

Skin cancer has been deemed one of the large, unmet challenges to modern medicine given that it's the most frequently occurring and fastest growing malignant disease in terms of incidence and prevalence. Occupational solar ultraviolet radiation (UVR) exposure is a skin cancer risk factor. Outdoor workers have long exposure hours and need photoprotection against solar UVR, an IARC group 1-defined human carcinogen. In South Africa, skin cancers account for one third of all histologically-diagnosed cancers. Physiological presentation of non-melanoma skin cancers (NMSC) is most common on the head in all population groups. It is expected that occupational exposure plays a role in NMSC aetiology in South Africa, although such data are presently lacking. We aimed to estimate the number of outdoor workers potentially exposed to solar UVR in South Africa. Building on CAREX Canada methods, we used a combination of 2011 Statistics South Africa data and Canadian job prevalence assumptions. Of 51 770 560 South Africans in 2011, the working population was ~13 204 496. Estimated total working population exposed to solar UVR was 1 156 000 (8.7% of the working population). Riskiest job categories were subsistence agricultural and fishery workers and related labourers, and extraction and building trades workers and labourers in mining, construction, manufacturing and transport. Results suggest that solar UVR exposure among outdoors in South Africa may be high. More research is required to identify high-risk groups that may differ in the South African context, perform better risk assessment and inform skin cancer prevention awareness campaigns.

Poster Presentation

Neurological Effects

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ODOUR AS A DETERMINANT OF PERSISTENT PHYSICAL AND PSYCHOLOGICAL HEALTH COMPLAINTS AFTER AN OIL TANK EXPLOSION, A LONGITUDINAL STUDY

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Background Foul-smelling environmental pollution was a major concern following a chemical workplace explosion. Malodorous pollution has previously been associated with aggravated physical and psychological health. Furthermore, in persons affected by a trauma, an incidence-related odour can act as a traumatic reminder. Olfaction may even be of significance in the development and persistence of post-traumatic stress symptoms (PTSS).

Aims To assess whether perceived smell related to malodorous environmental pollution in the aftermath of the explosion was a determinant of subjective health complaints (SHC) and PTSS among gainfully employed adults before and after clean-up of the malodorous pollution.

Methods Questionnaire data from validated instruments, the Subjective Health Complaints Inventory and the Impact of Event Scale-Revised, were analysed using mixed effects models in a longitudinal study design comprising three surveys. Individual odour scores were computed, and the participants (n=486) were divided into high (n=233) and low (n=253) odour score groups.

Results Participants in the high odour score group reported more SHC and PTSS than those in the low odour score group, before and also after the pollution was eliminated. The difference between the groups lasted for at least three years after the pollution was eliminated.

Conclusion Perception of malodorous environmental air pollution was a determinant of both SHC and PTSS. Prompt clean-up might be important to avoid persistent health effects after malodorous chemical spills.

Poster Presentation

Musculoskeletal

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EVALUATION OF THE OUTCOME OF THE APPLIED ERGONOMICS TRAININGS IN A CEMENT FACTORY

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This study sought to present the outcomes of the applied trainings delivered in a cement factory on the ergonomic risks of a cement factory.

Applied ergonomics trainings were given to 246 employees in a cement factory located in Adana province between May and October 2015. The subject matters of the training were as follows: ergonomic risks at workplaces, occupational diseases, work-related diseases, occupational accidents and protection, reasons for pains on neck, arm and waist and measures for protection against these pains, office ergonomics and ergonomic use of computers and exercises for protection. A test was applied before and after the training of each group.

408 employees, including 311 blue collars and 97 white collars, work in the factory. It was determined that the least known question (15.9%) prior to the training was that smoking causes chronic waist pain. It was found that the subject matter on which employee's knowledge was least improved by the training was the knowledge that the most frequently encountered occupation accident in the cement sector is not explosion 40.7%. Trainings were repeated on five subject matters in particular which were known less than 80% by the trained employees. Following these repeated trainings, the total knowledge level on all questions was increased up to at least 89.4%.

Minimization of exposure to the work-related musculoskeletal disorders is possible with provision of the required information and application, and conduct of periodical delivery of applied trainings, as in our study.