Neurobehavioural testing in workers occupationally exposed to lead

Whether or not low to modest levels of exposure to lead have a detrimental effect on cognitive function is an important issue given the growing recognition, for example, in the United States, that has recently been paid towards potentially revising downward the levels of lead exposure allowed in the workplace. Thus, we initially revising downward the levels of lead that are described as “moderate” in one location in the manuscript and “low” in another, are not associated with neurobehavioural test scores. All studies included exposed workers with a range of blood lead levels, from very low to high. More appropriate approaches could have been considered, for example, only including studies that reported beta coefficients for the blood lead versus test score relation, or adjusting for mean blood lead levels in exposed and non-exposed groups.

(1) Reliance on exposed versus control group data from poorly done studies. It is traditional in meta-analysis to use a small number of unspeciﬁed studies for effect estimates. Table 2 of the meta-analysis reports the number of studies that were combined to derive effect estimates, but does not specify which studies were combined. This omission does not allow the reader to determine whether solid evidence was combined with more questionable evidence, or to evaluate whether any of the studies described above were germane to the effect estimates reported.

(2) More concerns exist regarding the authors’ treatment of the issue of cumulative versus ongoing lead exposure, as well as the identiﬁcation of the source of funding for this study. In their introduction, the authors quote the review by Balbus-Kornfeld et al., which noted that “the current scientiﬁc evidence is ﬂawed because of inadequate estimation of cumulative exposure to or absorption of lead ... but fail to acknowledge this issue in the interpretation of their own meta-analysis. In fact, as has been widely reported in the literature, methods are now available to non-invasively measure bone lead levels as a reliable and accurate measure of cumulative lead dose. Several studies suggest that cumulative lead dose, as measured by tibia lead levels, is a very important biological marker that may be related to cognitive decrements not predicted by blood lead levels. With regard to funding, the authors note that they are mainly from the Exponent Health Group in Alexandria, Virginia, and Menlo Park, California; however, they fail to describe what motivated the study or sources of funding for the study. We believe this information would be of interest to scientists and policy makers engaged in work on this topic.

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References
Suicide mortality among electricians

Järvholm and Stenberg1 evaluated suicide mortality rates among electricians (‘exposed to electromagnetic fields (EMFs)’) and glass and wood workers (‘unexposed to EMFs’) in the Swedish construction industry. Standard mortality rates were lower for the two job groups compared to the Swedish general population. This is likely to be due to the healthy worker effect. The internal cohort analysis showed that electricians had a lower suicide mortality rate than glass and wood workers.

As the authors rightfully point out, these results should not be seen as evidence against the association between exposure to EMFs and suicide, in particular because no quantitative estimates of exposure were obtained to directly evaluate this association. Järvholm and Stenberg cited a small measurement survey in the Swedish construction industry, which indicated that exposure levels were low and comparable between the two occupational groups. Therefore, one would not expect to see an EMF mediated increase in suicide risk among electricians compared to glass and wood workers, if an association between EMF exposure and suicide truly exists.

Järvholm and Stenberg suggested that the difference in suicide rate between the two job groups was unlikely to be due to differences in socioeconomic factors, but they do not provide an alternative explanation. One possible explanation may be a healthy worker survivor effect related to employment status (for example, at time of death) within this cohort. Järvholm and Stenberg,1 it would be informative to see its influence on the rate ratio.

Authors’ reply

We appreciate Dr Wijngaarden’s interest in our report and his suggestion for understanding the differences in risk. Dr Wijngaarden suggests that difference in unemployment between electricians and glass and wood workers could be an explanation. We have no data on employment status at time of death and can therefore not test this hypothesis. However, if employment status is an important predictor, this could explain some of the difference, as the wood workers had a different employment structure to the other groups. Electricians and glass workers have had permanent positions for a long time, while wood workers were employed for a certain project, for example, building a house, before the 1990s. When the project was finished they had to find another employer. Today, most construction workers have permanent positions in Sweden.

In our search of the literature in an attempt to understand differences in suicide rates between occupations, we found little information. This might be an important area of research in the future.

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Are incinerator workers exposed to PCDDs and PCDFs?

Kumagai and his colleagues1 have reported that incinerator workers employed at intermittently burning municipal waste incinerators in Japan. Occup Environ Med 2002;59:362–8.


Importance of work intensity on respiratory problems in hairdressers

We read the report by Hollund et al with great interest. We agree that there is limited information about the prevalence of respiratory symptoms caused by highly reactive chemicals in hairdressing salons. In this well designed study, authors focused on age as a risk factor and observed an increased prevalence of respiratory symptoms among the youngest hairdressers and observed more symptoms among hairdressers over 40 years of age.

Work intensity, work duration, working conditions, and job titles (master, and fellow hairdresser) should also be considered as risk factors for occupational asthma and respiratory symptoms. With the exception of work intensity, these features were not reported as risk factors in previous studies.14 Work intensity is an objective parameter for evaluating occupational exposures. In our study, we calculated work intensity from the average number of chemical applications per week (bleaching, dye, and permanent wave) and observed a 3.6 times higher risk of occupational asthma among hairdressers with high work intensity (95% CI 1.8–7.9) with a significant trend (χ2, 4–9, 9, 6 = 0.027). However, we did not observe any excess by work duration, which probably is a result of the healthy worker effect. Hollund et al stated that the older hairdressers had more customers than the younger ones, which may be

References


**NOTICES**

27th International Congress on Occupational Health: The Challenge of Equity in Safety and Health at Work, Iguassu Falls, Brazil, 23–28 February 2003

The Congress will have about nine keynote conferences, approaching different angles of the Central Theme; these themes will then be discussed in depth by Panels (60), where different opinions will be debated. There will be about 60 mini-symposia organised by the ICOH Scientific Committees and Work Groups; facilities for the presentation of 1000 posters; and about 500 free papers. Interest groups may schedule meetings in Congress areas.

Conference Secretariat
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First World Congress on Work-Related and Environmental Allergy (1st WOREAL), and Fourth International Symposium on Irritant Contact Dermatitis (ICD), Helsinki, Finland, 9–12 July 2003

Congress on Work-Related and Environmental Allergy
- Work related and environmental aspects of respiratory and skin allergy
- Specific issues related to pathophysiology and skin allergy
- Management and prevention of allergy

**CORRECTIONS**

We apologise for the following errors in table 4 of the paper by Wong et al (Associations between daily mortalities from respiratory and cardiovascular diseases and air pollution in Hong Kong, China. Occup Environ Med 2002;59:39–46).

- Mortality from pneumonia and influenza: 4 Pollutant model, under NO2: “1.004 (1.017 to 1.025)” should read: “1.022 (1.011 to 1.033)”.
- Mortality from ischaemic heart diseases: 2 Pollutant model, also under NO2: “1.022 (1.011 to 1.033)” should read: “1.022 (1.011 to 1.033)”.

We apologise for the following error in the paper by Yassin et al (Knowledge, attitude, practice, and toxicity symptoms associated with pesticide use among farm workers in the Gaza Strip. Occup Environ Med 2002;59:387–393).

The page reference at the start of the paper should be 387–393, and not 387–394.