

Ajwain (*Trachyspermum ammi* Linn): A review on Tremendous Herbal Plant with Various Pharmacological Activity

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Abstract: Ajwain is an herbal plant belonging to Apiceae family. Ajwain is also known as *Trachyspermum ammi* (L). Ajwain is growth in various countries like Pakistan, Iran, Afghanistan and India. *Trachyspermum ammi* (L) is an annual herb. Ajwain leaves and seed are mainly used by humans and mostly used in cooking for spice. Ajwain is medicinal plant used for various disease. Ajwain act as a germicide and fungicide. Various chemical constituents present in Ajwain like volatile oil, saponins, glycosides, fat, protein, fibre and minerals. Ajwain having the various pharmacological effects and it is various disease. *Trachyspermum ammi* show antimicrobial, antispasmodic, digestive stimulants, anti-inflammatory and gastroprotective activity. Ajwain relief the menstruation cycle pain. *Trachyspermum ammi* is used as a medicine. In the future, if we used as a medicine, then in the future we can avoid many diseases, *Trachyspermum ammi* is an herbal plant, so do not show any side effects. *Trachyspermum ammi* show various pharmacological activity like Antimicrobial, Antiulcer, Analgesic, Diuretic, Antiviral, Antioxidant, Antihypertensives, Bronchodilator and Antiplatelet.

Keywords: Ajwain, *Trachyspermum ammi* L., anti-analgesic, antiviral, anti-pyritic, Anthelmintic Activity, antispasmodic and broncho-dilating activity.

1. Introduction

Ajwain is a medicinal herbal plant belonging to family Apiaceae. Ajwain is also called as Celery. Ajwain is beneficial for health, this is effective in cold, pain, arthritis, kidney disease and constipation [1]. Ajwain is also known as *Trachyspermum ammi*. *Trachyspermum ammi* is a yellowish colour with bitter taste and having pungent odour. It is collected in Iraq, Iran, Afghanistan, India and other sub-tropical countries like Uttar Pradesh and Uttarakhand [2]. Various chemical present in the *Trachyspermum ammi* like rich fiber, vitamin, minerals, antioxidant, glycosides, terpenoids and steroids [3]. Ajwain contain 32-50% phenol, carbohydrates (25%), tannins, moisture and glycosides present (9%). Ajwain is containing iron, calcium, phosphorous, magnesium, iodine, Phenolic, thiamine and riboflavin [4]. Ajwain increase the body function like digestive system and intestinal function. Thymol essential oil present in

the Ajwain and these are show the local anaesthetic activity, anti-microbial and anti-fungal activity [5]. Phenolic compound shows the anti-septic activity and anti-tussive properties [6]. Ajwain commonly used for carminative in Indian kitchen. Ajwain grow in October -November and harvested may-June [3]. Peoples used the Ajwain after a meal [7]. Ajwain has been used for traditional medicine system for various verity of medicine and pharmacological aspects, because Ajwain show various pharmacological effects [8]. Ajwain oil is used in the treatment of ringworm infection. Ring worm infection is a common fungal infection characterized by scaly, nails, itching on scalp and skin [9].

A. Physical observation

- Name - Ajwain
- Scientific name-*Trachyspermum ammi*
- Colour -Brownish colour
- Odour – Pungent
- Taste –Bitter, pungent
- Shapes –Ovoid
- Health benefits–Constipation, kidney, stone, relief asthma, intestinal & stomach pain.

B. Nutrition power of Ajwain (carom)

Various nutritional value present in carom like protein, fibres, minerals, carbohydrates, iron, calcium, potassium, sodium phosphorus, thiamine, niacin and thymol, gamma, Terpinene oils found in Ajwain [7].

C. Ajwain image gallery



Fig. 1. Ajwain - plant



Fig. 2. Ajwain - seeds



Fig. 3. Ajwain – flowers

2. Pharmacological Activity of jwain

Ajwain is used as a spice due to its good aroma and pungent taste. Its seeds are used for flavouring in many food items. Celery is also used in preservatives, medicine and for the manufacture of essential oil in perfumery [13]. Ajwain Uses in India, the system of medicine, such as stomach diseases, is administered. Ajwain is show antimicrobial activity, hyperlipidaemic, digestive activity, antispasmodic and antihypertensive etc [10]. There are active ingredients in Ajwain which help to increase digestion. Which makes it easier for the intestinal juices (gastro-intestinal secretions) to be released [11].

1. *Antihypertensive, antispasmodic and broncho-dilating activity*: T. ammi is also used as an antihypertensive, given intravenously to reduce the effects of hypertension. Is performed in vitro to reduce the effects of antispasmodic and bronco-dilling. Calcium channel closure has been studied to mediate the spasmolytic effects of plant material. Celery is made in the stomach disease [12].
2. *Ajwain effective in cold*: To cure chronic cold, frying celery seeds in 2-gram doses for 15-20 days cures chronic cold. By grinding celery seeds, all these diseases are cured. Chewing celery seeds with lukewarm water cures cough.
3. *Ajwain for asthma*: Smelling Ajwain's smoke acts as a bronchodilator and improves breathing patterns. A person suffering from asthma can take Ajwain and jaggery paste, 1 teaspoon, twice a day. This mixture is helpful in the prevention and treatment of asthma [13].
4. *Ajwain for Spice*: Ajwain is rich in flavour and aromatic as well as medicinal properties, due to which celery is used as a spice. Celery pods have a delicious taste, so even a small amount of it is enough to give a pungent smell to the dishes. Celery has a thymol presence due to which a strong aroma combines with ajwine. It is very good for digestion. And drinking mixed with milk kills many diseases. Because of its many benefits, it is used in every Indian kitchen [4].
5. *Gastro protective activity*: Ajwain is also used to cure

ulcers. *Trachyspermum ammi* fruit showed anticoagulant activity using various ulcer models. Animals pre-treated with ethanolic extracts showed significant reductions in ulcer index and percent ulcer safety in all models. Results showed that extracts showed significant preservation ($P < 0.001$) by reducing ulcerative lesions compared with the control group of animals. There was a lot of help in curing the ulcer using Ajwain [14].

6. *Anthelmintic activity*: T. Ammi also serves anthelmintic activity. It shows its influence against Helminth, e.g. *Asaris lumbricoides* in humans and *Hemonchus contortus* in sheep [15].
7. *Antiplatelet aggregator*: By using antiplatelet-aggregator in vitro with blood from human volunteers, it was found that the treatment of platelet aggregation can be corrected by drying the seeds. Arachidonic acid inhibits the aggregation of platelets induced by collagen and epinephrine [16].
8. *Arthritis pain relief*: Ajwain has antibiotic properties, which help reduce inflammation and redness of the body. Celery also has some anaesthetic properties that relieve pain and inflammation. Apply the paste of crushed celery seeds on the joints, it provides relief in joint pain [17].
9. *Menstruation cycle*: Ajwain is help treating the excessive bleeding irregular menses. To Ajwain seeds and take it with black salt and hot water, it provides relief in menstrual pain [12].

3. Conclusion

If we look at the upcoming lifestyle, today's life is becoming very useless, today's food has made everyone the home of diseases. Today people like to eat out of the spring due to which so many diseases have increased. If we use medicine made of celery and celery in the coming time, then we can avoid many diseases, and diseases can be avoided.

A. Conflict of interest

No conflict interest exists.

B. Funding

None

C. Ethical approval

Not required

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