

India on the brink of a dry eye disease epidemic, says study

Age, urban residence, occupation and socio-economic affluence among risk factors

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For the first time, a large-scale, hospital-based study in India involving over 14.5 lakh patients had found the incidence (number of new cases occurring each year) of dry eye disease to be 21,000 (1.46%). At over 12,500 cases, the incidence in urban areas was higher than in rural areas (over 8,700 cases). With a large ageing population, growing middle-class and chronic nature of the disease, India is on the verge of a dry eye disease epidemic, says the study. The prevalence of dry eye disease will be about 40% of the urban population by 2030.

Since the disease tends to be progressive with age, once corneal damage becomes irreversible it can lead to visual impairment and even blindness. Early diagnosis and treatment is therefore important. The



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disease is hugely underdiagnosed in India.

The study was undertaken across 200 locations in Telangana, Andhra Pradesh, Orissa and Karnataka between 2010 and 2018. The results were published in *The Ocular Surface*.

The study found the onset of dry eye disease is early in men than in women. In men, the age of disease onset is early 20s and 30s compared with 50s and 60s in women. Hormonal imbalance could

be a likely reason for higher cases in women in their 50s and 60s. "This is first study that has shown an age-based gender risk for the disease," said Dr. Sayan Basu from LV Prasad Eye Institute, Hyderabad.

Low tear production

Age, urban residence, occupation and socio-economic affluence were found to be high risk factors for developing the disease.

Dry eye disease could oc-

cur due to inadequate tear production (aqueous deficient), tear film instability due to evaporation or mixed type. Over 20.5% had dry eye disease caused by inadequate tear production, 35.5% due to tear film instability (evaporative) and 40% being mixed. "As tears are not produced sufficiently in people who are aqueous deficient, it is a more dangerous form of dry eye disease. They have severe clinical disease," said Dr. Pragnya Rao Donthineni from LV Prasad Eye Institute. "There is a possible underlying autoimmune disease, which is causing inadequate tear production and this has to be investigated."

"Testing the tear volume is mandatory for patients with the disease. Only this test will tell if the disease is evaporative [tear film instability], aqueous deficient or mixed," said Dr. Basu.