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A Review to Assess the Nature and Effectiveness of Pharmacy Interventions Carried Out in Oncology Outpatient Clinics

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Introduction

Anticancer therapy have been recognized as high risk for drug- related problems as it involves numerous medications targeting cancer through various mechanisms with unique side effect profiles and great potential of drug interactions. Drug-related problems involving anticancer drugs can result in serious consequences. It is recommended by the American Society of Health- System Pharmacists (ASHP) and the British Oncology Pharmacy Association (BOPA) that independent verification should be performed on oncology prescription orders to ensure medication safety. The support from a multidisciplinary team is required in order to promote medication safety and optimize therapeutic outcomes. This project aims to review the nature of drug- related problems identified by clinical oncology pharmacists, and to evaluate the impact and value of clinical pharmacists' interventions.

Objectives

This study aimed to assess and evaluate the nature and impact of the pharmacist interventions made in oncology outpatient setting.

Methodology

Prescription verification service in oncology outpatient clinics by on- site clinical pharmacists has been implemented in the Department of Clinical Oncology, Queen Elizabeth Hospital. A retrospective study was performed. Interventions recorded by clinical pharmacists during the period of 1st of Jan, 2015 to 31st of Dec, 2016 were extracted. Interventions were classified according to the Pharmaceutical Care Network Europe (PCNE) Classification for Drug related problem v6.2 and level of severity was rated as defined by Overhage et al.

Result

During the study period, a total of 2636 interventions were made with 18468 prescription orders screened by clinical pharmacist. The incidence of drug-related problems was 2.7%. Among the 504 drug-related problems, Major problems included "effect of drug treatment not optimal" (38.7%), "untreated indication" (30.0%) and "non-allergic adverse reactions" (20.8%).

There were 98.4% of interventions made at prescriber level and 98.0% of interventions made at drug level, with an acceptance rate of 99.2%. It was found that 86.7% of interventions were considered significant or above, and 71.0% of drug-related problems can only be identified by on-site clinical pharmacist screening.

Supportive therapies and pre-medications, including filgrastim (9.7%), dexamethasone (8.5%) and famotidine (8.3%), were most commonly associated with drug-related problems, contributing to 63.1% of interventions made.

It is demonstrated in this study that clinical pharmacists' interventions have a positive impact on enhancing medication safety and therapeutic outcome of oncology patients. On-site clinical pharmacists provide drug information and recommendation on drug-related problems by direct communication with nurses and physicians, facilitating the acceptance of interventions.