

Motor vehicle crashes and dementia: a population-based study

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Abstract

This study aimed to compare the crash risk among older drivers with and without dementia. A retrospective population cohort study was undertaken, including 5,302 participants (1,666 with dementia) who had been involved in a motor vehicle crash from 2001 to 2013. Logistic regression analysis showed that older adults with dementia were significantly more likely to have been involved in a crash in the three years prior to diagnosis than other older adults. Based on the study results, licensing authorities and clinicians need to balance safety considerations with mobility needs for older drivers particularly those with early signs of dementia.

Background

Demographic changes in the Australian population (ABS, 2008) are leading to an increase in the number of older drivers. Driving is a complex task and requires numerous skills. Some cognitive aspects that are essential for driving such as memory, visual perception, attention and judgment ability may be affected by dementia (Lloyd et al., 2001; Wagner, Müri, Nef, & Mosimann, 2011). In the early stages of dementia, the risks associated with driving with dementia may go unnoticed due to an average three year lag between symptoms and diagnosis (Gilley et al., 1991). This study examined the crash risk among older drivers aged 50+ in the three years prior to an index hospital admission with a diagnosis of dementia, compared to a group of older drivers without dementia.

Methods

A retrospective whole-population cohort study was undertaken using de-identified data from the Western Australian Data Linkage System (WADLS) from 2001 to 2013. The outcome of interest was involvement in a crash as the driver in the three years prior to a diagnosis of dementia. Logistic regression analysis was undertaken.

Results

There were 1,666 (31%) individuals with an index hospital admission for dementia and 3,636 (69%) individuals without dementia who had been involved in at least one motor vehicle crash from 2001 to 2013. The results of the logistic regression analysis found the odds of a crash increased by 77% (odds ratio (OR) =1.77, 95% Confidence Interval (CI) =1.57 – 1.99) in the three years prior to a hospital admission for older drivers with a diagnosis of dementia, compared to a group without dementia, after adjusting for relevant confounders.

Conclusions

Based on the study results and given the increasing number of people who will be diagnosed with dementia it is important that licensing authorities and clinicians continue to balance safety considerations with mobility needs for older drivers particularly when the early signs of dementia may manifest.

References

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