

Ajwain (The Bishop's Seed): A Bridge Between Traditional Knowledge and Modern Medicine

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ABSTRACT

Trachyspermum ammi (L.) Sprague or commonly Ajwain is a herbaceous herb belonging to the family Apiaceae and vastly grows in Egypt, Iran, Pakistan, Afghanistan, and India as well as European region. Known as Zenyan or Nankhah in medical and pharmaceutical manuscript of medieval Persia, seeds of Ajwain were highly administered by traditional healers and traditionally employed for different ailments. Due to its various chemical constituents, the herb seeds were also evaluated for its numerous pharmacological properties. Accordingly, current work was carried out to review the traditional and modern pharmacological properties of Ajwain regarding current and medieval reports. To this, respective databases were searched for the terms '*Trachyspermum ammi*', '*Carum copticum*', 'Ajwain' and 'Ajowan' without limitation up to early 2013. Information on the herb was gathered via electronic search using Pubmed, Scopus, Google scholar and SID (for articles in Persian language) as well as medical and pharmaceutical manuscripts of Persian medicine. Ajwain seeds revealed to possess antiseptic, stimulant, carminative, diuretic, anesthetic, antimicrobial, antiviral, nematocidal, antiulcer, antihypertensive, antitussive, bronchodilatory, antiplatelet and hepatoprotective as well as antihyperlipidemic effects, many of those were remarked by early Persian physicians. With reference to these pharmacological activities, Ajwain seeds can be a good candidate for to be applied in clinical practice. However, in spite of various experimental and animal studies, lack of comprehensive clinical trials aimed on regarded effects is still remained to reconfirm the traditional knowledge.

KEYWORDS: Ajwain, apiaceae, pharmacological, modern, traditional, Bishop's seed

INTRODUCTION

Ajwain other name (*Carum copticum*), also called bishops weed, is a herb that is used as a spice and a major ingredient in different types of medicines. Ajwain is thought to have originated in Egypt and the eastern Mediterranean region. Ajwain is extensively cultivated in black soil, especially along the riverbank in Egypt and several other countries like Iran, Afghanistan, and India. The seeds of Ajwain are small yet have a hot, penchant, and bitter taste. Ajwain functions as a stomachic (promoting appetite or aiding in digestion) and laxative and is used as an appetiser. It might be helpful for conditions like piles, abdominal tumours, abdominal pain, vomiting, mouth diseases, etc.

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The major constituent of Ajwain is an essential oil called thymol which constitutes about 35-60%. The seed also contains compounds like p-cymene, limonene, 1±-pinene, and 1³-terpinene. Ajwain seeds also comprise protein, fat, fibre, minerals, calcium, iron, phosphorous, carotene, riboflavin, niacin, thiamin, and carbohydrates. In 100 grams of Ajwain, the nutrients found are:^{1,2}

Nutrient	Value
Energy	238 kcal
Carbohydrate	47.62 g
Protein	23.81 g
Fibre	47.6 g
Iron	16.19 mg
Calcium	667 mg
Potassium	1333 mg
Fatty acids (total saturated)	0.62 g

Table 1: Nutritional value of ajwain

Properties of Ajwain:[1,2,3]



Ajwain is known to have many properties like:

- It might be an anthelmintic (acts against parasitic worms)
- It might have analgesic (pain-relieving) activity
- It might have antibacterial (inhibiting bacteria or killing them) property
- It might be have antifungal (killing or stopping the growth of fungal organisms) activity
- It might have antiviral activity (acts against viruses)

- It might be an antitussive (cough suppressing) agent
- It might have antiplatelet property
- It might have antihyperlipidemic (cholesterol-lowering) activity
- It might be a diuretic (increases the flow of urine)
- It might have antiinflammatory activity (relieves inflammation)
- It might be a detoxificant (removal of toxic substances from the body)
- It might have hepatoprotective (liver-protecting) property
- It might be an antioxidant
- It might be a digestive stimulant
- It might help relieve ulcers (antiulcer)
- It might be an antihypertensive (blood pressure lowering)

Potential Uses of Ajwain:

Potential uses of Ajwain for digestion:

Ajwain might help reduce irregular pains of the intestines and stomach in both adults and children. Taking Ajwain with common salt and warm water may relieve any colicky (sharp pain in the intestines) pain due to gas accumulation, indigestion, and infections in the intestine. Ajwain might be taken with buttermilk to relieve digestion-related problems. Consult your doctor before taking it for any condition.¹

Potential uses of Ajwain for respiratory problems:

A mixture of ajwain and ginger might be prescribed by your doctor in cases of chronic bronchitis and asthma. This mixture might help expel mucous and may improve the symptoms of chronic bronchitis and asthma. It might also be helpful for chronic colds and cough. Consuming warm water after chewing Ajwain might help reduce cough. Chewing betel leaf with Ajwain might help with dry cough. It is, however essential to consult your doctor before taking it for these conditions.¹

Potential uses of Ajwain for diabetes:

Ajwain seeds might be helpful for diabetes. Powdered neem leaves might be taken with warm milk along with powdered Ajwain and cumin seeds. This combination might help in reducing blood sugar levels. However, it is essential to consult your physician before taking this. Moreover, a condition like diabetes must be diagnosed and treated by a doctor.^[4,5,6]

Potential uses of Ajwain for migraine:

Smelling Ajwain seeds wrapped in a tissue might help in dealing with migraines. Ajwain seeds may also be burnt and inhaled to deal with other problems related to the head.⁴ However, such effects need to be proved by further research. Moreover, it is essential to consult a doctor before using Ajwain for any apparent health benefits.

Potential uses of Ajwain for arthritis:

Ajwain seed oil might be helpful for pain related to arthritis. This oil might be used for massage in the affected joints regularly to alleviate pain in rheumatic arthritis.⁴ Kindly consult a doctor before using it.

Potential uses of Ajwain for diarrhoea:

Consuming Ajwain seeds might be a natural way to help deal with diarrhoea or dysentery. A handful of Ajwain seeds may

be boiled and taken in a glass of water. This mixture can be cooled and consumed for diarrhoea.⁴ However, such effects need to be ascertained by further research.

Other Potential uses of Ajwain:

Ajwain seeds might also be used as an insecticide. Moreover, they may also be used for poisonous insect bites.⁴

Though there are studies that show the potential uses of Ajwain in various conditions, but these are insufficient and there is a need of further studies to establish the true extent of benefits of Ajwain on human health.

DISCUSSION

Ajwain seeds might be used as it is or they can be used in powder form. Your ayurvedic doctor will prescribe you the correct form and dosage for use for your condition. Kindly refer to your doctor for advice

You must consult a qualified doctor before taking any herbal supplements. Do not discontinue or replace an ongoing treatment of modern medicine with an ayurvedic/herbal preparation without consulting a qualified doctor. [7,8,9]

Side Effects of Ajwain:

When consumed in moderation, Ajwain seeds do not produce any harmful side effects. However, in people suffering from conditions like diverticulitis (pain and inflammation in small, bulging pouches that can form in the lining of the digestive tract), ulcerative colitis (inflammatory bowel disease), and liver diseases, excess intake of Ajwain might lead to some side effects.

➤ Ajwain seeds stimulate gastric secretions, which can worsen any existing peptic ulcers. It is essential to consult a doctor if this effect is observed.

➤ Overconsumption of Ajwain can also lead to nausea, skin irritation, vomiting, allergy, and headache in some people.⁴

Precautions to Take with Ajwain:

It is important to keep these points in mind when using Ajwain seeds:

➤ People having peptic ulcers and liver disease must avoid consuming Ajwain.

➤ Ajwain seeds cannot be stored for a long period.

➤ It is essential to store Ajwain seeds in an air-tight bottle in a cool and dry environment.

➤ They must be kept away from moisture and direct sunlight.⁴

Interactions With Other Drugs:

Ajwain might interact with unknown drugs. Therefore, you should consult a doctor before using Ajwain for its potential health benefits.

Ajwain or ajowan (*Trachyspermum ammi*)^[3] —also known as ajowan caraway, omam (in Tamil), thymol seeds, bishop's weed, or carom—is an annual herb in the family Apiaceae.^[4] Both the leaves and the seed-like fruit (often mistakenly called seeds) of the plant are consumed by humans. The name "bishop's weed" also is a common name for other plants. The "seed" (i.e., the fruit) is often confused with lovage seed. Ajwain's small, oval, seed-like fruits are pale brown schizocarps, which resemble the seeds of other plants in the family Apiaceae such as caraway, cumin and fennel.^[6] They have a bitter and pungent taste, with a flavor similar to anise and oregano. They smell like thyme because they also

contain thymol, but they are more aromatic and less subtle in taste, as well as being somewhat bitter and pungent.^[6] Even a small number of fruits tend to dominate the flavor of a dish.

RESULTS

Cultivation and production

Ajwain grows in dry, barren soil in its indigenous regions of India, Iran, Afghanistan, and parts of northern Africa.^[6] Gujarat and Rajasthan are regions in India well-known for cultivating ajwain.^[7]

Culinary uses

The fruits are rarely eaten raw; they are commonly dry-roasted or fried in ghee (clarified butter). This allows the spice to develop a more subtle and complex aroma. It is widely used in the cuisine of the Indian subcontinent, often as part of a chaunk (also called a *tarka*), a mixture of spices – sometimes with a little chopped garlic or onion – fried in oil or clarified butter, which is used to flavor a dish at the end of cooking. In Afghanistan, the fruits are sprinkled over bread and biscuits.^[8]

Other applications of ajwain include incorporating the seeds in specific types of breads, such as naans and parathas. The seeds can also be used as a mouth freshener when mixed with lemon juice and black pepper, and then dried, or can be used as an ingredient in hot tea.^[6]

In herbalism

Ajwain is used in herbalism practices, such as Ayurveda, in the belief that it can treat various disorders.^{[6][9]} However, there is no good evidence that ajwain is effective as a therapy for treating any disease.^[6]

Adverse effects

Pregnant women should avoid ajwain due to potential adverse effects on fetal development, and its use is discouraged while breastfeeding.^[6] In high amounts taken orally, ajwain can result in fatal poisoning.^[6] People taking nonsteroidal anti-inflammatory drugs or antiplatelet medications are susceptible to adverse effects from ajwain ingestion, as ajwain has anti-clotting activity of its own.^[6]

Essential oil

Hydrodistillation of ajwain fruits yields an essential oil consisting primarily of thymol, gamma-terpinene, p-cymene, and more than 20 trace compounds which are predominantly terpenoids^[8,9,10]

CONCLUSION

A common spice available in every Indian household, it is derived from a herb. The light olive green and brown coloured seed has a strong and bitter flavour. This makes it an important ingredient in Indian curries and pickles. This is one of those rare flavouring seeds that have medicinal qualities. Ajwain starts from reducing abdominal discomfort to helping you build an appetite. It can be chewed raw or added to water and tea. In some parts of India it is added to the flour while making rotis (Indian bread).

The benefits of eating ajwain are plenty. Ajwain is filled with active enzymes for your digestive functions as it releases gastric juices. This is great for people suffering from acidity and indigestion.

All you need is:

* 1 teaspoon cumin

* 1 teaspoon ajwain (carom seeds) &

* 1/2 teaspoon of ginger powder.

This combination in water helps cure heartburns.

Ajwain or carom seeds benefits include curing nasal blockage by helping discharge mucus easily. All you need to do is make a paste by heating 2 teaspoons of jaggery and 1 teaspoon of ajwain seeds. It's great for people suffering from asthma and bronchitis. You also get relief from migraine headaches by inhaling some ajwain powder in a thin cloth.

One of the coolest health benefits of ajwain oil is in curing toothache. Simply take 1 teaspoon of ajwain and add some salt to it. You need to gargle with lukewarm water, which also works as a good mouthwash.

Other Health Benefits Of Ajwain Include:

* Easing arthritis pain

* Reducing redness and inflammation by acting as an antibiotic

* Soothing pain and swellings as an anaesthetic

This ayurvedic marvel helps babies in reducing gas, acidity and improves gut health. For preparing ajwain you need to boil 2 teaspoons of roasted ajwain seeds in water. Strain this mixture and drink. You could add 1 teaspoon of honey to make it sweeter and palatable. This mix is also known to improve your metabolism and burn fat. You can unlock the true benefits of eating ajwain by following a routine. If you do not prefer eating you can make a drink with the recipe mentioned above.

Let's Recap Ajwain Uses

* It is great for people who are suffering from acidity and indigestion

* Helps people suffering from asthma and bronchitis

* Reduces toothache

* Reduces redness and inflammation^[10]

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