

CLASSROOM TEACHERS AND OCCUPATIONAL UV EXPOSURE CHARACTERISTICS: TOOWOOMBA AND TOWNSVILLE

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Introduction:

Personal exposure to solar Ultraviolet radiation (UVR) is a significant risk factor for the development of both cutaneous melanoma (CM) and non-melanocytic skin cancers (NMSC). UVR dosimeter studies have been invaluable in establishing occupational exposure guidelines for relevant industries, and of considerable interest to relevant workers unions. The occupational UVR exposure standard weighted to the International Commission on Non-Ionizing Radiation Protection spectral standard for workers (and teachers) is 30 Joules per m² per day (Jm⁻²).

Methods:

We investigated the occupational UVR exposure of teachers from two Queensland cities with contrasting climates. A convenience sample of 57 teachers and teacher-aides were recruited from 6 schools in Queensland (n=3 in Townsville, 19°16'S; n=3 in Toowoomba, 27°30'S). The participants were employed in both Primary and High School settings. Their occupational exposure patterns were documented and UVR dosimeter measurements were undertaken over a 10-day period in late November 2014.

Outcomes:

Solar UVR exposure patterns displayed similar trends across schools in both Townsville and Toowoomba and were strongly linked to midday meal-break times. UVR exposures ranged from 0 to 270 minutes per day.

Measured occupationally effective UVR exposures for these teachers and teacher-aides ranged from 0 to 279 Jm⁻² per day with 23% of the sample exceeding the occupational UVR exposure standard.

Relevance:

Many studies have measured UVR exposure received by Physical Education (outdoor) teachers. This research presents new information on objectively-measured UVR exposure patterns of teachers and teacher-aides in the skin cancer-prone state of Queensland, who are generally identified as being predominantly indoor classroom teachers.