Defend your health with every bite: Nutrition and cancer prevention

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ABSTRACT

Nutrition is increasingly recognized as a key pillar in cancer prevention, with strong evidence showing that dietary choices significantly modulate cancer risk across the lifespan. Landmark reports from the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) affirm that nutrition influences carcinogenesis through inflammation control, oxidative stress reduction, immune modulation, and metabolic regulation. This plenary session will synthesize major findings on how plant-based dietary patterns rich in fruits, vegetables, whole grains, legumes, and omega-3 fatty acids act as protective factors against cancer. In contrast, it will critically examine how processed meats, refined sugars, alcohol, and ultra-processed foods increase cancer risk. Special focus will be given to the antioxidant, anti-inflammatory, and anti-proliferative mechanisms of bioactive compounds, supported by leading evidence from journals such as The Lancet Oncology and Cancer Research. The session will also evaluate the AICR Recommendations for Cancer Prevention, emphasizing their role in guiding dietary, physical activity, and weight management strategies. Practical, culturally sensitive interventions tailored to Malaysia and Southeast Asia will be highlighted, addressing local dietary practices and dispelling common myths such as the overreliance on traditional remedies, misconceptions about "heaty" foods, and fatalistic views of cancer. Strategies will include the promotion of traditional, nutrient-dense foods like ulam and indigenous vegetables, alongside evidence-based education on portion control and food safety. Emerging areas such as nutritional epigenetics, nutrigenomics, and gut microbiome research will also be explored, offering new insights into precision nutrition and its potential to transform cancer prevention strategies. Ultimately, defending health is a lifelong commitment strengthened with every mindful choice. "Through every mindful choice, we can nourish strength, protect health, and plant the seeds of cancer prevention for a healthier tomorrow."

Keywords: Cancer, prevention, food myths, anti-inflammation, plant-based