Inappropriate medication prescriptions in elderly patients in a teaching hospital in Lebanon

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The selection of appropriate medication in the elderly people is a challenging and complex process. There are no criteria available for the evaluation of inappropriate medication in the elderly based on the availability of the drugs in Lebanese market.

Objectives. This was the first study performed in Lebanon to identify inappropriate medication prescriptions (IMPs) in hospitalized geriatric patients by using American Geriatric Society Beer's criteria (2012), at a Lebanese university hospital, Hotel-Dieu de France.

Study design. This retrospective study was conducted by reviewing all patient ($\geq$65 years) records over a period of 6 months.

Methods. Data on age, gender, diagnosis, duration of hospital stay, and treatment were collected. Statistical analysis was performed using the SPSS software for Windows.
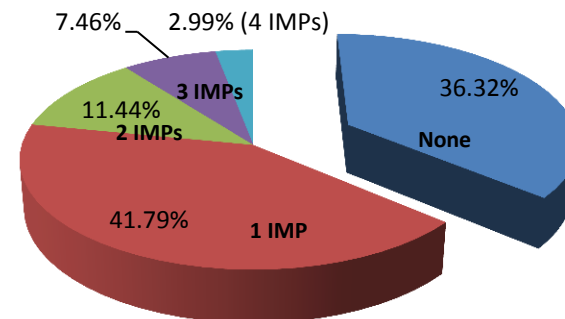
Results. Of the 201 files reviewed, 52.7% were of male patients, and average age was 74.2 years. 64% of the patients received at least one IMP, with no differences between males and females.

IMPs were observed in patients admitted for: orthopedic problems (19.8%), urological-nephrological problems (17.9%), respiratory problems (13.28%), oncology (12.50%), cardiovascular problems (11.72%), other causes (10.94%). 37.31% of patients received one IMP, 8.5 % two and 5.5% three IMPs (53% with at least one IMP). Hydroxyzine was the most commonly used IM. Most frequent IMPs due to drug-disease or drug-syndrome interaction were: among patients with: epilepsy, 33.3% received tramadol, delirium, 40% received methylprednisolone, dementia, 37.3% received risperidone, urinary incontinence, 25.6% received inhaled anticholinergics, prostatic hypertrophy, 32.3% received oral anticholinergic drugs.
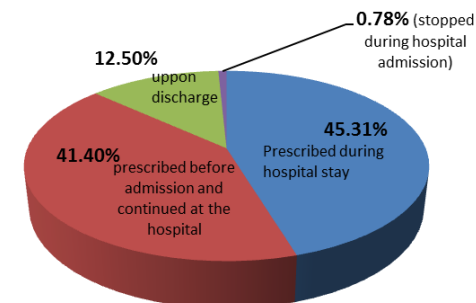
IMP to be used with caution in geriatric patients: 5.9% of patients aged 80 or more were treated with aspirin. As for IMPs that alter sodium levels, 6.5% of the patients received escitalopram, and 2.5% risperidone.

Conclusions: This study has identified IMPs according to Beer's criteria based on the American population. The possibility of adverse drug events may differ in Lebanese population because of genetic, prescribing, and environmental particularities. This highlights the need for population- and country specific prescribing guidelines

% of patients receiving none, 1, 2, 3 or 4 IMPs

The majority of IMPs were prescribed during hospital stay

Most commonly prescribed drugs among IMPs