Association between Antidepressants and Fall-Related Injuries among Long-Term Care Residents

Jennifer C. Macri, B.Sc.H., Andrea Iaboni, M.D., DPhil, Julia G. Kirkham, M.D., M.Sc., Colleen Maxwell, Ph.D., Sudeep S. Gill, M.D., M.Sc., Akshya Vasudev, M.B.B.S., M.D., Marlo Whitehead, M.Sc., Dallas P. Seitz, M.D., Ph.D.

Objectives: *Antidepressants are associated with an increased risk of falls although little is known of the comparative risks of different types of antidepressants or individuals who are at greatest risk for falls. We examined the association between new use of antidepressants and fall-related injuries among older adults in long-term care (LTC).* **Design, Setting, Participants:** *This was a matched, retrospective cohort study involving LTC residents in Ontario, Canada, from 2008 to 2014. New users of antidepressants were matched to non-users of antidepressants.* **Measurements:** *The primary outcome was any fall resulting in an emergency department (ED) visit or hospitalization within 90 days after exposure. Secondary outcomes included hip fractures, wrist fractures, and falls reported in LTC. Multivariate logistic regression was used to estimate the odds ratio (OR) and 95% confidence interval associated with antidepressants and outcomes.* **Results:** *New users of any antidepressant had an increased risk of ED visits or hospitalization for falls within 90 days when compared with individuals not receiving antidepressants (5.2% versus 2.8%; adjusted OR: 1.9, 95% CI: 1.7–2.2). Antidepressants were also associated with an increased risk of all secondary outcomes. The increased risk of fall-related injuries was evident among selective-serotonin reuptake inhibitors, serotonin–norepinephrine reuptake inhibitors, trazodone, and across multiple patient subgroups.* **Conclusions:** *New use of antidepressants is associated with significantly increased risk of falls and fall-related injuries among LTC residents across different patient subgroups and antidepressant classes. The potential risk of fall-related outcomes should be carefully considered when initiating antidepressants among older adults in LTC.* (Am J Geriatr Psychiatry 2017; ■■:■■–■■)

Received May 11, 2017; revised August 11, 2017; accepted August 24, 2017. From the Department of Psychiatry (JCM, JGK, DPS), Queen's University, Providence Care-Mental Health Services, Kingston, Canada; Department of Biomedical and Molecular Sciences (JCM); Department of Public Health (JCM), Queen's University, Kingston, Canada; Department of Psychiatry (AI), University of Toronto, Toronto Rehabilitation Institute, Toronto, Canada; Schools of Pharmacy and Public Health and Health Systems (CM), University of Waterloo, Waterloo, Canada; Department of Medicine (SSG), Queen's University, Kingston, Canada; Department of Psychiatry (AV), Western University, London, Canada; and the Institute for Clinical Evaluative Sciences (MW, DPS), Queen's University, London, Canada. Send correspondence and reprint requests to Dallas Seitz, Providence Care Hospital, 752 King Street West, Kingston, Ontario K7L 4X3, Canada. e-mail: seitzd@providencecare.ca

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Highlights

- Antidepressants are associated with an increased risk of falls and fall-related injuries among LTC residents.
- This increased risk of falls with antidepressants was observed after accounting for depression, ADL functioning and cognitive impairment.
- The increased risk of falls was observed with SSRIs, SNRIs and trazodone, and there were no differences in fall risk observed between different antidepressant classes.
- The risk of falls with antidepressants was observed across most patient subgroups.
- Our study provides new information about the risk of falls with antidepressants across multiple medication classes and patient groups highlighting the need for caution in prescribing these medications.

Antidepressants are frequently prescribed to long-term care (LTC) residents. The median prevalence of major depression in LTC is 10% and the prevalence of depressive symptoms in LTC is 29%.[1] Dementia is also common in LTC, and 20% of individuals with dementia have significant depressive symptoms.[2] Antidepressants may also be prescribed for treatment of anxiety,[3] sleep disorders,[4] and treatment of neuropsychiatric symptoms of dementia.[5] The prevalence of antidepressant use among LTC residents is increasing over time, with up to 30% of all LTC residents prescribed an antidepressant.[6]

Approximately 35% of all older adults will experience a fall annually,[7] and up to 60% of LTC residents fall each year.[8] LTC residents experience a significant decline in physical function as well as quality of life after a fall,[9] and falls are a major contributor to hip fractures and other injuries in older adults.[8,10] Other consequences associated with falls and fractures include increased pain, anxiety, depression, disability,[10] and increased healthcare costs.[9]

Falls are often the result of multiple risk factors,[11] and there is increasing awareness that the use of psychotropic medications is a risk factor for falls in older adults.[12] Antidepressants are associated with an approximately 1.5- to 2-fold increased risk of falls or fall-related injuries in older adults.[12–16] This risk is greatest within the 30 days following initiation of treatment.[13] Antidepressants may contribute to a susceptibility to fall injuries because of effects on cognition, reaction time, balance, and blood pressure,[17] although specific mechanisms linking antidepressants to falls have yet to be investigated in large randomized controlled clinical studies.

The potential relationships between antidepressants and falls is complex and there is limited information from controlled clinical trials about the risk of falls associated with antidepressants.[18] The existing observational research evidence examining these relationships have demonstrated conflicting results or are potentially biased by confounding by indication.[18] Depressive symptoms are known to be associated with an increased risk of falls, and depression has not been controlled for in many previous studies of antidepressants and falls.[19] Previous studies have not always differentiated between individuals who are long-term users of antidepressants and new users of antidepressants, which also affects the results of observational studies.[20] The risk of falls associated with antidepressants in different high-risk subgroups of patients, such as those with a prior history of falls or functional limitations,[21] have not been well described. Recent guidelines, however, have recommended that selective serotonin reuptake inhibitors and tricyclic antidepressants should be avoided in older adults with a history of falls unless safer alternatives are available.[22]

In the present study, we examined the association between new use of antidepressants and the subsequent occurrence of falls or fall-related injuries (e.g., hip or wrist fractures) among older adults residing in LTC. Our study also aimed to evaluate whether there are differences in the risk of fall-related injuries with different classes of antidepressants and whether certain patient characteristics modify the risk of fall-related injuries associated with exposure to antidepressants.