

Garlic (*Allium Sativum*): Pharmaceutical Uses

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ABSTRACT

Garlic (*Allium sativum*) is one of the most researched and bestselling herbal product in the market. For centuries it was used as a traditional remedy for health related disorders. Also, it is widely used as a food ingredients, spice and aphrodisiac. The garlic plant's bulb is most commonly used part of the plant. Garlic bulbs are normally divided in to numerous fleshy sections called cloves. These cloves are consumption (raw or cooked) or for medicinal purpose. They have a characteristic pungent, spicy flavor that mellows considerably with cooking. The distinctive aroma is mainly due to organosulphur compounds including alliin present in fresh garlic cloves and ajoene which forms when they are crushed or chopped. A further allyl methyl sulfide is responsible for garlic breath. Other parts of *Allium sativum* plant are also edible. The leaves and flowers (bulbils) on the head (spathe) are eaten and are most often consumed while immature and still tender. Immature garlic is sometimes pulled, rather like a scallion, and sold as, "green garlic". It is documented that different parts of garlic plant have a clear and significant biological effect in immune system improvement, treatment of cardiovascular disease, cancer, hypertension, diabetes, rheumatoid arthritis hypercholesterolemia.

KEY WORDS: *Allium sativum*, Cloves, Bulb, Bulbils, Scallion, Green garlic

I. INTRODUCTION

Spices are used all over the world to prepare foods mainly because of their flavoring properties. India enjoys the distinction of being the largest producer and consumer of spices as well as the fastest growing spice market in the world. Garlic is among the most important and valued spices in India. India is the second largest producer of garlic with share of 13.2 percent of world production. Garlic is native to South Asia and Northeastern Iran and has long been used as a seasoning worldwide, with a history of several thousand years of human consumption and use. China produces 76% of the world's supply of garlic. *Allium sativum* is a bulbous flowering plant in the genus *Allium*. It is a perennial flowering plant growing from a bulb. It has a tall, erect flowering stem that grows up to one meter. The leaf blade is flat, linear, solid and approximately 1.25-2.5 cm wide, with an acute apex. The bulb is odoriferous. It produces hermaphrodite flowers and pollinated by bees, butterflies, moths and other insects. Garlic grows best in a sunny, sheltered spot with fertile well drained soil. To produce good quality bulbs garlic needs a period cold, so its best planted in late autumn or early winter. A well drained friable soil rich in organic matter with a pH range of 6-7 is ideal. Optimum time for sowing is last week of September to first week of October.

BOTANICAL CLASSIFICATION

Kingdom – Plantae
Class - Liliopsida
Order – Asparagales
Family – Amaryllidaceae
Subfamily – Alloideae
Genus – *Allium*
Species – *sativum*
Binomial name -
Allium sativum L.

CHEMICAL COPOSITION

An average clove of garlic weighs between 3- 6 gm and contains an average of 1 gm of carbohydrates, 0.2 g of protein, 0.05 g of fiber, 0.01 g of fat and vitamins A, B1, B2, B3 and C. The Vitamin B1 is combined with the alliin and called allithiamine and easily absorbed into intestine. Garlic is richer than any other food in adenosine, a nucleic acid which is a building block of DNA and RNA. Garlic contains approximately 33 sulfur compounds (allin, alliin, ajoene, allylpropyl disulfide, diallyltrisulfide, sallycysteine, vinylidithiines, s-

allylmercaptocystein and others), several enzymes (allinase, peroxidases, myrosinase and others), 17 aminoacids (arginine and others) and minerals (selenium, germanium, tellurium and other trace minerals)

USES

Garlic (*Allium sativum*) is widely used for several conditions linked to the blood system and heart, including atherosclerosis (hardening of arteries), high cholesterol, heart attack, coronary heart disease and hypertension. It also used today by some people for the prevention of lung cancer, stomach cancer, rectal cancer and colon cancer. Diallyl sulfide, a compound in garlic, was 100 times more effective than antibiotics in fighting the *Campylobacter* bacterium, according to a study published in the *Journal of Antimicrobial Chemotherapy*. In folk medicine, garlic has been used internally to treat bronchitis and respiratory problems, gastrointestinal problems, flatulence leprosy, menstrual cramps, high blood pressure and diabetes. Externally used for warts, corns, arthritis, muscle pain, neuralgia and sciatica. Depending on the needs, garlic is used in different forms such as raw, aged, tablet and powdered. Additionally oil is also extracted from the garlic cloves and marketed.

II. CONCLUSION

Spices are not only used to increase the aroma, flavor and colour of food, but are also considered for therapeutic purposes for their potential prevention of different acute and chronic diseases. Garlic (*Allium sativum*) is a polyphenolic and organosulfur enriched nutraceutical spice consumed since ancient times. Garlic and its secondary metabolites have shown excellent health- promoting and disease- preventing effects on many human diseases. It has been used as a food and as a medicinal herb for thousands of years. The unique flavor and aroma of garlic has inspired countless culinary dishes and remedies for treating numerous medical conditions. With the advent of modern science, the utility of garlic and garlic preparation for treating human diseases is under investigation. Based on preclinical studies, there is reason to be hopeful that garlic compounds may ameliorate certain human conditions, particularly as related to cancer and cardiovascular disease.

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