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Polypharmacy and Potential Drug-Drug Interactions in Home-Dwelling Older People - A Cross-Sectional Study

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Abstract

Background: Risks associated with polypharmacy and drug-drug interactions represent a challenge in drug treatment, especially in older adults. The aim of the present study was to assess the use of prescription and non-prescription drugs and the frequency of potential drug-drug interactions in home-dwelling older individuals.

Methods: A cross-sectional study design was applied. Data were collected during preventive home visits among individuals aged ≥75 in three separate communities of Western Norway. A questionnaire, which was filled out by the individual, their next-of-kin, and the nurse performing the home visit was used for the collection of demographic and clinical data (age, sex, medication use, diagnoses, need of assistance with drug administration). Potential drug-drug interactions were identified electronically by IBM Micromedex Drug Interaction Checking. Point prevalence of potential drug-drug interactions and polypharmacy (≥5 drugs) were calculated. Binary logistic regression analyses were performed to assess factors potentially associated with polypharmacy or potential drug-drug interactions.

Results: Among the 233 individuals (mean age 78±3 years, 46% male) included in the study, 43% used ≥5 drugs, 3.4% ≥10 drugs, while 4.3% used no drugs. In 54% of the 197 individuals using two or more drugs, at least one potential drug-drug interaction was detected. Low-dose aspirin and simvastatin were most frequently involved in potential drug-drug interactions. In total, 25% of the individuals reported current use of drugs sold over the counter of which more than 95% were analgesic drugs. Potential drug-drug interactions involving ibuprofen were identified in nine of 11 (82%) individuals using over-the-counter ibuprofen.

Conclusion: The study revealed a high prevalence of polypharmacy and potential drug-drug interactions with both prescription and non-prescription drugs in older home-dwelling individuals. Close monitoring of the patients at risk of drug-drug interactions, and increased awareness of the potential of over-the-counter drugs to cause drug-drug interactions, is needed.

Keywords: drug–drug interactions; home-dwelling; old people; polypharmacy.

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