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PSYCHOSOCIAL FACTORS AND CLINICAL OUTCOMES IN ADULTS WITH ADVANCED CHRONIC KIDNEY DISEASE NOT ON RENAL REPLACEMENT THERAPY

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Introduction: Studies investigating the association of psychosocial factors involving depression, anxiety and lower health-related quality of life (HRQoL) with clinical outcomes in patients with early stage chronic kidney disease (CKD) are lacking. This analysis describes the baseline characteristics and clinical outcomes of participants in the Tasmanian CKD study. This prospective cohort study aims to examine the relative influence of both biomedical and psychosocial factors on disease progression and clinical outcomes in adults with eGFR<30 mls/min/1.73m^2 not on renal replacement therapy (RRT).
Methods: Overall, 222 adults aged >18 years provided data at baseline (2010-2012, 2016-2018). Of these, 179 participants attended a baseline clinic where self-report measures including depression (9-item Patient Health Questionnaire; PHQ-9), anxiety (Beck Anxiety Inventory; BAI) and HRQoL (Kidney Disease Quality of Life–Short Form; KDQOL-SF) were completed. Study outcome was defined as a composite of initiation of RRT or death. Associations between psychosocial factors at baseline and study outcome were assessed using Spearman's rho.
Results: Overall, participants were predominantly male (61%, n=135) with a mean age of 72.0±11.6 years. Mean serum creatinine was 253.2±81.7 µmol/L with mean eGFR 21.4±5.3 mls/min/1.73m^2. Mean (SD) time to follow-up was 471 (290) days. At follow-up, 60 (27%) participants experienced an outcome (34 initiated RRT and 26 deaths). At baseline, prevalence of clinical depression (PHQ-9 score ≥10) was 13.5% and prevalence of moderate/severe anxiety (BAI score ≥16) was 12%. From the KDQOL-SF, physical component summary (PCS) was 38.3±10.4 and mental component summary (MCS) was 51.0±10.3. MCS was significantly lower in participants who experienced an outcome than those who did not (48.4±1.5 versus 52.0±0.9, $p<0.04$). PCS was not significantly different between groups (37.0±1.5 versus 38.8±1.0, $p>0.05$). Lower scores on the MCS ($r=-0.19$) and several subscales of the KDQOL-SF including symptoms/problems ($r=-0.17$), effects of kidney disease on daily life ($r=-0.17$) and burden of kidney disease ($r=-0.31$) were significantly associated with the study outcome (all $p<0.05$).
Conclusions: Results indicate substantial psychosocial morbidity in adults with CKD not on RRT. Further, lower HRQoL, involving both psychological and physical domains, appear to be indicators of initiation of RRT or death. Identifying modifiable risk factors is an important first step in reducing the risk of RRT or premature death in this patient population and improving quality of life.

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MEDICATION BURDEN AND PATIENT-CENTRED OUTCOMES IN ADULTS WITH ADVANCED CHRONIC KIDNEY DISEASE NOT ON RENAL REPLACEMENT THERAPY.

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Introduction: Little is known about the association between medication burden and patient-reported outcomes in adults with advanced chronic kidney disease (CKD) not on renal replacement therapy (RRT). We aimed to examine the association between actual medication burden (the number of medications and regimen complexity) with perceived burden of medication and health-related quality of life (HRQoL) in adults with CKD (eGFR<30 mL/min/1.73m^2) not on RRT.
Methods: Participants were recruited through their treating physicians. Patient characteristics including laboratory and medical information were collected during an interview. Actual medication burden was assessed using the number of medications and medication regimen complexity, which was measured using the 65-item medication regimen complexity index (MRCI). Perceived burden of medication was self-reported by participants using a short questionnaire. The Kidney Disease and Quality of Life Short Form (KDQoL-SF), which has disease-specific and generic components (SF-36), was used to measure HRQoL. Linear regression models adjusted for age, gender, comorbidities, and eGFR were applied to examine associations between medication burden and patient outcomes.
Results: Overall, 101 patients, predominantly men (65%), with a mean (SD) age of 72 (11) years and eGFR of 22 (6.2) mL/min/1.73m^2, were included. The average number of medications per participant was 8 (3.6), with 41 (40%) taking ≥9 medications per day, and the median (IQR) MRCI was 18.5 (14-34). The mean physical and mental component summary scores for the included patients were 46 (20) and 56 (19), respectively. The number of medications ($\beta=0.35$; $p<0.05$) and MRCI ($\beta=0.36$; $p<0.05$) were associated with perceived burden of therapy after adjustment. The number of medications ($\beta=-0.27$; $p<0.05$) and MRCI ($\beta=-0.33$; $p<0.05$) were negatively associated with the cognitive function subscale of the KDQoL. The physical component summary of the SF36 was also associated with the number of medications ($\beta=-0.48$; $p<0.01$) and MRCI ($\beta=-0.48$; $p<0.01$) after adjustment.
Conclusions: Patients' perceived burden of therapy was reflective of their actual medication burden. Moreover, individuals with a higher medication burden were more likely to report lower physical health-related quality of life and cognitive functioning.

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IMPLEMENTATION OF A RENAL BIOPSY PROGRAM IN RWANDA: A FEASIBILITY STUDY

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Introduction: Kidney disease accounts for a growing burden of disease, particularly in low income countries. Despite a growing body of literature from resource limited settings, relatively little is known about the epidemiology and etiology of acute and chronic kidney disease. With the goal of improving patient management of specific diseases, advancing understanding of the etiology and risk factors of kidney disease, targeting prevention strategies addressing causes of disease and building a foundation for an in-country transplantation program, we aimed to implement a high quality and sustainable renal biopsy program in Rwanda.
Methods: Beginning in 2013, we conducted a needs assessment to establish existing clinical and laboratory equipment and consumables, human resources, insurance coverage and treatments available in Rwanda and the necessary procurement, training and policies required to build a national renal pathology program. Engagement of government officials, leadership at the University of Rwanda's teaching hospitals and clinicians caring for kidney patients was established through focus groups and meetings to plan implementation in alignment with local priorities. Between 2014-2015, 4 trainers were recruited to build capacity in tissue preparation, slide interpretation, clinical decision