



Service Priorities and Programmes
Electronic Presentations

Convention ID: 1030

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Impact of renal pharmacist medication optimization service on drug-related problems and phosphate control on new peritoneal dialysis patients

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Keywords:

Medication Optimization

Drug-related problem

Phosphate control

New peritoneal dialysis patient

Introduction

Drug-related problems (DRPs) are common causes of hospital admission. In peritoneal dialysis (PD) patients, poly-pharmacy and frequent drug regimen adjustment are common, especially during the initial period of PD. Herein, DRPs like drug record discrepancies and patient non-adherence are common. Medication optimization and counseling by clinical pharmacists might help prevent adverse consequences.

Objectives

To evaluate the efficacy of clinical pharmacist input on identification and rectification of DRPs and effect on phosphate control and event rate (hospitalization rate and unintended clinic visit) within 1- year post-discharge.

Methodology

A case-control study with a historical control group was conducted, recruiting subjects who had newly initiated PD during Oct 2011 to Dec 2012 and received renal pharmacist medication consultation as intervention group (IG) while control group (CG) were recruited from Oct 2009 to Sep 2011. Study outcomes included number and types of DRPs, number of interventions, phosphate and CaxP levels 6-month and 1-year post discharge, and event rates.

Result

80 subjects were studied, with 40 subjects in each group. Two subjects in IG died during the study period. For DRP analysis, 51 counseling sessions were provided to IG who were taking an average of 11 drugs. Seventy-four DRPs were identified in total and 56 interventions were made. Among the DRPs identified, over 40% was patient administration error while 23% was drug record discrepancies. Major classes of drug with problems were phosphate binders (35%) and cardiovascular drugs (27%). Phosphate level was comparable between IG and CG at baseline [1.78 ± 0.46 and 1.67 ± 0.50 mmol/L respectively, $p=0.3$) but was significantly lower in IG at 6-month

post-discharge [1.59 ± 0.38 Vs 1.79 ± 0.45 mmol/L, $p=0.04$]. Overall related-event incidence was 54 episodes in IG compared to 68 episodes in CG [mean 1.42 ± 1.48 Vs 1.7 ± 2.16 episode per patient, $p=0.5$]. Our results show that DRPs are common in incident PD patients, especially with regard to phosphate binders and patient administration error, and intervention by clinical pharmacists is beneficial in enhancing medication safety and medication adherence, resulting in improved phosphate control and a lower adverse event rate.