

Traffic accidents, falls, and clinical management of hip fractures among people with dementia

Defended: 22-03-2019

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English resumé

Thus, this PhD project aimed, from a Danish perspective, to use registry data to investigate non-institutionalized older people with dementia and their daily risk of unintentional accidents, including both road traffic accidents (RTAs) and accidents from falls. Additionally, the project investigated whether patients with dementia experience different clinical management for hip fracture and related surgery than those without dementia, and whether those management factors may explain the excess postoperative 30-day mortality.

In summary, compared to those without dementia, a decreased risk of RTAs was observed (Paper II) but an increased risk of falling was also observed (Paper III) in home-dwelling older people with dementia. Among hip fracture patients, patients with dementia had a 1.5-times increased postoperative 30-day mortality risk. However, no difference in time to surgery by patients' dementia status; additionally, the excess mortality could not be explained by the clinical management factors examined in this project (out-of-hours admission, surgery on weekends, anesthesia technique, surgery volume per ward) (Paper IV). However, postoperative clinical care factors need to be further investigated in order to elaborate the increased mortality.

The findings of this project do not intend to promote the conclusion that people with dementia are safer on the road; instead, they may have lower rates of daily outdoor activity. Additionally, lack of change in the fall risk over the past 30 years indicates that previous fall risk interventions targeting home-dwellers with dementia have not been very effective. Today, most elderly people prefer to live in their own homes as long as possible, and Denmark aims to cultivate a dementia-friendly society and provide dignified and safe living conditions for people with dementia. The findings of this PhD project thus call for interventions both to increase social engagement and participation, and to improve fall prevention strategies and interventions for people with dementia that are designed with their caregivers in mind; this implies the need for not only micro-level interventions within communities, but also macro-level interventions on the regional and national levels.

Related publications (links)

Paper I

Dementia and Traffic Accidents: A Danish Register-Based Cohort Study. Petersen JD, Siersma V, Nielsen CT, Vass M, Waldorff FB. JMIR Res Protoc. 2016 Sep 27;5(3):e191

Paper II

Dementia and road traffic accidents among noninstitutionalized older people in Denmark. Petersen JD, Siersma VD, Christensen RD, Storsveen MM, Nielsen CT, Vass M, Waldorff FB. Scand J Public Health. 2018 Jun 1;1403494818782094.

Paper III

The risk of fall accidents for home dweller with dementia – A register- and population-based case-control study. Petersen JD, Siersma VD, Christensen RD, Storsveen MM, Nielsen CT, Waldorff FB. Alzheimers Dement (Amst). 2018 May 30;10:421-428.

Paper IV

Clinical management of hip fractures in elderly patients with dementia and postoperative 30-day mortality - A population-based cohort study. Petersen JD, Siersma VD, Wehberg S, Nielsen CT, Vass M, Waldorff FB. (Submitted to PLOS ONE)

Updated: March 27, 2019