



**ORIGINAL RESEARCH PAPER**

**Unani Medicine**

**THERAPEUTIC POTENTIAL HEALTH BENEFITS OF AJWAIN (TRACYSPERMUM AMMI L.)**

**KEY WORDS:** Ajwain, Unani, Traditional

<b>Dr Rahat Raza</b>	Research Officer(Unani),RRIUM,Ministry of AYUSH,New Delhi.
<b>Dr Danish K Chishti</b>	Research Associate(Unani),RRIUM,Ministry of AYUSH,New Delhi.
<b>Dr Rashidullah Khan</b>	Research Officer(Unani),RRIUM,Ministry of AYUSH,New Delhi.
<b>Dr Mohammed Sajid</b>	Technical Officer(Unani),RRIUM,Ministry of AYUSH,New Delhi.

**ABSTRACT**  
 Ajwain is highly valued in Unani as a gastrointestinal remedy and as an antiseptic. It is mixed with salt and hot water and brought after meals to alleviate bowel ache or colic and to enhance digestion. Ajwain is also a conventional treatment for cholera and fainting spells. Westerners typically use it for coughs and throat problems. It is also a component in mouthwashes and toothpastes because of its antiseptic homes. The volatile oil present within the seeds of ajwain is one of the predominant components accountable for imparting a normal taste, attributable to the presence of thymol. It also incorporates a cumene and terpene. The methanolic extracts of ajwain seeds possess herbal antioxidant properties. However, the acetone extract showed higher antioxidative hobby for linseed oil compared to synthetic antioxidants consisting of butylated hydroxy toluene and butylated hydroxy anisole. Ajwain oil exhibited a vast spectrum of fungitoxic behavior towards all tested fungi. Immediate research should focus on validating the antioxidant capability of herbs and spices after harvesting, in addition to testing their consequences on markers of oxidation.

**INTRODUCTION**

Known as Ajwain, *Trachyspermum ammi* (L.) Sprague is an annual herbaceous plant belonging to the distinctly valued medicinally vital own family, Apiaceae [1]. It is stated that the herb is extensively grown in arid and semi-arid regions in which the soil involve excessive quantity of salts [2]. Ajwain has an erect and striate stem regarding glabrous or minutely pubescent properties which may also grow as much as 90 cm tall [3]. Ajwain is widely disbursed and cultivated in various regions such as Iran, Pakistan, Afghanistan, and India in addition to Europe at the same time as it is indigenous to Egypt [4]. The herb is commonly grown in October–November and must be harvested in May–June [5, 6]. Usually grayish brown seeds or fruits of Ajwain are taken into consideration for clinical and nutritional purposes [5].

Oral application of seed changed into pronounced to be beneficial for paralysis, tremor and palsy as well as different neural issues within the discipline of neurology [6]. Persian practitioners additionally applied the eye and ear drop formulated from seeds of Ajwain with a purpose to control the infected conditions and accurate the auditory weak point [7]. In the field of respiration, Ajwain become stated to be powerful on cough, pleurisy and dysphonia [8]. Fruits were widely administered for liver spleen in addition to gastrointestinal problems such as nausea, vomiting, reflux, belly cramps and lack of appetite [6]. They have been additionally stated to be useful in belly problems and own stimulant and carminative properties [7]. Ajwain changed into stated as an anthelmintic medicinal drug and also antidote for diverse natural poisonous agents [7]. It became also believed to be beneficial for dissolving the calculi and stones if focused on wine. Persian practitioners also taken into consideration the seeds as an aphrodisiac, galactagogue and diuretic agent [6].

**DISCUSSION**

Ajwain (*Trachyspermum ammi*) is a plant that produces small, seed-like fruits much like caraway and cumin. It comes from the Apiaceae circle of relatives, which is a collection of plant life that consists of celery, caraway, coriander, fennel, parsley, and parsnips. It goes by way of many different names, including carom seed, bishop’s weed, and ajowan caraway.

Ajwain extensively utilized every now and then as an element in barbered, a spice combination desired in Eritrea and Ethiopia [9, 10]. Ajwain is an annual herbaceous plant having 30-70 cm (1-2 ft) height, with feathery leaves and crimson plant life. Ripe seeds are dried and threshed [11, 12] manually and/ or routinely. Ajwain seed (fruit) is said to have antifungal/antibacterial, antiseptic and antihelminthic effects [13]. The essential phenolic compound thymol determined in ajwain has been pronounced to be an antispasmodic, germicide and antifungal agent [14]. The principle energetic elements of ajwain oil are phenols, particularly thymol (35-60%) and some carvacrol [15]. Both the phenols thymol and carvacrol are having antiseptic, expectorant and antitussive residences [16]. Thymol also has antiseptic pastime and carvacrol possesses antifungal homes.

Ajwain is not unusual in Indian food. It has a strong, sour flavor with an aroma just like thyme. The “seeds,” which can be truly culmination, are usually dry-roasted or floor and used in spice mixtures. They also are utilized in Unani and Ayurvedic remedy to help treat severa problems. These are recuperation structures that involve the notion that your ordinary fitness and wellbeing rely upon a balance among your body, thoughts, and spirit.

**Health Benefits [9-10]**

Ajwain seeds have a small amount of oil in them known as ajwain oil. The oil includes thymol, a phenol that offers the fruit its thyme-like scent. Thymol is usually used to treat digestive problems. It also has antifungal and antibacterial residences.

**Here Are Some Of The Fitness Benefits That Ajwain Has To Offer:**

**Digestive Health**

Active enzymes in ajwain enhance the drift of belly acids, that can help to relieve flatulence indigestion and gasoline. The plant also can assist to treat gastric ulcers as well as sores in the esophagus, belly, and intestines.

**Infection Prevention**

Many of the important oils in ajwain, most substantially thymol and carvacrol, can assist to combat the increase of micro organism and fungi. They may help to combat micro organism

like salmonella and E. Coli, which could lead to food poisoning and other belly problems.



**Figure 1:** Health Benefits of Ajwain

**Lower Blood Stress**

Research in rats indicates that thymol in ajwain may act to preserve calcium from entering the blood vessels on your heart, supporting to decrease blood pressure.

**Cough And Congestion Relief**

Ajwain can offer comfort from coughing as well as clean mucus out of your nostril, both of which make respiration less difficult. It may additionally assist to widen the bronchial tubes, that can help people with asthma.

**Toothache Relief**

Due to the anti inflammatory residences of thymol and different important oils, ajwain can help to lessen ache associated with toothaches. Thymol may also assist to enhance your oral fitness via preventing micro organism and fungi in the mouth.

**Arthritis Pain Relief**

Ajwain also can assist to assuage pain and swelling. Crushed fruit may be made into a paste and applied to the skin at the joints to treat arthritis ache. Alternatively, you can fill your tub with warm water and upload a handful of seeds for a soothing tub.

**Medicinal And Pharmacological Properties**

**Antimicrobialactivity:**

Bacteria like gram-fine and gram-poor may be suppressed by means of nigella essential oil. It exhibited strong antimicrobial activity in opposition to Salmonella typhi, Pseudomonas aeruginosa and others. Comparatively higher sensitivity against gram-tremendous micro organism Staphylococcus aureus and Vibrio cholera become located to be stronger than gram bad micro organism. Staphylococcus aureus, Staphylococcus pyogenes and Staphylococcus viridans are greater liable to Nigella sativa. [17]

**Antifungal Hobby:**

Methanolic extracts of Nigella have the most powerful antifungal effect accompanied by the chloroform extracts towards one of a kind traces of Candida albicans. An intravenous inoculum of Candida albicans produced colonies of the organism in the liver, spleen and kidneys. Treatment of mice with the plant extract 24h after the inoculation prompted a vast inhibitory impact on the growth of the organism in all organs studied. Khan et al. In 2003 pronounced that the aqueous extract of Nigella seeds well-known shows inhibitory impact against candidiasis in mice. A five-fold lower in Candida in kidneys, eight-fold in liver and 11-fold in spleen was determined in the businesses of animals publish-dealt with with the plant extract. These findings had been also showed by using Histopathological examination of the respective organs. [18]

**Antioxidant Activity:**

Treating broiler chicks with black seeds for 6 weeks avoided the liver from oxidative strain with the aid of growing the activities of enzymes which includes myeloperoxidase, glutathione-S-transferase, catalase, adenosine deaminase, myeloperoxidase and by way of lowering hepatic lipid peroxidation. [19]

**Antidiabetic activity:**

Significant hypoglycaemic interest turned into pronounced. Antihyperglycemic outcomes of Nigella seed extract are attributed to a combination of the rapeutically applicable insulinotropic and insulin-like houses. [20]

**Anti-inflammatory And Analgesic Activity:**

The chronic inflammatory disorders, allergies and arthritis involve a ramification of inflammatory mediators and pathways. Nigella fixed oil and thymoquinone have been discovered to inhibit membrane lipid peroxidation and eicosanoid generation in leucocytes, substantially decreased rat paw oedema and granulomapouch weight. Nigellonein low awareness is powerful in inhibiting the histamine release from the mast cells, which supports an antiasth maticrole for the plant. [21]

**Immunomodulatory Activity:**

The capacity immunomodulatory results of Nigella have been investigated in mild of splenocyte proliferation, macrophage function, and NK anti-tumor pastime the use of BLAB/c and C57/BL6 primary cells. Finally, experimental proof suggests that the aqueous extract of N. Sativa appreciably complements NK cytotoxic activity in opposition to YAC-1 tumor cells, suggesting that the documented anti-tumor results of N. Sativa may be, at least in component, attributed to its potential to function a stimulant of NK anti-tumor interest. It become expected that N. Sativa substances can be employed as powerful healing dealers inside the regulation of various immune reactions implicated in numerous conditions and illnesses together with most cancers [22].

**CONCLUSION**

Conclusion Ajwain seed possesses stimulant, antispasmodic and carminative residences and is used traditionally as an essential remedial agent for flatulence, atonic dyspepsia, diarrhea, abdominal tumors, abdominal pains, piles, and bronchial issues, lack of urge for food, galactogogue, bronchial asthma and amenorrhea. Medicinally, it's been validated to possess numerous pharmacological sports like antifungal, antioxidant, antimicrobial, antinociceptive, cytotoxic, hypolipidemic, antihypertensive, antispasmodic, bronchodilating movements, antilithiasis, diuretic, abortifacient, antitussive, nematocidal, anthelmintic and antifilarial. Further, research monitor the presence of numerous phytochemical materials specifically carbohydrates, glycosides, saponins, phenolic compounds, unstable oil (thymol,  $\alpha$ -terpinene, para-cymene and  $\beta$  and  $\beta$ -pinene), protein, fats, fiber and mineral remember containing calcium, phosphorous, iron and nicotinic acid. These research display that Trachyspermum ammi is a source of medicinally energetic compounds and feature various pharmacological consequences; consequently, it's far encouraging to locate its new therapeutic uses.

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