

Medicinal Properties of Onion and Garlic: A Review

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Abstract

The target of this review is to refresh and evaluate the restorative properties of garlic and onion incorporates safe capacities, antibacterial activity, antifungal activity, antiviral activity, detoxification, against oxidant operator, counteract platelet total, decrease in circulatory strain, bringing down of cholesterol-and triglyceride, avoidance of arteriosclerosis, antithrombotic, anticancer impacts. The logical research demonstrates that the wide assortment of dietary and therapeutic elements of garlic can be ascribed to the sulfur mixes present in or created from garlic. Synthetic examination of garlic cloves have uncovered a centralization of sulfur-containing mixes (1–3%). In spite of the fact that garlic delivers expansive number of sulfide mixes from a couple of sulfur containing amino acids, their capacities are unique in relation to each other like allicin, diallyl, mono, di, tri, tetra, hexa and hepta sulfides, vinylthiols and ajoenes. Allyl, propyl disulfide and other natural sulfide or sulfur mixes diallyl disulphide, allinase, alliin (S-allyl cysteine sulphoxide).

Allium cepa is exceedingly esteemed for its helpful properties. It has been utilized as a nourishment cure from time immemorial. Research demonstrates that onions may help make preparations for some ceaseless sicknesses. That is most likely in light of the fact that onions contain liberal measures of the flavonoid quercetin. Studies have demonstrated that quercetin secures against cascades, cardiovascular ailment, and malignancy. Also, onions contain an assortment of other normally happening synthetics known as organosulfur compounds that have been connected to bringing down pulse and cholesterol levels. Albeit once in a while utilized particularly as a restorative herb, the onion has an extensive variety of helpful activities on the body and when eaten (particularly crude) all the time will advance the general soundness of the body. The globule is anthelmintic, calming, sterile, antispasmodic, carminative, diuretic, expectorant, febrifuge, hypoglycaemic, hypotensive, lithontripic, stomachic and tonic. At the point when utilized consistently in the eating routine it balances propensities towards angina, arteriosclerosis and heart assault. This is utilized especially in the treatment of individuals whose manifestations incorporate running eyes and nose. The onions capacity to alleviate clogs particularly in the lungs and bronchial tract, is difficult to accept until the point that you have really seen the outcomes. The illustration of contamination, blockage and colds out of the ear is likewise amazing. The onion will soothe stomach agitated and other gastrointestinal disarranges and it will likewise reinforce the hunger. Pharmacologically know as Allium cepa, onion is found in each family. The purple cleaned onion tastes extraordinary. Furthermore, it has a few medical advantages and is a piece of many home cures and magnificence arrangements.

Keywords: *Allium cepa*, Garlic, Antioxidant, Hypertension, Antimicrobial.

Introduction

Onions (*Allium cepa*) and Garlic (*Allium sativa*) are large used as upgrading vegetables for their smell and taste in various types of nourishment items around the globe. It was guaranteed by numerous scientists that onions were first developed in Iran and West Pakistan. There is extension for discussion on the inception of garlic yet it is for the most part acknowledged that garlic was started in china. With various flavors and fixings it is seen that garlic and onions are most prominent for improving the trial of numerous dishes. Other than culinary reason, both garlic and onions are utilized for remedial purposes everywhere throughout the globe. The

distinguishing kind of onions is because of essence of allyl propyl disulphide a sulfur containing blends. The red and yellow shade of outer skin of onion is aftereffect of essence of colors like anthocyanin and quercetin shades. Both onions and garlic have antifungal action which is because of essence of the phenolic factor i.e. catechol.

India is major producer as well as consumer of onion and garlic. India produces about 20% of world's onion. Onion is produced in many states of India. The major share of onion production is in Maharashtra, Madhya Pradesh, Karnataka Andhra Pradesh, Bihar, Gujarat, Haryana, Rajasthan, articulate Pradesh, Tamil Nadu and Odisha. China is the world leader in production (120.88 lt) contributing to 77.07 per cent of world tonnage followed by India at 5.29 per cent (8.3 lt), S.Korea at 2.08 per cent (3.27 lt) and Russia at 3.98 per cent (2.54 lt). India is the second largest producer of garlic in world. Garlic was grown in India in 2007-08, over 1.69 lh with 8.3 lt production. [Reference] Kerala is leading producer of Garlic in India followed by Assam, Andhra Pradesh, Himachal Pradesh, West Bengal and Sikkim.

Hippocrates the "Father of Medicine" maybe the best healer that at any point lived, composed 2500 years prior "Let your food be your medicine, let your medication be your nourishment." Garlic, more than some other sustenance fits into Hippocrates' depiction of a perfect sustenance, that which is both a super nutritious sustenance and a supernatural occurrence prescription. Dietary Supplement Health and Education Act in 1994 made home grown dietary enhancements promptly accessible to U.S. customers. An investigation has demonstrated that 42% of the U.S. populace utilizes correlative and elective prescription, with 13% revealing the utilization of home grown items. Home grown treatments are broadly utilized around the world. All the more as of late, half of patients with bosom or gynecologic malignancies utilize integral and elective drug, and as much as 5% of this populace takes the natural enhancement, garlic. Wellbeing properties of garlic (*Allium sativum* L.) rely upon its bioactive mixes. Crude garlic is generally utilized, however this vegetable is likewise a required part in many cooked dishes. Garlic has played an imperative dietary and restorative job since the commencement of humanity. Garlic is a nature's help to humanity. Garlic has been utilized since time immemorial as a culinary zest and therapeutic herb. Its utilization in China was first made reference to in A.D. 510, and Louis Pasteur originally considered the antibacterial activity of garlic in 1858. While prior preliminaries propose it might gently bring down cholesterol and triglyceride levels in the blood. Over 5000 years garlic has been expended both as nourishment and utilized for prescription by old researchers. Garlic, *Allium sativum* L. is an individual from the Alliaceae family, has been generally perceived as a significant zest and a prevalent solution for different infirmities and physiological issue. The name garlic may have started from the Celtic word 'all' which means impactful.

Nutritional Content

The regular onion contains

Sr no.	Parameters	Values(per 100g)
1	Moisture	88.6-92.8
2	Protein	0.9-1.6
3	Fat	0.2
4	Sulfur	5.2-51
5	calories	23-28

[Reference]

The regular garlic contains

Sr no.	Parameters	Values(per 100g)
1	Manganese	23
2	Vitamin B6	17%
3	Vitamin C	15
4	Selenium	6
5	Fiber	0.6

[Reference]

Chemistry and chemical changes in garlic

At the point when garlic is pounded or generally harmed assaulted by microorganisms, smashed, cut, bit, got dried out, pummeled or presented to water, the vacuolar compound alliinase quickly lyses the cytosolic cysteine sulfoxides (alliin). The briefly framed compound, alliin, involves 70– 80% of the thiosulfinates. Normally, alliin is changed over to alliin by alliinase. Alliin immediately disintegrates to different mixes, for example, diallyl sulfide (DAS), diallyl disulfide (DADS), dithiins and ajoene. In the meantime, g-glutamyl cysteine is changed over to S-allylcysteine (SAC), through a pathway other than the alliin– alliin pathway.

- Garlic contains at least 33 sulfur compounds, Sulfur compounds: alliin, alliin, ajoene, allylpropyl disulfide, diallyl trisulfide (DATS), S-allylcysteine (SAC), vinyl dithiins, S-allylmercaptocysteine and others.
- Several enzymes (Alliinase, peroxidase, myrosinase, catalases, superoxide dismutases, arginases, lipases),
- Amino acids (arginine, glutamic acid, asparagic acid, methionine, threonine)
- Proteins (glutamyl peptides)
- Vitamins (B1, B2, B6, C and E),
- Se, Ge, Te and other trace minerals 7. Biotin, nicotinic acid, elements, lipids, prostaglandins, fructan, pectin, adenosine.

Medicinal Properties

Ayurveda which is ancient Indian science of medicine accept the importance of onion and garlic in the treatment of many short term and chronic diseases. It was mentioned in Ayurveda, that onion and garlic cures many diseases. Garlic and Onion are mostly *Rajasic*, but also contain some *Tamasic* action. Garlic and onion are avoided by spiritual adherents because they stimulate the central nervous system and can disturb vows of celibacy but for general people it is advised. Onion recommended in treatment of swelling. For hurting ear, squeeze of onion or onion oil is prescribed in Ayurveda. For enhancing the vision, the juice or onion should be consumed daily in a dosage of 10-15ml. The glue of onion is connected over clogged pore to treat them. The glue of onion is marginally warmed and connected over they are influenced with sciatica, joint agony and torment in the nerves. The juice of onion is introduced into the nostrils in instances of nasal dying. Onion juice is also advised to men facing sexual problems. It was also mentioned in Ayurveda that onion juice is useful for treatment of erectile dysfunction. Sweet assortment of onions are cut into cuts, broiled in ghee and devoured frequently to expand the imperativeness and sexual power. The onion seed is powdered and devoured in measurements of 3-5g with pomegranate juice to enhance sperm check.

Onions and garlic are both part of the allium family of vegetables that contain substances to possibly benefit your health in many ways, reports the American Institute for Cancer Research. While onions and garlic cloves do give off strong odors, the sulfur compounds responsible for those aromas are the same substances that provide health benefits if you eat onions and garlic. **Fighting Infections**

The both onions and garlic may enable you to battle diseases. Onions may lessen the side effects of bronchitis and the normal cool, and they likewise can battle destructive microscopic organisms, takes note of the November 2002 issue of "Phytotherapy Research." Garlic has both antibacterial and antifungal properties, as per the Linus Pauling Institute, and it additionally may fortify your safe framework generally speaking, making you less helpless against contracting contaminations.

Onion has properties united to those of garlic, yet in a milder degree, and the ingestion of its oil and impact upon the framework is to some degree like that of the oil of garlic. Onions don't concur with all people, particularly dyspeptics, in whom they support the creation of flatus, which, in any case, is a typical indication among every one of the individuals who eat to a great extent of them; bubbling, in an extraordinary measure, denies them of this property. Sugar and onion-juice shape a syrup, much utilized in household practice, for hack and different affections of the air-tubes among kids. A cooked onion utilized as a cataplasm to suppurating tumors, or to the ear in otitis, has demonstrated valuable. A soaked tincture of onions made with great Holland gin, has been discovered useful in rock and dropsical affections. A cataplasm of onions beat with vinegar, connected for various days, and changed 3 times each day, has been found to fix corns and bunions.

Fighting Cancer

Onions and garlic may likewise enable you to oppose malignancy. The American Institute of Cancer Research says the substance mixes inside allium vegetables, for example, onions and garlic can moderate or prevent malignancy cells from multiplying in different places in the body, for example, the lungs, colon, throat and bosoms. The exacerbates that onions and garlic contain can likewise diminish the rate at which disease tumors develop, or even stop tumor development out and out, reports the American Institute of Cancer Research. The Linus Pauling Institute says garlic, specifically, may be particularly compelling as a weapon against gastric and colorectal malignant growth.

Fighting Heart Disease

Devouring onions and garlic additionally may enable you to avert coronary illness. Onions are wealthy in common synthetics called flavonoids, which can shield you from coronary illness, says Vegetarian Nutrition.info., and onions additionally may decrease your danger of blood clusters, which can prompt heart assaults and different types of coronary illness. Garlic may likewise diminish your danger of blood clumps, help keep your corridors adaptable and help lessen your pulse.

Immune Booster

Garlic mixes may affect your safe framework, helping you avert or recuperate all the more rapidly from ailment. An examination distributed in a 2001 issue of "Advances in Therapy" that included 46 solid subjects who took a garlic supplement or fake treatment discovered that the individuals who expended garlic were less inclined to build up the basic cool and, in the event that they did, could recoup more rapidly than those in the fake treatment gathering. Dedication Sloan-Kettering specialists say garlic mixes are normal anti-toxins that may bolster invulnerable capacity by invigorating cells called t-lymphocytes and macrophages to increment in number and turned out to be more dynamic, helping them fend off conceivably destructive pathogens.

Adding Onions and Garlic to Diet

Allium vegetables, for example, onions and garlic are the most extravagant sustenance wellsprings of sound sulfur mixes, which prescribes eating them routinely to acquire their full medical advantages, instead of taking enhancements that may contain broadly fluctuating measures of the solid mixes. Onions and garlic have reciprocal tastes, so you may eat them together in similar dinners. You can likewise add onions to panfry dishes and utilize them to enhance soups, plates of mixed greens and plunges. The Linus Pauling Institute prescribes eating garlic cloves crude, or squashing or slashing garlic cloves before cooking them to enable them to hold their gainful mixes amid the cooking procedure.

CONCLUSION

In the present review, cancer prevention agent, antihypertensive, cardiovascular action, antimicrobial and antineoplastic activities of garlic have been appeared. . Garlic is a genuine super sustenance with regards to coronary illness. Various examinations have demonstrated that ordinary utilization of garlic can bring down our circulatory strain. Allicin in garlic has been observed to be a great antibacterial and antifungal. In any case, it has likewise been accounted for that higher groupings of garlic powder cause impressive cell damage in the liver of rodents, which isn't seen at lower focuses; extra proof is expected to decide the amount required by people to limit malignant growth. Garlic separates have been appeared to apply anthelmintic action against regular intestinal parasites.

Onions privileged insights a great deal of phytoncids slaughtering pathogenic microorganisms, this is the reason it is broadly utilized as solution for catarrhal maladies: influenza, angina, suppurative lung irritation, catarrh and hack. Onion is utilized for the treatment of bronchial asthma. Onion keeps from prostatic hypertrophy. Indeed, even in old Egypt onion decoction was viewed as an aphrodisiac. Onion counteracts atherosclerotic plaques. Onions diminish blood coagulation, counteracts atherosclerosis and other cardiovascular ailments. One onion knob can have indistinguishable impact from cardio aspirin. This vegetable enhances kidney work and assimilates nitrogen from blood. Onion additionally has an anticarcinogenic effect. It invigorates assimilation and controlled insides work expelling dynamic microorganisms. As small observe, onion is exceptionally advantageous to your wellbeing. Restorative properties of onion surpass those in numerous medications, which typically have side effects. Several parts of the plant have a place in conventional meds. The seeds of onion assuage dental worms and urinary sicknesses. The stalks of onion are a wellspring of Vitamin A, thiamin and ascorbic corrosive. They are utilized in both delicate and develop stages.

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