Development and Evaluation of a Computer-Assisted Pharmacist Intervention Model On Use of Beers Criteria Medications (BCMs) in a Geriatric Ward

Chan TF(1), Lam TN(2), Leung WYS(1), Chu KY(1), Cheng HY(3), Ho WM(1), Yuen YH(1), Mak YF(3)
(1) Department of Pharmacy, Queen Elizabeth Hospital (2) School of Pharmacy, Faculty of Medicine, The Chinese University of Hong Kong (3) Geriatric Team, Department of Medicine, Queen Elizabeth Hospital

Keywords:
Beers Criteria
Pharmacist
Computer-assisted
Geriatrics

Introduction
Studies on use of Beers Criteria Medications (BCMs) and ways to reduce their use were lacking in Hong Kong. We established a computer-assisted pharmacist intervention model on use of BCMs in Queen Elizabeth Hospital (QEH). A computerized alert system was developed to identify use of BCMs in all patients of a geriatric ward. Pharmacists would review reports generated every day and intervene as needed. A study was conducted to review the intervention model.

Objectives
To review the process of development and to evaluate the effectiveness and impact of the model by measuring the change in use of BCMs after hospitalization.

Methodology
A retrospective cohort study was conducted in QEH. Patient data before (Control) and after (Intervention) commencement of the service were collected and compared. Patients under palliative care or aged

Result
318 patient data from 12/2015 to 3/2017 were reviewed with 6 of them excluded. 154 and 158 patients were recruited as intervention and control group. No significant baseline difference was found (Intervention vs. control, male 53.2% vs. 44.9%, age 81.3 8.8 vs. 82.6 8.1, number of comorbidities 4.7 2.5 vs. 4.3 2.0, and number of chronic medications 8.7 4.2 vs. 8.8 4.1). The number of change in use of BCMs of Beers Criteria (Table 2) was significantly higher in the intervention group (Mean difference, -0.18 (95%CI -0.33 to -0.02), p=0.03). The prevalence of use of BCMs was 68.2% and top 3 drug classes involved were proton pump inhibitors (28.8%), atypical antipsychotics (15.8%) and ?-adrenoceptor blockers (14.7%) according to Beers Criteria (Table 2). The intervention acceptance rate was 92.5% and clinical relevance of alerts was 8.4%. Concordance of judgement was moderate (Kappa value = 0.50).

We developed a computer-assisted intervention model which significantly reduced the use of BCMs after hospitalization.