



# Cuscuta Reflexa (*Aftimoon*) review on medicinal utility in perspective of Unani Medicine

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## Abstract

Cuscuta Reflexa, often referred to as *Aftimoon* in the Unani medical system, is a genus within the convolvulaceae family. Around 170 species of Cuscuta can be found widely throughout the world's temperate and subtropical regions. This genus's species are frequently employed as vital components in functional diets and conventional medical systems. It has been discovered that some parts of Cuscuta Reflexa are effective against a range of illnesses. *Aftimoon* is a parasitic plant that is used to treat a variety of mental ailments such as epilepsy and depression, as well as dermatological conditions such as vitiligo and pityriasis. A number of biologically active compounds like amarbelin, cuscutin, cuscotalin etc have been isolated and many physiologically active substances including amarbelin, cuscutin, cuscotalin and others have been identified. Numerous studies have documented the major and noteworthy pharmacological actions including anti-tumor, anti-inflammatory, antibacterial, and anti-cancerous properties on *Aftimoon*. The purpose of this work is to review and summarize the information found in the classical Unani literature as well as in the many scientific studies being done on Cuscuta reflexa. The goal is to produce data based on evidence that will support future research endeavours.

**Keywords:** *Aftimoon*; cuscuta reflexa; Unani system of medicine; Vitiligo

## Introduction

Plant-based medicines are an integral part of virtually all cultures since immemorial times. The journey of information from prehistoric texts to various indigenous folklores and modern preparations have witnessed the presence of bioactive metabolites with therapeutic potential in these herbs.<sup>1</sup> Although it is a plant parasite and is harmful as it destroys the plant on which it is inhabitant but it has great healing properties as a medicine. Cuscuta accumulates alkaloids and also other active metabolites from the plant that it hosts. It comprises of various alkaloids, glycosides, flavanoides etc. It contains active compounds like amarbelin and kaempferol; stem has cuscutin, cuscotalin, bergenin, beta-sitosterol, luteolin and kaempferol.<sup>2</sup>

The genus *Cuscuta* L. commonly known as dodder is one of the essential herbal constituents of pharma foods and curative tonics that are frequently prescribed to nourish various body parts. It is

used to enhance the nutritional value of porridge and alcoholic beverages . The genus has a rich history of folk medicinal uses, and numerous phytoconstituents of therapeutic value have been isolated and identified. Various species are indigenously used to cure fits, melancholy, insanity, fertility problems, tumors, scabies, eczema.<sup>3</sup> *Cuscuta reflexa* Roxb., is commonly called *Aftimoon* or *Kasoos* in the Unani System of medicine the seeds are known as *Tukhm-e Kasoos*. In the Unani medicine, the aerial parts of the plant are typically used in a dried form. Peculiarly fragrant, reddish and thin stemmed *Aftimoon* is considered to be of the highest quality. It has been advised in number of ailments by the renowned Unani physicians since ancient times. The Unani system successfully uses the plant in the diseases like *Amraz-i-Sawdāwī wa Balghamī* (Diseases of black bile and phlegm), *Amraz-i-Dimaghi wa A'sabi* (Diseases of nervous system), *Junoon* (Mania) and *Sara* (Epilepsy) *Zofe Kabid* (liver debility) *Warm-i-Kabid* (Hepatitis) and *Sartān* (cancer)<sup>4,5,6</sup>



Figure 1. Aftimoon: Fresh and dried<sup>7</sup>

#### Scientific classification<sup>8,9</sup>

|                |                             |
|----------------|-----------------------------|
| Kingdom        | Plantae                     |
| Sub-kingdom    | Tracheobionta               |
| Super division | Spermatophyta               |
| Division       | Magnoliophyta               |
| Class          | Magnoliopsida               |
| Subclass       | Asteridae                   |
| Order          | Solanales                   |
| Family         | Cuscutaceae (dodder family) |
| Genus          | <i>Cuscuta</i> L.           |
| Species        | <i>Cuscuta reflexa</i>      |

#### Vernacular names<sup>5,10</sup>

|          |                                      |
|----------|--------------------------------------|
| English  | Dodder                               |
| Unani    | Aftimoon                             |
| Arabic   | Kasus, Shajarus'sabagh, sharulzabiha |
| Persian  | Aftimoon, Tukhm-e-kasus              |
| Unani    | Aftimoon, kasoos                     |
| Hindi    | Akashbela, Amarbela                  |
| Sanskrit | Amarvela, akashavalli, Amaravallari, |
| Punjabi  | Nilathari                            |
| Marathi  | Nirmuli                              |
| Telugu   | Savarapukada, sitana purgolalu       |
| Tamil    | Kodiyagundal, Sadadari               |
| Bengali  | Algusi                               |
| Gujrati  | Akaswel, Amarabel                    |

#### Distribution and botanical description<sup>11</sup>

*Cuscuta*, a flowering parasitic genus was previously placed in the Convolvulaceae family, but later it was segregated as the separate family Cuscutaceae. Global distribution record indicates that most of the species are concentrated in tropical and subtropical areas and fewer in temperate regions. This parasitic genus is known by many common names such as dodder, gold-thread, hair-weed, devil's hair, hell-vine, strangle-vine, love-vine, pull-down, etc. in different regions of the world. Medicinally important species are *C. reflexa* Roxb., *C. chinesis* Lam, *C. japonica* Choisy, *C. australis* R. Br., *C. europaea* Linn., *C. gigantea* Griff., *C. hyalina* Roth., *C. campestris* Yuncker.

*Cuscuta* species are holophrastic, annual or perennial, herbaceous vines. The thread-like slender, twining stems have orange, red, or yellow color. Majority of the members have achlorophyllous, scaly leaves while some of them are with reduced synthetic apparatus and can perform localized and limited photosynthesis. Bisexual flowers in multiple colors like cream, yellow, white, and pink are pollinated by insects.

#### Parts used: (*Ajza i mustsmila*)<sup>6,12</sup>

Whole plant, stems and seed.

#### Temperament (*Mizāj*)<sup>6,13</sup>

Hot and dry with a variation in the degree of hotness and dryness as described according to renowned Unani physicians.

#### Dosage (*Miqdar Khuraq*)<sup>13</sup>

3gm to 21 gm

#### Toxicity (*Muzir*)

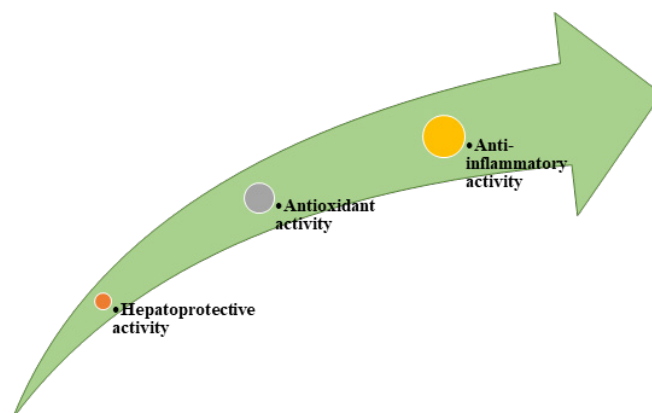
Harmful for people with condition of hot temperament as it may cause irritability, nausea and vomiting. It is also harmful for lungs. *Aftimoon* due to its basic temperament causes dryness of mouth, irritability and thirst. Therefore, correctives are advised to be used along with the intake of drug.

#### Correctives (*Musleh*)<sup>14</sup>

- *Kateera* (Tragacanth gum)
- *Zafran* (Crocus sativus)
- *Kasni* (Cichorium intybus)

#### Pharmacological actions and Therapeutic uses in Unani<sup>6,14</sup>

It is a good purgative for *Balgham* (phlegm), *Sawdā* (black bile) and *Safrā* (yellow bile) and is useful in different ailments arising due to derangement of *Akhlat* (humors) specially *Sawdā* (black bile) and *Balgham* (phlegm) as mentioned in classical Unani texts. It is found useful in management of *Malikholia* (Melancholia), *Sara* (Epilepsy), *Kaboos* (Nightmare), *Falij* (Paralysis), *Laqwa* (Facial paralysis), *Khadar* (Numbness), *Waswas* (Anxiety), *Mania*, *Junoon* (Schizophrenia) and various skin disorders due to its property of being *mushil-i- Sawdā* (black bile) and *mushil-i- Balgham* (phlegm), *musaffi -i-dam* (blood purifier), *mufatteh sudad* (deobstruent) and *muqawwi* (tonic).



#### • Hepatoprotective activity

Hydroalcoholic extract of *C. reflexa* showed hepatoprotective activity in albino rats against paracetamol induced hepatic damage and act as hepatoprotective agent<sup>15</sup>

#### • Antioxidant activity

In vitro antioxidant activity of *Cuscuta reflexa* stems were investigated by estimating the degree of non enzymatic haemoglobin glycosylation. Ethyl acetate and ethanol extract showed higher activity than other fractions, and very close and identical in the magnitude and comparable to the standard antioxidant agents.<sup>16</sup>

### • Anti-inflammatory activity

Alcoholic and aqueous extract of Cuscuta reflexa stem has anti-inflammatory activities. A fraction collected from aqueous extract was analyzed in in-vitro and anti-inflammatory activity was observed in murine macrophage cell line RAW264.7, using lipopolysaccharide (LPS) induced inflammatory reactions. The expression level of key genes like COX-2 and TNF $\alpha$  was analyzed. The expression of these two genes induced significantly when cell was treated with LPS as compared to the control. Cell treated with the alcoholic extract of Cuscuta reflexa was able to reduce the expression level of these two important genes, which are playing crucial role in inflammation. These results indicate its efficacy in protecting the cells from acute inflammation.<sup>17</sup>

## Discussion and Conclusion

The findings above demonstrated how comprehensively the numerous pharmacological activities of Cuscuta reflexa have been reviewed in the article. Cuscuta reflexa, a parasitic plant, is a very promising drug that may be used to treat a variety of illnesses in Unani medicine. Although there is a wealth of information on applications and pharmacological activity in the Unani traditional literature, further research is needed by conducting trials and offering the patients significant healing from natural sources. This article reviewed the literature about *Aftimoon* in detail for its pharmacological characteristics and traditional uses thereby In order to highlight, illustrate, and advance our understanding of *Aftimoon*'s pharmacological properties and traditional applications, this article thoroughly researched the literature. Although clinical evidence and published data in the field of Unani medicine have yet to be achieved in terms of evidence-based scientific studies, traditional medicines, such as the Unani medicine system, have been using this plant as medicine in the form of single and compound formulation since ancient times. This is based on well-established literature and its use based on experience by various renowned Unani scholars suggesting its effectiveness illustrating, focusing and enhancing the knowledge about its efficacy and effectiveness. Traditional medicines, like the Unani medicine system, have been using this plant as medicine in the form of single and compound formulation since ancient times based on well-establishes literature and its use on the basis of experience by various Unani eminent physicians suggesting its effectiveness. However, clinical evidence and published data in the field of Unani medicine has yet to be achieved in terms of evidence based scientific studies.

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