

Research eyes energy-saving fluoros

October 21 2011



The global trend towards using fluorescent globes instead of incandescent ones as a strategy to beat climate change could be increasing eye disease, according to new research by scientists at The Australian National University.

Published today in the [American Journal of Public Health](#), the new study has found that [fluorescent lighting](#) may cause a 12 per cent rise in UV-related eye diseases plus an extra 3000 [cataract](#) cases and 7500 cases of pterygia in Australia each year.

Lead author Dr. Helen Walls from the National Center for Epidemiology & Population Health at ANU said moves to sustainability and a low-carbon economy had involved a shift toward more energy-efficient lighting.

“Many people worldwide are exposed to artificial light sources at home and at work which until recently, mainly entailed incandescent lighting,” she said.

“The shift to fluorescent lighting means those people are now being exposed to ultraviolet radiation, which is compounded by increasing urbanization and workers spending more of their work time in buildings instead of fields or other outside locations.

“The safe range of light to avoid exposing the eye to potentially damaging ultraviolet radiation is 2000 to 3500K and greater than 500 nanometers. Some fluorescent lights fall outside this safe range.”

UV radiation has been considered a cause of cataracts and pterygia because the photoreceptors in the retina are susceptible to damage by light, particularly UV light, which can lead to cell death and disease. Cumulative dose is also an important component of UV exposure.

Dr. Walls said greater control of UV exposure from fluorescent lights was required.

“The replacement of incandescent lamps with fluorescent lighting will lead to significant reductions in greenhouse gases, however, such shifts may increase the population burden of [eye disease](#),” she said.

“The evidence suggests that the least hazardous approach to lighting is to use warm-white tubes or incandescent bulbs of lower colour temperature and longer wave-length light rather than fluorescent lamps.

“Furthermore, we would recommend that UV filters become a required standard, and that further research to improve lighting from artificial sources be carried out.”

Provided by Australian National University

Citation: Research eyes energy-saving fluoros (2011, October 21) retrieved 27 April 2024 from <https://medicalxpress.com/news/2011-10-eyes-energy-saving-fluoros.html>

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