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Letter

Chemical Exposure, Risk of Multiple Chemical Sensitivity, and Occupational Safety

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The study by Pérez-Crespo et al [1] reports interesting results about the prevalence of multiple chemical sensitivity (MCS) among university researchers in Spain [1]. Surprisingly, they have found no difference in the prevalence of MCS between women and men [1]. This differs strikingly from that in all previous data. Consistent with published literature, women are particularly at risk from chemical sensitivity caused by chemicals. We would like to recommend few additions to their study.

First and foremost, the article by Pérez-Crespo [1] does not mention or refer to possible chemical agents (a wide variety of chemical agents) used among participants employed as researchers in an academic setting [1] (refer Table 1 of our article).

Because multiple chemical toxicants may exist among laboratory workers engaged in their research investigations, we expected that the article by Pérez-Crespo et al. [1] would contain a rough approximation of chemical substances used by laboratory staff in their departments at the university (i.e., organic solvents, acids, amines, aldehydes, alcohols, ethers, halogens, and metals/nonmetals/metalloids).

As a related example, occupational exposure to organic solvents may lead to chemical odor intolerance, which is cacosmia, in 60% of workers exposed to solvents, as reported in an occupational health study [2].

Table 1
Chemicals potentially linked to multiple chemical sensitivity (MCS) in humans.

Chemical agents
Alcohols
Ammonia
Amines
Aldheydes
Carboxilic acids
Halogens
Ketones
Metallic elements
Organic solvents
Polycyclic aromatic hydrocarbons (PHAs)

Second, the first sentence of the Background section of the abstract states “Multiple Chemical Sensitivity (MCS) is an acquired disease which etiology remains unknown.” [1].

Pesticide [3–9] and toxic metal [10–13] exposure has long been known to be associated with MCS. We have found [10–12] that exposure to metallic elements is an important etiologic factor in MCS in the general Italian population [10–12]. In fact, it has been suggested that MCS is being diagnosed in an increasing number of adults with well-documented exposure to toxic and/or transition metals [10–12].

Furthermore, our previous studies [10–12] in patients with MCS provided clear evidence that allergic sensitization resulted from exposure to transition metals [10–12]. More importantly, epidemiologic data have suggested a link between pesticide exposure and MCS in adults [3–9]. High blood levels of p,p:-dichlorodiphenyldichloroethylene (DDE, an organochlorine pesticide used in agriculture and pest control) were associated with MCS [14].

Baines et al. [14] found a significant difference between the patients who were diagnosed with MCS and those who were in the control group [14].

Finally, for comparison, in our cohort of 175 patients who were given a medical diagnosis of MCS [11], in contrast to that of Pérez-Crespo et al. [1], none of them were employed as university researchers or laboratory staff in a laboratory.

We believe that these important risk factors for the development of MCS should be communicated accurately to the medical and scientific community.

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Conflicts of interest

The authors have no conflicts of interest connected with this work.

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