

Dietary Asafoetida (Ferula Asafetida)

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Abstract: *Ferula asafoetida* is a strong, durable and sulfur-smelling oleo-gum resin with medicinal and nutritional value. Asafoetida has been consumed as a spice and folk medicine for centuries. Recent studies have identified a number of promising activities, including antioxidant, neuroprotective, memory enhancing, digestive enzyme, antioxidant, antispasmodic, hypotensive, hepatoprotective, antimicrobial, anticarcinogen, anticancer, antitoxic, antiobesitic, and anthelmintic. This review deals effectively with various pharmacological and clinical studies of phytochemistry and asafoetida.

Keywords: *Ferula asafoetida*, Oleo-gum-resin, folk medicine, phytochemistry

I. Introduction

Spices are famous for stimulating gastric activity. They increase saliva production and the secretion of gastric juice and help digestion. Asafoetida is a sulfur-smelling gum resin resource from the *Ferula* plant root exudates. Additionally, it is widely used all over the world as a fragrant spice in various dishes. Traditionally, it is used to treat various ailments such as asthma, epilepsy, stomach pain, flatulence, intestinal parasites, poor digestion and flu (Kalpana Platel, 2004). Nowadays some

studies, such as pharmacological and biological, have shown that asafoetida has several activities such as antioxidant, antiviral, antifungal, cancer chemopreventive, antidiabetic, antispasmodic, hypotensive, and molluscid. It is of great medical importance and it should be studied in detail before clinical examination (Gopi*, 2017).

Healing content of *Ferula Asafoetida*

In addition, this substance consists of about 4 percent to 20 percent of variable fat, 40 percent to 60 percent of resin, and 25 percent of gum. The essential oil component of *ferula asafoetida* contains a variety of odoriferous compounds that have a high percentage of these odoriferous compounds, which are sulfur. The oil contains phytochemicals such as pinene, cadenin and vanillin, the resin contains umbelliferon, asaresinotannol, foetidine, camolonol and ferulic acid (Bisht P. M., 2012).

II. Main part

According to some other information related to benefits of asafetida, it can be added just one calorie to daily diet without fat, cholesterol, sodium and sugar. It might be not pleasant because of taste concentrated rotten garlic and / or onion flavor. However, once cooked, it adds a pleasant onion or

leek-like flavor to the dishes. Additionally, helpsto digest certain foods that contain carbohydrates, reduces side effects such as bloating and gas, and also supports healthy blood sugar levels. As a powerful respiratory stimulant and expectorant, it helps to expel mucus from the asaphoid and relieve congestion in the chest. It is used in traditional medicine in asthma, whooping cough and bronchitis. The volatile fat in gum Asafoetida is eliminated through the lungs, so it can be a very good treatment for asthma and other lung-related issues. Even it is also commonly used as a fragrant ingredient in perfumery, further, most commonly available as powders or granules, which can be added directly to what bake. Some parts of plant need to be crushed before use. Asafoetida should be used in very small quantities to add its unique properties and health benefits to cooking. It is commonly used in many lentil dishes, vegetarian cuisines, in soups and can also be delicious in fish dishes. When utilized as a spice, it should be stored in an airtight container away from light, heat and air. It also contains its strong sulfur odor. As mentioned above, it has a pungent odor (think sulfur), but it usually spreads with cooking.

Dosage and side effects

Medicinal asafoetide is available in several forms, including tincture and capsule in addition. There is no clinical evidence to support dosing recommendations for asafoetida, but traditionally resins with a daily dose of 200 to 500 milligrams are used for medical purposes. In its raw form and most mixed powders, it is gluten-free, however, low-quality of this form sometimes diluted with wheat flour. Asafoetida is a natural blood thinner that helps lower blood pressure. It is packed with coumarin, which dilutes blood and helps improve blood flow, thereby preventing blood clots. Some researchers have been able to isolate some phytochemicals that have beneficial cardiovascular effects in *Ferula* species. Studies using animal subjects have shown

that gum extract in *Ferula asafoetida* significantly lowers mean arterial blood pressure. Chewing gum extract seems to contain relaxant compounds that have a positive effect on blood pressure and overall cardiovascular health due in part to these phytoncides. *Asafoetida* is a hard, resinous gum derived from perennial fennel plants that has been used as an antispasmodic, carminative, expectorant, laxative, and sedative since Roman times (Mohammad Fatehi 1, 2004). The benefits of *asafoetida* may help in the treatment of asthma, high blood pressure, high blood sugar, flatulence and more.

It is considered safe for most people when consumed in quantities that are typically present in foods. However, over-consumption can cause side effects such as nausea, vomiting, diarrhea and discomfort in urination. While it may be safe for some to take medications, they should never be taken by pregnant and nursing mothers and children. Perhaps when taken by children, it can be life-threatening or lead to blood disorders. When taking medications, these spices can cause lip swelling, wrinkles, flatulence, diarrhea, headaches, convulsions, and blood disorders. If used for a long time by premenopausal women, it can cause irregularities in the menstrual cycle (*Asafoetida*, 2021).

It is not recommended for bleeding disorder, epilepsy, or high blood pressure (low or high). This can irritate the gastrointestinal tract, it is highly suggested consume it carefully during digestive disorders. *Asafetida* can slow blood clotting, so stop taking it at least two weeks before scheduled surgery because of its dilute blood or have high blood pressure effects. It has been known to interact with anticoagulants / antiplatelets and antihypertensive drugs. *Asafoetida* is also beneficial for postpartum women. Traditional guidelines and some recent findings F. *Asafoetida* affects the functioning of the nervous system, especially under the influence of neuroprotective and nerve

stimulation(Bisht P. M., 2012). Dietary use of *F. asafoetida* is beneficial and can also be used in addition to existing dementia therapy due to antioxidant properties. The antioxidant properties of the gum extracts contained in the hydro-alcoholic *F. asafoetida* reduce the effect due to the reduction of oxidative stress.

In general, the spice enhances saliva flow and secretion of gastric juice and helps the stomach. The stimulating effect of spices is probably due to the positive effect of pancreatic digestive enzymes by stimulating the activity of enzymes involved in the stomach by many spices consumed in the diet(Kalpana Platel, 2004). may be a factor affecting privacy spices. This positive effect on the activity of enzymes may have an additional function under the influence of spice digestive stimulant, as well as lead to an increase in the titer of digestive enzymes in the pancreatic tissue. *Asafoetida* - a spice and herbal medicine used to treat various fungi and bacteria. Raw extracts of *Asafoetida* have been evaluated for their antimicrobial activity against various fungal and bacterial strains(Gopi*, 2017). Alcoholic and aqueous extracts of *asafoetida* were significantly affected by agar-diffusion method against *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, and *Aspergillus niger*(Razieh Niazmand 1, 2021). The essential oil obtained from the early stages of *F. asafoetida* growth can be safely and effectively used as a natural antioxidant in the food industry, the oxidation stability of fatty foods during storage is improved, the essential oil obtained from the later stages of *F. asafoetide* growth in the health industry can be used as a source of safe and effective antibacterial agents. In *F. asafoetida*, e.g., red and white gum, to test for antimicrobial activity against five different bacterial strains. The minimal dose of *asafoetida* (10 mg / 100 g) had a significant effect because it had a lasting effect on all the biochemical parameters examined, which can be used as a

promising chemopreventive agent against colon carcinogenesis(Gopi*, 2017).

Conclusion

It has been clearly known that *F. asafoetida* is the most curative from different kind of serious degenerative diseases such as cardiovascular, breath taking system, digestive disorders, etc. Using it for daily diet provides body with antioxidant, antiviral, antifungal, cancer chemopreventive, antidiabetic, antispasmodic, hypotensive, and molluscid effects. However, it also has a number of detrimental effects. Taking into account these aspects, it is recommended to provide it not less than the amount of daily food, but in sufficient quantities. Furthermore, it would be appropriate if the amount in the meal was chosen correctly

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