



Service Priorities and Programmes
Electronic Presentations

Convention ID: 284

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Post title: Pharmacist, QEH, KCC

Development of the Medicine Change Counseling by Pharmacy (MCCP) Service to Improve Drug Adherence and Therapeutic Outcome of Chronic Disease Patients with Change of Regimen in a Specialist Out-Patient Clinic (SOPC)

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Keywords:

change of drug regimen

pharmacist intervention

drug adherence

Introduction

Poor medication adherence is one of the major factors that leads to poor disease control and increased hospitalization. Recent changes to a patient's drug regimen in out-patient clinics may compromise his/her drug adherence if the patient does not understand or beware of the changes made. Also, due to the huge number of prescriptions and long waiting time at the out-patient pharmacy, it is not possible for pharmacists to provide detailed drug counselling to every patient at the current manpower level. Therefore, the Medicine Change Counseling by Pharmacy (MCCP) service was developed to prioritise medication counselling to those with recent regimen changes. This programme is a collaboration between the SOPC Pharmacy and Medicine Department of Queen Elizabeth Hospital, which aims to facilitate doctor to communicate regimen change to pharmacy; and to enable pharmacy to provide specific counseling and follow-up on patient's compliance and the effect of changed regimen to targeted patients.

Objectives

Project objectives were two-fold:

- (1) To establish the MCCP service under which, pharmacist provides specific medication counseling to patients with regimen changes to:
 - (a) improve patient's understanding, awareness and adherence to regimen changes highlighted by doctor;
 - (b) monitor for and identify any adverse effects and non-adherence problems;
 - (c) provide appropriate advice to support patients in managing drug adverse effects;
 - (d) refer patients back to doctors for further management as appropriate
- (2) To evaluate the effectiveness of the service:
 - (a) on patient's drug adherence to new regimen and patient satisfaction of all MCCP recipients;
 - (b) and on diabetic control of the MCCP recipients with changes in antidiabetic regimen.

Methodology

The MCCP service was commenced at QEH SOPC Pharmacy on 1-6-2016. Patients with regimen changes are referred by Medical doctors. Pharmacist provides an initial counseling with emphasis on the changes; and makes follow-up phone calls to assess patients' adherence and provides advice until fully adhered to new regimen. Service data was collected retrospectively for a 14-week period. The primary endpoint was patients' drug adherence to regimen changes, measured by their compliance score and Eight-Item Morisky Medication Adherence Scale (MMAS-8) after the service. Secondary endpoint was the change in diabetic control of patients. The intervention group was the patients with changes in antidiabetic regimen and received the MCCP service. The control group was those with such regimen changes a year ago when the service was not implemented. The change in patients' HbA1c was compared between groups. Patient satisfaction was assessed in all MCCP recipients at the end of the observation period.

Result

A total of 248 patients had received the MCCP service during the study period. After receiving the MCCP service, 96.1% of the drug regimen changes were taken as prescribed by patients with an average compliance score of $95.7 \pm 19.6\%$. Their average MMAS-8 score was 7.67 ± 0.66 and 75.4% of the patients were determined to have high adherence to their new drug regimens. The reduction in HbA1c was similar between the intervention and control groups ($-0.29\% \pm 0.88\%$ vs $-0.28\% \pm 0.90\%$, $p > 0.1$). In the subgroup analysis of patients with biguanide regimen changes, the intervention group showed a greater HbA1c reduction than the control group ($-0.57\% \pm 0.83\%$ vs $-0.21\% \pm 0.74\%$, $p = 0.08$). In summary, the service had resulted in a high level of patient's adherence to their new regimens and had a potential to improve the diabetic control of diabetic patients. Overall, 71.0% of the patients expressed that they were most satisfied with the service.