

THE VELESTINO STUDY: ARE TRAUMATIC BRAIN INJURIES IN THE LIFE-COURSE LINKED TO COGNITIVE IMPAIRMENT AMONG SENIORS?

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Background Several publications have reported persistent changes of cognition/earlier cognitive impairment among individuals, especially athletes, with a concussion history, even following a single traumatic brain injury (TBI).

Objective To explore the impact on late-life cognitive performance of TBI experienced during the life-course of seniors residing in Velestino, a Greek agricultural town.

Methods In a health and safety of seniors study, 94 brain injuries, 49 of which were hospital-treated, were reported by all 593 elderly aged 65+ years. The odds of being cognitively impaired, assessed by the Mini-Mental State Examination, among those with a positive TBI history as compared to those without, was calculated after controlling for known confounding factors.

Results The proportion of TBI (hospitalised) among cognitively impaired males was 16.9% (9.7%) and 14.7% (4.9%) among females, whereas for non-impaired males 21.1% (14.8%) and 11.2% (6.0%) among females. The ORs for being cognitively impaired after a TBI was 0.68 (95% CI 0.33 to 1.41, $p=0.30$) among males and 1.26 (95% CI 0.60 to 2.64, $p=0.54$) among females; the respective ORs after a hospitalised TBI were 0.78 (95% CI 0.33 to 1.88, $p=0.58$) and 0.68 (95% CI 0.23 to 1.98, $p=0.48$).

Significance Our results showing lack of association between reported TBI and cognitive impairment in the cross-sectional VELESTINO study need to be compared with those deriving from our ongoing systematic review assessing the frequency and intensity of exposure that might be necessary in order to cause permanent brain lesions and consequently lead to cognitive impairment as it is the case for contact sports professionals, who are sustaining repetitive TBI.