

## **Abstract**

### **Analysis of the effect of pharmacotherapy on the risk of fall in inpatients II**

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**Introduction and objectives:** Falls are one of the most common problems of hospitalized patients. Their occurrence is associated with many problems and therefore should be avoided. Effective prevention involves analyzing risk factors and implementing interventions to minimize these risks. The aim of this work was to analyze the influence of drugs and other risk factors on the fall of hospitalized patients.

**Methods:** Data was collected from April to December 2017 in 4 hospitals in South Bohemia. Only patients who had fallen during hospitalization participated in the study. An online database was created for the study to collect patient data (personal history, medications used, laboratory values and others). Population and individual fall risk-increasing drugs were analyzed. For each individual fall risk-increasing drug, the type of drug problem that could have been the cause of a fall was classified. Risk minimization interventions have been assigned to each drug problem. In addition to fall risk-increasing drug analysis, other risk factors that increased the risk of falling as well as non-falling drugs with some type of drug problem were considered. Data on each fall were recorded in a database, processed into tables and evaluated.

**Results:** A total of 140 falls were evaluated in 136 patients (52.9 % in women, 47.1 % in men; average age 78 years). According to the 1. level of ATC classification, drugs affecting the nervous and cardiovascular systems were most commonly associated with the onset of fall. An increased risk of falling was most common with the antipsychotic agent tiapride (27.9 %) and the diuretic agent furosemide (33.6 %). Risks have also been identified for non-population fall risk-increasing drugs, namely metronidazole and quinolone antibiotics. The most common drug problem was the use of inappropriate drug due to the patient's age (32.6 %). Patient symptoms monitoring was the most commonly recommended intervention (37.1 %).

**Conclusion:** In addition to commonly known fall risk-increasing drugs, the results also show groups that need to be given extra attention. Sufficient patient monitoring and more careful drug selection with a focus on patient individuality is important to minimize potential problems.

**Key words:** fall, medical facility, pharmacotherapy, pharmacist intervention