



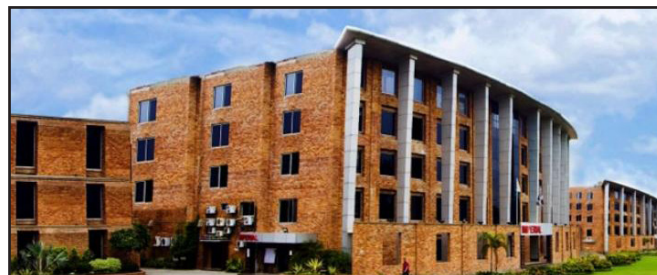
LYCOPENE AND CVDs: Protective effect of lycopene in cardiovascular disease

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Abstract:

Nowadays Cardiovascular disease (CVDs) is major cause of mortality rate in the world. Plants and vegetables are good plant sources which are helpful in CVD prevention. Lower rates of mortality from cardiovascular disease are present in Mediterranean area. Mediterranean diets are rich in plant derived bioactive compounds. These active ingredients are necessary for dietary guidelines. Tomato has a natural component in it which is lycopene. Lycopene is lipophilic which is found in red colored fruits and vegetables such as tomatoes, watermelon and red grapefruit, guava in which lycopene is major component of Mediterranean diet, belongs to carotenoids family. Lycopene acts as an antioxidant, pro-inflammatory and pro-thrombotic factor and cardio protective. Consumption of tomato can lower the CVD risk. Carotenoids act as free-radical scavenger. Many Epidemiological studies show correlation between increase intake of carotenoids and decreased risk of cardiovascular disease. The major activity of lycopene includes, antioxidant, anti-atherosclerotic, anti-inflammatory, anti-apoptotic, antihypertensive, antiplatelet, endothelial effects and to improve metabolic profile, and reduce arterial stiffness. Lycopene shows favorable effects in patients with atherosclerosis, hypertension, peripheral vascular disease, stroke and other cardiovascular disease. Moreover 700 carotenoids have been identified, among them β -carotene, lutein, lycopene, β -carotene, β -cryptoxanthin, and zeaxanthin are the main dietary carotenoids which are linked to the ability in scavenging free radicals such as reactive oxygen species (ROS), lipid peroxyl radicals and nitric oxide (NO). Functional inactivation of NO due to the reaction with superoxide anion (O_2^-) with increased ROS generation leading to peroxynitrite (ONOO) form and then reduction in vascular NO bioavailability that shows the early stage of atherosclerosis. Carotenoids by directly removing O_2^- indicate the restorage of NO endothelial bioavailability. Hence, they considered as potential anti-oxidant modulators of



endothelial response to pro-oxidant and inflammatory stimuli. Moreover in vitro and in vivo experiments have shown that carotenoids are capable to reduce oxidative stress, inflammation through the proper regulation of various cellular functions. Hence, epidemiological studies indicate a strong correlation between dietary consumption of carotenoids and decreased risk of cardiovascular disease CVD. It gives review to outline the current situation of relations between the main dietary carotenoids and prevention of CVD.

Biography:

Sumbal Arif known as an experienced NUTRITIONIST & DIETITIAN with a demonstrated History of working in the Hospital & Health Care Industry, Food Industry Skilled in Pediatrics, Diabetes, Emergency Nutrition, CCU, and Strong Healthcare Services Professional with a Bachelor of Nutrition & Dietetics. Sumbal is a committed & enthusiastic dietitian by profession having three years of experience, she has also had rigorous training in Services Hospital Lahore. Her approach is flexible and empathetic, she is a member of P.S.F.S.T (Pakistan Society of Food Scientists & Technologists) and PNDS (Pakistan Nutrition & Dietitian Society), Joint Secretary of an NGO (Pascal Medical Mission Organization) and is also working with a Multi-national nutraceutical brand as Health and wellness coach, lecturer at SNAP (School Nutrition & Awareness program). She is also providing online services via social media platforms having more than 50 thousand followers overall. Her expedition is to help people live well, healthy and happy life.

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