Taking a broader view of the health care needs of people with chronic kidney disease

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Older patients may never need kidney replacement therapy, but their other medical conditions require attention

Chronic kidney disease (CKD) is a public health problem worldwide.[1] An estimated 1.7 million Australian adults, about 10% of the population, have biomedical signs of CKD,[2] but more than half are unaware of their condition. People at particular risk include those over 60 years of age, Aboriginal and Torres Strait Islander people, and people with hypertension, diabetes mellitus, obesity, established cardiovascular disease, a personal history of acute kidney injury or smoking, or a family history of kidney disease. CKD is associated with higher all-cause mortality, higher rates of cardiovascular disease, and reduced overall quality of life.[3,4]

CKD is categorised into five stages of progressive loss of kidney function as indicated by the estimated glomerular filtration rate (eGFR), culminating in the potential need for kidney replacement therapy (dialysis or kidney transplantation). The major causes of CKD in Australia are diabetes mellitus (38% of all cases), hypertension, and glomerulonephritis.[2] Most cases of CKD progress gradually, and it is expected that most patients, should they live long enough, will eventually reach stage 5 CKD and end-stage kidney failure. The rate of disease progression and the likelihood of requiring kidney replacement therapy increase with the patient's degree of proteinuria. However, as poor kidney function and proteinuria are independent risk factors for both cardiovascular disease and all-cause mortality, more people die with CKD than experience kidney failure. The competing risks of death and kidney failure are especially evident in older people, for whom the likelihood of dying with CKD is much higher than that of progressing to kidney failure.[5,6]

However, the extent to which this applies in Australia has been unclear; while the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) (www.anzdata.org.au) collects accurate data on people treated for end-stage kidney failure, determining the extent and progression of earlier stage disease in the community is difficult.

In this issue of the Journal, Jose and colleagues report their examination of this question through data linkage of seven Tasmanian health datasets, including community and hospital-based pathology providers, hospitalisations data, the ANZDATA registry, and cause of death data.[7] In essence, they confirm findings by American[5] and Canadian studies[6] that far more patients die with CKD than survive to the point of needing kidney replacement therapy. These findings are explained by a few important observations.

First, most people with advanced (stage 4) CKD are at least 65 years old; indeed, 90% of the Tasmanian cohort were in this age group, and only among those under 65 years of age was the likelihood of receiving kidney replacement therapy greater than that of dying before kidney failure. Second, in concert with age and disease severity, most people with advanced CKD also have one or more other medical conditions. The comorbidity burden for the largest group — those with diabetes mellitus — is high; in particular, they have high rates of myocardial ischaemia, heart failure, stroke, and peripheral vascular disease. Further, as discussed above, both impaired kidney function and proteinuria are risk factors for cardiovascular disease, and 50% of patients have significant cardiovascular disease, including ischaemic events, heart failure, and atrial fibrillation, by the time they reach CKD stages 4 and 5.[8] Finally, some people may not be offered or may decline kidney replacement therapy, usually because of age and comorbidity. The study by Jose and his colleagues indicates that we cannot extrapolate the need for kidney replacement therapy solely from data on stage 4 CKD.

Dialysis is considered a life-saving treatment. Nevertheless, it is associated with a high mortality rate, about 12–14% annually in Australia, and even higher for older people.[9] Indeed, kidney replacement therapy may not be of great benefit for older people with significant comorbidity; several studies have found only minor longevity benefits for these patients, and that the extra life gained is spent undergoing dialysis or in hospital, not necessarily providing good quality of life.[10]

Increasing numbers of people are electing to not receive kidney replacement therapy, and more nephrologists are directing older patients to supportive care pathways. Many nephrology units in Australia are establishing supportive care clinics that provide social and psychological support and a degree of symptom relief for patients without providing dialysis. Aspects such as anaemia management, fluid balance and blood pressure control, pain relief, and phosphate control (for itch) are important for patients, ensuring a reasonable quality of life as they approach death,

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whether from CKD itself or from other conditions. Experience of these services is reported to be positive, with families describing progression to a "good death" rather than a hospital death made more unpleasant by multiple interventions.

The study by Jose and colleagues shows that many older patients with CKD will never need to consider kidney replacement therapy, but they do need attention for other conditions, especially cardiovascular disease.[11] Managing comorbid conditions is more important for many patients than managing their CKD *per se*.

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