Potentially Inappropriate Medication Related to Weakness in Older Acute Medical Patients

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Background The aging process is associated with physiological changes, which can impact pharmacodynamics and - kinetics, and increase the risk of adverse drug reactions. Drugs that are inappropriate for use in older people are called potentially inappropriate medications (PIMs). The use of PIMs is common in the older population. PIMs as well as polypharmacy expose older people to a greater risk of adverse drug reactions, and may cause hospitalizations.

Purpose To evaluate the prevalence of PIMs among acutely hospitalized patients aged ≥ 65 years in an acute medical unit, and to investigate the relationship between use of PIMs and weakness measured by functional status, cognitive status, health-related quality of life and handgrip strength.

Method Patients aged ≥ 65 years admitted to the Emergency department during the period October to December 2011 were included. Patients were interviewed at admission and at a follow-up visit 30 days after discharge. Data included information about medications, social status, functional status, cognitive status, health-related quality of life, handgrip strength and comorbidities, and was prospectively collected. PIMs were evaluated according to the red-yellow-green list, which is a Danish list of PIMs based on among others Beers Criteria. Polypharmacy was defined as regular use of 5 or more drugs. The Charlson Comorbidity Index was used to categorize comorbidities.

Findings Seventy patients (55% men) with a median age of 79 years participated. The median number of drugs was eight per person. Eighty percent were exposed to polypharmacy. PIMs were used by 85% of patients, and PIMs were associated with low function status (p=0.032), reduced health-related quality of life (p=0.005), and low handgrip strength (p=0.006), but comorbidities (p=0.63), age (p=0.60), sex (p=0.53), education (p=0.94) or cognition (p=0.10) were not associated with PIMs.

Conclusion Use of PIMs was very common among older people admitted to an acute medical unit. The use of PIMs is associated with low functional status, low handgrip strength, and reduced health-related quality of life.