

# future medicine

₹ 250.00  
VOL 5 | ISSUE 12  
PAGES 100  
APRIL 2019  
FUTUREMEDICINEINDIA.COM

TOMORROW'S SCIENCE FOR TODAY'S CLINICIAN

## MALARIA STRIKES BACK

A STEADY SPURT IN NEW CASES WARNS OF A RESURGENCE  
OF A CURABLE DISEASE FROM NEAR ELIMINATION

EDUCATION

DIPLOMA TO  
DEGREE

CASE REPORT

A DELICATE  
TRANSLOCATION

GENETICS

GENETIC PATHWAYS  
TO TACKLE  
PLASMODIUM

OPHTHALMOLOGY

TIP OF AN  
'EYES'BERG?

ISSN 2320-1614



9 772320 161006

# TIP OF AN 'EYES'BERG?

India is inching towards a dry eye disease epidemic,  
reveals a new study

**T**he incidence of dry eye disease is reaching alarming proportions in India, especially among urban folks, according to a recently published paper by Indian clinicians.

Dry eyes, resulting from tear instability, is one of the common conditions people seek medical advice for.

The number of such cases has registered an unprecedented increase in recent years, particularly among people living in Indian cities.

"The prevalence of dry eye disease

in urban India was roughly 30% in 2018. Our recently published study on nearly 1.5 million individuals shows that this will increase at the rate of 1.58% every year," says Dr Pragnya Rao Donthineni, lead author of the study and consultant ophthalmologist, Cornea and Anterior Segment Services, Cataract and refractive services, L V Prasad Eye Institute, Hyderabad, Telangana.

At this rate, 45% of India's urban population will be affected by the dry eye disease by 2030. In other

words, about 275 million people stand to suffer from this condition in urban India by the end of the next decade.

As far as the rural Indian population is concerned, the prevalence of dry eye disease is yet to be ascertained. But the annual incidence rate is found to be close to 1.31%, which itself translates to 17 million new patients every year.

Dr. Pragnya and her team arrived at this conclusion after analysing millions of data records using the



eyeSmart Electronic Medical Records (EMR) system developed by LVPEI researchers.

### Young men at higher risk

After analysing the risk of the disease on the basis of gender and age, men were found to be at a higher risk in their twenties or thirties, while women were found more vulnerable in their forties and fifties.

The study also found that apart from urbanisation, socio-economic affluence and professions like software-based vocations resulted in the prevalence of dry eye disease. Several other factors, such as geographic location, socio-economic status and the growth and ageing patterns of the population, also influence the incidence of the disease.

New cases of dry eye disease are likely to increase with the economic boom, a large aging population, increasing urban-migration, a growing middle-class and a large corporate workforce, the study found.

The spectrum of people affected by the disease is really wide. Not only the affluent, the unemployed and the retirees are equally affected, suggesting that psycho-social factors like depression and loneliness may also be contributory factors, avers Dr. Pragnya.

As an important health issue, dry eye disease is getting increased attention worldwide. Studies from the United States and other parts of the world like Singapore and China have also reported this trend.

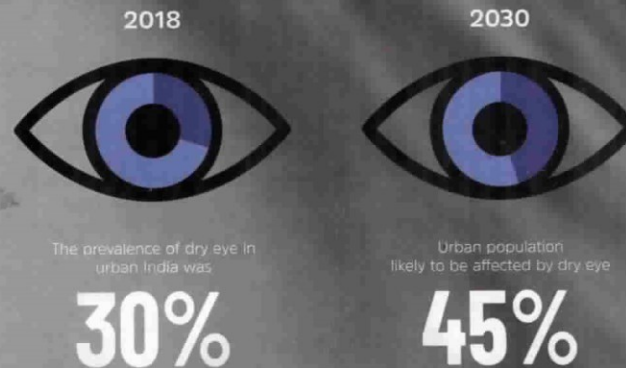
A study conducted in Singapore showed that 1 in 20 adult Malay individuals developed dry eye disease over a period of 6 years. A large-scale population-based study done by Reza Dana Et al. in the United States estimated that over 16 million individuals were diagnosed with dry eye disease in the US.

### Need for systemic approach

Dry eye, which can have grave health consequences, is not taken seriously in

## RAISING AN ALARM

The number of dry eye disease cases registered an unprecedented increase in recent years, particularly among people living in Indian cities



Dry eye disease should be made a mandatory part of annual health check-ups and those detected with the disease should be referred to institutes that specialize in its treatment.

**Dr Pragnya Rao Donthineni**  
Consultant Ophthalmologist  
Cornea and Anterior Segment  
Services, L V Prasad Eye Institute  
Hyderabad

India. The condition is usually treated with over-the-counter lubricating eye drops. This poses a major impediment to detecting and treating the disease. We need to adopt a systematic approach that includes primary, secondary and tertiary prevention to tackle this disease.

Primary prevention includes spreading awareness, particularly among vulnerable groups such as software professionals and the elderly. Secondary prevention includes screening these groups to detect those with sub-clinical disease, so that treatment can be initiated early. Finally, tertiary prevention involves managing the complications and advanced stages of the disease, which may require surgical procedures like corneal or stem cell transplantation.

According to Dr. Pragnya, dry eye disease should be made a mandatory part of annual health check-ups and those detected with the disease

should be referred to institutes that specialize in its treatment.

VPEI researchers turned to the disease by happenstance as an increasingly greater number of patients with advanced chronic dry eye disease were being referred to them over the last few years. "This alarmed us, because many of these patients had been suffering for years without proper diagnosis or treatment. We wanted to create evidence to educate not only the lay public but also the medical community about the magnitude and seriousness of this problem," Dr Pragnya explains.

Autoimmune triggers

While the study looked primarily

---

**STUDY FOUND THAT NEARLY TWO-THIRDS OF THE AFFECTED INDIVIDUALS HAD SOME FORM OF AQUEOUS DEFICIENCY, WHICH INDICATES AN UNDERLYING AUTO-IMMUNE DISEASE**

---

at incidence, demographics and risk factors of dry eye disease, it also attempted to figure out clinical types that were prevalent in the Indian population. It found that nearly two-

thirds of the affected individuals had some form of aqueous deficiency, which indicates a possible underlying auto-immune disease (AID) like rheumatoid arthritis, lupus, Sjogren's syndrome or pemphigoid.

The role of AIDs in leading to progressive damage due to the worsening dryness of the eyes – which could even lead to severe visual impairment and blindness – is well documented. Therefore, those with aqueous deficiency dry eyes need additional systemic screening for underlying AIDs, which can not only affect vision but also the general well-being of the patients.

Thus, it is essential to increase awareness not only among the general population, but also among other healthcare providers like physicians and rheumatologists, so that patients are screened to pick up the disease early. Simple tests can be incorporated into most of general ophthalmology clinics for this purpose.

Apart from proper detection, strategies are required to deal with the condition, taking into account the enormity of the situation and the potential damage it can inflict.

LVPEI, a tertiary eye care centre, has laid the foundations of a state-of-the-art dry eye clinic in one of the first initiatives in this direction. LVPEI offers the entire range of diagnostics, from simple office-based tests to advanced imaging modalities and systemic workups that include a rheumatological evaluation.

It is also important to understand that dry eye is a complex condition. "We use the umbrella-term 'dry-eye-disease', but it includes different sub-types, treatments for which are completely different. Once we have diagnosed the specific sub-type, we offer the patient a step-wise approach to well-being. Mild cases may recover with certain exercises, eye massages and drops, while more severe cases may need systemic medications or surgeries like corneal or stem cell transplantation," says Dr Pragnya. 