Contact Lens Update
CLINICAL INSIGHTS BASED IN CURRENT RESEARCH

Summary: Sex, gender and hormones report

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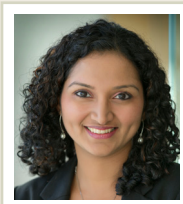

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Sullivan et al. TFOS DEWS II Sex, Gender, and Hormones Report. Ocul Surf 2017;15(3): 284-333.

The aim of the *Sex, Gender & Hormones* subcommittee report was to conduct a careful review and analyse the role, and recommend areas for future research, to improve our understanding of the relationships between sex, gender, hormones and dry eye disease.

Gender versus sex

Although the terms “gender” and “sex” are often used interchangeably, it is important to remember that they have distinct meanings. According to the Institute of Medicine’s Committee on Understanding the Biology of and Gender, published in 2001, sex refers to, *“… the classification of living things according to their reproductive organs and functions assigned by chromosomal complement, i.e., male and female …”* and gender refers to *“… a person’s self-representation as a man or woman, or how social institutions respond to that person based upon the individual’s gender presentation.”*

Both gender and sex affect disease risk and presentation, immune responses, pain, care-seeking behaviors, service utilization, and numerous other aspects of ocular health.

The *Sex, Gender and Hormones* subcommittee report considers both gender and sex as terms that are distinguishable but intertwined as they both have pronounced effects on health and on health disparities.

Dry eye and female sex/gender

The report highlights the fact that dry eye disease occurs more commonly in women than men, suggesting that there are fundamental sex-related differences in the etiology. It has been repeatedly shown that female sex is considered as a significant “risk factor” for the development of dry eye disease. This sex-related difference in the occurrence of dry eye disease is attributed to the effects of sex steroids (e.g. androgens, estrogens), hypothalamic-pituitary hormones, glucocorticoids, insulin, insulin-like growth factor 1 and thyroid hormones, as well as to the sex chromosome complement, sex-specific autosomal factors and epigenetics (e.g. microRNAs).

Dry eye and female gender

Gender also appears to be a risk factor for DED.

To summarize, sex, gender and hormones play a major role in the regulation of ocular surface and adnexa, and in the difference in disease prevalence between women and men. A better understanding of these problems may lead to enhanced and more tailored options for treatment. Further research is warranted to elucidate the specific nature, extent, and mechanisms of these sex, gender and endocrine effects on the eye in both healthy patients and those with dry eye.

REFERENCES

Sullivan *et al*. TFOS DEWS II Sex, Gender, and Hormones Report. *Ocul Surf* 2017;15(3): 284-333.