

Occupational exposure to solar UVR linked to nonmelanoma skin cancer

November 21 2023, by Elana Gotkine



Occupational exposure to solar ultraviolet radiation (UVR) is associated with a substantial burden of nonmelanoma skin cancer (NMSC), according to a study published in the November issue of *Environment*

International.

Frank Pega, from the World Health Organization in Geneva, and colleagues presented WHO and International Labor Organization (ILO) estimates of global, regional, national, and subnational occupational exposures to UVR for 195 [countries](#)/regions and the global, regional, and national attributable burdens of NMSC for 183 countries for 2000, 2010, and 2019.

Using 166 million observations from 763 cross-sectional surveys for 96 countries/areas, occupational exposure to UVR was modeled via proxy of occupation with outdoor work. By applying population-attributable fractions (PAFs) from [estimates](#) of the population occupationally exposed to UVR and the risk ratio for NMSC, the attributable NMSC burden was estimated.

The researchers found that in 2019, 1.6 billion workers were occupationally exposed to UVR globally, representing 28.4 percent of the working-age population. The PAFs for NMSC deaths and disability-adjusted life years (DALYs) were 29.0 and 30.4 percent, respectively; attributable burdens were 18,960 deaths and 0.5 million DALYs. A larger burden was seen for men and older age groups. Attributable deaths and DALYs almost doubled during 2000 to 2019.

"WHO and the ILO estimate that [occupational exposure](#) to UVR is common and leads to substantial numbers of deaths and of DALYs from NMSC," the authors write.

More information: Frank Pega et al, Global, regional and national burdens of non-melanoma skin cancer attributable to occupational exposure to solar ultraviolet radiation for 183 countries, 2000–2019: A systematic analysis from the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury, *Environment International* (2023).

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