it prolonged the pentobarbital sleeping time in mice similar to that of diazepam. In isolated rabbit jejunum preparations, LS caused a dose-dependent (0.1-1.0 mg/ml) relaxation of spontaneous contractions. LS also inhibited K(+)-induced contractions in a similar dose range, thereby suggesting calcium channel blockade. This effect was confirmed when pretreatment of the jejunum preparation with LS produced a dose-dependent shift of the Ca(2+) dose-response curve to the right, similar to the effect of verapamil, a standard calcium channel blocker. These data indicate that the plant extract exhibits anticonvulsant and antispasmodic activities. Its calcium channel blocking property may be mechanistically related to these activities. Its usefulness in folk medicine appears thus to be based on a sound mechanistic background ²¹.
 7. The both extracts of clove and lavender had effective reductive potential, free radical scavenging, superoxide anion radical scavenging, and metal chelating activities at all tested concentrations (20, 40, and 60 µg/ml). Those various antioxidant activities were compared to standard antioxidants such as BHA, BHT, and α-tocopherol. In addition, total phenolic compounds in the both extracts of clove and lavender were determined as gallic acid equivalent ²².
 8. The aerial parts of *Lavandula stoechas* subsp. *stoechas* afforded two longipinene derivatives one of which is a new compound. The structures were elucidated by spectral methods and the compounds identified as longipin-2-ene-7β,9α-diol- 1 -one and longipin-2-ene-7β,9α-diol- 1 -one 9-monoacetate ²³.
 9. Because of the lipophilic character of essential oils, the tube dilution method should be optimized for the detection of antibacterial activity of these plant extracts, and, therefore, emulsions containing 0.2% polysorbate 80 were prepared from the samples. In each of the eight investigated essential oils an inhibitory effect was detected, and MBC values were in the range 12.5-50 microL/mL in seven cases ²⁴.
 10. The principal compounds detected are: D-Fenchone (29.28%), α-pinene (23.18%), Camphor (15.97%), Camphene (7.83%), Eucapur (3.29%), Limonene, (2.71%) Linalool,

(2.01%) Endobornyl Acetate (1.03%). The essential oils also contained smaller percentages of Tricyclene, Cymene, Delta-Cadinene, Selina-3,7(11)-diene. Furthermore, we found that *Lavandula stoechas* essential oils significantly protected against the increase of blood glucose as well as the decrease of antioxidant enzyme activities induced by aloxan treatment. Subacute essential oils treatment induced a decrease of lipoperoxidation as well as an increase of antioxidant enzyme activities ²⁵.

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