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Phyto-pharmacological significance of *Allium sativum* Linn.: An Indian Medicinal Plants of immense Therapeutic Potential

Suresh Dhakar[1]* and Sumeet Dwivedi[2]

1, Research Scholar, Faculty of Pharmacy, Oriental University, Indore (M.P.) – India

2, Faculty of Pharmacy, Oriental University, Indore (M.P.) – India

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Abstract

Traditional medicine practices are a most ancient health care system being practiced widely in India, Srilanka and other countries. Atharv-Veda and Charak and Sushrut SAmhita (100-500 BC) have given detailed descriptions of over 700 herbs. Out of research of researches carried out on Ayurvedic Medicinal plants, many pharmaceutical corporations have renewed their strategies in favour of natural products drug discovery and numerous drugs have entered the pharmacopoeias from traditional medicines. *Allium sativum* L. commonly known as Garlic belongs to family Liliaceae is one of the most widely traditional herbs used almost by all the people of India due to its benefits. The present paper focused on the traditional claims, folk lore uses and phyto-pharmacological significance of *Allium sativum* Linn.

Key-words: Traditional, Ayurveda, *Allium sativum* L.

Introduction

Allium sativum Linn. (Garlic), is a species in the onion genus, *Allium*. It is native to central Asia and has long been a staple in the Mediterranean region, as well as a frequent seasoning in Asia, Africa, and Europe. It was known to Ancient Egyptians, and has been used throughout its history for both culinary and medicinal purposes. Garlic is as one of the most important herbal medicines. It has been used both as food and medicine in many cultures for thousands of years.

Garlic has an acrid, warm taste, and a disagreeable, pungent odor. Its antiseptic properties for healing wounds to act as an inhibitor of diseases, have been proven and research into garlic's value continues till date. Garlic contains a collection of sulfur and selenium aroma compounds which protect the plant from predators as well as soil-born organisms.

Fig. 1: *Allium sativum* Linn.: Plant

***Corresponding Author**
E.mail: herbal0914@rediffmail.com

Garlic (*Allium sativum* L.) is one of the most important vegetables throughout the world with a total harvested area of 1.437.690 ha and an annual production of 24.255.303 tonnes of dry bulbs. The importance of garlic is due to its use not only for culinary but also for therapeutic and medicinal purposes in both traditional and modern medicine. It is consumed either as raw vegetable (fresh leaves or dried cloves), or after processing in the form of garlic oil, garlic extracts and garlic powder with differences in chemical composition and bioactive compounds content between the various forms.

Phytochemistry

The main active ingredient in garlic is Allicin. Allicin is the active compound that gives garlic its characteristic odor and many of its healing benefits. Other sulphur compounds are thiosulfinates, gamma glutamylcysteine peptides and various Cu-peptides, 2 mercapto-L-cysteins, anthocyanins, glycosides of kaempferol and quercetin, polysaccharides, allinase, sterols, hydrocarbons, sativin I & II, scordinines A & B.

Pharmacological and therapeutic efficacy

- Garlic has been found to have antibacterial, antiviral, and antifungal activity.
- Garlic is also claimed to help prevent heart disease (including atherosclerosis, high cholesterol, and high blood pressure) and cancer.
- Garlic is used to prevent certain types of cancer, including stomach and colon cancers.
- The known vasodilative effect of garlic is possibly caused by catabolism of garlic-derived polysulfides to hydrogen sulfide in red blood cells (RBCs), a reaction that is dependent on reduced thiols in or on the RBC membrane.
- Preventing and fighting the common cold.
- Regular and prolonged use of therapeutic amounts of aged garlic extracts lower blood homocysteine levels and has been shown to prevent some complications of diabetes mellitus.
- Garlic cloves are used as a remedy for infections (especially chest problems), digestive disorders, and fungal infections such as thrush.
- Garlic can be used as a disinfectant because of its bacteriostatic and bacteriocidal properties
- Garlic has been found to enhance thiamine absorption, and therefore reduces the likelihood for developing the thiamine deficiency beriberi.
- In 1924, it was found to be an effective way to prevent scurvy, because of its high vitamin C content
- Garlic has been used reasonably successfully in AIDS patients to treat *Cryptosporidium* in an uncontrolled study in China.
- It has also been used by at least one AIDS patient to treat toxoplasmosis, another protozoal disease
- Garlic supplementation has been shown to boost testosterone levels in rats fed a high protein diet.

Conclusion

Garlic is reported to be a wonderful medicinal plant owing to its preventive characteristics in cardiovascular diseases, regulating blood pressure, lowering blood sugar and cholesterol levels, effective against bacterial, viral, fungal and parasitic infections, enhancing the immune system and having antitumoral property.

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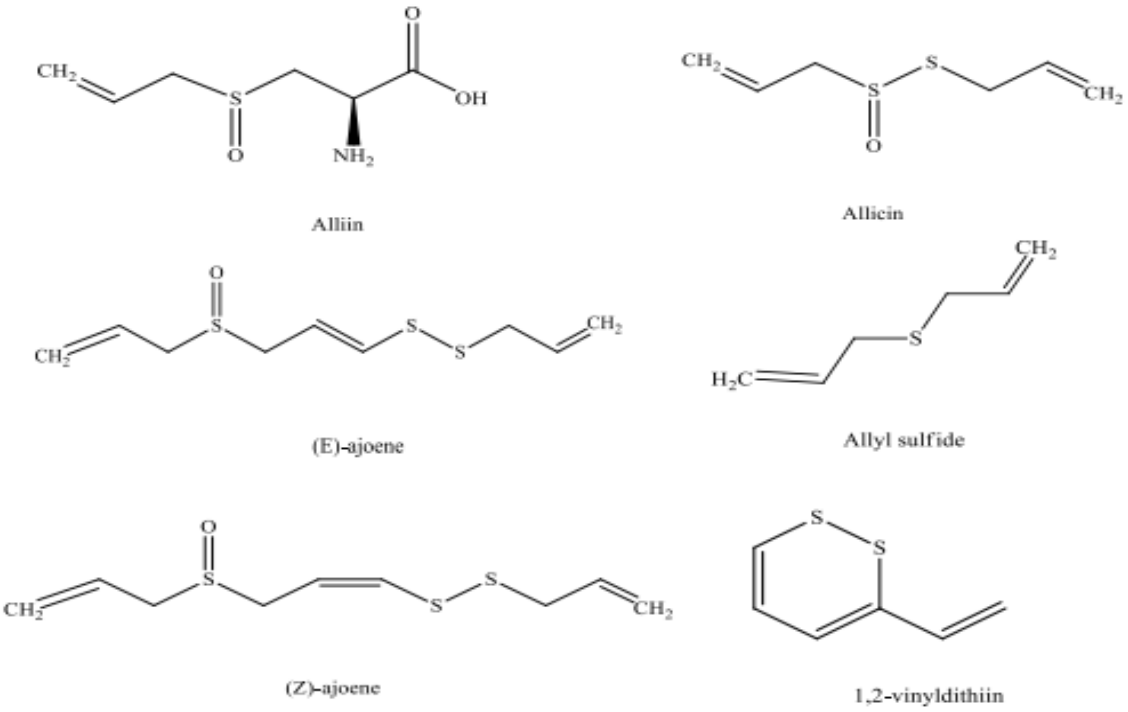

Fig. 1: Some potent active constituents

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