

Interdisciplinary approach of conservative kidney management with a community nurse-led programme

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Dear Editor,

Conservative kidney management (CKM) should be considered when the burdens of dialysis treatment outweigh the benefits and compromise quality of life. The availability, accessibility and quality of care vary across the world depending on healthcare structure and resources. We explored the feasibility of integrating a nurse-led CKM community programme into nephrology care which is still evolving.

This was a single-centre, prospective cohort study from 1 April 2021 to 1 April 2024 for patients under Sengkang General Hospital who had chronic kidney disease (CKD) stage G5 and opted for CKM. Follow-up and home visit were done at patients' home. They were referred to the renal conservative care team, comprising nephrologists, renal coordinators, medical social workers in the clinic, and specialised nurses and social workers in the community. The primary goal was to provide routine kidney supportive care in a holistic manner, and to integrate community resources to support the well-being of patients and their families. We also aimed to increase awareness of CKM as a viable treatment option. These patients were reviewed regularly in the community with interval outpatient renal clinic visits. Patients who were nursing home residents, enrolled into home hospice programmes, had dialysis withdrawn or had declined home visits were excluded due to needing different healthcare support and funding structure. At each visit, validated instruments were used to measure patients' symptoms, physical status and biopsychosocial needs: Edmonton Symptom Assessment System Revised: Renal (ESAS-r: Renal),¹ Resources Utilisation Group – Activities of Daily Living scale (RUG-ADLs)² and Palliative Performance Scale version 2 (PPSv2).³ The cohort of patients was followed up until demise or 31 May 2024. Individuals who had demised, transferred to hospice care or initiated on dialysis were considered

to have exited the programme. Monthly home visit was conducted or earlier review depending on the patient's condition. Communication platforms used were WhatsApp and email that allowed dynamic monitoring and escalation of care within the same day.

A total of 121 patients were enrolled into the CKM community programme during the specified period. Demographics and baseline information were obtained upon entering the programme. Mean age was 79.2±7.7 years, baseline estimated glomerular filtration rate (eGFR) using the CKD Epidemiology Collaboration equation was 10.3±3.4 mL/min/1.73 m², and Charlson comorbidity index was 8.4±1.9. Among them, 46 (38%) were male and 96 (79.3%) were Chinese. Their comorbidities were diabetes mellitus (76.9%), ischaemic heart disease (34.7%), stroke or transient ischaemic attack (27.3%), dementia (22.3%), malignancy (15.7%) and peripheral vascular disease (13.2%). More than 80% of the patients had no symptoms using ESAS-r: Renal assessment at baseline (Fig. 1a). Majority were independent based on RUG-ADL (Fig. 1b), and PPSv2 scores were between 60 and 70.

Duration in the CKM community programme was calculated from the first to the last home visit, median duration was 5.9 months (interquartile range [IQR]: 2.0, 12.3). During the follow-up, 51 patients (42.1%) demised, 19 (37.3%) of which required inpatient hospice. Forty patients (33%) who required palliative care were referred to home hospice. Eleven patients (9.1%) changed their decision and were started on dialysis. Median survival from first home visit to demise or 31 May 2024 was 10.1 months (IQR: 4.6, 19.2) versus 9.1 months (IQR: 4.3, 15.5) if excluding those who started dialysis (Supplementary Fig. S1).

Dialysis availability results in its perception as the default management option for CKD stage G5.⁴ Dialysis patients have access to their healthcare

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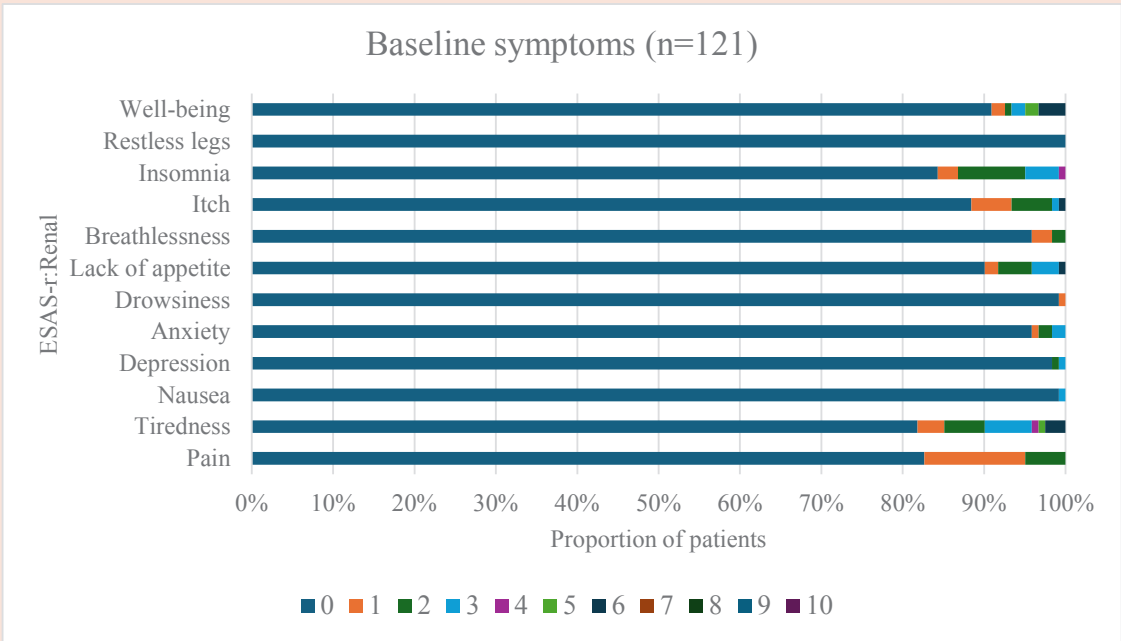
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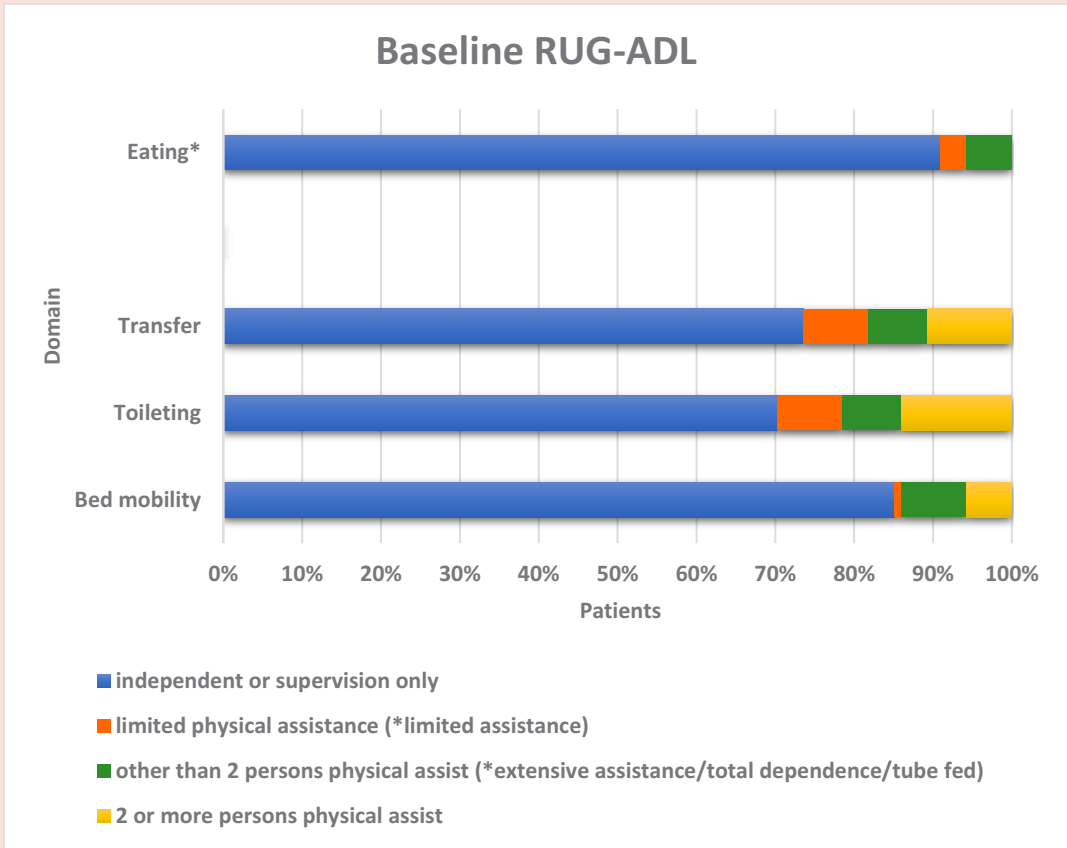
Fig. 1. Baseline characteristics.

(A) ESAS-r:Renal symptoms



ESAS-r: Edmonton Symptom Assessment System Revised

(B) RUG-ADL



RUG-ADL: Resources Utilisation Group – Activities of Daily Living

providers for their health-related enquiries and support. On the contrary, CKM patients may have limited access to healthcare support, apart from ambulatory visits or home hospice if referred. These CKM patients may feel vulnerable, uncertain and may perceive medical abandonment without support in the community.^{5,7,8}

Providing comprehensive care for CKM patients in the ambulatory setting is challenging with time constraints against competing clinical needs. A CKM programme that extends into the community breaks this barrier and allows continuous discussion between the patients, family members and healthcare team. This leads to a continuous discussion from clinic to home setting, which reinforces patient-centric care, apart from regular monitoring of clinical progression. The continuity of care helped deconflict dissonant decisions between patients and caregivers, which are unlikely to happen in a routine clinic review. Home visits enhanced the confidence of families in caring for CKM patients in the community and in being more prepared should the situation change. Direct communication between the community team and nephrologists also allowed prompt and direct care delivery. Primary care physicians may be less comfortable with adjusting larger doses of diuretics or erythropoiesis-stimulating agents in patients with CKD stage G5.

Our CKM patients had relatively low symptom burden in the early phase of CKD stage G5, and decompensation could occur suddenly and rapidly. Without reversible factors, demise would be expected in weeks.⁶ Such a tipping point would have been difficult to anticipate if the patients were seen at several months' interval in a clinic setting, much less considering their diminished physical function and mobility to attend these visits. The CKM community nurse identified deteriorating individuals and timely transit to palliative care while in the community setting. Home visits also provided a window into our patients' lives and their coping strategies with chronic disease. Understanding health perceptions and priorities, which have been shaped over years, was crucial in healthcare decision-making and anticipatory guidance on the eventual care needs of patients as symptoms and function worsened.

Our CKM community programme identified challenges in supporting CKM patients before palliative care needs emerged and filled the gaps in the above-described niche areas. We were limited by being a single-centre experience, not comparing those patients under standard of medical care or on dialysis, and practices might differ depen-

ding on the resources available. We also did not receive follow-up information of patients who were transferred to home hospice, such as their ESAS-r: Renal, RUG-ADL and PPSv2.

CKM patients are heterogeneous, complex and require dedicated care. The prototype CKM community programme is pragmatic and could fill the gap in existing services. An interdisciplinary CKM programme provides patient-centric, holistic and anticipatory care, supporting patients and families through their CKD stage G5 journey. Identifying suitable patients, practising judicious resource allocation and following a team-based approach are important components of a high-quality programme.

Supplementary material

Fig. S1. Survival analysis for patients under conservative kidney management programme.

Ethics statement

The study was approved by the SingHealth Centralised Institutional Review Board (2021/2451). This project had institutional review board exemption and waiver of consent as it was part of the service development.

Declaration

The authors declare there are no financial interest in the subject matter or materials discussed in this manuscript.

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Keywords: chronic kidney disease G5, community programme, conservative kidney management, interdisciplinary, model of care

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