Optimizing finite resources: Pharmacist chart reviews in an outpatient kidney transplant clinic

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Abstract

Objective: To determine if a pharmacist-executed comprehensive chart review could serve as sufficient substitution for direct participation during outpatient clinic visits in the postdischarge follow-up treatment of kidney transplant recipients.

Design: Retrospective, longitudinal, cross-sectional study.

Setting: Acute and chronic transplant clinics at the Medical University of South Carolina, Charleston, SC.

Participants: 219 individual kidney transplant recipients.

Main outcome measures: Effectiveness of chart review assessments (with written notes) as compared with in-clinic assessments (with verbal communication with transplant providers followed by documentation by pharmacists). An independent transplant provider graded pharmacist recommendations by severity. All recommendations were compared with the provider's plan to determine if the recommendations were incorporated.

Results: During the 3-month study period, 170 pharmacist chart reviews were written and 175 clinic visits involved direct pharmacist participation. Providers accepted a greater percentage of recommendations that were delivered directly compared with recommendations presented via a note in the patient folder following chart review (92% vs. 28%, respectively; $P < 0.0001$). Directly provided recommendations were also associated with higher severity scores.

Conclusion: The results of this study suggest that comprehensive chart review by pharmacists prior to patient clinic visits may not be as effective as in-person consultation in communicating recommendations to providers. Further research is needed in similar clinic settings.

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Kidney transplant recipients (KTRs) are discharged posttransplant on a complex medication regimen that includes immunosuppressant therapy, prophylactic antimicrobials, and medications for comorbid disease states. Proper use of these medications is critical for optimal patient and graft survival. Following discharge, KTRs require close follow-up in outpatient clinics by interdisciplinary teams. Literature supports pharmacists as members of the transplant interdisciplinary team to improve patient outcomes.[1–3] Pharmacists assess patients and their medication regimen to make therapeutic recommendations regarding disease state and medication management.[4] Recommendations made by pharmacists in transplant clinics are often considered clinically significant and are highly accepted by providers.[5–7]

It would be ideal if pharmacists could optimize KTR care by participating in direct patient management through the 3-year posttransplant milestone. This time period is especially critical for therapy optimization, with transplant centers assessed on patient and graft survival rates at the 1-month, 1-year and 3-year milestones through the Scientific Registry of Transplant Recipients (SRTR).[8] Further, those patients who are only eligible for Medicare for end stage renal disease will have their coverage terminated 36 months posttransplant. Because of time and personnel constraints, it is often difficult for pharmacists to follow patients beyond the 1-month posttransplant milestone. At the Medical University of South Carolina (MUSC), transplant clinical pharmacists are only involved in outpatient care during the acute phase of a kidney transplant event (discharge to 1 month posttransplant). In the chronic transplant clinic where KTRs are treated after 1 month posttransplant, pharmacists only participate as consultants.

The kidney transplant group at MUSC wanted to increase pharmacist involvement in the outpatient care of KTRs. To facilitate pharmacy evaluation of a greater number of patients, transplant nephrologists recommended that pharmacists complete chart reviews and write notes prior to patient appointments. It was thought that this method would allow for the provision of pharmacy services without requiring additional personnel resources or extended clinic visit times. While the success of direct pharmacist intervention has been thoroughly documented throughout the literature, few studies exist that assess the efficacy of virtual pharmacist interventions.[5–7]

Key Points

Background:

- Kidney transplant recipients are discharged posttransplant on a complex medication regimen that is critical for optimal patient and graft survival.
- Pharmacists are dedicated members of the transplant interdisciplinary team and their therapeutic recommendations have been shown to improve patient outcomes.
- There are several delivery methods available for pharmacists' recommendations to providers, including direct verbal communication and leaving notes in a patient's chart for review.

Findings:

- Completing a thorough chart review and writing detailed notes to convey pharmacist recommendations require a greater time commitment compared with physically assessing a patient and delivering recommendations in person to the provider.
- Providers are more likely to accept pharmacist recommendations that are delivered in person than they are to accept recommendations written in a chart note.

Objective

The aim of this study was to determine whether a pharmacist-executed comprehensive chart review could serve as sufficient substitution for direct participation during outpatient clinic visits with KTRs in the longitudinal setting.

Methods

This study compared two delivery methods of pharmacist recommendations: indirect delivery by chart review and direct, real-time participation during clinic visit. Figure 1 details the specifics of both delivery methods.

Excluded from the study were those patients who had other organs transplanted, had transplants done before 18 years of age, and had transplants performed at other institutions, as well as those who missed their scheduled clinic appointments. In addition, patients were excluded for presenting to the surgery clinic with complications not related to the immediate posttransplant period or having their assessment done by a pharmacist not approved by the MUSC Institutional Review Board (IRB) for this study.

Chart reviews

Pharmacists provided recommendations via chart review for both KTRs and simultaneous pancreas–kidney transplant recipients who attended the transplant nephrology clinic. This patient population was identified using clinic schedules and included all of those with a 6-month, 1-year, 2-year, or 3-year posttransplant appointment during the 3 months of the piloted chart review period.

Pharmacists comprehensively reviewed the electronic medical records of KTRs within 7 days prior