KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Oral
Abstract Submission No. : OR-1343

Wearable technology (MI band and Yu band) a boon for patients with chronic kidney disease

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Objectives: To develop methods for analyzes and monitor of map the intersection(s) of nephrology data in relation to CKD via wearable technology (MI band and Yu band). To study effects of daily life routine activities on data by a wearable devices that can obtain real-time CKD data, help technologists understand medical aspects, and clinicians to understand technological processes them and provides assistance based on pre-determined specifications in CKD patients in Agra city, India.

Methods:
Total of 78 CKD patients were taken as subject with an equal ratio of male and female. Wearable monitoring devices were put on the wrist of CKD patients for 30 days and a questionnaire was filled out by each patient. Both diabetes and cardiovascular disease in turn are known as important factors for developing CKD and aggravation toward once end-stage renal disease. In all subjects, blood glucose was measured on daily basis with day to day data of their monitoring of step count, blood pressure, calorie burnt, insulin dose, motion time i.e. every time when your body was in motion, sleep monitoring (deep sleep, light sleep, wake up time), monitoring heart rate, cardiac arrhythmias to know daily routines and recording them for health purpose.

Results: Present results shown that both wearable device reading showed there was a normal heart rate, more calorie burnt with better control of sugar control and average good sleep count in more physically workout, include walking in kidney patients compared to less physically workout CKD patients, identified by professional physiotherapists. Both device reading showed that after changing lifestyle routine among less physically active CKD patients, their post- CKD events normalize.

Conclusions:
With this study we show that online assistive feedback for CKD patients is possible with their health awareness, exercising and motivate further studies.