

Dry mouth problems may be associated with disease in the eyelids

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Ida Grunnan Fostad found a connection between dryness of the mouth and dry eyes in her doctoral project. Credit: OD, UiO/Margit Selsjord

If you suffer from a dry mouth, the chances are that you also have dry eyes. The problem may be due to the sebaceous glands in the eyelids.

"If you suffer from a [dry mouth](#), the chances are that you also have dry eyes. The problem may be due to the sebaceous glands in the eyelids. In overall terms, we can see that if a patient suffers from dry mucous membranes, dry [mouth](#) problems may also be a sign that they have more serious symptoms from dry eyes than those without dry mouth problems," explains Ida Fostad, Ph.D., from the Institute of Oral Biology.

Fostad carried out much of the work for her doctorate at the Harvard Medical School under the supervision of Professor Darlene A. Dartt. On her return to Norway she examined more than 300 [patients](#) at the The Norwegian Dry Eye Clinic for the project. She found a predominant number of dry mouth patients who also had defective

sebaceous glands in their eyelids, and thus also suffered from dry eyes. eyelids, and thus also suffered from dry eyes.

Tears are prevented from evaporating

The sebaceous glands on the inside of the eyelids secrete a layer of fat that remains on the surface of the film of tears and prevents evaporation. When the glands do not secrete sufficient fat, the protective layer becomes thin enough to allow some of the tear fluid to evaporate. With tear fluid reduced in this way, the patient suffers from dry eyes.

An important reason why the sebaceous glands cease to work is that the ducts become blocked by secretions and remnants of cells. – Then the glands can no longer empty out the secretion, and they gradually atrophy and cease to work, Fostad explains.

Most studies of the population show that between 5-30 per cent have dry eyes. In Norway it is assumed that at least half a million people suffer from dry eyes in varying degrees, while the frequency is particularly high in Asia.

Women and users of medication are at risk

Fostad's project also showed that there was a greater risk of problems with dryness in both locations for women and for patients taking prescribed medication.

"Many drugs can inhibit secretion from the eye glands and salivary glands in different ways. One of the most common symptoms of the autoimmune disease, Sjögren's syndrome, is dryness of both eyes and mouth. We also know that the disease chiefly affects women after the menopause," Fostad says.

She is also a dentist, and through her research she

could see that patients who suffered from dry eyes in addition to dry mouth often had more serious problems with [dry eyes](#).

Dry mucous membranes cause discomfort

Dry eyes can cause extreme discomfort. The patient may suffer from impaired eyesight, with chronic discomfort and painful lesions and scars on the surface of the eye. Dry eyes can result in poorer quality of life in many ways.

Similarly, mouth dryness can lead to more caries and poorer oral health in general, with infections of the oral mucous membranes, gum disease and erosion of the teeth, often referred to as acid damage.

Discomfort from dry mouth is relatively common. The problems arise especially as we grow older. In Norway, at least 2500 patients suffer from Sjögren's syndrome, which is one of the commonest diseases in which dry mouth problems are a dominant symptom.

Fostad defended her doctoral thesis: Salivary Dysfunction and Dry Eye Disease – a Clinical and Laboratory Approach to Novel Assessment and Treatment at the Institute of Oral Biology in the Faculty of Dentistry, in December last year.

More information: Ida G. Fostad et al. Dry Eye Disease Patients with Xerostomia Report Higher Symptom Load and Have Poorer Meibum Expressibility, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0155214](#)

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