Smoking, physical inactivity associated with early death of people with type 2 diabetes and certain cancers

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Individuals with type 2 diabetes (T2D) who develop cancer are more likely to die in the following seven years if they are smokers or

physically inactive, according to a new study of more than half a million people being presented at the annual meeting of the European Association for the Study of Diabetes (EASD) in Stockholm, Sweden (19–23 Sept).

In recent years, cancer has overtaken cardiovascular disease as the main cause of death in individuals with diabetes.

"Individuals with type 2 diabetes disease have a longer life expectancy today than in previous decades," says Dr. Tinne Laurberg, of the Steno Diabetes Center Aarhus, Aarhus University Hospital, Aarhus, Denmark, who led the research. "This is likely due to a combination of improvements in diabetes treatment and in the prevention of cardiovascular disease.

"As the proportion of deaths from heart disease has declined, however, the proportion due to cancer has increased and, as a result, individuals with type 2 diabetes are now more likely to die from cancer than from cardiovascular disease.

"Knowing more about the factors that affect the survival of individuals with type 2 diabetes is key to stemming this rise."

Dr. Laurberg and colleagues in Denmark and Sweden studied the factors that affect the survival of people with T2D who develop one of four common forms of cancer—breast, lung, prostate and colorectal.

The longitudinal study included 655,344 individuals with T2D listed in the Swedish National Diabetes Register between 1998–2019, of whom 43% were women. The average age was 63 years when included in the study.

The participants were followed up for an average of seven years. They

were all free of cancer at the start of the study, and during follow-up, 32,366 developed one of the four cancers.

179,627 individuals died during course of the study. Those with cancer were almost three times (2.89 times) more likely to die of any cause than those without cancer.

Data on modifiable diabetes-related risk factors, such as HbA1c (average blood sugar level), cholesterol, LDL cholesterol, hypertension, BMI, smoking and physical activity, was obtained from the diabetes register.

Analysis showed low physical activity and smoking to be the two risk factors most strongly linked to the death of individuals with diabetes and cancer. Smokers were more than twice as likely (2.15 times) to die during the course of the study as non-smokers. Low levels of physical activity (less than 3–5 days/week) were associated with a 1.6 increase in the risk of death.

Smoking and lack of exercise also had the strongest associations with premature death in those with diabetes but without cancer.

Dr. Laurberg says: "Smoking and low physical activity are habits that people probably have had throughout their lives and so may therefore have contributed both to the occurrence of diabetes and of cancer.

"Our results suggest that these factors not only contribute to the occurrence of these two diseases but may increase the risk of an early death after diabetes and/or cancer occur."

The researchers conclude that smoking and physical activity may be the two most important risk factors for mortality in people with T2D, whether or not they have cancer.

Dr. Laurberg adds: "It is important that clinicians and public health practitioners continue to focus on smoking cessation and an active lifestyle at all stages of life. The results of this study suggest this to be the case after a diabetes diagnosis; regardless of the presence of cancer."

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