

# Fungal eye infection blinds over a half-million in one eye a year

October 22 2020, by Michael Addelman

Continent	Estimated annual incidence*	Annual incidence per 100,000 population
Africa	75,200	13.5
Asia	940,000	33.9
Europe	100	0.02
North America	15,700	6.8
Latin America and Caribbean	19,200	5
Oceania	1,770	14.5
World	1,052,000	23.6

Rates are ~40% higher if culture and microscopy negative cases are assumed to be fungal. The global incidence and diagnosis of fungal keratitis is published in

*Lancet Infectious Diseases*. Credit: University of Manchester

Between 1 and 1.4 million fungal eye infections occur in the developing world per year, leaving over 600,000 people blind in one eye, find researchers from Manchester, London and Nairobi.

Lead researcher Lottie Brown from the University of Manchester today publishes the first estimation of global fungal keratitis figures in *Lancet Infectious Diseases*.

Infection of the transparent cornea of the eye can be devastating, especially if it is caused by fungal keratitis, say the team.

The [infection](#) - which often sets in after an agricultural accident - results in visual impairment, blindness and disfiguration. It can lead to discrimination, loss of employment and social isolation, reinforcing the cycle of poverty.

Outcomes of fungal keratitis cases, which are usually diagnosed too late to save vision, are poor: 60% of sufferers will go blind in the affected eye and 10% will need surgical removal of the eye. In contrast [early diagnosis](#) usually saves both vision and the eye, although a high level of expertise, antifungal therapy and often surgery is required.

The researchers identified high rates of fungal keratitis in a number of African countries as well as Nepal, Pakistan and India. Lower rates were identified in Europe.

Professor David Denning of The University of Manchester and Chief Executive of the Global Action Fund for Fungal Infections (GAFFI) said: "Fungal keratitis is so neglected among neglected tropical diseases,

even the WHO and G-Finder don't list it. Poor agricultural workers are most affected, yet high quality care can takes days to access in most high incidence areas.

Professor Matthew Burton, practicing ophthalmologist at The International Center for Eye Health, part of the London School of Hygiene & Tropical Medicine, declared: "Among all the major causes of eye infection in adults, fungal keratitis is too often devastating. My own experiences in Tanzania, Uganda, Nepal and India taught me what a challenge this problem can be – but enabled my team to develop pathways for major improvements in care."

Lottie Brown, a final year medical student in Manchester, said: "Having seen these patients first hand in Nepal, I can testify to how awful fungal keratitis is. It has been a privilege to contribute to a better understanding of this 'infectious accident' which could affect anyone."

The authors examined all 241 papers published listing the causes of microbial keratitis to derive country and regional estimates of annual incidence. In Kenya, Dr Michael Gichangi from the Ministry of Health had collected cases from each district over several years, enabling an estimate for Africa. The authors also checked for the ratio between fungal and bacterial keratitis which varied from 1% in Spain to 60% in Vietnam, typically ~45% in tropical and subtropical areas.

Provided by University of Manchester

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