PREVENTING CANCER

Recommendations From the AICR Can Help Clients Lower Risk

By Jill Weisenberger, MS, RD, CDE

The next time you sit down with a client or patient to discuss cancer prevention, share this good news: According to the American Institute for Cancer Research (AICR), eating a healthful diet, being physically active, and maintaining a healthful weight can prevent as many as 34% of cancers in the United States.

You should also mention that there are recommendations they can follow to boost their chances of living a cancer-free life, published in the report ***Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective*** by the AICR and the World Cancer Research Fund.

In this article, I'll discuss these recommendations and review some of the top cancer-fighting foods and compounds clients and patients can incorporate into their diets to promote optimal health.

Recommendations

1. Be as lean as possible within your normal body weight range. Obesity causes more than 100,000 cases of cancer each year in the United States, says Karen Collins, MS, RD, CDN, nutrition advisor for the AICR. "Excess body fat, especially around the abdomen, causes several metabolic changes that create an environment in the body conducive to cancer growth and development."

Overweight and obesity can cause insulin resistance, leading to higher insulin levels in the blood. One effect of insulin is to activate cell-signaling pathways that promote cell growth, including the growth of cancer cells, Collins explains.

Secondly, the chronic low-grade inflammation associated with extra body fat can precipitate free radical production and cell damage. Moreover, body fat is the primary source of estrogen production in postmenopausal women. Therefore, women with excess body fat tend to have more estrogen available to promote the growth of estrogen-sensitive cancers such as endometrial cancer and some types of breast cancer, Collins adds.

Since health professionals frequently use waist measurements to assess body fat and health risk, it's worth noting that the commonly cited thresholds for waist measurements when evaluating heart disease risk is 35 inches for women and 40 inches for men, but 31.5 inches for women and 37 inches for men when assessing cancer risk. These measurements should be taken above the hipbone and not at the narrowest part of the midsection, according to the Centers for Disease Control and Prevention.

Given these facts, dietitians should spread the word about the obesity-cancer connection. In fact, according to a 2009 AICR survey, about 50% of Americans are unaware of this association.

2. Make physical activity a part of everyday life. Inactivity is associated with weight gain, yet direct relationships apart from obesity connections have been established for cancers of the colorectum, breast, endometrium, and pancreas, says Tim Byers, MD, MPH, associate director of cancer prevention and control at the University of Colorado Cancer Center.

"[The direct effects exercise has on cancer protection] aren't very well understood," he says, but they may be related to reduced inflammation and lowered insulin levels. Moderate levels of activity seem to be helpful. Thirty minutes of moderately paced walking on at least five days each week is a good goal. If that level of activity overwhelms patients, Byers recommends starting slowly. "Just getting off the couch is helpful," he says.

3. Limit consumption of energy-dense foods and avoid sugary drinks. This recommendation wasn't made because energy-dense foods and sugary beverages lead to cancer but because they increase obesity risk, which raises the risk of cancer. One study found that dieters who maintained their weight loss for at least five years consumed lower calorie and lower energy-dense diets. Other research links high energy-dense diets to increased weight gain, Collins says. If you think the term "energy dense" will confuse clients, Collins suggests using the term "calorie dense" instead.

4. Eat mostly foods of plant origin. When you suggest clients eat a plant-based diet, many may think they're to consume a vegetarian or vegan diet. Rather, the AICR report recommends consumers eat at least five servings of various nonstarchy vegetables and fruits each day and unprocessed or minimally processed grains or legumes with every meal. The AICR recommends consumers fill at least two-thirds of their plates with vegetables, fruits, whole grains, and beans and fill one-third or less with foods of animal origin.

Many plant-based foods and the nutrients they contain are associated with a reduced risk of certain cancers. The AICR report states that fruits and vegetables probably protect against cancers of the mouth, pharynx, larynx, esophagus, stomach, lung, pancreas, and prostate. It also mentions that allium vegetables, such as onions and garlic, probably lower the risk of colon cancer, while convincing evidence shows

dietary fiber lowers the risk of colorectal cancer.

The following are more examples of cancer-fighting foods and compounds:

• **Whole grains:** Eating three servings of whole grains per day is associated with a 20% lower risk of colorectal cancer. Fiber is important but so are other components of whole grains, says Julie Miller Jones, PhD, CNS, LN, professor emeritus at St Catherine University in St Paul, Minnesota. Each increase of 10 g of fiber per day is linked to a 10% decrease in colorectal cancer, suggesting that fiber isn't the only chemoprotective compound, she explains; minerals (eg, magnesium) and phytochemicals (eg, betaine) also may play a role.

One drawback to getting enough whole grains is the public's inability to identify them, Jones says. But this gives dietitians the opportunity to educate patients about how to spot whole grain foods and incorporate more of them into their diets to help fight cancer and other diseases.

• **Folate:** While folate seems to play an important role in maintaining healthy DNA, "too much may be damaging, particularly if cancer cells already have formed," Collins warns. "Folate is important for DNA repair and is involved in reactions that turn genes on and off, such as tumor-suppressor genes. Still, scientists are unraveling the role of folate and determining the optimal amount needed to prevent cancer development. It appears that very high levels well beyond what's recommended for a healthful diet, which is possible to reach with supplements or fortified foods, could facilitate DNA synthesis in cancerous or precancerous cells and promote growth."

• **Carotenoids:** Some carotenoids seem to be involved in cell processes that impact cancer growth and development. "For example, beta-carotene enhances and supports cell communication, which is a mechanism cells use to control their own growth," Collins says. But too much in the form of supplements isn't good and may even increase risk, she adds.

5. Curb red meat intake and avoid processed meat. The report recommends consumers eat little, if any, processed meats and no more than 18 oz of red meat per week. Remind clients and patients that red meat includes beef, pork, and lamb.

The evidence that both red meat and processed meats cause colorectal cancer is convincing. Meat's heme iron may damage the lining of the colon. Processed meats may be smoked, cured, salted, or made with nitrites, all of which may raise the amount of carcinogens in the body. Because the exact cancer-causing mechanisms are unknown, Collins suggests encouraging clients to minimize consumption of all processed meats, even those such as nitrite-free bacon and turkey hot dogs.

6. Restrict alcoholic drinks: Though moderate alcohol consumption reduces the risk of coronary heart disease, there's convincing evidence that alcohol increases the risk of cancers of the mouth, larynx, pharynx, esophagus, and breast and colorectal cancer in men. The AICR report states that alcohol probably increases the risk of colorectal cancer in women and liver cancer in both men and women. Alcohol appears to be especially harmful when combined with smoking. Currently there's no known level of consumption that isn't associated with risk.

Therefore, dietitians must help patients weigh the cardioprotective benefits of alcohol drinking with the cancer risks. RDs should encourage moderation among clients who consume alcoholic beverages. Moderate consumption is defined as no more than two standard drinks (eg, two 12-oz beers or two 5-oz glasses of wine) per day for men and one of each for women, according to the National Institute on Alcohol Abuse and Alcoholism.

7. Limit salt consumption: Salt and salt-preserved foods may increase the risk of stomach cancer, possibly by damaging the lining of the stomach. So the report recommended that individuals limit sodium to 2,400 mg per day. However, this amount is higher than the recommendations published in the 2010 Dietary Guidelines. The guidelines encourage African Americans, individuals aged 51 and older, and those with hypertension or chronic kidney disease to limit their sodium intake to 1,500 mg. This includes about one-half the population over the age of 2. All others are encouraged to limit sodium to 2,300 mg per day.

Because the average intake of sodium is about 3,400 mg per day, as noted by the Dietary Guidelines, RDs should advise most clients to reduce their sodium consumption regardless of the limits to which they adhere.

Encouraging consumers to include cancer-fighting foods can help them improve their diets and lower their disease risk. However, it's important for dietitians to suggest clients replace less healthful foods with whole grains, beans, fruits, and vegetables and not simply add them to their diets for optimal cancer protection.

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