

Dueling the Dual Pandemic: Nutrition, COVID-19 and Cardiovascular Mortality

Heart disease, kidney disease and stroke mortality are increasing, driven by diet, exercise and lifestyle choices, mediated by risk conferred by the microbiome. The microbiome accounts for the majority of the cell count in humans, i.e., humans are only about 43% human. A dysbiotic microbiome is associated with a variety of degenerative and autoimmune disorders. Risk factors for mortality are promoted by nutrition that results in dysbiosis, while being reduced by nutritional factors that have been associated with improved outcomes, as recommended in the 2019 ACC/AHA Primary Prevention Guidelines' nutrition section:

- *A diet emphasizing intake of vegetables, fruits, legumes, nuts, whole grains, and fish is recommended to decrease ASCVD risk factors.*
- *Replacement of saturated fat with dietary monounsaturated and polyunsaturated fats can be beneficial to reduce ASCVD risk.*
- *A diet containing reduced amounts of cholesterol and sodium can be beneficial to decrease ASCVD risk.*
- *As a part of a healthy diet, it is reasonable to minimize the intake of processed meats, refined carbohydrates, and sweetened beverages to reduce ASCVD risk.*
- *As a part of a healthy diet, the intake of trans fats should be avoided to reduce ASCVD risk.*

Plant-based diets, are associated with lower rates of obesity, and diabetes, high quality of life and longer life-expectancy, as well as less hypertension, dyslipidemia, peripheral artery disease, coronary disease, myocardial infarction, erectile dysfunction, heart failure, chronic kidney disease, stroke and death, much of which is mediated by the microbiome.

In our dual pandemic of cardiovascular and COVID-19, we need to advocate for risk factor reduction, whenever and wherever possible by improving our microbiome to reduce mortality associated with nutrition-related illnesses.