



A REVIEW

Role of Nutraceutical Enriched Broccoli in the Management of Lifestyle Diseases

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Key Words :

Brassica, Glucosinolates, Phenolics, Antioxidants, vitamins, Tumor necrosis factor-alpha (TNF-x), Sulforaphane

ABSTRACT : The new lifestyle diseases constitute a dual burden the existing problems of undernutrition are persisting while the problem of over nutrition are leading a sharp rise in the incidence of non- communicable lifestyle diseases. There is need to assess to a variety of affordable micronutrient rich greens and vegetables. People ingest a vast diversity of pharmacologically active chemicals in the form of foods. Obtaining vegetables and fruits with enhanced nutritional and medicinal qualities will become a much larger component of private and public breeding programs. Brassica vegetables contain glucosinolates, the metabolic breakdown products of which are potent modulators of xenobiotic- metabolising enzymes that protect DNA from damage. This protective effect has been linked to the presence of glucosinolates in these vegetables. Cruciferous vegetables are an excellent dietary source of phytochemicals including glucosinolates, phenolics and other antioxidants like vitamins like C, K and E as well as dietary essential minerals like Ca, Mg, Na, K, Fe, Zn. Dietary antioxidants (*i.e.* vitamins, flavonoids) present in broccoli may decrease the risk of certain diseases; like diabetes, cardiovascular diseases, hypertension, cancers, macular degeneration, neurological conditions, rheumatoid arthritis, Helicobacter pylori infection. Glucoraphanin is a glucosinolate found in high concentrations in the Mariner variety of broccoli (*Brassica oleracea italica*) and other members of the Brassica family. Sulforaphane is the biologically active isothiocyanate produced when glucoraphanin is metabolized by the enzyme myrosinase. Sulforaphane's also has anti-inflammatory effects, inhibits the production of interleukin and tumor necrosis factor-alpha (TNF-x) in rheumatoid T cells. Sulforaphane exhibits broad-spectrum antimicrobial activity, inhibiting the growth of several gram-positive and —negative bacteria.

How to cite this paper : Madhu and Kochhar, Anita (2013). Role of Nutraceutical Enriched Broccoli in the Management of Lifestyle Diseases. *Internat. J. Med. Sci.*, 6(2): 69-76.

Paper History :

Received : 19.09.2013;
Accepted : 26.09.2013