

FOCUS ON RESEARCH

PREVENTING END STAGE RENAL DISEASE: INFORMING THE DEVELOPMENT OF A PUBLIC HEALTH STRATEGY

Researchers

Dr T Ali, Dr C Black, Dr G Prescott, Prof A MacLeod, Dr C Simpson, Dr I Khan, Prof WCS Smith

Aim

In order to inform the development of a public health strategy for the care of people with chronic kidney disease (CKD), we aimed to address the following:

- What is the epidemiology of CKD?
- To what extent is CKD already recorded and managed by GPs?
- From a) and b) above, how many patients in community have undiagnosed CKD?

Project Outline/Methodology

There were three elements to the project:

- A systematic review of the prevalence of CKD.
- A study of the epidemiology of CKD based on two population health surveys. (British Regional Heart Study (BRHS); Scottish Heart Health Study (SHHS)). Kidney function was assessed based on blood test results for creatinine (a chemical excreted by the kidneys). These were used to estimate the kidney filtration rate.
- A study of the epidemiology and management of CKD in primary care in the UK using two primary care research databases (Primary Care Clinical Informatics Unit database (PCCIU); General Practice Research Database (GPRD)). Estimations of prevalence were based on recorded diagnoses of CKD and, in PCCIU, from blood creatinine results.

Key Results

From the literature review, the best estimates of CKD prevalence came from studies in the USA and Norway. The prevalence of stage 3(mild)-5(severe) CKD was 4-5%. Using the SHHS, we estimated the prevalence of stage 3-5 CKD to be 5.8% (4.1% in BRHS for men only). Prevalence was higher in females and increased with age.

The prevalence of CKD diagnosed and recorded in the two primary care databases was substantially lower. The annual prevalence was 0.14% for the PCCIU and 0.34% for the GPRD. Where a diagnosis of CKD had been made, 67% of people were treated with medicines considered protective of kidney function. 74% had controlled blood pressure but 41% were overweight or obese and 53% of those with diabetes

had poor control.

We estimate that current practice results in a diagnosis in <3% of people with CKD, with approximately 200000 people going undiagnosed in Scotland.

Conclusions

CKD goes largely unrecognised in the community. In Scotland, approximately 200000 people may have CKD but remain undiagnosed.

What does this study add to the field?

End stage renal disease is increasing; early referral for CKD is already placing substantial burden on clinical services in NHS Scotland and yet little was known about the prevalence of CKD in the community in the UK. In this series of studies we have, for the first time, been able to provide a population based estimate of the prevalence of CKD for Scotland (and the UK), and have reported the on management of CKD.

Implications for Practice or Policy

Expert groups across the UK have recognised the need to optimise the care of people with CKD, managing renal and cardiovascular disease risk factors. We have demonstrated that CKD is under-diagnosed in Scotland (and the UK). In the NHS, we are missing opportunities to improve the outcome for such patients. Our research provides valuable information for NHS Scotland for both healthcare planning and improving the care of people with CKD. By addressing key questions about the epidemiology of CKD in the community, we provide the basis for developing a public health strategy for the care of people with CKD.

Where to next?

Two priorities for research have been identified:

- To determine what is the optimal management for people with CKD
- To better understand natural history and disease progression in people with CKD

Further details from:

Dr Corri Black,
Dept. of Public Health,
University of Aberdeen,
Foresterhill, Aberdeen, AB25 2ZD

