The Quality of Prescribing in a Population of Adult Psychiatric In-patients

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Objective
The aim of this study was to examine potential inappropriate prescribing (PIP), assess potential clinical consequences of PIP and identify possible predictive factors in adult psychiatric patients

DEFINITION: Potential Inappropriate Prescribing
Prescribing that introduces a significant risk of an adverse drug-related event where there is evidence for an equally or more effective but lower-risk alternative therapy available for the same condition. PIP includes the use of drug combinations with known drug-drug interactions, drug-disease interactions, over-dosing, use of drugs for longer than clinically indicated as well as lack of prescription of beneficial drugs that are clinically indicated

METHODS:
A prospective study identifying PIP at the time of admission of patients using structured medication reviews. There were included 219 patients (>18 years) at time of admission. The medication reviews were carried out by two senior clinical pharmacologists who categorized and assessed PIPs for potential clinical consequences. Frequencies of PIP were analyzed in absolute numbers and as percentages. Logistic regression analysis, uni- and multivariate, was used to identify possible predictive factors of PIP and frequencies of high-risk drugs were reported in absolute numbers.

RESULTS:
Twenty patients were not prescribed any medications and were excluded from further analysis.

The proportion of patients receiving at least 1 PIP was 76/199 (38%).

The categories representing most PIPs were interaction between drugs and drug dosage to high. These categories also represented the majority of PIPs assessed to have the potential to be serious or fatal. 47% of the potentially fatal drug-drug interactions involved 2 or more antipsychotics.

The univariate analysis showed that the youngest patients (18-29 years) was at a significantly different (lower) risk of PIP than the reference age group (40-59 years); OR=0.48 (95%CI:0.24-0.97), p=0.04. Additionally, polypharmacy (>5 prescriptions) and having >1 somatic diagnose increased the risk of a PIP significantly (OR=5.58 (95%CI:2.95-10.56), p<0.0001 and OR=3.45 (95%CI:1.8-6.66), p<0.0001, respectively). In the multivariate analysis only polypharmacy remained a significant predictive factor after adjusting for age, gender, alcohol/substance abuse, number of prescriptions, number of somatic diagnoses and level of kidney function; OR=4.82 (95%CI:2.33-9.98), p<0.0001.

Antipsychotics constituted the majority of drugs assessed to be potentially serious or potentially fatal. Ibuprofen were the most frequent drug identified in PIPs and also a drug assessed to be potentially fatal by clinical pharmacologists. The second most frequent drug associated with PIP was chlorprothixen.

CONCLUSION:
Potential Inappropriate Prescribing is frequent and with possible serious clinical consequences for psychiatric patients. Polypharmacy is a significant predictive factor of PIP and the drugs most often associated with potential serious or potential fatal PIPs are antipsychotics but also anti-depressants and NSAID poses a substantial risk. There is a pressing need to improve the quality and safety in prescribing for psychiatric patients.