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Recent trends and advancements in the prevention of mortality and morbidity associated with cardiovascular diseases

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Health care burdens associated with premature mortality and morbidity due to non-communicable diseases such as cardiovascular diseases (CVDs), respiratory disorders, obesity, diabetes mellitus, cancers, anemia, musculoskeletal abnormalities, and neurodegenerative problems are escalating worldwide. Though these diseases generally manifest in middle age and beyond, it is now recognised that roots of these diseases lie in childhood and adolescence. The conventional risk factors of CVDs consist of hypertension, hyperlipidemia, atherosclerosis, and hyperglycemia. Lifestyle factors including tobacco use, lack of exercise, unhealthy dietary habits, and low socioeconomic status contribute heavily to the development of obesity, diabetes and CVDs in children and adults. Sugar-loaded beverages and excessively salted foods are also potential risk factors. Diets rich in whole grains, fruits and vegetables, olive oil, fish, low-fat dairy products, probiotics, and moderate wine consumption are linked with lower incidence of CVDs. Lifestyle modifications such as regular physical activity (about 30 min/day), restriction of caloric and sodium intake, smoking cessation and moderate alcohol consumption are recommended for improving cardiovascular health and quality of life. Ingestion of phytosterol-enriched foods, micronutrients (vitamins, minerals), and amino acids assist to improve overall health beyond basic nutritional functions. Emerging

evidence suggests that dietary supplements containing flavonoids and antioxidants modulate gene and protein expression and thereby modify endogenous metabolic pathways and homeostasis, and consequently reduce the risk of CVDs and chronic diseases multifactorial in origin. Given the scope and prevalence of CVDs, a cost effective population health strategy - 'prevention is better than cure' - would be the most appropriate model to adopt to curb CVD-related mortality/morbidity and to reduce health care cost.

Biography

Dr. Buttar received his degree in Veterinary Medicine in 1961 from the Punjab University, Chandigarh, India. Before coming to Canada, he was Lecturer for about 2 years in the Department of Pharmacology (1961-1963) in his first alma mater, College of Veterinary Medicine, Hissar. In January 1964, he was awarded an overseas scholarship by the University of Alberta, Edmonton, Alberta, Canada, where he completed his MSc and PhD degrees in Pharmacology in 1966 and 1970, respectively. After a post-doctoral stint at the Wayne State University, Detroit, Michigan, USA, he joined as a Research Scientist level-1 (August 1971) at the Health Protection Branch, Ottawa, and was promoted to the rank of Research Scientist level-5 in April 1997 (highest scientific rank in the Federal Govt.). Since May 1994-Present, he has held cross-appointment of Adjunct Professorship in the Department of Pathology & Laboratory Medicine, Medical College, University of Ottawa, Canada. Previously, he also held the positions of Adjunct Professor in the Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, and at the Memorial University of Newfoundland, St.

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John's, Canada. He is also a scientific consultant to the Institute of Cardiovascular Sciences, Faculty of Medicine, University of Manitoba, Winnipeg, Canada. In June 2013, Dr. Buttar was appointed Visiting Professor in the Department of Pharmacology, School of Medicine, Democritus University of Thrace, Alexandroupolis, Greece. He is currently serving as Visiting Professor in the Faculty of Pharmaceutical Sciences, Guru Nanak Dev University (GNDU), Amritsar, Punjab, India.

At GNDU, Professor Buttar teaches a special course in Basic & Clinical Pharmacology, and helps the MPharm students in doing in vitro and in vivo studies and designing experimental protocols to evaluate the therapeutic potential of drugs and plant-derived products in animal models

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