ABSTRACT

Introduction

Need for a digital health solution in managing end-stage renal disease patients who are awaiting kidney transplants, especially during work up for surgery and in finding a kidney donor was emerging during the last decade in Sri Lanka. It extends toward the patients who got kidney transplants and are on clinic follow-up. Lack of online data on kidney recipients when a cadaveric kidney is available, lack of interoperability and good coordination in information exchange between health institutions were the main emerging difficulties for the health staff to manage. The design and development of an electronic renal registry were initiated to provide a better solution for all mentioned difficulties.

Method

The traditional mixed strategy approach was taken for methodology and most of the steps were inspired by the literature from electronic health registry implementations and feedback. Kidney patients related customized strategic plan was created for basic problem solving and relevant health informatics solutions were integrated where appropriate. Thorough requirement gathering was done after a few discussions with stakeholders and the system was designed and developed accordingly. Implementation is done after testing and a few training sessions and the evaluation was carried out then to see the impact and user acceptance.

Results

There was no significant time change, taken for basic documentation work spent by medical officers before and after the electronic renal registry, but less time-consuming and efficient during further follow-ups and workups and highly benefited decision-making in kidney transplants. The post-implementation evaluation showed an improvement in the care process from the initial patient identification to the posttransplant care.

Conclusion

This effort could be taken as an initial success even though it may need further extensions and integration of artificial intelligence. The evaluation process had its constraints such as a limited number of participants and short intervals from piloting the system. The effort was a success and appreciated by the users. It would take time to establish the system properly. Continuous follow-ups with the users and regular evaluations are needed to evaluate user-friendliness, further simplifications, and integrate decision support systems with the use of artificial intelligence for better use of cadaveric and live donor kidneys.