Impact of a Pharmacist Clinic in Patients with Asthma or Chronic Obstructive Pulmonary Disease (COPD): a Prospective Observational Study

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Keywords:
Inhaler technique
Pharmacist
Adherence
Asthma
Chronic Obstructive Pulmonary Disease

Introduction
Inhalation therapy is important for asthma and COPD. Poor drug adherence and inhaler techniques may compromise disease control and increase health-care cost. In 2016, a pilot collaborative program in Queen Mary Hospital involving Department of Pharmacy, Department of Medicine, Integrated Care Service and Patient Resource Centre (PRC) was launched for these patients.

Objectives
(1) Improve patients’ inhaler techniques; (2) Improve drug adherence; (3) Reduce drug wastage

Methodology
Pharmacists recruited suitable asthma or COPD patients attending respiratory Specialist Outpatient Clinic (SOPD). Recruited patients were invited to bring back any extra on-hand inhalers for reusability evaluation by pharmacists. Trained PRC volunteers introduced the program to recruited patients, executed questionnaires on drug adherence and disease control, and recorded drug-taking problems or social issues identified for pharmacists or PRC staff to follow up. After patients’ SOPD attendance, pharmacists assessed patients’ inhaler techniques, educated the drug regimen and identified any drug-related problems. Pharmacists contacted physicians for problem necessitating regimen changes. Patients were invited for second visit for reassessment. Measured outcomes include: (1) Inhaler techniques; (2) Drug adherence; (3) Drug-related problems; (4) Drug cost savings (reuse of patients’ own inhalers).

Result
From 26/7/16 to 29/12/16, 92 patients were recruited. At baseline, 85% of patients missed one or more key steps in inhaler technique affecting drug delivery. 45% of patients were non-adherent to prescribed inhalers, in which 10% had problem
resolved by initialing regimen changes agreed by physicians. Seventy drug-related
problems were identified, such as drug misuse (22%) and use of expired/empty
inhalers (9%).
For those attended second visit at pharmacist clinic (n=60), improvement in key
inhaler technique score was demonstrated in 70% of technique assessments.
Non-adherence and suboptimal inhaler techniques are common in asthma/COPD
patients. A multidisciplinary approach including pharmacists, doctors, and PRC
volunteers improves patients’ inhaler techniques, drug adherence and helps rectify
drug-related problems.