

# Incident adverse drug reactions and their effect on the length of hospital stay in older inpatients

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## Abstract

Background Acutely ill older persons are more likely to suffer adverse drug reactions, increasing morbidity, and mortality. The incident adverse drug reactions and their consequences on the length of hospital stay (LOS) in older persons have been little explored. Objective To determine the incident adverse drug reactions in acutely ill older inpatients and their effect on the LOS. Setting Internal medicine service in a Chilean teaching hospital. Method A prospective cohort study was conducted in patients aged  $\geq 60$  years admitted into the internal medicine service of the Hospital from University of Chile. Characteristics, severity, and causality of adverse drug reactions were assessed. Effect of incident adverse drug reactions on the LOS was determined using multiple Cox regression. A secondary analysis was conducted in patients aged  $\geq 65$  years. Main outcome measure Incident adverse drug reactions (new events occurring in hospital) and their effect on the LOS in older inpatients. Results A total of 229 acutely ill older persons  $\geq 60$  years were followed-up. Fifty-six of them suffered 77 adverse drug reactions (incident rate 24.5%; 95% CI: 19.0, 30.5), 70.1% type A. Adverse drug reactions were severe in 5.4% of cases. Causality assessment indicated the majority were probable (57.1%) and 3.9% certain. Cardiovascular agents were the therapeutic class more frequently involved. The most frequent adverse drug reaction was hypotension (19.5%). Patients with adverse drug reactions had a significantly prolonged LOS than those without adverse drug reactions (12.4  $\pm$  11.0 versus 7.3  $\pm$  6.4 days;  $p < 0.0001$ ) (adjusted Hazard Ratio 0.63; 95% CI: 0.46, 0.87;  $p < 0.01$ ), respectively. The incidence rate of adverse drug reactions in patients  $\geq 65$  years was 25.1% (95% CI: 19.0; 32.1), and their occurrence was significantly associated with a prolonged LOS ( $p < 0.05$ ). Conclusion One in four acutely ill older persons hospitalized in the internal medicine service suffered at least one incident adverse drug reaction, which prolonged the LOS by 5 days. There is a potential to optimize the use of hospital beds and medication safety by preventing adverse drug reactions in geriatric patients.

## Palabras clave

Palabras clave de autor: [Adverse drug reaction](#); [Chile](#); [Clinical pharmacist](#); [Older adults](#); [Pharmacoepidemiology](#)

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