

**AFSANTIN (*ARTEMISIA ABSINTHIUM* L.): A REVIEW**

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ABSTRACT

In Unani system of medicine *Afsantin* (*Artemisia absinthium* Linn.) is a popular drug, usually known as the Sage Brush or Worm wood, belongs to the *Asteraceae* family and it grows as a perennial herb with fibrous roots and occurs throughout the year. The medicinal value of this plant is related to whole plant. It exhibits various pharmacological actions such as Anthelmintic, stomachic, liver tonic and anti-inflammatory etc. The plant is widely used in chronic fever since ancient period. In inflammatory condition, it uses locally and orally. Due to its characteristic odour it used as plant spray against pests, also

acts as antidote of insects bite. In most of the problems it uses in form of decoction alone or with other suitable drugs. The aim of this paper is to explain and explore the medicinal properties of *Afsantin* the comprehensive way.

KEYWORDS: *Unani drug, Afsantin, Artemisia absinthium* Linn.

INTRODUCTION

The occurrence of side effects after a long term use of synthetic drugs is always feared during the treatment of chronic diseases. Such possibility is experienced to be negligible extent in the case of herbal drugs and other medicines obtained from the natural sources.^[1] These are some reasons, which led the global demand for herbal medicinal products has increased massively in the recent years. Natural products take part an essential role in drug development programs in the pharmaceutical industry.^[2] The history of herbal medicines is as old as

human civilization.^[1] *Afsantin* is one of important medicinal plant which is used since ancient period. Unani physicians like Dioscordiese, Galen and Razi are also described its medicinal properties.

Afsantin is a Greek word, used throughout Europe, the Middle East, North Africa, and Asia; commonly known as "Wormwood" or "*Vilayati Afsantin*" it is bitter, aromatic and shrubby plant, belongs to the *Asteraceae* family, found in Kashmir, Nepal and mountainous districts of India.^[3] It is a perennial plant and occurs throughout the year.^[4] Main source of the drug *Afsantin*, which consists of twigs, leaves and flower head.^[5] The plant is recognized by its characteristic odour which makes it useful for making a plant spray against pests.^[6] Herb yields an essential oil called Absinthe or worm wood oil which has a tonic effect on digestive organs, also use externally in rheumatism.^[5] It has astringent, deobstruent and a little dissolving properties, the therapeutic use is principally in hepatobiliary complaints and in helminths infestation. It is excellent appetizer, eliminate *saudavi* (black bile) and *safravi* (bilicious) matter from the body and cure chronic fever.^[7,8,9]

Description in Unani Medicine

Morphology

In Unani medicine *Afsantin* is described as a short and soft plant, which has numerous branches, leaves are looking as *Ushna* (*Usnia longissima*) or *Sa'tar*, (*Zataria multiflora*)^[7,8] flowers are small and whitish in colour like a *Gul-e-Baboona* (*Matricaria chamomilla*) and the intermediate part looking *zard* (yellowish). According to Abu Ubaid Bakri, the greyish white leaves are similar to *Gajar* (*daucus carota*) leaves, stems are small in size till the seed mature this variety is found in Egypt, known as *Damsheeshah*.^[8] There are many seeds, having strong smell and *Atriyat* (fragrance), sometime have bitter and astringent. According to *Hunain*, *Afsantin* is of many varieties. One is *Khurasani* (from Khurasan), another is *Mashriqi* (from the East), yet another is procured from the hills of Lakam, one is *Susi* and *Tarsusi* (from Sus or Tarsus).^[7] Besides ancient physicians, some other physicians to mark out five variety of *Afsanteen*, these are *Khurasani*, *Tarsusi*, *Susi*, *Romi*, *Nabti*, white colour *Romi* and *Tarsusi* variety known as best quality. Some physicians told *Afsantin Romi* is best quality. Jalinoos said all variety has bitter and astringent property.^[7,8,10]

Parts Used: Whole plant.^[7,8]

Pharmacological Properties Mentioned In Unani Literature *Mohallil-e-waram* (Resolvent), *Jali* (Detergent), *Qabiz* (Astringent), *Mulattif* (Demulcent), *Mujaffif* (Desiccant), *Mufatteh sudad* (Deobstruent), *Daf-e-humma* (Antipyretic), *Muqawwi-e-Meda* (Stomachic), *Muqawwi-e- Jigar* (Liver tonic), *Mudirr-e-Boul* (Diuretic), *MushtahiTaam* (Appetizer), *Qatil-e-kirm-e-shikam* (Anthelmintic).^[9,11,12]

Temperament

Hot 1⁰ and dry 2⁰.^[8,10,13]

Hot 1⁰ and dry 3⁰.^[4]

Therapeutic Uses Mentioned In Unani Literature

- *Afsantin eliminate safravi* (bilicious) matters from stomach and intestine, due to hot and having astringent power, gives strength to stomach, liver and improved appetite by removing unnatural humours, for this action extract or decoction of *Afsanteen* are more suitable.^[7,8,10,13] It gives relief in flatulence, intestinal colic and stomach pain either alone or along with *Sumbul romi* (*Valeriana officinalis*) and *Anjdan* (*ferrula asafoetida*).^[7,8,9]
- Decoction or syrup of *Afsantin* are effective in Anorxia, Jaundice, Ascitis, Anaemia with hypoproteinemia.^[7,8,10] It is used locally as plaster along with *Gil-e-Armani* (*Bole Armania rubra*) and *Shelam* (*Clevicep purpurea*) powder in the treatment of ascitis and splenomegaly.^[7,9]
- When *Afsantin* either alone or boiled with rice and administered with honey, it kills and expelled out different types of intestinal worm.^[7,8,10]
- Liniment of *Afsantin* powder formulated with *Roghan Hena* and Mom (wax) is effective in chronic pain of liver, stomach, uterus and resolves their hardness. It is also useful for hepatitis with *Aklil-ul-mulk* (*Trifolium indicum*) and *Roghan zaitoon* (olive oil). Liniment of *Afsantin* are also useful in haemorrhoids and anal fissure.^[8,9,11]
- Extract of *Afsantin* when regularly used for 10 days, helpful in the hemiplegia, *laqwah* (facial paralysis), epilepsy, chorea. It is effective in apoplexy when used orally and nasal rout.^[7,8,10,11] Along with vinegar it gives relief in joints pain which occurs due to hot *khilt* (Humour).^[7,9]
- Along with honey it brings fairness on face, removes dark circle below eyes and grow new hairs in alopecia, It gives relief in urticaria when applied locally after mixing with flour.^[7,9,8,9,11]

- It cures ecchymosis of the eyelids, when *Takmeed* (Fomentation) therapy applied on eye. also useful for chronic conjunctivitis, phlectanular conjunctivitis, eyes pain, low vision, and their inflammations.^[8,9,10,11]
- It gives relief in earache and also beneficial in otorrhoea, while inhaled vapours arising from decoction.^[7,9,10,11]
- It is helpful in internal diphtheria if applied on the palate with sodium nitrate, also beneficial for parotitis.^[7,9,10,11]
- Decoction of *Afsantin* and *Shekh Armani* (*Artemisia maritima*) kills brain's worm when used as inhalation.^[7,9,11]
- It acts as strong diuretic or emmenagogue especially when used as pessary with *Sikanjbeen* (hydromel) and removes yellow bile from renal tubules through urine and faeces.^[7,9,11]
- Extract of *Afsantin*, very useful for chronic fever.^[7,9,10,11]
- It prevents harmful effect if used before drinking wine.^[7,9,11]
- *Afsantin* acts as antidote for insect bite; mainly in scorpion bite it is very effective. It relieves choking of the throat caused by poisonous worms, particularly when used with vinegar.^[7,9,11]
- If *Afsantin* sprinkled in the box it protect cloths and books by termites and insects.^[7,9,10,11]
- If olive oil containing *Afsantin* applied on the body surface, it protect by mosquitoes bite.^[7,9,11]

Adverse Effect

Produce weakness in stomach and headache.^[9,11]

Correctives: *Anisoon* (*Pimpinella anisum*) *Mastagi* (*Pistacia lentiscus*) for cold temperament person and *Nilofer* (*Nymphaea alba*), *Sharbate Anar* for hot temperament person.^[9,11]

Substitutes: In liver disease *Halela* (*Terminalia chebula*) with *Asarun* (*Asarum europium*).^[11]

Recommended Dose: 4-9 gm.^[4,9]

Compound Formulations: *Itrifal Deedan*, *Arq-e-Afsanteen*, *Qurse Afsanteen*.^[4,14,15]

Description in Modern Literature

Botanical description

Artemisia, popularly known as the Sage Brush or Worm Wood, belongs to the *Asteraceae* family and grows as a perennial herb with fibrous roots.^[3,6] It is bitter, aromatic and shrubby plant, stem erect, angular, hoary and ribbed; leaves ovate to obovate, unequally hoary on both surfaces; flower heads heterogamous, numerous but hardly crowded, flower yellow,^[3] found in Kashmir, Nepal and mountainous districts of India, It grows naturally on non-cultivated, arid ground, on rocky slopes^[3,6], dried herb, leaves and flowering tops are used in medicine.^[16]

It has Anthelmintic, antiseptic, antidepressant, tonic, digestive, febrifuge, cholagogue, stomachic, deobstruent, diaphoretic action^[3,5,16], and used in various diseases like chronic fever, swelling and inflammation of liver, worm infestation^[3,5], gout, rheumatism, epilepsy, dyspepsia, nervous irritability.^[3,16]

Vernaculars Names^[4,5]

Arabic: Khatrak; **Persian:** Marwah Afsantin rumi; **Bengali:** Mastaru; **English:** Wormwood; **Hindi:** Vialayati Afsanteen; **Kannada:** Varuvalu; **Kashmiri:** Tethwan; **Malayalam:** Nipampala; **Tamil:** Machipattri; **Telugu:** Taritha; **Urdu:** Afsantin.

Botanical Name: *Artemisia absinthium* L.^[5,16,17]

Family: Compositae.^[5,16,17]

Phytochemistry

The plant contains volatile oil known as *Absinth* or Wormwood oil. The plant contains a bitter glucoside absinthin, a bitter substance anabsinthin, acrylline compound artemetin, artabsin, The oil contains thujone, cadinine, phellandrine, pinine, S-guiazulone^[3,18], tannic and resinous substances like malic and succinic acid hydroxybenzoic acids (e.g. benzoic, gentisic or p-anisic acids) and hydroxyl cinnamic acids (e.g. caffeic or ferulic acid conjugates, sinapic acid)^[6,3] several flavonols have been isolated from leaves of *A. Absinthium* and identified as quercetin, Myricetin, Kaempferol, isorhamnatin, patulatin, spinactin.^[6,18] Fresh wormwood is considered the best source of azulene; the yield of azulene has been reported to vary between 40 and 70 mg per cent.^[19]

Scientific Report

1. Hepatoprotective activities

A study was conducted to evaluate hepatoprotective activity of *Artemisia absinthium* L. Against chemically and immunologically induced liver damage in mice. The results demonstrated that the pretreatment with aqueous extract of *Artemisia absinthium* L. (AEAA) significantly and dose dependently prevented liver injury, and significantly reduced lipid peroxidation in liver tissue.^[18]

2. Anticoccidian activities

A study carried out by Kostadinovic L *et al.*, on heavy line broilers (*Arbor acres*) of both sexes. Plant extract of *Artemisia absinthium* L. were tested on chicken challenged with *Eimeriatenella*. The results founded that *Artemisia absinthium* extract can reduce the severity of coccidial infection induced by *Eimeriatenella*. The anticoccidian effects of *A. absinthium* extracts caused significant decrease in output number of oocysts per gram of faeces in chickens challenged with *Eimeriatenella*.^[20]

3. Antioxidant and Antidepressant activities

Methanolic extract of *Artemisia absinthium* aerial part at flowering stage was screened for anti oxidant and antidepressant activity determined by forced swimming (FST) and tail suspension tests (TST). The extract showed good antioxidant activity and also showed good antidepressant activity in FST. The extract shortened remarkably the immobility period during the FST and TST and exhibited a dose dependent activity.^[21]

4. Hypolipidemic activities

A study carried out for hypolipidemic effects of ethanol extract of *Artemisia absinthium* at two doses of 500, 1000 mg/kg in hypercholesterolemic fed rabbits. The extract induces a significant decrease in serum cholesterol, triglycerides and CK levels. The results concluded that *Artemisia absinthium* ethanolic extract have potent antihyperlipidemic activity in high cholesterol diet induced hyperlipidemia model and which is equipotent activity when compared with control group.^[22]

5. Anti-parasitic activities

A study was carried out in mice to examine direct effect of *Artemisia absinthium* extract in removing *syphacia* parasite, mice were treated with *Artemisia absinthium* extract 10 days after infection by orally inoculated with *syphacia* ova. It is concluded that *Artemisia*

absinthium was able to decrease the number of *sypthacia* parasite ova in mice with less pathophysiological effects.^[23]

6. Anti-inflammatory activities

A study was carried out in mice to assess the anti-inflammatory and anti-nociceptive activity of essential oil and aqueous extract of *Artemisia absinthium*. The anti-inflammatory activity was evaluated by carrageenan-induced paw oedema in mice.^[24] Analgesic activity was assessed by acetic acid-induced writhing, formalin and hot plate tests in mice. The essential oil and aqueous extract produced significant decreased number of writhing in acetic acid-induced writhing model and increased the response latency in hot plate test after 30 min.^[24] Both essential oil and aqueous extract significantly suppressed in a dose-dependent manner the nociceptive response in the formalin test, while the effect on the late phase was more pronounced. The essential oil and aqueous extract possesses excellent anti-inflammatory activity as well as anti-nociceptive properties especially peripheral analgesic.^[24]

7. Anthelmintic activity

A study was carried out by Tariq KA *et al.*, to evaluate the anthelmintic efficacy of crude aqueous and ethanolic extracts of the aerial parts of *A. absinthium* in comparison to albendazole against the gastrointestinal (GI) nematodes of sheep. The result was found Significant anthelmintic effects of both extracts on live adult *Haemonchus contortus* worms ($P < 0.005$) however, CEE were more efficacious than CAE. The oral administration of the extracts in sheep was associated with significant reduction in faecal egg output by the GI nematodes.^[25]

CONCLUSION

This review shows that *Afsantin* is an important medicinal plant immensely found in Kashmir, Nepal and mountainous districts of India and many other part of the world since ancient time. In Unani medicine, it has been successfully used as stomachic, anthelmintic, diuretic, deobstruent of liver and spleen, and antipyretic drug. Some of these activities have been scientifically evaluated and some are yet to be evaluated. It is recommended that preclinical and clinical studies should be conducted in order to prove its other actions which are still scientifically unexplored.

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