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Cruciferous vegetables and cancer prevention



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Cruciferous vegetables are the part of the family Brassicaceae and genus Brassica. They include cabbage, broccoli, Brussels sprouts, cauliflower etc. Cruciferous vegetables contain sulphur containing compound glucosinolates which are responsible for pungent aroma and bitter flavour of these vegetables. The breakdown products of glucosinolates such as indoles, nitriles, thiocyanate, and isothiocyanate, Indole-3-carbinol and sulforaphane (an isothiocyanate) have been most responsible for their anticancer effects as they are the regulators of microRNAs (miRNAs) and inhibitors of histone deacetylases (HDACs) and DNA methyltransferases (DNMTs). The mis-regulation and overexpression of these genes are responsible for the uncontrolled cellular proliferation and viability of various types of cancer cells. Besides this Cruciferous vegetables are rich in nutrients, like vitamins C, E, and K, folate, carotenoids and minerals. They also are a good source of fibre. There are several studies regarding the associations between intake of cruciferous vegetables and the risk of cancer. Main studies are regarding four common forms of cancer like prostate cancer, colorectal cancer, lung cancer and breast cancer. There are also case control studies which show the associations among urinary isothiocyanates, glutathione S-transferases (GST) polymorphisms, and colorectal cancer risk. According to American Dietary Guidelines 2010 different types of vegetables should be included in everyday diet. Vegetables

are categorized into five subgroups like dark-green, red and orange, beans and peas (legumes), starchy, and other vegetables. Cruciferous vegetables fall into the “dark-green vegetables” category and the “other vegetables” category. Other benefits of cruciferous vegetables include, helping in depression relief, pain relief, and cardio protection as well serves as antioxidant.

Biography

Mrittika Ganguly has done her Masters in Dietetics and Food Service Management from India, currently based in Netherlands She has been consultant as a Dietitian for the last 5 years in leading hospitals in India including. She was also the nutritional advisor at Abbott Nutrition. She worked alongside leading oncologists and worked extensively on dietary interventions/Management on various cancers. Previously she worked on diabetes case through diet and lifestyle intervention. Also worked as insulin injecting technique expert with leading diabetologists of India. Prepared Ramadan diet chart for diabetic patients and published it in one of the leading newspaper The Times of India on 16 July 2014. She also played an active part in Dissemination of scientific knowledge on dietary interventions of cancer and diabetes and deliver lectures on pertinent topics like Role of nutrition in Cancer, Renal Nutrition, diabetes and lifestyle management, Elderly Nutrition etc.

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