

Title: The impact of a multidisciplinary self-care management program on quality of life, self-care, adherence to anti-hypertensive therapy, glycemic control, and renal function in diabetic kidney disease: A Cross-over Study

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Diabetic Kidney Disease (DKD) is a global health concern that is associated with high morbidity and mortality. Patients with DKD are expected to manage their daily self-care activities. Patients' non-adherence to treatment regimen is thought to be the major cause for the poor control and the occurrence of complications. Previous research has shown that multidisciplinary management of DKD can improve patient outcomes. The effect of nurse-led multidisciplinary self-care management on Quality of Life (QoL), self-care, adherence to antihypertensive therapy, glycemic control and renal function of patients with DKD is not yet well established. The aim of this study was to investigate the effect of a nurse-led Multidisciplinary Self-care Management Program (MSMP) on QoL, self-care behavior, adherence to anti-hypertensive therapy, glycemic control, and renal function of adults with DKD. A uniform balanced cross-over design was used with 32 participants randomized into four study arms. Cross-over designs allow efficient comparison of treatments when recruiting fewer participants and attaining the same level of statistical power as randomized controlled trials. It is for use more importantly in chronic diseases for comparison of participants' responses to different treatments. Each participant receives treatment and serve of own control thus, overcoming the mixed effects related to heterogeneity of co-morbidities when comparing two different groups. The uniform strongly balanced design represents the ideal cross-over because it overcomes the statistical bias of carry-over effect. Each participant received twice, at different time intervals and over 12 months, three months of Usual Care (UC) alternating with three months of MSMP. QoL was evaluated using the Audit of Diabetes-Dependent QoL scale, patient self-care behavior was measured using the Revised Summary of Diabetes Self-Care Activities, and adherence to anti-hypertensive therapy was assessed using the Medication Events Monitoring System (MEMS). Blood glucose control was measured by glycated hemoglobin (HbA1c) levels and renal function by serum creatinine, estimated glomerular filtration rate and urinary albumin/ creatinine ratio. The present QoL was improved by MSMP with a higher mean rank (55.95) as compared to UC (42.19) ($p< 0.05$, Confidence Interval (CI) of 95%). MSMP also improved the general diet habits, diabetes specific diet habits and blood sugar testing frequency demonstrating overall higher mean ranks as compared to UC ($p< 0.01$, 95% CI, respectively 59.56 vs. 39.44, 59.98 vs. 37.02 and 57.75 vs. 40.43). Results of glycemic control and renal function did not show a significant difference between MSMP and UC. MEMS adherence overall percentage mean (n=21) over the 12 months, for UC and MSMP confounded, was high (95.38%, Min=69 %, Max=100%). The implementation of a nurse-led multidisciplinary self-care management program with a theory-based nursing practice improved general QoL and self-care activities of DKD patients.

Biography

Nancy Hélou is an Associate Professor in Nursing Sciences at University of Health Sciences, University of Applied Sciences and Arts of Western Switzerland (HES-SO). She has completed her PhD in Nursing Sciences from the University of Lausanne and was awarded the Leenaards'scholarship. She holds a Masters of Sciences in Nutrition and Dietetics from the American University of Beirut. She started her academic carrer in 2004 as a research assistant and moved to becoming an Associate Professor in 2016 at the age of 37 years. She has also build a clinical career as a cardiac intensive care nurse for four years before becoming a Quality Nurse Manager ensuring Joint Commission Accreditation and Magnet Designation. She is currently interested in clinical research areas, and interdisciplinary work. Her research emphases on chronic diseases prevention and management, and patient self-management.

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