

# Women's oral health is affected by the menstrual cycle, dietary sugar and smoking

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Associate Professor Ina Schuppe Koistinen (Alliance Director, Centre for Translational Microbiome Research) and Professor Nagihan Bostanci (Department of Dental Medicine). Credit: Karolinska Institutet

New findings show that the effects of the menstrual cycle may not be limited to the endometrium, but can also affect the oral health.

"Our findings show that the effects of the [menstrual cycle](#) may not be limited to the endometrium, but can also affect the microbial ecology of the mouth," says Nagihan Bostanci, Professor of Inflammation Research—Periodontics, at the Department of Dental Medicine.

The study she refers to created new evidence that, despite of taking good care of teeth and gums, the regulation of women's hormones cause temporary oral microbial changes that can steer towards deterioration of oral health. High dietary sugar consumption and smoking are [risk factors](#) that can worsen further women's oral health during their menstrual [cycle](#).

## **Raising awareness for women's oral health across their life span**

There are several stages in a women's life during which changes in [hormone levels](#) make them more susceptible to [health issues](#), including puberty, the monthly menstruation cycle, when using contraceptives, during pregnancy and at menopause. It is important to raise national and global awareness for the unique oral health concerns in women's life and lifestyles.

This is a particularly important contribution to the dental field because it highlights the need to also take under consideration aspects of women's physiology in preserving oral health. Raising awareness that women's [oral health](#) is more vulnerable at certain phases of the menstrual cycle, will help increase the self-oral hygiene and professional screening measures during those periods, and strengthen prevention against oral diseases, such as gingivitis.

A cohort of 103 women of reproductive age with regular menstrual cycle were recruited in gynecological clinics in Copenhagen and profiled their salivary microbiome at the Karolinska Institutet. This part of the

"MiMens—Microbiome dynamics during the menstrual cycle" study is conducted in a collaboration with the Center for Translational Microbiome Research (Associate Prof. Ina Schuppe Koistinen), the Department of Dental Medicine (Prof Nagihan Bostanci) at KI and the Department of Medicine, University of Copenhagen (Prof Henriette Svarre Nielsen).

"Dysbiosis of the human oral microbiome during the menstrual cycle and vulnerability to the external exposures of smoking and dietary sugar," was published in *Frontiers in Cellular and Infection Microbiology*.

**More information:** Nagihan Bostanci et al. Dysbiosis of the Human Oral Microbiome During the Menstrual Cycle and Vulnerability to the External Exposures of Smoking and Dietary Sugar, *Frontiers in Cellular and Infection Microbiology* (2021). [DOI: 10.3389/fcimb.2021.625229](https://doi.org/10.3389/fcimb.2021.625229)

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