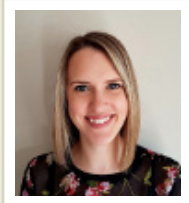


# Contact Lens Update

CLINICAL INSIGHTS BASED IN CURRENT RESEARCH

## Summary: Epidemiology report

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*Stapleton F, et al. TFOS DEWS II Epidemiology Report. Ocul Surf 2017; 5(3): 334-35.*

The prevalence of dry eye disease, with and without symptoms, has been reported to be 5 to 50%, with much of this variability due to a lack of global criteria for dry eye disease diagnosis.

Based on signs alone, prevalence rates vary significantly as there is inconsistency between studies with respect to the criteria for positive signs. When looking at prevalence rates that are based on symptoms only, the data are much more consistent. Higher prevalence rates are found when signs of dry eye disease are used as a criteria, perhaps due to natural aging changes or causes other than dry eye, or this may indicate that there are high rates of asymptomatic dry eye disease.

There is a higher prevalence of dry eye disease in Asian populations than Caucasian populations, but there is a lack of global prevalence data, with most studies evaluating populations in Asia and Europe. No studies evaluating prevalence of dry eye symptoms south of the equator have been published in the last 10 years.

### Risk factors for dry eye disease

There are several known modifiable and non-modifiable risk factors for dry eye disease.

<b>NON-MODIFIABLE RISK FACTORS</b>	<b>MODIFIABLE RISK FACTORS</b>	<b>PROBABLY RISK FACTORS (REQUIRE FURTHER STUDY)</b>
<ul style="list-style-type: none"><li>• Aging</li><li>• Female sex</li><li>• Asian ethnicity</li><li>• Meibomian gland dysfunction</li><li>• Certain systemic diseases</li></ul>	<ul style="list-style-type: none"><li>• Computer use</li><li>• Contact lens wear</li><li>• Hormone replacement therapy</li><li>• Certain medications</li></ul>	<ul style="list-style-type: none"><li>• Diabetes</li><li>• Rosacea</li><li>• Refractive surgery</li><li>• Thyroid disease</li></ul>

Current studies show a lower prevalence of dry eye disease in younger populations, but there are very few studies examining why this may be. Asian ethnicity is a risk factor but, similarly, the causative factors for this higher incidence are not yet understood. Women have a higher prevalence of dry eye disease than men, but this difference only becomes significant as age increases.

Certain environmental exposures such as higher atmospheric pressure and low humidity are associated with a higher prevalence of dry eye, which may play a role in prevalence rates for certain populations, but drawing this

connection requires a more global study of prevalence rates.

### **Natural history of dry eye disease**

There is a lack of published studies evaluating the natural history of dry eye disease, both treated and un-treated. Studies have shown mixed results as to whether dry eye is a progressive disease or whether it plateaus. Future studies are needed to map out the clinical course of the severity levels of dry eye, determine predictive factors for disease progression and evaluate how treatment impacts signs and symptoms.

Most patients with dry eye disease have normal visual acuity, but their quality of vision is impaired due to an unstable tear film, resulting in a lower perceived quality of life. While dry eye disease has economic repercussions in the form of health care costs and treatment costs, the largest proportion of costs are indirect, related to reduced productivity at work.

### **Future work**

Determining the prevalence of dry eye disease across populations and age groups, and evaluating the impact of various climates as well as environmental and social factors will help direct future understanding of the etiology of dry eye. Future research of this kind may shed some light on the role of the eyelids, tear film composition and thickness, sensitivity of the ocular surface, and the impact of technology

Another important area of research will be examining the natural history of dry eye disease in both treated and untreated individuals. All of the information gleaned from population-based epidemiological studies will aid in creating a comprehensive understanding of dry eye disease and associated risk factors.

### **REFERENCES**

Stapleton F, et al. TFOS DEWS II Epidemiology Report. *Ocul Surf* 2017; 5(3): 334-35.