

Dental plaque may increase risk of premature cancer death

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Persistent dental plaque may increase the risk of dying early from cancer, suggests an observational study published in the online journal *BMJ Open*.

Dental plaque is made up of a film of bacteria, which covers the surfaces of the teeth, including the gaps between the teeth and gums. It leads to [tooth decay](#) and gum inflammation, with the potential for [tooth loss](#).

[Dental plaque](#) has also been implicated in systemic health problems. And the authors wanted to find out if it might be a risk factor for early death from cancer as a result of infection and inflammation, both of which are thought to have a role in up to one in five cancers.

They tracked the health of almost 1,400 randomly selected Swedish adults from Stockholm for 24 years (1985 to 2009).

All participants were in their 30s and 40s at the start of the monitoring period, when they were all quizzed about factors likely to increase their [cancer risk](#), such as smoking and levels of affluence.

Their mouth hygiene was also assessed to find out what levels of dental plaque, tartar, [gum disease](#), and tooth loss they had. While they had no overt gum disease, they did have substantial levels of plaque on the [tooth surface](#).

By 2009, 58 people had died of cancer, around a third of whom were women (35.6%). The average age of death was 61 for the women and 60 for the men. The women would have been expected to live around 13 years longer, and the men an additional 8.5 years, so their deaths could be considered premature, say the authors.

Deaths among the women were predominantly caused by [breast cancer](#), while those among the men were attributed to a range of different cancers.

The dental plaque index in those who had died was higher than those who had survived, with values of 0.84 to 0.91, indicating that the gum area of the teeth had been covered with plaque.

The values among the survivors were consistently lower (0.66 to 0.67), indicating that the gum area was only partially covered with plaque.

When all the [risk factors](#) were considered, unsurprisingly, age almost doubled the risk of a cancer death. And male gender increased the odds by 90%.

After the other potential risk factors known to be associated with premature death, such as lower educational attainment, smoking, frequency of dental visits, and lower income were accounted for, the associations observed between age, male gender, the amount of dental plaque, and premature death remained strong.

Dental plaque was associated with a significantly (79%) increased risk of premature death, although the absolute risk of premature death was low, with only 58 out of 1,390 participants dying after 24 years.

The authors caution that their findings do not prove that dental plaque causes or definitely contributes to cancer.

"Our study hypothesis was confirmed by the finding that poor [mouth] hygiene, as reflected in the amount of dental plaque, was associated with increased cancer mortality," they write. "Further studies are required to determine whether there is any causal element in the observed association."

More information: The association of dental plaque with cancer mortality in Sweden. A longitudinal study [doi: 10.1136/bmjopen-2012-001083](https://doi.org/10.1136/bmjopen-2012-001083)

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