Nutrition & metabolic syndrome

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What we eat defines what we are. The diet and nutrition reflect on health, growth and development of an individual. Nevertheless, lifestyle changes such as dietary habits and sedentary life that have occurred over past few decades resulted in rapid increase of obesity and associated metabolic abnormalities. The cluster of interconnected factors that increase risk for obesity-induced diabetes mellitus, cardiovascular atherosclerotic diseases, chronic kidney diseases, hypertension and stroke, and some types of cancer are collectively referred as metabolic syndrome (MetS). Drastic changes in lifestyle have affect on all age groups including *in utero*. This alarming rise in incidence of MetS is significant cause of disability and premature death. There has been a remarkable increase in the consumption of dietary fats, refined starches and high fructose containing beverages, over the past few decades. The epidemic of obesity across the globe and excess burden of MetS in industrialized and developing countries including India, China and South America, necessitate primary prevention programs and health initiatives.

This special issue of '*Nutrition and Metabolic Syndrome*' with integration of eight reviews addresses the prevalence of this debilitating health issue and perspectives on dietary modification to promote healthy diets and lifestyles to reduce the global burden of MetS. The review by Philips et al. highlights the importance of stratifying obesity as metabolic healthy and

unhealthy obesity in estimating MetS and discussed the determinants and clinical implications of metabolic healthy obesity. The review by Ramakrishnan provides an over view of the role of maternal malnutrition on intrauterine growth retardation and ensuing MetS in the later course of life as a part of fetal metabolic programming in adult diseases. In the third review, Andersen et al highlight the significance of dietary strategies including energy restriction, weight loss and manipulation of macronutrients that can reduce the risk-factors and physiological parameters associated with MetS. The fourth and fifth reviews compare the impact of European and Western dietary pattern on MetS and emphasize the importance to Mediterranean diet in the reduction of incidence of MetS. The beneficial feature of Mediterranean diet is attributed to high olive oil content. They also recommended adopting Mediterranean-kind of diet by other parts of the world where MetS is highly prevalent. The article by Kumar et al reviews the evolution of definition for MetS, association of MetS with chronic kidney diseases (CKD) and therapeutic dietary strategies to alleviate the burden of MetS associated CKD. The seventh review summarizes the potential therapeutic role of functional foods in management of various traits of MetS such as weight, insulin resistance, dyslipidemia, oxidative stress and inflammation. The final review in this issue examines the potential use of bioactive compounds from seaweeds as pharmacological agents in treating ailments of MetS.

In summary, this special issue of the Journal will provide the readers an insight into some of the latest updates in epidemiology and evaluation of MetS, and a mechanistic basis for MetS associated chronic diseases. This issue also presents information on the use of dietary components and regimens to ameliorate the morbidities associated with MetS.

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