OPTIMIZING DRUG THERAPY AMONG OLD PEOPLE WITH DEMENTIA

THE ROLE OF CLINICAL PHARMACISTS

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Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av medicine doktorsexamen framläggs till offentligt förvar i Hörsal B, byggnad 1A Tandläkarhögskolan våning 9, fredagen den 8 april, kl. 13.00.
Avhandlingen kommer att förvaras på svenska.

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Optimizing drug therapy among old people with dementia. The role of clinical pharmacists.

Abstract
Background Drugs are one of the cornerstones in the management of many diseases. In general, drugs are used for diagnosis, prevention, mitigation of symptoms, and, sometimes, to cure disease. However, drug treatment in elderly people, especially those with dementia and cognitive impairments, may involve significant risk of adverse drug events. The aim of this thesis was to identify the extent of potentially inappropriate drug treatment among people with dementia and cognitive impairment and to assess the occurrence and character of drug-related problems that lead to acute hospital admissions. Another aim was to assess the potential impact of a comprehensive medication review conducted by clinical pharmacists as part of a health care team on quality of patients’ drug therapy and drug-related hospital readmission rates.

Method Long-term use of antipsychotic/psychotropic drugs and associated factors were investigated among 344 and 278 people respectively with dementia living in specialized care units. Trends in the prescribing of potentially inappropriate drugs between 2007 and 2013, comprising 2772 and 1902 people, living in nursing homes in the county of Västerbotten, were assessed using six national quality indicators. Data on drug use, function in the activities of daily living, cognitive function and behavioral and psychological symptoms were collected using the Multi-Dimensional Dementia Assessment Scale. Further, an investigation of a separate corresponding population from 2012 was done, where potentially inappropriate drug use was measured before and after a total of 895 medication reviews. Finally, a randomized, controlled trial was carried out among people 65 years or older with dementia or cognitive impairment in internal medicine and orthopedic wards at two hospitals in northern Sweden. The proportion of hospital admissions that were drug-related were estimated, and also whether comprehensive medication reviews conducted by clinical pharmacists as part of a health care team could affect the risk of drug-related hospital readmissions.

Results Antipsychotic and other psychotropic drugs were frequently prescribed to people with dementia living in specialized care units for prolonged periods. Associations were found between behavioral and psychological symptoms and different psychotropic drugs. The extent of potentially inappropriate drug use declined between 2007 and 2013. In the separate corresponding population from 2012, the frequency of potentially inappropriate drug use was significantly reduced among people who underwent medication reviews. Hospitalizations due to drug-related problems among old people with dementia or cognitive impairment were prevalent. We found that inclusion of a clinical pharmacist in the healthcare team significantly reduced the risk of drug-related 30-day and 180-day readmissions. However, in a subset of patients with concomitant heart failure no effect was seen.

Conclusion Among patients with dementia or cognitive impairment long-term treatment with antipsychotic and other psychotropic drugs is common. The results indicate that these drugs are prescribed to treat behavioral and psychological symptoms among cognitively impaired individuals, despite limited evidence of their efficacy and the high risk of adverse effects. Drug-related problems, such as adverse drug reactions, constituted a major cause of hospital admissions. By reducing potentially inappropriate drug use and optimizing overall drug therapy, inclusion of clinical pharmacists in a healthcare team might improve the quality of patient care and reduce the risk of hospital readmissions among people with dementia.

Keywords Psychotropic drugs, potentially inappropriate drugs, drug-related problems, old people, dementia, nursing homes, drug-related hospitalizations, medication reviews, clinical pharmacists