

Risk factors for severe injury in cyclists involved in traffic crashes in Victoria, Australia

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Abstract

The increase in cycling and the associated injury and fatality resulted in a substantial growth in the field of cycling safety research over the last two decades. Most previous research has focused on quantifying the magnitude of the problem and identifying behavioural and environmental risk factors of cyclist crashes [1-4]. However, there is limited research that systematically examines the impact of these factors on severity of bicycle related injury.

This study examines the impact of cyclist, road and crash characteristics on the injury severity of cyclists involved in traffic crashes reported to the police in Victoria, Australia between 2004 and 2008. Logistic regression analysis was carried out to identify predictors of severe injury (serious injury and fatality) in cyclist crashes reported to the police. There were 6432 cyclist crashes reported to the police during the study period with 2181 (33.9%) resulting in severe injury of the cyclist involved. The multivariate analysis found that factors that increase the risk of severe injury in cyclists involved in traffic crashes were age (50 years and older), not wearing a helmet, riding in the dark on unlit roads, riding on roads zoned 70 km/h or above, on curved sections of the road, in rural locations and being involved in head-on collisions as well as off path crashes, which include losing control of vehicle, and on path crashes which include striking the door of a parked vehicle.

While this study did not test effectiveness of preventative measures, policy makers should consider implementation of programs that address these risk factors including helmet programs and environmental modifications such as speed reduction on roads that are frequented by cyclists.

Keywords: cyclist, crashes, injury, severity.

References

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