

Cancer prevention research and practice—the way forward to tackle rising cancer burden

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Cancer prevention recommendations. Credit: World Cancer Research Fund International

Research shows that up to 50 percent of cancer cases and deaths are preventable. Cancer prevention is the most cost-effective and sustainable long-term strategy for the control of cancer.

Over decades of research, what causes [cancer](#) and what is known about [cancer prevention](#) is still evolving. Nevertheless, experts at National Institute of Health, USA are recommending that our chances of developing cancer are affected by our lifestyle choices. Cancer is not a single disease but a group of related diseases where many things in our genes, our lifestyle, and the environment around us may increase or decrease our risk of getting cancer.

Researchers are studying ways to prevent cancer. In fact, research shows that up to 50 percent of cancer cases and deaths are preventable. Prevention and early detection are crucially important and are proven effective strategies to lower healthcare utilization costs. With increasing healthcare cost, cancer prevention is the most cost-effective and sustainable long-term strategy for the control of cancer. Common risk factors for cancer include aging, tobacco, [radiation exposure](#), chemicals and other substance exposures, some viruses, certain hormones, family history of cancer, alcohol, [poor diet](#), lack of physical activity, or being overweight. Not all are modifiable, but some are modifiable via lifestyle changes. This low-cost self-management strategies are particularly important for low middle income countries as these low resource countries now bear a major share of the global cancer burden.

National Cancer Institute (NCI) recommended ways to avoid or control things known to cause cancer: changes in diet and lifestyle, finding precancerous conditions (conditions that may become cancer) earlier, chemo-prevention or medicines to treat a precancerous condition or to keep cancer from starting, and risk-reducing surgery to lower cancer prevention. These are some of the evidence-based cancer prevention strategies from NCI, which also runs the cancer prevention fellowship

for post-docs.

Is cancer preventable?

Research suggests that only five percent of cancers are hereditary. This means the non-inherited causes of cancer are available to us in terms of lifestyle choices we make, the foods we eat, and physical activity levels, have a direct impact on our overall cancer risk. Some of these preventable cancers are breast, colorectal, prostate, oral, skin, testicular, liver and lung.

Cancer prevention tips?

There are some simple daily living skills and strategies focusing on cancer prevention tips that we can adhere to and advocate those around us. Specifically, it highlights habits such as quit tobacco, stop alcohol, be physically active, diet, healthy body weight, and regular check-up and screening of certain cancers.

- Smoking is the number one risk factor linked to cancer of the lung, mouth, throat, larynx, bladder, pancreas, cervix and kidney. Chewing tobacco is also associated to oral cancer and pancreas cancer. Exposure to second-hand smoke increases the risk of lung cancer. There should be 100 percent smoke free legislation in all countries.
- Alcohol increases risk of breast, colon, lung, kidney and liver cancer. The amount and length of time of regular drinking is highly associated to the risk of these cancer.
- Physical activity is an independent risk and it lowers the risk of 13 cancer (including breast and colon). About 150 minutes a week of moderate aerobic activity or 75 minutes a week of vigorous aerobic physical activity should be the target (at least 30

minutes of physical activity in daily routine). In fact, even 10-minute bouts of exercise is good as any movements is better than no movements. It also helps control our weight.

- Healthy diet helps to reduce our risk of cancer when we limit processed food or red meats, eat plenty of fruits and vegetables including whole grains and beans, and eat lighter and leaner (take less of the high-calorie foods like refined sugars and animal fats). Mediterranean diet (which uses healthy fats such as olive oil over butter, and fish instead of red meat) is a healthy diet because it is mostly plant-based foods (fruits, vegetables, whole grains, legumes and nuts).
- Maintaining a healthy weight can lower the risk of cancer of the breast, prostate, colon, kidney and lung. Keep BMI to 25.
- Get immunized. Some [viral infections](#) increases risk of cancer. For example, hepatitis B can increase the risk of liver cancer, and human papillomavirus (HPV) - a sexually transmitted virus that can lead to cervical and other genital cancers as well as squamous cell cancers of the head and neck. Thus, hepatitis B vaccine is recommended for certain high-risk adults (adults who are sexually active, people with sexually transmitted infections, intravenous drug users, men who have sex with men, and [health care workers](#) or public safety workers who are exposed to infected blood or body fluids), and HPV vaccine is recommended for girls and boys ages 11 and 12. It is also available to both men and women age 26 or younger who didn't have the vaccine as adolescents. A study of young adults (n> 2600) found that the prevalence of oral infection with four HPV types, including two cancer-causing types, was 88% lower in those who reported receiving at least one dose of an HPV vaccine than in those not vaccinated.
- Avoid risky behaviors. One low cost effective cancer prevention tactic is to avoid risky behavior that can lead to infections and which then increases the risk of cancer. Two common

recommendations include practice safe sex (limit number of sexual partners and use a condom when having sex) and avoid needles sharing. Firstly, the more sexual partners you have in your lifetime, the more likely you are to contract a sexually transmitted infection like HIV or HPV. People who have HIV or AIDS have a higher risk of cancer of the anus, liver and lung. HPV is most often associated with cervical cancer, but it might also increase the risk of cancer of the anus, penis, throat, vulva and vagina. Secondly, sharing needles with an infected drug user can lead to HIV, as well as hepatitis B and hepatitis C which can increase the risk of liver cancer.

- Practice self-exams regularly and screenings for cancers, especially cancer of the skin, colon, cervix and breast. If cancer is detected early, the treatment is most likely to be successful. Take cancer prevention into own hands starting today. The rewards will last a lifetime.

The Prevent Cancer Foundation in USA is an organization set up with a mission to save lives across all populations through cancer prevention and early detection. Its aim is to stop cancer before it starts, and they achieve this through their four pillars of research, education, outreach and advocacy. It has commissioned a series of Public Service Announcements, designed to entertain while raising awareness about preventable cancers, such as breast, cervical, colorectal, lung, oral, prostate, skin and testicular that can be prevented through lifestyle changes or early detection and treatment. In conclusion, the leading preventable risk factors like obesity, lack of physical activity, tobacco use and alcohol use, getting vaccinations are worth investing and researching to prevent cancer risks. It is the way forward towards a sustainable healthcare cost for the rising burden of cancer. More research into cancer prevention will pave the way forward for reducing the burden of cancer.

Provided by University of Malaya

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