



Cancer and dietary sugars

Key Messages:

- **Cancer is a complex disease with many risk factors**, including age, tobacco use, alcohol, obesity, physical inactivity, diet, sun exposure, pollution, and certain infections.
- **Scientific evidence does not support a direct link between sugars and cancer.** Leading health organisations agree that sugars do not directly cause cancer.
- **The relationship between sugars and cancer is indirect.** Sugars may contribute to cancer risk only when excessive consumption leads to excess calorie intake, weight gain, and obesity.
- **The idea that 'sugar feeds cancer' is a misconception.** While cancer cells use glucose for energy, so do all healthy cells in the body.
- **Cutting out sugar does not starve cancer cells.** The body carefully regulates blood glucose levels to provide a constant energy supply to all cells.

It is likely that cancer has always afflicted humans, although for centuries its relative impact has been overshadowed by early death from infectious diseases. However, with the growing global development, cancer has become one of the major public health challenges of the 21st century and is projected to increase from 19 million cases in 2020 to around 30 million cases in 2040 (1). Cancer is a group of diseases characterised by uncontrolled cell growth in various tissues in the body.

Risk factors for cancer

There are many known risk factors for cancer. These include age, tobacco use, alcohol use, obesity, low physical activity levels, sun exposure and pollution. Many aspects of the diet influence cancer risk, some adversely and some beneficially. Weight gain and obesity have been associated with an increased risk of 12 different types of cancer (2).

The scientific consensus on sugars

The scientific consensus from global public health agencies, including the World Cancer Research Fund (WCRF), is that sugars (total, added or free) do not directly cause cancer (3–5). Weight gain and obesity are established risk factors for cancer (2). Weight gain is caused by excessive consumption of calories from any food or drink. Carbohydrates, fats, proteins and alcohol all provide calories in the diet. WCRF and the American Institute for Cancer Research (AICR) assert that sugars intake can only be indirectly linked to cancer, via sugar's potential to provide surplus calories if consumed in excess (6,7,8,9). Therefore, the WCRF and AICR public health messaging around sugars and cancer is based around this indirect link; sugars have not been shown to directly cause cancer (6,8,9).



Sugars feeding cancer cells: a misconception

Glucose (a simple sugar) is a highly consumed nutrient by cancer cells, which are known to rewire metabolic pathways to meet their energy demands. This has led to the misconception that reducing or removing sugars from the diet will prevent or slow down cancer growth (6,7). However, all cells use glucose for energy, and the body keeps blood glucose at a steady level (not too high or too low) to ensure that all cells have a constant energy source (6). The U.S. National Cancer Institute states there is no evidence from human studies that consuming sugars causes cancer to grow at a faster rate, or that a no- or low-sugar diet will cause cancer to shrink or disappear (7).

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References

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