

A Comprehensive Study on Garlic with Ancient and Modern View - A Review

Author: Balaji Thakur¹

Co Authors: Dr.Kratika Saini², Padma Lochan Naik³, Priyanka Kumari⁴ and Bhanu Pratap Singh⁵

^{1,2,3,5}Dept.of Kriya Sharir,National Institute of Ayurveda, Jaipur, Rajasthan, India

⁴P.G Dept. of Dravya Guna, National Institute of Ayurveda, Jaipur, Rajasthan, India

ABSTRACT

Garlic, *Allium sativum* L., a member of the Alliaceae family, is a useful spice and a popular cure for a variety of diseases and physiological abnormalities. Garlic's name may have come from the Celtic word 'all,' which means pungent. Garlic appears to have originated in Central Asia and moved to China, the Near East, and the Mediterranean region before spreading West to Central and Southern Europe, Northern Africa (Egypt), and Mexico. Garlic has been utilised for medical purposes for thousands of years. Sanskrit sources date its medical use to over 5,000 years ago, and it has been used in Chinese medicine for at least 3,000 years. Garlic was utilised for healing by the Egyptians, Babylonians, Greeks, and Romans. It is likely one of the earliest known medicinal plants, having been used to treat a variety of human diseases since antiquity. Garlic is used to lower blood pressure and cholesterol, as well as to fight infections and prevent cancer. Sulphur-containing compounds are the active ingredients, and they are quickly absorbed and metabolised. Garlic has been shown in numerous trials to reduce total cholesterol levels by about 10%, resulting in a favourable change in HDL/LDL ratios. Garlic's usefulness as a mild antihypertensive, decreasing blood pressure by 5-7 percent, is supported by research. Garlic reduces clots on injured endothelium by inhibiting platelet aggregation and increasing fibrinolytic activity. Fresh Garlic is commonly used in cooking, while dehydrated Garlic is widely utilised in the food business and as a condiment. A number of pharmacological forms can be found in Ayurveda's early texts, which date back over 3000 years, as well as later writings, indicating that it was used by consecutive generations in India. Here is a full discussion of Garlic from both an ancient and modern perspective, followed by pharmaceutical considerations.

Key Words *Garlic, Lasuna, Ancient History, Classical Uses, Adverse Effect, Dose*

Received 11th November 21 Accepted 27th December 21 Published 10th January 2022

INTRODUCTION

Rasona or Garlic or Lasuna as it is commonly called is grown as an important crop in almost throughout India and is practised as a spice or condiment. In Ayurveda it has been used as drug

since time immemorial. Its properties and therapeutic uses have been described in Charak Sutra Sthana Ch.27. Lasuna consumption has also been mentioned as one of the causative factors while describing the aetiology of

REVIEW ARTICLE

Raktapitta in Charak Nidhan Ch. 2. Its Ksheerpaka i.e. Lasunaksheerpaka has been indicated for treatment of Vataja Gulma in Charak Chi. Ch.5. Sushruta has described its properties and therapeutic uses in Sushruta Sutra Ch. 46. Vagbhata in Ashtang Hridaya Ch. 39, Uttar Tantra, describes it as Rasayanandhas mentioned Garlic as a best drug for treating Vatik disorders. Its properties have been described in Sutra Sthana ch.6 & 7 of Ashtang Hridaya and Sangraha respectively. Kashyapa has devoted a separate chapter in Kalpa Sthana for Lasunakalpa. The separate chapters on Lasunakalpa have also been described by Navaneeta and Shodhala. Kaiyadeo Nigantu, Dhanwantri Nigantu, Raj Nigantu, Madanpal Nigantu, Bhava-Parkash Nigantu, Nigantu Ratnakar, Dravyaguna Vigyanas and all other workers have described Rasona in one or other way.

MORPHOLOGY:

Family - Liliaceae

Botanical Name- *Allium sativum* Linn. Sanskrit Name-*Rasona*

Hindi Name -Lasuna

OTHER SYNONYMS:

*Uragandha, Mahaushadha, Arishta, Vatari, Shuklakanda*¹.

DISTRIBUTION

Rasona is cultivated throughout India particularly Gerhwal, Punjab and Kashmir. The primary centre of its origin is the Central Asia. Mediterranean area is the secondary centre. It grows well where winter and summer

temperatures are moderate. It generally grows as cool, season crop in India. The crop is seen from September to November in plains and lower hills of northern India.

PROPERTIES :

Rasa- Contains all Rasa-except Amla Rasa

Guna-Snigdha, Tikshna, Pichila, Guru, sara Virjya-Ushna

Vipaka-Katu².

BOTANICAL DESCRIPTION:

The plant is about one foot high. It is hardly perennial with narrow flat leaves, slender, spathes, long beaked heads bearing bulbils and flowers, Sepals Lanceolate acuminate, inner filaments two toothed and bears small white flowers and bulbs. The bulbs consist of several smaller bulbs called cloves and is surrounded by a thin white or pinkish sheath.

TYPES: ACCORDING TO AYURVEDIC

Kashyap Samhita has described two varieties of Lasuna:

1. GIRIJ-It is found on mountains
2. KSHETRAJ - It is found on plains It is mentioned that Girij variety more useful than shetraj³.

Dhanwantri and Raj Nighantus have described two varieties:

1. Rasona
2. Mahakanda

Charak, Sushruta, Vagbhata, Bhavaprakash and shaligram Nigantus have not described any such variety. There are hardly any botanically recognised varieties in India. Creole, Italian and Tehiti are some varieties grown in foreign

REVIEW ARTICLE

countries.

There are two types of Indian varieties:

1. Little to medium-sized bulbs with a mix of small and large cloves.
2. Bulbs and cloves of a large size.

TYPES - ACCORDING TO MODERN CONCEPT

Garlic (*Allium sativum*) is separated into two types or subspecies: hardneck (*ophioscorodon*) and softneck (*Allium sativum*). These are predicated on the fact that the former grows a stiff stalk from the ground cloves, which is topped by miniature aerial cloves known as "bulbils." Bolting is a term used to describe this process. Because Garlic variations are sterile clones, they produce bulbs rather than blossoms. This "flower" stalk is not produced by softneck varieties. These labels don't always hold true in reality, as stalks develop differently depending on the season, climate, and cultivar (cultivated varieties). The original choices that arose from wild Garlic were the hardneck Garlics. They feature fewer but larger cloves, are more colourful, and come in a variety of flavours when compared to softneck varieties. Because they thrive in colder climates, they are frequently seen. Despite the fact that they generate a stalk, it should be removed so that all of the plant's energy is directed into producing cloves. When it's sunny, cut or snap off to ensure a speedy healing wound. If you get the stalk when it's young and soft, you can cut it up and utilise it in cooking. The softneck varieties, on the other hand, were bred from hardnecks. They're

sometimes referred to as "braiding" Garlic because they're the easiest to braid. They yield up to twice as many cloves per plant as hardnecks and have smaller cloves. Cloves have a strong flavour and can be difficult to peel. They are the favoured kinds grown commercially and that you generally see in grocery stores since they mature faster than hardnecks, are adaptable to many climates, and don't have flower stalks to remove. Between the hardneck and softneck, there are 11 basic groupings, or "types," each with its own set of cultivars. Asiatic, Creole, Glazed Purple Stripe, Marbled Purple Stripe, Middle Eastern, Porcelain, Purple Stripe, Rocambole, and Turban are some of the hardneck varieties available. The Asiatic, Creole, and Turban are all lagging behind in their bolting. Artichoke and Silverskin cultivars for softneck kinds are available. 'California Early' and 'Red Toch' are the most common artichoke softneck cultivars found in supermarkets. They are available to harvest sooner in the season, and they may grow in a variety of soil types and growth conditions. Cloves have a flattened shape and are usually huge in size. Asiatic hardneck cultivars like 'Asian Tempest' and 'Pyongyang' (both of which originated in Korea) have good flavour and keep well. Their "flower," which looks like a long, black, wrinkled bean pod, can be recognised. When planted, the aerial cloves in it can produce new plants. To produce fresh cloves, this hardneck does not require removing the stalk. Cultivars like 'Creole Red' and 'Burgundy' are better suited to warm regions, as their names

REVIEW ARTICLE

suggest. Cloves are medium in size, have a pleasant flavour, keep well, and come in a variety of red and purple tints. Glazed Purple Stripe hardneck cultivars like 'Vekak' and 'Red Rezan' were primarily imported from Eastern Europe and Russia. The metallic sheen of the few, squat cloves, purple streaked silver, is well-named. Flavors may be weaker than in other varieties. 'Metechi' and 'Siberian,' for example, are marbled purple stripe hardneck cultivars that originated in Eastern Europe and Russia. They adapt well to both northern and southern climates, with the rare and larger cloves being purple-marbled. They keep nicely in the refrigerator, the cloves peel quickly, and the flavour is intense. Middle Eastern hardneck cultivars like 'Jomah' and 'Syrian' originate in the Middle East and are not widely available because they are better suited to these conditions than North America. On the other hand, porcelain hardneck cultivars like 'German White' and 'Polish Hardneck' are common in northern climates. When cloves are eaten raw, they are hot and pungent, but when baked, they become starchy. The thick skins closely encase the few, big cloves. The outside layers of the skin are white, with purple stripes on the inner layers. They keep well in the refrigerator. Purple Stripe hardneck cultivars like 'Shatili' and 'Shvelisi' or 'Chesnok Red' come from the Caucasus region and the Republic of Georgia, as their names suggest. Depending on the conditions, they can be brightly purple striped or silverer. Cloves have a deep flavour that isn't overpowering, and they store well. They

were the forefathers of all other Garlic varieties. Some of the most popular and flavourful Rocambole hardneck cultivars for home cultivation include 'Russian Red' and 'Spanish Roja.' Cloves are brownish in colour and have a deep, sweet, and nuanced flavour. The stalks, also known as scapes, have a peculiar double loop on top. Unfortunately, this variety of Garlic only lasts a short period in the refrigerator. Silver skin softneck Varieties with a malleable stem, such as 'Idaho Silver' and 'Silver White,' are the ones you frequently see braided. They are usually the cultivars with the longest storage time and are also fairly vigorous. Cloves are typically white, tiny, teardrop-shaped, and slow to emerge. Turban hardneck cultivars like 'Chinese Purple' and 'Shandong' originate in a variety of places, including Eastern Europe, the Far East, and Mexico. They are less frequent than other varieties, contain brownish to purplish cloves, sprout early, and store poorly. The term comes from the shape of the capsule on the top of the stalk, which is fashioned like a turban. Cloves are known as the "summer apple" of the Garlic world because they have a spicy flavour while raw and a mellow flavour when cooked⁴.

HISTORY

Garlic is derived from Garleac, an old Anglo-Saxon term that means "spear leek." Garlic is thought to be descended from *Allium longicuspis*, a wild Asian Garlic variety, although its origins remain unknown. It is related to onions, leeks, chives, and shallots and belongs to the lily (*Liliaceae*) family.

REVIEW ARTICLE

MYTH CONCLUDES THE FOLLOWING:

Garlic has been seen as a force for both good and evil in mythology, spiritual and religious applications of Garlic. Garlic was thought to be a powerful ward against demons, werewolves, and vampires in Central European folklore. To ward off vampires, Garlic could be worn, hung in windows, or eaten. rubbed on keyholes and chimneys Garlic is one of the items on the seven-seen table, which is a traditional new year presentation in Iranian countries. It is forbidden to consume raw Garlic before going to the mosque in Islam. Garlic is supposed to stimulate and warm the body, as well as increase one's passions, in both Hinduism and Jainism. Garlic and related onion species are generally avoided by some Hindus during religious occasions. Garlic is considered one of the pungent species in Buddhism, and it stimulates sexual and violent urge. In both Hinduism and Jainism, Garlic is thought to stimulate and warm the body and to increase one's desires. Some Hindus generally avoid using Garlic and related onion species for religious festivals. In Buddhism, Garlic is considered as one of the pungent species, so will stimulate sexual and aggressive drive⁵.

EARLY AGES

EARLY PERIODS Pliny the Elder, a Greek physician who published the five-volume *Historia Naturalis*, had a huge influence on medicine in Rome. Garlic was described as having 23 applications for a range of ailments. Garlic was thought to provide great protection against toxins and infections, a conclusion

supported by recent studies of the effects of Garlic on P450-2E1 activities and other hepatic degradative illnesses dates back to ancient Asia. According to the best estimates, Garlic was widely used in China by or about 2000 BC, and was a staple of the daily diet, particularly when ingested with raw meat. Garlic was also employed as a food preservation according to records from the time period.

MIDDLE AGES

Garlic was utilised to treat the Great Plagues. When taken with liquids, Garlic was thought to help with constipation. To avoid heat stroke, outdoor workers were recommended to eat Garlic. Garlic is frequently recommended for those who have to perform strenuous physical labour, and this has been the case since antiquity. Another reoccurring motif is that the upper classes dislike Garlic and don't think it's fit for them to eat. Garlic was designated as a "hot food" that should be consumed in the winter to prevent the onset of pulmonary or respiratory diseases. Garlic was also used to treat huge debilitation and subsequently in the Great Plagues. Garlic, which is native to Central Asia and Northern Iran, has a long history of use as a condiment around the world. Ancient Egyptians were known to use Garlic mostly for food flavouring and medicinal purposes⁶.

Birth Of Garlic According to Ayurveda

When Vainateya (Garuda) took the jug of nectar from the Lord of Indra, a drop of nectar fell to the ground and created Rasona, which is defined by its lack of sourness, pungent in its roots, bitter in

REVIEW ARTICLE

its leaves, astringent in its tubes, salt in its tip of the tubes and sweet taste in its seeds said by wise.

Its Uses

Garlic is a nourishing aphrodisiac that is unctuous, hot in potency, digestive, laxative, pungent both in flavour and penetrating, unites shattered bones, is good for the throat, hard to digest, aggregates pitta and blood, and is beneficial for the heart.

According to Ashtanga Sangraha Garlic is penetrating, hot in potency, pungent at the end of the digestion, helps in peristaltic movement, good for heart.

According to Danvanthari Nigantu also describes that Garlic is good for digestion pungent, hard, air aggregative, good for abdominal tumors, abdominal flatulence and heart diseases.

According to Susruta samhitha Garlic is utilised for sciatica, osteoarthritis, paralysis eczema, intoxications, insects, neurological diseases, constipation, abdominal pain, piles, heart ailments, and internal oedema.

The drug Lasuna, as well as its synonym "Rasona," appears for the first time in SS. According to SS, Garlic enhances medha (intellect), svara (voice), varna (complexion), chakshu (vision), and bhagnasthisandhana (union of shattered bone) and has balya (strengthening) and vrisya (aphrodisiac) properties.

The Garlic-Lasuna is used to treat krimi (worms), kustha (dermatopathies), kilasa (leucoderma), vata (one of the three vitiated elements), gulma (intra-abdominal tumour), Gaurava (headache), Sirassula (headache), Pinasa (chronic rhinitis),

ardhavabhedaka (hemicrania).

Lasuna is one of the medications used in Vimanasthana for non-unctuous medicated enema for intestinal worms. Lasuna is enumerated in the katuskandha (pungent group) and a medicinal enema is made, which is given in slesma (one of the three bioelements) origin diseases along with madhu (honey), taila (oil), and Lavana (salt).

Lasuna-kanda (Garlic-tuber) has been combined with other medications in a group for sirovirechana (head-evacuation- one of the Panchakarma (Five Measures- vama- virechana- anuvasana-asthapana- sirovirechana).Suddha-suska is used to make kshira-paka (medicated milk). Lasuna (Garlic, clean-dried) in a specific ratio of lasuna (Garlic): udaka (water) udakaudakaudaka Vatajagulma (intra-abdominal tumour caused by vata-vitiation), udavarta (upward migration of Vayu), gridhrasi (sciatica), visamajvara (irregular-fever), hridaroga (cardiac-diseases), vidradhi (abscess), and sotha are all cured by kshira (milk) (inflammation)⁷.

To treat intermittent fever, take a teaspoon of Rasona (Garlic) paste mixed with sesame oil before each meal. Garlic is one of the constituents in Kanakakshiritaila, a medicinal oil mixture used as a topical massage for worms and itching. To treat apasmara, Garlic should be fumigated with other plant medications.

It is indicated as a galactagogue in cases of low milk supply in breastfeeding mothers due to

REVIEW ARTICLE

krodha (anger), soka (sorrow) and avatsalya (loss of affection to the baby).

To relieve intestinal hardness during labour, a milk concoction of Garlic with hingu, sauvarchala, and vacha is advised. It is used as an anjana (ointment) and to pacify eye illnesses such as kandu (itching), timira (diminished vision), suklarma (pterygium), and raktaraji of the eye when combined with other plant and mineral origin compounds (redness of the eye).

Garlic in combination with other medications in the form of oil and clarified-butter formulations is advised for ear disorders. In ghrita (clarified butter) form, lukewarm oil combined with Garlic juice is good for earache, head evacuation, and intermittent fever.

Kshayaartha is encouraged to drink Garlic milk (Rasona) in another place (patient of tuberculosis).

Garlic's role in cardio vascular disease is mostly mentioned in the Charaka samhita, which claims that its astringent taste, digestive capacity, and ability to diminish blood aggregation reduce obstructions in blood arteries, hence preventing heart disease⁸.

Also, according to Ayurveda, lowering kapha dosha helps to avoid the aggregation of toxins inside the blood vessels. A Pungent, healing, oleaginous, tonic, aphrodisiac, and fattening, the bulb's major useable section is pungent, healing, oleaginous, tonic, aphrodisiac, and fattening. Anthelmintic, digestive, enhances appetite, voice, and complexion. It can help with eye and heart diseases, as well as low-grade fevers,

bronchitis, inflammation, piles, Leukoderma, asthma, lumbago, tumours, epileptic fits, and earaches⁹.

The bulbs are diuretic, carminative, analgesic, and aphrodisiac, with a strong flavour. It helps with inflammation, paralysis, bodily pains, joint discomfort, spleen, liver, and lungs problems, clears the voice, Lumbago, persistent fever, thirst, tooth decay, leukoderma, and thins the blood (Yunani).

CHEMICAL COMPOSITION

Allicin and other Garlic components have antihypertensive, hypocholesterolaemia, and hypolipidemic properties. Garlic has been shown to have anti-cholesterol emic and anti-lipidemic properties in rabbits and rats, as well as antihypertensive properties in rats. Garlic helps to lower LDL cholesterol levels. It lowers the levels of triglycerides and cholesterol in the blood¹⁰.

Much clinical research has been done on Garlic formulations that have been shown to have hypocholesterolaemia and hypotensive properties. However, there have been reports that Garlic preparations do not significantly lower cholesterol in persons with hypercholesterolemia. Garlic is linked to lower blood pressure in patients with high systolic pressure, but not in patients with normal systolic pressure, according to a meta-analysis of randomly selected literature data¹¹.

Garlic reduces the risk of atherosclerosis by lowering serum lipids, which avoids lipid deposits in blood arteries. People from nations where Garlic is commonly used in cooking is less prone

REVIEW ARTICLE

to blood vessel illnesses, particularly atherosclerosis. Garlicajoene's have antithrombotic properties, inhibiting lipoygenases, increasing fibrinolysis, and reducing thrombocyte aggregation.

In vivo and in vitro systems have demonstrated significant antithrombotic activity. The impact of Garlic and its preparations on delayed bleeding and coagulation time is also prescribed by German Commission E¹².

Garlic inhibits the production of free radicals and promotes the body's natural defence systems against them. Garlic's antioxidative, hypocholesterolaemia, antithrombotic, and antihypertensive qualities assist prevent cardiovascular and cerebrovascular disease, as well as reduce the risk of dementia and Alzheimer's disease. Garlic has significant anticancer properties¹³.

In rats, allicin has been shown to be effective against sarcoma. Garlic extract inhibits cancerous cell mitosis in all phases without causing harmful side effects. Ajoene has a strong anti-leukemic effect in patients with acute myeloid leukaemia, according to in vivo studies. Scientists in the United Kingdom believe that high doses of Garlic extract can aid in cancer prevention. All of the most recent study on this plant that has been done around the world is based on this exact premise. Garlic is thought to have chemicals that could be used as a cancer treatment. Many scientists are already convinced and have produced achievements in this sector. Garlic is difficult to accept for people with stomach disorders and

excessive hydrochloric world today, for increasing appetite, body strengthening, as nervous system stimulants, against high blood pressure, high cholesterol, arteriosclerosis, children's helminths, as effective antiseptic, preventive means against an array of infectious diseases (typhoid fever, influenza, diphtheria, cholera), against chronic bronchitis, against dandruff and hair fall, as expectorants¹⁴.

Interactions, Adverse Effects, and Contraindications

Adults can consume one to two raw Garlic cloves each day without ill effects. Breath and body odour are the most typical negative effects of Garlic consumption. Excessive raw Garlic consumption, especially on an empty stomach, can result gastrointestinal distress, flatulence, and changes in intestinal flora. Topical application of raw Garlic has been linked to allergic dermatitis, burns, and blisters. Garlic appears to have no effect on medication metabolism, despite contradicting results from recent research in healthy volunteers on Garlic's influence on protease inhibitor pharmacokinetics. Garlic's antithrombotic effects have been mentioned as a contraindication for persons taking anticoagulants. Garlic can extend bleeding time and has been linked (in one case report) to spontaneous spinal epidural, therefore it seems prudent to stop eating large doses seven to ten days before surgery. Dosage Garlic's effective dosage has yet to be identified¹⁵.

REVIEW ARTICLE

CONCLUSION

Many of the early opinions about Garlic's usefulness are being validated by current studies. Folk knowledge should not be dismissed since it may contain important lessons for us. We may learn a lot from the ancients if we take a historical approach to elucidating the mechanisms of action of Garlic and its derivatives, as well as its final role in illness prevention and therapy.

Because of its powerful therapeutic capabilities, Garlic is referred to as 'Mahaaushdhi,' which means great medicine. It is a rejuvenator that helps to prevent ageing, restore youth, and strengthen life. Natural food items of animal and plant origin have been utilised to treat a variety of disorders by mankind for thousands of years, either in their purest form or as simple extracts. Natural products are becoming increasingly popular for difficulties related to lifestyle disorders. To deal with several pathological threats, this review emphasizes on the worldwide most commonly used food material having medicinal properties.

REVIEW ARTICLE

REFERENCES

1. http://www.globalherbalsupplies.com/herb_informati_on/Garlic.htm
2. <https://www.easyayurveda.com/2011/06/30/health-benefits-of-raw-Garlic-ayurveda-details/>
3. Dr. P. V. Tivari, Editor(s), (Reprint ed.). Hindi Commentary on Kashyapa Samhita of Maharshi MarichaKashyapa, Kalpasthana; LasunkalpaAdhyaya: Chapter 2, Verse 4-115.
4. Varanasi: ChaukhambaVishwabharati, 2008; p. 326-338.e sd
5. 4<https://pss.uvm.edu/ppp/articles/Garlictype.html> 5<https://en.wikipedia.org/wiki/Garlic>
6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3249897/>
6. Vagbhata, AstangaHridaya (A compendium of the Ayurveda System) Composed by Vagbhata, with the commentaries – SarvangaSundara of Arundatta and Ayurvedarasyana of Hemadri, Chaukhamba Orientalia, Varanasi, reprint 9th Edition. p 109, 178, 571, 638, 687, 688, 931, 944 (2005).
7. Agnivesa, Charaka Samhita, revised by Charaka and Dridhabala with the Ayurveda-Dipika Commentary of Chakrapanidatta, Edited by Vaidya JadavjiTrikamji Acharya, published by
8. Chaukhamba Sanskrit Sansthan, Varanasi, p. 24, 251, 284, 286, 426, 440, 472, 476 (1992).
9. Agnivesa, Charaka Samhita, revised by Charaka and Dridhabala with the Ayurveda-Dipika Commentary of Chakrapanidatta, Edited by Vaidya JadavjiTrikamji Acharya, published
- by Chaukhambha Sanskrit Sansthan, Varanasi, p. 24, 251, 284, 286, 426, 440, 472, 476 (1992).
10. Jain P.K., Chandarkar, A.G., Bulakh, P.M., Reddy, B.V., Ranade,S.M. and Mathur, V.P. 1977. Observation on effect of Allium sativum on some haematological values in rabbits & human volunteers. J. Shivaji Uni 17, 121-123.
11. 11Tabari, M.A. and Fbrahimpour, S. 2014. Effect of aged Garlic extract on immune response to experimental fibrosarcoma tumor in BALB/ c mice. Indian
12. 12Tansey, M.R. & Appleton, J.A. 1975. Inhibition of fungal growth by Garlic extract. Mycologia 67.409-413.
13. 13Dong, R., Duan, Y.Q., Wang, X.Y., Liu, Y. and Gao, G.L. 2000. Effect of Garlic on peroxidation in rats with diabetes. China J Public Hygeine 16, 205-206.
14. 14chanderkar, A.G. & Jain, P.K. 1973. Analysis of hypotensive action of Allium sativum L. (Garlic).Indian Journal PhysiolPharmacol
15. 15ntechopen.com/online-first/76996 by Vinod K. Joshi