

Study reveals substantial impact of chronic diseases on cancer risk

February 1 2018

Several common chronic diseases together account for more than a fifth of new cancer cases and more than a third of cancer deaths, finds a study published by *The BMJ* today.

The findings show that the cancer risks from common [chronic diseases](#), such as heart disease and diabetes, are as important as those from five major lifestyle factors combined.

However, the authors point out that chronic diseases are not targeted in current cancer prevention strategies - and say their findings have important implications for developing new strategies that target chronic diseases.

Studies have shown that certain chronic diseases may predispose to cancer, but these studies generally assessed chronic diseases or disease markers individually.

Yet chronic diseases tend to be clustered together, so there is a need to understand more about their joint impact on cancer risk.

A team of researchers based in the US and Taiwan therefore set out to investigate the combined effect of eight common chronic diseases or disease markers (for example, high blood pressure as a marker of heart disease) on cancer risk compared with lifestyle factors.

They also explored whether physical activity could reduce the cancer

risk associated with chronic diseases and disease markers.

The study involved 405,878 men and women in Taiwan with no history of cancer who completed a questionnaire on medical history, lifestyle, and demographic information and underwent a series of medical tests between 1996 and 2007. Weekly leisure time physical activity was also measured.

Eight common chronic diseases and markers were evaluated, including cardiovascular disease, diabetes, chronic kidney disease, pulmonary disease, and gouty arthritis. Participants were followed for an average of 8.7 years.

The researchers found that cardiovascular disease markers, diabetes, [chronic kidney disease](#) markers, pulmonary disease, and gouty arthritis marker were individually associated with risk of developing cancer or [cancer death](#).

Higher chronic disease risk scores based on these diseases or markers were linked with an increased risk of developing cancer and cancer death, with the highest level associated with a more than twofold increase in risk of developing cancer and a fourfold increase in risk of cancer death.

High chronic disease risk scores were also associated with substantial reduction in life span. The highest scores were associated with 13.3 years of life lost in men and 15.9 years of life lost in women.

Together, these chronic diseases and markers accounted for more than one fifth of all new cancers and more than one third of all cancer deaths in this study population, which was similar to the contribution of five major lifestyle risk factors combined - smoking, insufficient physical activity, insufficient fruit and vegetable intake, alcohol consumption,

and obesity.

The researchers also found that physical activity was associated with a nearly 40% reduction in the excess risks of cancer and cancer death associated with chronic diseases and markers.

The study findings are based on a large prospective cohort with long-term follow-up. However, this is an observational study, so no firm conclusions can be drawn about cause and effect, and the authors cannot rule out the possibility that some of the observed cancer risk may be due to other unmeasured factors.

Strengths included prospective evaluation, ability to measure the joint effects of several major chronic diseases on cancer risk simultaneously, and adjust for major shared risk factors.

These results suggest that chronic [disease](#) "is an overlooked risk factor for cancer," write the authors, and that [physical activity](#) "is a promising approach to reduce the [cancer risk](#) associated with chronic diseases and markers." The findings have important implications for developing new [cancer](#) prevention strategies and improving the management of chronic diseases, they conclude.

More information: Huakang Tu et al. Cancer risk associated with chronic diseases and disease markers: prospective cohort study, *BMJ* (2018). [DOI: 10.1136/bmj.k134](https://doi.org/10.1136/bmj.k134)

Provided by British Medical Journal

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