Distracting and Risky Behaviours while Cycling: Group vs Non-group Riders

A C-MARC study, undertaken as part of Michelle Fraser’s doctoral project, suggests group cyclists develop safety habits that reduce their risk of engaging in risky or distracting behaviours whilst cycling.

The popularity of cycling has grown rapidly in Western Australia (WA) over the past 15 years. Moreover, riding as part of a group has become more mainstream and is undertaken by a diverse range of people with varying degrees of cycling ability, age, and motivations. However, little is known about the positive and negative safety implications of participation.

C-MARC researchers Ms Michelle Fraser, Professor Lynn Meuleners, and Dr Kyle Chow, together with Professor Mark Stevenson from The University of Melbourne, aimed to describe the characteristics of group versus non-group riders in Perth, WA, and to determine whether group riding is associated with risky behaviours, including the use of mobile phones, portable audio equipment, and riding under the influence of alcohol.

Participants consisted of cyclists recruited roadside in Perth, WA. The participants completed an online questionnaire which elicited whether they undertook risky behaviours while participating in any type of cycling. Cyclists who currently rode in a group of five or more were classified as ‘group riders’. Group and non-group riders were compared and separate models were used to examine the association between group riding status and the use of mobile phones, portable audio equipment and alcohol, while controlling for confounding factors.

A total of 262 cyclists were included in the study, which comprised of 143 non-group riders (54.5%) and 119 group riders (45.5%). All group riders also participated in other cycling outside of their group(s). The results suggested that group riders were less likely to have possibly cycled while over the legal blood alcohol limit in the past 12 months (OR: 0.44, 95% CI: 0.24-0.82) and were less likely to ever use portable audio equipment (OR: 0.45, 95% CI: 0.25-0.83) than non-group cyclists, while participating in any type of cycling. However, group riding status was not associated with mobile phone use.

It is possible that group riders develop safety habits that reduce their risk of engaging in certain risky or distracting behaviours whilst cycling, during both the group and non-group riding they participate in. These potential safety benefits suggest it may be beneficial for governments to promote and support group riding.
A recent investigation conducted by C-MARC researchers indicated that older adults with dementia were at increased risk for a hospital admission due to an all-cause injury.

The prevalence of dementia is increasing as the world’s population ages. In Australia, it is estimated that 342,800 people have dementia, with projections showing that this will rise to 900,000 by 2050. Prevention of injury in older adults is a priority in Australia. The majority of research relating to injuries in individuals with dementia has focused on falls, rather than other causes such as road crashes, fires, violence and poisoning. This population-based study, to be published in a forthcoming issue of the Journal of the American Geriatrics Society, was undertaken to explore the incidence of and risk factors for all-cause injuries (including transport-related injuries, falls and burns) in older adults with and without dementia.

The study used data from the Western Australian Data Linkage System (WADLS) which is housed in the Department of Health of Western Australia. Cases included 29,671 (47.9%) adults aged 50 and older with an index hospital admission for dementia between 2001 and 2011. Comparison participants without dementia included a random sample of 32,277 (52.1%) adults aged 50 and older from the state electoral roll. An injury was defined as a hospital admission to a metropolitan tertiary hospital for at least 24 hours with a diagnosis of an injury (ICD-10 codes S00.0 to T98.3).

The results showed that the age-standardised all-cause injury rates for older adults with dementia (≥60) were 117 per 1,000 population compared to 24 per 1,000 population for older adults without dementia. Falls caused the majority of injuries for both groups (dementia, 94%; without dementia, 87%). Transport-related injuries caused 2.6% of injuries among those with dementia and 5.6% of injuries among the group without dementia. Among the dementia group, 39% of transport-related injuries were among drivers, 27% among pedestrians and 23% to passengers. Among the non-dementia group, 48% were drivers, 28% pedestrians and 18% were passengers. Burns were the third highest cause of injury (0.87% and 13.4% for dementia and non-dementia groups respectively).

Multivariate modelling found that older adults with a diagnosis of dementia had more than twice the risk of hospital admission for an all-cause injury than those without dementia (incidence rate ratio (IRR)=2.05, 95% confidence interval (CI)=1.96–2.15). Other significant risk factors for a hospital admission for all-cause injury included: a 43% increased risk in older adults aged 85+ (IRR=1.43, 95% CI=1.13–1.81); a 7% increased risk in unmarried persons (IRR=1.07, 95% CI=1.03–1.12); and a 3% increased risk among those with history of falls in the last year (IRR=1.03, 95% CI=1.01–1.06). Women were at 8% lower risk of a hospital admission due to an all-cause injury (IRR=0.92, 95% CI=0.87–0.97).

Overall, the study indicated that older adults with dementia were at increased risk for a hospital admission due to an all-cause injury, highlighting the role of cognitive impairment on injury risk. Multifactorial injury prevention programs would benefit older people both with and without dementia, targeting those over 85 years, living alone and with a history of previous falls. These programs should include identifying those at increased risk of road crash and falls, and assisting with activity modification to reduce risk of injury. Health professionals, licensing agencies, police and families should be involved in helping at-risk drivers to transition from driver to non-driver.

Injury prevention programs would benefit older Australians, both with and without dementia

Motorcycle crashes in Ho Chi Minh City, Vietnam: An examination of crashes, long-term outcomes and behaviour

PhD student Han Doan is set to undertake a study investigating motorcyclists’ behaviours and risk factors for and long-term health outcomes of motorcycle crashes in Ho Chi Minh City, Vietnam.

Road traffic injuries are the leading cause of fatal and non-fatal injuries in Vietnam. The World Health Organisation estimates that over 22,000 people died due to road traffic injuries in Vietnam in 2013. Motorcycles are involved in more than 70% of road traffic crashes and make up more than half of traffic crash-related casualties and injuries. Motorcycles are seen as the main mode of transport in Vietnam with estimates suggesting that 95% of their 40.8 million registered vehicles in 2013 were motorcycles. The ownership of motorcycles is rapidly rising every year because motorcycles are a cheap and convenient means of transportation. The large number of motorcycles in Vietnam has been accompanied by an increase in the number of motorcycle traffic injuries. Despite the magnitude of this problem, there is limited evidence on risk factors, long-term outcomes, as well as the nature of motorcycle crashes in Vietnam. Therefore, Ms Doan’s PhD project aims to gain a better understanding of risk factors, the long-term effects of motorcycle crashes on health outcomes of injured motorcyclists as well as motorcyclists’ behaviours during everyday trips in Vietnam.

This study will consist of two parts. Part one involves a prospective longitudinal study of 350 injured motorcyclists who were hospitalised due to a motorcycle crash in Cho Ray hospital, located in Ho Chi Minh City (HCMC), southern Vietnam. Data will be collected at baseline, 6 and 12 months from medical records and researcher-administered questionnaires and will include information on characteristics, crash details, injury details, and health outcomes such as health-related quality of life, pain intensity, depression and functional status. Part two is a naturalistic study of 20 motorcyclists whom will have two video cameras mounted to their motorcycle. Participants’ natural riding behaviour will be observed over six hours with data being collected on latitude, longitude, speed, acceleration and braking. The video footage will be supplemented with a questionnaire looking at participants’ demographic characteristics, riding exposure and habits, licence status, and risky rider behaviours. The key outcome measures will include recording “unsafe events” (crash/near crash/incident), “unsafe behaviour” and environment-related risk factors.

This will be the first study assessing the long-term health outcomes of motorcycle crashes as well as examining “unsafe events”, “unsafe behaviour” and their interaction with environment-related risk factors in Vietnam. It is expected that the findings will contribute to motorcycle safety by providing recommendations for road safety and policies related to regulation, enforcement, motorcyclist awareness and motorcyclist training, as well as to improve the long-term health outcomes for those injured in motorcyclist crashes in Vietnam. As a result, the burden of injuries may be reduced in the future.


Publications


C-MARC is a West Australian based independent multi-disciplinary road safety research centre established by the West Australian State Government’s Office of Road Safety in 2009.

The Centre represents a significant partnership between the Office of Road Safety (now the Road Safety Commission), Curtin University and Monash University’s Accident Research Centre (MUARC).

C-MARC’s mission is “to be a Centre of excellence in road and other injury research and the translation of that research into policy and practice that will inform government, industry and the wider community.”