

6th World Nursing and Healthcare Conference

August 15-17, 2016 London, UK

Evaluating the effects of an empowerment-based self-management program on T2DM patients with early stage CKD

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Introduction: Diabetes is the most common cause of chronic kidney disease (CKD) in Taiwan and also an increasing same cause worldwide. Studies show one third of patients with type 2 diabetes mellitus (DM) have concomitant early stage CKD. Self-management for patients with both of these chronic conditions is conflicting, complex and often inadequate. With proactive interventions, CKD-related self-management behavior may be improved and the progression of the CKD may be delayed.

Objectives: The purpose of this study was to evaluate the effectiveness of an empowerment-based self-management program (EBSM) on CKD self-efficacy, CKD self-management behavior and biomedical measures in T2DM patients with early stage CKD.

Methodology: The study adopts a quasi-experimental design, 71 patients (52% men, mean age 54.97 years) were assigned to the group-based EBSM program or usual care group based on their availability to attend the intervention. The EBSM group which used the empowerment approach to help patients aware self-management problems, set goals and make evaluation to their CKD self-management plans. All of the patients underwent testing at baseline (T0), 3 (T1) and 6 (T2) months after a 6 weeks intervention. A generalized estimating equation (GEE) models was conducted to determine the effectiveness of the intervention.

Results: After adjusting for baseline and covariate, the EBSM intervention resulted in improvements in CKD self-efficacy scores ($p < 0.001$ at 3 months; $p < 0.001$ at 6 months), CKD self-management behavior scores ($p < 0.01$ at 3 months; $p < 0.01$ at 6 months); body weight ($p < 0.05$ at 3 months); BMI ($p < 0.05$ at 3 months), waist ($p < 0.001$ at 3 months; $p < 0.001$ at 6 months); systolic blood pressure ($p < 0.001$ at 3 months; $p < 0.01$ at 6 months), diastolic blood pressure ($p < 0.01$ at 3 months; $p < 0.05$ at 6 months), Haemoglobin A1c levels ($p < 0.01$ at 3 months; $p < 0.01$ at 6 months); blood lipid levels ($p < 0.01$ at 3 months) as compared to the usual group. No group differences but maintain in GFR and UCAR were observed.

Conclusion: A EBSM program for T2DM patients with early stage CKD resulted in greater improvements in self-efficacy, self-management behavior and positive effect in biomedical measures but no difference in GFR and UACR levels up to 6 months after intervention. Future studies testing empowerment-based interventions in larger samples with longer follow-up, and randomized controlled trial design were warranted.

Biography

Chiu-Chu Lin has completed her PhD degree from University of Michigan, Ann Arbor, USA. She is a Professor of School of Nursing, Kaohsiung Medical University, Kaohsiung, Taiwan. Her major is Adult Health Nursing and the specialty focus on the Nephrology Nursing. Her research interests include self-management of chronic illness, instrument development and testing, and intervention study. In recent years, she have been conducting theory-based intervention study. In the teaching area, she is responsible for the courses of adult health nursing and intervention study in the graduate institution and the course of medical-surgical nursing in the undergraduate program.

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