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Editorial**Role of Nutraceuticals in Ischemic Heart
Disease****Mohamed Saleem Thattakudian Sheikuduman^{1*}**¹Department of Pharmacology, Annamacharya College of Pharmacy, India**Editorial**

Cardiovascular Disease (CVD) is now the most common cause of death in the 20th century and driven by industrialization, urbanization and associated lifestyle changes, it is taking place in every part of the world among all races, ethnic groups and cultures. In India CVD has increased in an alarming rate and has accounted for 32% deaths in 2000. According to the World Health Organization (WHO) 60% of the world's cardiac patients will be Indian by 2010 [1].

Ischemic Heart Disease (IHD), to a large extent, is preventable. This is evident from studies in some countries where incidence of heart attacks and strokes has come down by over 25% by an aggressive approach on preventive aspects like avoiding smoking, doing more physical exercise, control over eating (especially fats, cholesterol rich foods and refined sugars), mental relaxation and effective control of high blood pressure, preferably by non-drug measures [2]

Nutrients as dietary supplementation like vegetables and fruits decreasing the risk of development of various diseases including cardiovascular disease (CVD) [3]. Huge amount of antioxidants present in the vegetables and fruits may protect the myocardium either by inhibition of development of atherosclerosis or by inhibiting the oxidation process of Low Density Lipoprotein (LDL) [4]. Polyphenolic compounds are majorly present in the fruits, vegetable and other plant sources like oils with possible cardio protective and other medicinal properties [5]. Various researchers proved the antioxidant, antithrombotic effect of flavonoids and also inhibiting the cellular oxidation process [6-8]. Apples, Onions, tea, various cooking oils, broccoli and red wine are rich in flavonoids and most of the population in the western countries like USA, Europe and North America including these in their diet, but effect of these nutrients in CVD not well documented [5].

Most of the researchers examined the relationship of intakes of plant based antioxidants and CVD protection, the report of their studies are related to mild, moderate and high intake of antioxidants, but the amount of antioxidant intake is not reported properly [9,10]. Only few studies supported that intake of flavonol ameliorate the CVD risk factors [11].

Prevention is decidedly the better way of health care and the cost is negligible compared to most of the curative measures, which are extremely expensive and prove a big drain on the family and the national budget. This preventive approach to IHD would be of invaluable help to individuals, their families and the nation at large. Diet and nutrition continue to be a focus of ongoing efforts to reduce heart disease and other chronic conditions. Fruits, vegetables, grain, antioxidant vitamins and red wine, in addition to monounsaturated fats, fish and fiber are all suggested as potential protective factors in CVD [12]. Dietary factors modulate CVD through numerous biological mechanisms that include not only effects on lipids but also a host of emerging effects on energy metabolism and cellular function [13].

In western countries like U.K., diet was followed for good health when compared to exercise or other hereditary factors [14]. According to De Felice, (who coined the term nutraceutical from "nutrition" and "pharmaceutical") nutraceutical means any part of the food used for prevention and treatment of various diseases and also used for human health benefit [15]. Nutraceuticals are available in various forms and obtained from various plant sources as isolated products, herbal and dietary supplements and food beverages [16].

Many of the diseases like cold, cough, arthritis, osteoporosis, sleeping disorders, blood pressure, hyperlipidaemia, and diabetes mellitus were treated with various types of nutraceuticals [14]. Recently, research and development concentrating more in the emerging field of Nutraceuticals. It is very important to develop more scientific related Nutraceuticals products through basic and clinical study. Various food sources were categorized as nutraceuticals as probiotics, dietary fibre, polyunsaturated fatty acids, prebiotics, antioxidant lignans, antioxidant vitamins, polyphenols and spices.

An omega-3-fatty acid is one of the major Polyunsaturated Fatty Acids (PUFA) considered as Nutraceuticals have potential therapeutic effects as anti-arrhythmic, hypolipidemic and

antithrombotic [17]. Several antioxidant vitamins like vitamin C, E and carotenoids are act synergistically for the prevention of cardiovascular diseases.

Change of human life style leads to cause development of oxidative stress and the endogenous antioxidant system cannot able to work properly. Moreover, the aging process also decreases the ability of antioxidant defence mechanism in the human body. Hence, most of the research focusing the antioxidant property of various Nutraceuticals to alleviate the diseases. The plant based foods are important component in the traditional diets in Mediterranean and Asian regions. Inclusion of these components in the regular diets has been associated with reduction of cardiovascular morbidity and mortality. Nutrients present in the plant based foods such as flavonoids, lignan and antioxidant vitamins preventing the cardiovascular disease.

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