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(Article begins on next page)

Increased risk of ALS for frontline workers

D'Ovidio F¹, d'Errico A², Calvo A¹, Costa G², Chiò A¹

¹ "Rita Levi Montalcini" Department of Neurosciences, University of Turin, Turin, Italy

² Epidemiology Department ASL TO3 – Piedmont Region, Grugliasco (TO), Italy

Abstract

Introduction: ALS has been associated with occupational and environmental exposures but until now findings have been inconsistent. Aim of this study was to assess whether previous employment in certain professions could be a risk factor for ALS occurrence.

Methods: The study population consisted of all subjects over 15 years old who worked or were unemployed at 1991 Italian census and resident in Turin up to 1996 (n=324,464), followed up for ALS occurrence from 1996 to 2014. The risk of ALS was estimated in relation to the last profession held in 1991, for all professions with at least 5 exposed cases observed during the follow up, using the Italian National of Statistics classification of professions at the greatest detail (4 digits). The association between each profession and ALS risk was estimated through Poisson regression models adjusted for age, gender, education and marital status.

Results: During the follow-up 208 employers developed ALS, 70% men and 30% women. ALS risk was significantly associated with previous employment as bank tellers (IRR=7.74), general practitioners (IRR=4.76) and sales representatives (IRR=3.24). Given that a common feature of these professions is the direct contact with patients and costumers, we categorized all professions as exposed or unexposed to direct contact with the general public, such as patients, customers and pupils. It was found that previous employment in professions involving direct contact with general public increased significantly ALS risk (IRR=1.51).

Conclusions: The study results indicate that ALS clusters in subjects employed in professions implying direct contact with the general public, suggesting that frequent exposure to people outside of the work organization may increase ALS risk. A possible explanation of this finding, partly supported from the literature, is that workers in contact with the public could be more exposed to certain infections, which in turn would increase their ALS risk.