

6th International Conference on

Advanced Clinical Research and Clinical Trials

September 10-11, 2018 | Zurich, Switzerland

Efficiency of computerized warning system reduces polypharmacy and potentially inappropriate medications in the elderly

W O Chu, L C Chen and W J Sun
Taipei City Hospital, Taiwan

Objective: Polypharmacy and potentially inappropriate medications (PIM) in the elderly complicates therapy, increases cost and is a challenge for healthcare agencies. Computerized warning system to reduce polypharmacy and PIM is a drug optimization process.

Methods: Using the healthcare information system (HIS) in Taipei City Hospital, we used a prospective before-and-after design among patients aged 80 years or older who had been prescribed 10 or more chronic medications (drugs prescribed for ≥ 28 days), visited three or more different physician office visits from November 1, 2013, through January 31, 2014 before the addition of the warning system and from April 1, 2014 through June 30, 2014 after the warning system was added. The EU(7)-PIM list was used to determine the potential inappropriateness of prescribed medications. Data were analyzed polypharmacy using Pair t test and PIM using multiple regressions by the SPSS 22. Value of $P < 0.05$ was considered statistically significant.

Results: We enrolled 159 patients in our study after warning system setting, where the ratio of males: females were 89:70. The mean (SD) age of our patients was 85.8 (10.2) years. After the warning system was deployed, there was an immediate and sustained decrease in the rate of orders for the medications and PIM. The mean rate of prescribing medications dropped from 14.1 to 11.4 orders per day (SD 2.7; $P < 0.001$) and physician visits number decreased from 3.5 to 3.1 per month (SD 0.5; $P < 0.001$). PIM use was significantly associated with number of prescribing medications ($p < 0.001$) and number of physician office visits in older adults ($p = 0.028$). There was no evidence that this effect waned over time.

Conclusions: Computerized warning system embedded into the healthcare information system (HIS), used in patients, can decrease the medication number and PIM quickly and specifically. The financial cost of polypharmacy involves both the direct expenditures for prescription medications as well as significant indirect costs related to hospitalization and treatment of severe adverse drug reactions. Pharmacovigilance is required by the patient, physician and pharmacist in thoroughly reviewing and reconciling the patient's medication regimen at every opportunity.

Biography

W O Chu has graduated from the Department of Pharmacy Taipei Medical University (TMU) and Institute of Biomedical Engineering National Yang Ming University. She is an Adjunct Instructor at TMU and a Pharmacist in Taipei City Hospital, Department of Pharmacy. She has published more than 10 papers in the journal of Taiwan, 2 posters in International Pharmaceutical Federation (FIP), 1 poster in European Association of Hospital Pharmacists (EAHP), and got best poster award in the international pharma and clinical pharmacy congress.

a0376@tpech.gov.tw

Notes: