From Flavonoids to Foods: 40 Years of Cancer Prevention Progress

Key findings from four decades of research by the American Institute for Cancer Research

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Major progress in our understanding of how dietary patterns, the human microbiome and exercise fight cancer have helped transform cancer prevention since 1982, when the American Institute for Cancer Research (AICR) was founded. For Cancer Prevention Month this February, AICR is highlighting the transformative progress in cancer prevention over the past four decades.

That progress has led to AICR's 10 Cancer Prevention Recommendations, the evidence-based action plan to lower risk of the most common cancers. Approximately 4 of every 10 US cancer cases could be prevented with health-related changes including diet, weight and physical activity.

"Over the last 40 years, there has been incredible advances in research methods, the volume and quality of research and the effectiveness of recommendations on how people can reduce their cancer risk," said Dr. Nigel Brockton, Vice President of Research at AICR, "Simply put, the research is now clear: the more recommendations you follow, the lower your risk of cancer and the better your outcomes after a cancer diagnosis."

Key findings over the last 40 years include:

- Dietary patterns matter: Early laboratory research in the 1980s pointed to single nutrients and phytochemicals in food – such as beta-carotene in carrots and sulforaphane in broccoli – being key to cancer prevention. Today, research shows that whole foods are better than isolated extracts. And it is the overall combination of foods that you eat, day in and day out, your dietary pattern, that impacts your risk of cancer. The dietary pattern linked to best cancer prevention is made up of predominantly vegetables, fruits, whole grains, beans and other plant foods, with limited– if any – red meat, sugary foods and alcohol.
- Weight and body fat: Until recently, body fat was thought of as a storage organ but is now

recognized as an important metabolic and hormone-producing organ. Too much body fat can lead to chronic inflammation and high levels of certain hormones, which increases the risk of cancer developing. Now, research shows that staying a healthy body weight is the most important step that people can take to lower cancer risk, aside from not smoking.

- Diet, our microbiome and cancer: It's only in the last couple decades that Researchers now recognize that diet and other lifestyle factors interact with each person's microbiome in a way that can spur or slow cancer development. For example, studies points to certain gut microbes metabolizing dietary fiber into a substance that may protect against colorectal cancer. The microbiome and cancer is an area of growing study –and is just one way that healthy dietary patterns can reduce an individual's cancer risk.
- Exercise, a powerful way to lower cancer risk: Early research suggested that being physically active was important for cancer prevention but since that time, the benefits and understandings of physical activity have grown clearer and stronger. Physical activity is now directly connected to lower risk of three cancers; it also can indirectly help lower risk by helping with weight maintenance. Studies show that physical activity helps support our immune system and maintain healthy hormone levels, along with reducing chronic inflammation.

New research: cancer prevention benefits to healthy living and following the recommendations

Independent studies now show that people who eat more plant foods, are physically active and follow more of the Cancer Prevention Recommendations have less risk of developing some of the most common cancers. Research also indicates that following the Recommendations help cancer survivors and increase survival.

Each of the 10 Cancer Prevention Recommendations is based on strong evidence for a causal impact on cancer risk, but only recently have the aggregate effects of following these recommendations been so abundantly clear.

Time for Action

The challenge now is to raise awareness and put these recommendations into action. A recent Risk Factor Awareness survey found less than half of the population are aware of the strongest risk factors for cancer. AICR has developed tools to address these dual goals.

- The Cancer Health Check is a simple online tool, taking only a few minutes to complete, that assesses how well you are following AICR's Cancer Prevention Recommendations. Embedded within the tool are helpful hints and key facts regarding each risk factor.
- The Healthy10 Challenge is a free 10-week online interactive program that is designed to help you address any of the aspects of lifestyle highlighted for potential improvement by the Cancer Health Check.

Notes Sheena Patel Swanner, MS, RDN, LD, Director of Nutrition Programs at AICR: "Making lifestyle changes can seem daunting but research shows us that any positive changes that you make towards following the Cancer Prevention Recommendations contributes to reducing your cancer risk and for better overall health. The Healthy10 Challenge walks you through steps you can take for a healthier lifestyle that will reduce your cancer risk and the risk of other common chronic conditions. The COVID-19 pandemic has brought our overall health into sharp focus for many of us. Let's make 2022 the year that we take control of our health and cancer risk."

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