Impact of Renal Pharmacist Clinic on Clinical Outcomes of Renal Transplant Patients in UCH
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Keywords: Pharmacist Clinic Renal Transplant Patients Out-patient Drug knowledge Drug-related problems

Introduction
Life-long immunosuppression is necessary for maintenance of graft function after organ transplantation. Non-compliance is often seen in transplant patients and associated with poor graft outcomes. Enhancing knowledge on immunosuppressive therapy and identifying drug-related problems (DRPs) may help to promote compliance in transplant patients. In 2014, a Renal Pharmacist Clinic was set up to serve post-renal transplant patients in UCH.

Objectives
The objectives of the Renal Pharmacist Clinic are: (1) To enhance drug knowledge and compliance of immunosuppressive therapy in renal transplant patients (2) To identify possible DRPs and refer to nephrologists.

Methodology
Patients who have received renal transplantation in recent six months, or whom immunosuppressive therapy have recently changed, or who have been identified as having compliance problems would be referred to the Renal Pharmacist Clinic. Patient's compliance and drug knowledge would be assessed using the following tools: (1) 8-point Drug Knowledge Assessment Questionnaire; (2) Morisky 8-item Medication Adherence Scale (MMAS-8). During pharmacist consultation, patient would be counseled on immunosuppressive therapy with the aid of written material. Moreover, patient's medication profile and laboratory results would be reviewed. DRPs identified would be referred to nephrologists for further management. A follow-up session would be arranged at an 8-week interval. Patients would be discharged from the clinic if they score 7 (out of 8) in both compliance and drug knowledge assessment. A satisfactory survey would be conducted upon discharge.

Result
There were 30 clinic sessions with 23 new cases enrolled (11 male and 12 female)
from Nov 2014 to Oct 2015. Each patient attended the clinic 2.26 times on average. Median score for drug compliance increased from 7 (range: 6-8) at baseline to 8 (range: 7-8) at final visit. Mean drug knowledge score increased from 70.1% to 94.6% (p<0.05) after attending the clinic. Fifty DRPs were identified. Twenty-three (46%) adverse drug reactions were identified and appropriate counseling was given. Over-dosage (18%), drug interactions (8%), drug use without indication (6%) and sub-therapeutic dosage (6%) were also detected. Twenty-two interventions were done in which 13 (59%) were accepted by nephrologists. The clinic was well accepted by the patients and 94% of them would recommend the service to other renal transplant patients.