

Abstract

The purpose of this study was to evaluate the effectiveness of mobile app used for renal transplant patients on improved medication adherence, blood pressure control and patient engagement. Secondary outcome was to understand patient experience using the app. The study was conducted in the Beaumont Hospital Transplant Clinic.

The researcher used a retrospective quantitative study with matched control group to meet the objectives of the study. There were total 25 patients participate in the intervention group. All the selected patients in the intervention group were downloaded the 'patientmpower' app and provided a Bluetooth enabled blood pressure monitor. They were expected to use the app for medication reminder, Home BP monitor and tracking their lab values. There were 30 patients in control group who were matched with app users in terms of age and gender.

The outcome measures include IS medication adherence, blood pressure control and patient engagement. The anonymised patient clinical data were collected from renal clinical management system, eMed. Further, a survey conducted in the app users to understand patients experience using the app. The study duration was three months from March 2017 to May 2017.

The result of the study shows app users have significant improvement in the Immunosuppressant medication adherence with higher number of participants in therapeutic range. The app users had less variability in Tacrolimus level as compared to control group. However, there were no significant improvement in blood pressure control and patient engagement in app users. Overall, positive response from the

survey and device usage data show the app is easy to use and accepted by patients to support the post-transplant care.

The result suggests that the app can improve medication adherence in renal transplant patients. However, in the aspects of blood pressure control and patient engagement the app users are similar to control group. This study also pointed to the importance of healthcare provider's communication and feedback via app to improve the clinical outcome and sustain users. As this is the first study of this kind to evaluate the outcome of the app in kidney transplant patients a prospective study with large sample size will be needed.