

Journey of capsaicin: From traditional to contemporary medicine and beyond

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Capsaicin, a pungent molecule present in chilies repels a variety of mammals from rats to squirrels to dogs is found pleasurable by humans since time immemorial much before people became familiar with the medicinal aspect of this wonder ingredient. Observed with interest, capsaicin has long been used as a traditional medicine to treat pain, indigestion, diarrhea, ulcer, loss of consciousness, delirium, sore throat, dyspepsia, loss of appetite, flatulence and in recent times its mechanism of pain-relieving action has been revealed. Capsaicin has also been demonstrated to enhance energy metabolism in mammals and reduce the levels of serum cholesterol. Highly selective for VR and TRPV receptors, capsaicin alleviates pain in arthritis, cluster headache, psoriasis, neuralgia and diabetic neuropathy. The pharmacological actions of capsaicin in the thermoregulatory, gastrointestinal, cardiovascular, respiratory and sensory systems have been reviewed and studied extensively. It releases a number of pro-inflammatory mediators involved in pain pathways and helps in the metabolism of epoxide aromatic hydrocarbons that impede with their ability of binding to DNA. Being an incredibly versatile creation of nature and a merchandise of evolution, capsaicin is actively used nowadays in foods, pepper sprays (self defense) and ointments (healer) however its molecular mechanism remains perplexed. Very few studies have been done to explore the effect of capsaicin on erythrocytes and our observations revealed an array of transformation in erythrocyte enzyme activities and concentration of intracellular metabolites. Despite a lot of methodical prospection in capsaicin research, investigations and the journey of biological activity is still far from complete. Current developments of modern biological tools and techniques will pave up the way for its wider availability as a drug like candidate, phytoceutical and/or bioactive.

Biography

Suaib Luqman has completed his Ph.D. at the age of 28 years from University of Allahabad and postdoctoral studies from University of Hawaii, USA. He is presently working as a Scientist on Bioprospection activity and Molecular aspects of Medicinal and Aromatic Plants (MAPs), which are traditionally used in Traditional system of medicine in a frontier research institute (CSIR-CIMAP, Lucknow). He is a recipient of several international and national awards, fellowships and scholarships for his academic achievements and research works. He has published more than 50 papers in reputed journals and serving as an editorial board member of 'Annals of Phytomedicine' and 'Conference Papers in Pharmacology'.

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Challenges of traditional medicine with special reference to global warming

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Traditional systems of medicine (i.e) Ayurveda, Siddha, Unani, or traditional healer all are nature dependent medicinal system. Now a day all of them are facing many threats from inside and outside. The recent threat is availability of quality medicine on demand. It is not very surprising; this threat has been raised from nature and man both in the form of Global warming.

Global warming is a great threat to the flora and fauna of the earth. Worldwide current trends reflect that global warming is directly impacting significant worldwide climate changes. The expansion of desert area, low rainfall, deforestation for food and shelter, rise in atmospheric temperature and increased cosmic radiation on the earth from sun have affected the biodiversity to a great extent. All ready endangered Himalyan range well known for its medicinal biodiversity is now severely suffering with contraction of hill forest area. A large number of species may become extinct or are not available at its native places. All these factors in turn will immensely affect the quality of agricultural land; ultimately causes adverse effect on medicinal produce. Existence of our system depends up on the herbs therefore multidimensional approaches are needed collectively by government and individual level. It demands, Scientific cropping of medicinal plants, exploration of new areas and preventive steps against global warming. Let's join our hand to save our system of traditional medicine from global warming.

Biography

Vinod Kumar has completed his M.S. (Ay) from Banaras Hindu University Varanasi. He is the Reader & Head of Department of Shalakya Tantra at Government Ayurvedic College, Allahabad. He has worked as Medical Officer in UP Ayurvedic Services and has 15 years teaching experience. He has published two books, more than 15 papers in reputed international and national journals and participated as resource person in more than 20 national and international conferences, workshops and CMEs. He is the life member of NAPAR, AAPAI, and NSA.

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