Study finds females have lower salivary flow than males before and after radiation therapy for head, neck cancer

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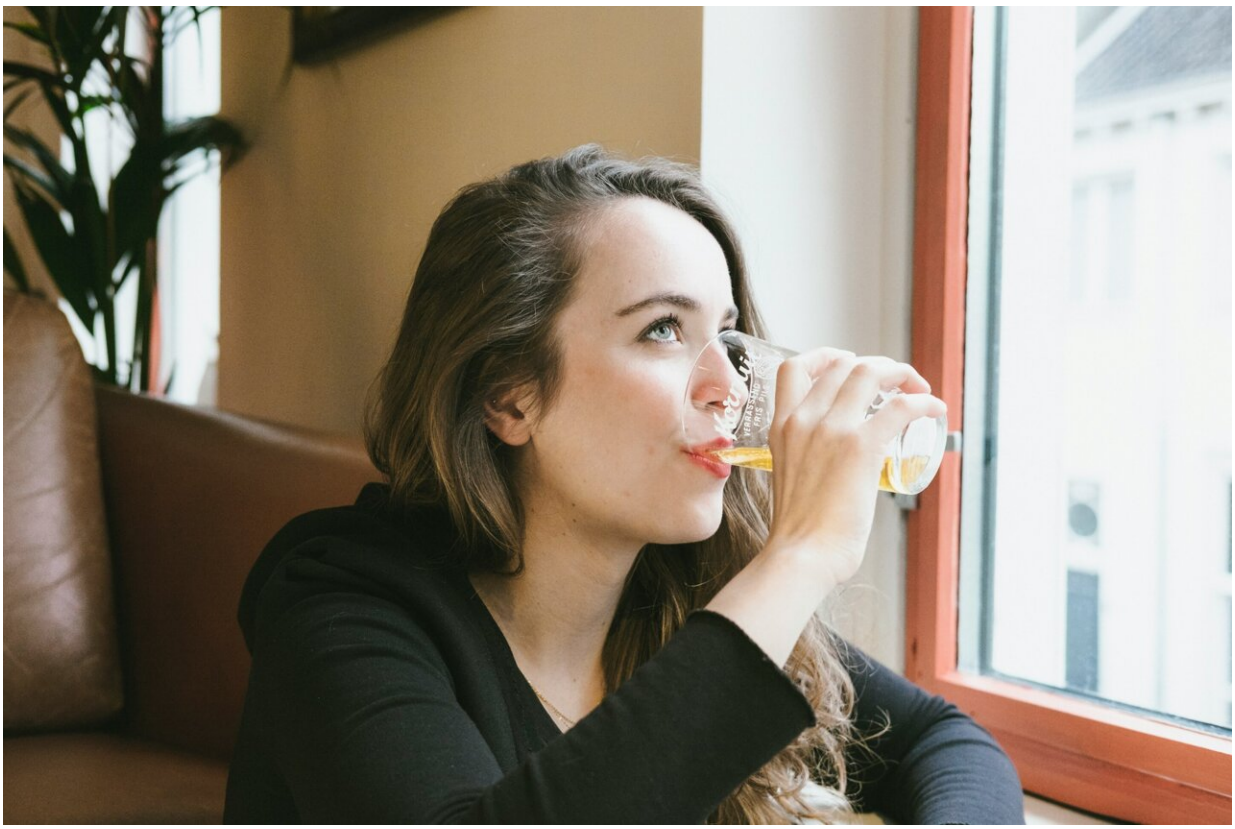

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Reduced salivary flow, or hyposalivation, can cause an increased risk for tooth decay and other mouth conditions. Measuring salivary flow is

important to guide risk assessment and management strategies when treating patients with oral health diseases. Typically, the same standard normal values are used for both females and males in interpreting results of salivary flow testing.

A recent publication led by Dr. Rajesh Lalla, professor and associate dean for research at the UConn School of Dental Medicine, took a deeper look at differences in salivary flow between female and male patients before and after radiation therapy for head and neck cancer. This treatment commonly leads to a significant reduction in salivary flow and complaints of dry mouth. The research is published in the journal *Oral Diseases*.

The research team reported results from their landmark OraRad study, which enrolled 572 patients across six clinical sites. OraRad is a prospective cohort study to document and study the risk factors for oral complications after radiation therapy.

In the study, the researchers found that females have a significantly lower stimulated salivary flow than males both before and after radiation therapy—which can put females at a higher risk for oral disease in situations where salivary flow is compromised.

The finding of lower salivary flow in females even before the start of radiation therapy led the researchers to examine reports of prior studies. They found that other studies have reported lower salivary flow in females in various populations and age groups, supporting the conclusion that this difference is a generalized finding that is not limited to head and neck cancer patients. The reason for this difference between the sexes has not been extensively studied, but some data suggest that it could be related to the size of the salivary glands, which produce saliva.

"The results of our study, in combination with the prior literature,

demonstrate that females and males have significantly different ranges of normal salivary flow," says Lalla. "This should be taken into account when testing salivary flow in clinical practice and research. These findings also suggest that because females as a group have lower normal salivary flow, they may be at higher risk of reaching critically low levels in situations where normal saliva production is reduced."

According to Lalla, the difference in salivary flow between the sexes has not been well-appreciated.

The findings in this study advance both research and clinical practice, as they will enable a more accurate assessment, test interpretation, and clinical management of female patients with dry mouth due to various reasons.

"Having a very dry mouth can greatly affect quality of life and increase risk for several oral diseases," Lalla says.

More information: Rajesh V. Lalla et al, Females have lower salivary flow than males, before and after radiation therapy for head/neck cancer, *Oral Diseases* (2024). DOI: 10.1111/odi.15068

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