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Commentary Open Access

Cancer Prevention through Diet and Nutrition

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Commentary

Tragically, there is no such thing as a "cancer prevention super meal"; the best benefit comes from a combination of different foods. Dark leafy greens are one category of vegetables worth paying attention to during your weekly grocery shop. Broccoli, spinach, leaf lettuce, and kale are examples of these nutrient-dense foods. When it comes to alcohol, don't make the mistake of thinking that it's beneficial for your heart. Alcohol is highly associated to mouth, oesophageal, breast, colon, and liver cancers, and the more you drink, the higher your risk.

Alcohol can harm cellular DNA directly by converting to acetaldehyde. It can also harm the liver, increase the solubility of other cancer-causing substances, raise oestrogen levels, and lower levels of some essential minerals like folate. However, risk must be managed against lifestyle and enjoyment. There are numerous additional things you may take to lower your cancer risk without completely giving up your favourite beverage [1].

Evidence backs up the recommendation to avoid processed meat. The World Cancer Research Fund (WCRF), the most powerful voice in cancer prevention, rates the relationship between red meat and colorectal cancer as "convincing"- the highest degree of evidence imaginable. However, meat eaters can rest easy. The World Cancer Research Fund suggests that red meat consumption be limited to less than 500 grams of cooked meat each week. If the notion of missing a daily steak is too much for you, fish and chicken are good alternatives.

Following up on the advice to minimise red meat consumption, it's also a good idea to avoid overcooking meat, particularly when grilling and frying. Natural reactions in the food can produce heterocyclic amines when beef, chicken, and fish are overcooked at high temperatures for an extended period of time (HCAs) [2].

At least in animal models, HCAs are thought to be potent causes of breast, lung, colon, stomach, and prostate cancer. This is an unexpected recommendation, especially because it barely made it to the "restricted" level of evidence when examined by bodies like the WCRF.

Soy includes isoflavones, a class of phytochemicals with chemical structures comparable to oestrogen. These isoflavones are thought to block natural oestrogen from boosting cell development in women. At least, that's the theory. Soy foods are a cornerstone of vegetarian diets, and the guideline advises avoiding protein concentrates found in supplements in favour of natural soy foods like edamame, tempeh, or tofu. Because soy supplements contain significant levels of isoflavones, they should be avoided by women who are being treated for estrogen-receptor-positive breast cancer [3].

This is without a doubt the most contentious advice and the one most likely to make the news. This recommendation exemplifies the necessity to weigh risk while making lifestyle choices to avoid cancer. While there is some evidence that dairy products may increase a man's risk of prostate cancer, there is also data (which the WCRF rates as "likely") that milk and calcium may reduce the risk of colon cancer.

Vitamin D production can be reduced by eating a calcium-rich diet. Because vitamin D is a key regulator of cell development and proliferation, a lack of it could lead to prostate cancer cells proliferating uncontrollably.

But it's a different story in the colon. In the colon, calcium can bind to potentially carcinogenic substances, rendering them insoluble and easily eliminated. Calcium can also affect cell development directly, reducing proliferation. Physical activity is now recognised as a powerful "cancer-preventing" habit, despite not being part of the nutrition recommendations. Regular physical activity is linked to a 20-40% lower risk of colon and breast cancer, according to studies. How much exercise is sufficient? Physical activity is healthy in general, but for cancer prevention, one hour of moderate activity or 30 minutes of intense activity each day is the most effective [4].

Carrying too much weight, especially around the midsection, is known to increase the risk of cancer, particularly breast and colon cancer. A waist circumference of less than 94cm is ideal for men. It is less than 80cm for women.

Guidelines for cancer prevention represent the current state of scientific evidence and are updated as new data becomes available. The substance of the recommendations, on the other hand, has remained mostly unchanged and may be summarised in a single sentence. Eat largely natural plant foods, stay active, drink moderately, protect yourself from the sun, and don't smoke.

A total lifestyle change can be difficult for some people to implement all at once. Instead, concentrate on one adjustment at a time, such as increasing your daily activity and then eating five different types of veggies and two fruits each day, with colour serving as your best guide to variety [5].

Prevention guidelines should be composed of a series of simple tweaks to how you eat and live now that will provide the cornerstone for a long, healthy, and cancer-free life. As previously mentioned, human nutrition studies have shown a 60% reduction in breast cancer rates and a 71% reduction in colon cancer for men without known modifiable risk factors. Many of the other factors included in this research, such as significantly increased fruit and vegetable intake, balanced omega 3 and 6 fats, vitamin D, reduced sugar intake, probiotics, and enzymes- all of which are likely to have an impact on cancer – are not included in these decreases. Cancer prevention is certainly achievable, and cancer reversal is conceivable in some circumstances.

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Conflict of Interest

None

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