

Featured Research Studies

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Phenotypes of individuals affected by airborne chemicals in the general population.

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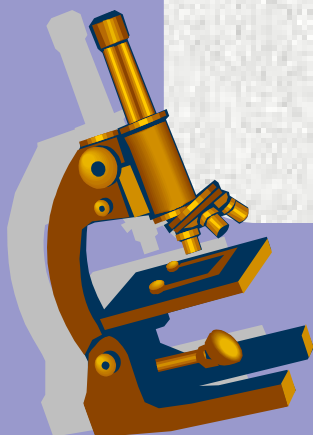
OBJECTIVE: To characterise the chemical exposures and symptoms affecting individuals with subsequent adjustments of social life or occupational conditions, and further characterise these severely affected individuals.

METHODS: All individuals (n = 1,134) who reported symptoms from airborne chemical exposures in a population-based questionnaire study of 6,000 individuals were included and dichotomised according to severity. Logistic regression models were used to characterise the group of severely affected individuals.

RESULTS: Severely affected individuals reported more symptoms and exposures related to symptoms than less severely affected individuals, and the number of symptoms was more predictive for severity than the number of exposures. Most predictive for the severity of reported symptoms were CNS-symptoms other than headache (OR = 3.2, P < 0.001) and exposure to freshly printed papers or magazines (OR = 2.0, P = 0.001).

CONCLUSION: CNS-symptoms except from headache were a main characteristic of individuals severely affected by common chemical exposures in a general population-based sample.

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Pituitary response to metyrapone in Gulf War veterans: Relationship to deployment, PTSD and unexplained health symptoms.

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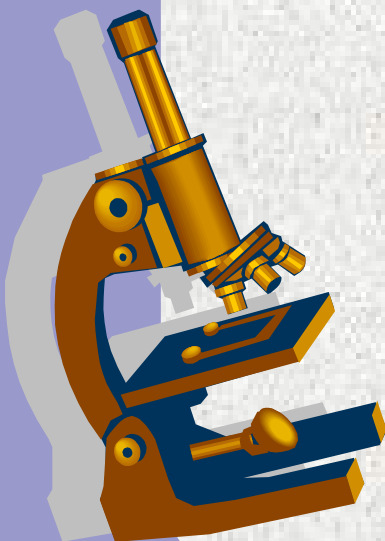
OBJECTIVE: Gulf War deployment has been associated with a distinct neuroendocrine profile characterized by low 24h basal ACTH levels and enhanced cortisol and ACTH suppression to low-dose dexamethasone. The metyrapone stimulation test was performed to further characterize hypothalamic-pituitary activity in Gulf War veterans (GWV) and its relationship to unexplained medical symptoms and post-traumatic stress disorder (PTSD).

METHOD: Eleven GWV without PTSD, 18 GWV with PTSD and 15 healthy subjects not exposed to the Gulf War theater (non-exposed) underwent the metyrapone stimulation test, which inhibits cortisol synthesis, impairs cortisol-mediated negative feedback inhibition and in turn increases levels of ACTH and 11-deoxycortisol, a cortisol precursor. These hormones were measured at baseline (7:00 a.m.) and at intervals (from 8:00 a.m. to 4:00 p.m.) following the administration of metyrapone 750mg orally at 7:05 a.m. and at 10:05 a.m.

RESULTS: There were group differences in the ACTH response despite similar cortisol and 11-deoxycortisol responses to metyrapone. GWV without PTSD had a significantly attenuated ACTH response compared to non-exposed subjects; GWV with PTSD had a significantly higher ACTH response than GWV without PTSD but did not differ from non-exposed subjects. Among GWV, unexplained medical health symptoms (e.g., neurological, musculoskeletal, cardiac, and pulmonary symptoms) and PTSD symptoms were significantly positively associated with the ACTH response to metyrapone.

CONCLUSION: Gulf War deployment is associated with a substantially lower ACTH response to metyrapone. In contrast, unexplained health symptoms and PTSD in Gulf War veterans are associated with relatively greater hypothalamic-pituitary activity which may reflect increased CRF activity and is evident only in consideration of deployment effects. This pattern of differences suggests either that Gulf War deployment and its associated exposures results in enduring changes in pituitary function or that reduced hypothalamic-pituitary activity protects against the development of PTSD and other deployment-related health problems.

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Morbidity Experience in Populations Residentially Exposed to 50 Hz Magnetic Fields

<http://www.ijoeht.com/index.php/ijoeht/article/view/1011>

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Abstract

A morbidity study of the population of a district of Rome built in part under a 60 kV electric distribution line, included 345 subjects resident in the study area in any period between 1954 and 2003, excluding those deceased before 1998.

Residential magnetic field levels were estimated based on current load, line characteristics, and distance of the dwellings from the power line, and the study area was divided into sub-areas with differing magnetic field levels. Standardized morbidity ratios were computed from hospital discharge records dated 1998–2003.

Non statistically significant increases were observed for all and primary cancers; primary cancers were significantly increased among subjects with >30 years' residence and latency.

A significant increase for all, primary, and secondary cancers, and a two-fold increase for ischaemic diseases, was observed in subjects in the sub-area with the highest exposure. No increase was seen in neoplastic haematological diseases.

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