

Study suggests poor oral health could lessen survival from head and neck cancer

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An international study has revealed strong associations between oral health and survival among people diagnosed with head and neck cancer. Specifically, better oral health, as evidenced by the number of natural

teeth and dental visits prior to the time of diagnosis, was associated with increased survival. Importantly, those who had more frequent dental visits were more likely to have their cancer diagnosed at an earlier, and less deadly, stage of the disease than those who had few or no dental visits.

The study, by researchers at UNC Lineberger Comprehensive Cancer Center and UNC Adams School of Dentistry, Chapel Hill, North Carolina, and Moffitt Cancer Center, Tampa, Florida, in partnership with the International Head and Neck Cancer Epidemiology (INHANCE) consortium, appeared Sept. 19, 2023, in the *Journal of the National Cancer Institute*.

"The INHANCE consortium's patient data allowed us to be as thorough as possible and identify robust associations between [oral health](#) and survival," said lead author Jason Tasoulas M.D., DMD, a current Ph.D. candidate. "We assembled a diverse and experienced team to examine records of approximately 2,500 patients from eight countries to carry out our state-of-the-art statistical analyses."

Head and [neck cancer](#) patients were asked to self-report aspects of their oral health and hygiene, including gum bleeding, tooth brushing frequency and mouthwash use, as well as the number of natural teeth and frequency of dental visits they had during a 10-year period prior to their [cancer](#) diagnosis.

Those who had frequent dental visits (more than five visits in a reported decade) had higher overall survival at five and 10 years (74% and 60%, respectively) compared to those with no dental visits (54% at five years and 32% at 10 years). This finding was most pronounced among people with cancers of the oropharynx, which consists of the structures in the back of the throat, including the base of the tongue, tonsils and soft palate.

Having no natural remaining teeth was associated with a 15% lower five-year overall survival compared to those with more than 20 natural teeth. Survival differences of less than 5%, which were not significant, were found for patient-reported gum bleeding, tooth brushing and mouthwash use.

While survival has improved during the past decades due to treatment advances, head and neck [squamous cell carcinoma](#) (HNSCC) is the sixth most common malignancy worldwide and accounts for about 4% of all cancers in the United States.

In 2023, an estimated 66,920 people will be diagnosed with the disease in the U.S. The main environmental risk factor for the disease is tobacco use but alcohol consumption and testing positive for the human papillomavirus also increase a person's risk for the disease.

"This current research effort capitalizes on previous data collection efforts by our team in North Carolina through the Carolina Head and Neck Cancer Epidemiology (CHANCE) study to investigate the role of oral health in patients with head and neck squamous cell carcinoma. The present report is based on a larger-scale study, accounting for geographic variability and capturing more oral health variables," said Kimon Divaris, DDS, Ph.D., study author and James Bawden Distinguished Professor at the UNC Adams School of Dentistry and UNC Gillings School of Global Public Health.

"Inspired by Dr. Divaris' previous work, we sought out opportunities to collaborate with a larger network of epidemiologists, surgeons, physicians, dentists and scientists from all over the world to address an important but often overlooked problem for patients with head and neck squamous cell carcinoma," said corresponding author Antonio L. Amelio, Ph.D., vice chair of research in the Head and Neck Oncology Department.

"Our hope is that these findings become a standard part of guidelines implemented for the prevention and management of head and neck squamous cell carcinomas in the near future."

Carole Fakhry, M.D., MPH, the Charles W. Cummings M.D. Professor of Otolaryngology at Johns Hopkins School of Medicine, who was not involved in the research, called the findings significant. "This is an important study that highlights the interplay between oral health and head and neck squamous cell carcinoma and overall survival. While we seek biomarkers to predict which patient will do well, this study points out features of a history and examination that are associated with survival. Additionally, this may lead us down the road of prevention of these cancers."

More information: Poor oral health influences head and neck cancer patient survival: an INHANCE Consortium pooled-analysis, *Journal of the National Cancer Institute* (2023). doi.org/10.1093/jnci/djad156

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