101 CARPAL TUNNEL SYNDROME AND MANUAL WORK: THE FIRST 3 YEARS OF A LONGITUDINAL STUDY

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10.1136/oemed-2011-100382.101

Objectives Evidence on occupational determinants of Carpal Tunnel Syndrome (CTS) mainly derived from cross-sectional or retrospective studies. We conducted a cohort study to investigate the association between biomechanical occupational exposures and CTS symptoms.

Methods A longitudinal study on different groups of industrial and service workers started in 2000; outcome measures were conducted after one and 2 years. Exposure assessment was conducted for each job task according to American Conference of Governmental Industrial Hygienists (ACGIH) recommendations; biomechanical loads were classified as: 1) below the Action Limit (AL); 2) between the AL and the Threshold Limit Value (TLV); 3) above the TLV. Case definition was based on self-reported symptoms of CTS and followed the Consensus Criteria for the Classification of CTS in Epidemiologic Studies.

Results After exclusions, 2472 workers entered our analyses. Subjects exposed between AL and TLV (adjusted IRR 2.33, 95% CI 1.76 to 3.07) and above TLV (adjusted IRR 3.07, 95% CI 2.33 to 4.05) showed an increased risk of CTS symptoms. However, while incidence of CTS symptoms dramatically increased by exposure status among females (adjusted incidence below the AL: 4.9/100 pyears, 95% CI 3 to 6.3; above the TLV: 17.7/100 pyears, 95% CI 12.8 to 22.7), a very small increase was found for males (adjusted incidence below the AL: 2.1/100 pyears, 95% CI 1.2 to 3.6; above the TLV: 3.8/100 pyears, 95% CI 2.1 to 6.7).

Conclusions We found a dose-response relationship between biomechanical exposure classified according to ACGIH and incidence of CTS symptoms. However, sex stratified analyses uncovered major differences between gender; these findings support the hypothesis that different exposure limits should be considered for males and females