Submission ID: 89

Lund, Sweden
10-12 November 2021
iCSC International Cycling Safety Conference

CYCLE CRASHS WITH CONVENTIONAL AND ELECTRIC ASSISTED CYCLES AND MEASURES OF CYCLING FREQUENCY IN AN ADULTS (40+Y) COHORT

Bas de Geus, Jelle Van Cauwenberg, Paul Schepers, Carola Engbers, Toon Ampe and Romain Meeusen

Keywords: cycle crashes, cycling frequency, electric assisted cycle, conventional cycle, +40-year, retrospective

PURPOSE: The aim was to study the probability of being involved in a cycle crash, with a conventional (CC) or EAC, while controlling for individual characteristics and cycling frequency.
METHODS: A retrospective cross-sectional survey-based study, including male and female cyclists aged 40+ years, was conducted in the 3 Belgian regions and the Netherlands. Individual, socio-demographic, health outcomes, experiences while cycling, crash details and cycling frequency data were collected. Multilevel logistic regression modelling was used to calculate the probability of being involved in a cycle crash. Main and interaction effects were studied.
RESULTS: 1919 participants were included in the data analysis (63±11 years; 50% women). 319 (16.6% of the total sample; 36% EAC) were involved in a crash in the previous 12 months. Those involved in a crash were significantly younger compared to those not involved in a crash. No gender difference was present between those involved in a crash or not involved in a crash. Those involved is a crash showed sign higher mean scores on clusters ‘Mental’ and ‘Functionality’ and cycled more days during the study period. The averaged model (main effect) indicated a positive significant effect of the cluster Mental, cluster Functionality, cycling frequency and a negative significant effect of age category. The strongest predictor for the probability of a being involved in a crash was the cluster Mental, with all other variables being equal. The interaction effects (*) showed: Model 1: Age category*Region; Age category*cluster Mental; cluster Mental*Region; Age category*cluster Functionality.
CONCLUSION: this study indicates that with a cohort of older adults living in regions with high and low cycling modal shares, age and cluster Mental (i.e. feeling insecure while cycling, feeling uncomfortable in messy, chaotic or unclear traffic situations while cycling and Functionality (i.e. having a reduced reaction speed, being less able to look over my shoulder) play a significant role in the probability of being involved in a cycle crash.