# Chronic kidney disease

It is known that, for many reasons, general practitioners (GPs) find renal disease difficult to diagnose, understand and treat. The terms chronic kidney disease (CKD) and glomerular filtration rate (GFR), representing the renal function equation, have been introduced to clarify some of these difficulties. Unfortunately, even these pivotal concepts remain either unknown or poorly understood by the majority of GPs in South Africa (SA). CKD is often not recognised because there are no specific symptoms, and not diagnosed or only diagnosed at an advanced stage. Tests for CKD are, however, simple and freely available.

Diagnostic difficulties are especially relevant in rural areas where CKD and advancing chronic renal failure (CRF) are seldom diagnosed. At the same time, there is an alarming rise in the incidence of serious CRF. It has been estimated that 10% of the world's population has some degree of CKD. From this statistic, it can be estimated that 5 million South Africans >20 years of age have CKD, and in black South Africans the figure is almost certainly higher.

Global statistics clearly and definitely show the importance of CKD in terms of the ever-increasing number of dialysis patients, often because of diabetes and, in our black population, even more so because of hypertension. Furthermore, patients with CKD have a high risk of cardiovascular disease (CVD), including heart failure, myocardial infarction and stroke.

Statistics in SA show that hypertension (especially in blacks) and diabetes (especially in whites and Asians) are by far the main causes of CKD and CRF. Apart from known genetic factors, both diseases are markedly influenced by lifestyle aberrations – particularly gross excesses of dietary salt and calories (obesity). Therefore, there is a huge potential to prevent these disorders by modification of lifestyle, early diagnosis and/or correct treatment or to minimise or slow the progression of kidney functional deterioration.

By December 2012, there were 8 559 patients receiving chronic renal replacement therapy (RRT) in SA – 6 952 on dialysis and 1 607 with a functioning kidney transplant. More than half of these were from the private sector, which serves <20% of the population. Facilities in the public sector, which not only serves >80% of the population, but where the 'burden of CRF' is about three times that in the private sector, are strictly limited. This means that only 15 - 20% of those who require RRT obtain such treatment, clearly because of limited resources (mostly funding). The approximate annual cost of dialysis is R200 000 per patient and that of transplantation R300 000 in the first year – R160 000 - R180 000 in subsequent years (based on 2014 figures).

With these alarming statistics in mind, the National Kidney Foundation of South Africa (NKFSA) set up a task team at the time of World Kidney Day 2008. Keeping in mind that there is a need for the entire nation to cope with CKD and its threat to the national health system, the objectives were to set up projects to prevent CKD, educate medical professionals and nursing practitioners to identify risk factors of CKD, making early diagnoses and equipping them with the necessary expertise to correctly treat CKD and prevent progression to CRF. This was the beginning of a long process that culminated in the publication of guidelines on CKD in the format of CME articles.

This CME publication focuses on all aspects related to CKD and is therefore intended principally for GPs, both in urban and especially in rural areas, and covers all the most important problems. These are clearly and succinctly presented with a view to relevance and practicality for our environment.

It must be stressed that this is far from a comprehensive review of the subject. We have attempted rather to be brief, clear and to the point, emphasising the most important aspects. It is hoped that these guidelines will assist in achieving the abovementioned goals and that we will eventually be able to prevent or significantly slow progression to renal failure in many of our citizens with CKD.

To achieve these goals, intense and ongoing education for the public as well as doctor and nurse practitioners is required nationally. The rewards for both SA kidney disease sufferers and our economy if these ambitious projects succeed are palpably obvious.

Moreover, the NKF has tasked itself to lobby governmental departments to adequately fund these primary healthcare projects and improve facilities for kidney disease sufferers. Also, when considering that CKD is currently among the 90% most common diseases affecting the public, conservative treatment and all treatments for end-stage kidney disease should be included in the government's treatment guidelines at all levels of healthcare, i.e. primary, secondary and tertiary.

To make a diagnosis using the recently developed concept of CKD, the GFR can now be estimated by the so-called Modification of Diet in Renal Disease (MDRD) formula which, in a given patient, will yield a reasonably accurate GFR. This has enabled the classification and categorisation of all degrees of kidney diseases and kidney failure. Furthermore, the classification aids in both diagnostic skills and rational approaches to therapy. Considering that CKD is usually asymptomatic, this concept becomes very important in alerting the doctor that his/her patient has a serious kidney disorder that needs correct diagnosis and management.

Another very important fact about CKD is that timeous referral to a nephrologist or nephrology centre is essential for adequate management of kidney sufferers. Because there are so few nephrologists in SA, the NKFSA proposes a clinical collaboration between GPs and nephrology specialists. We need to initiate and participate in GP educational lectures throughout SA. Our GPs should become involved in our primary prevention programmes. These endeavours must not be a 'once-off splurge', but must be constantly maintained in both the public and private sectors.

Education should not only be aimed at the medical fraternity, but there should also be a massive national drive towards public education and early diagnosis, resulting in *adequate* treatment programmes for everyone (peri-urban and rural). We must advertise the importance of CKD to our citizens, patients, medical and nursing professionals and government to ensure that this is reflected in our health policy.

Lastly, the importance of research, particularly epidemiological research, and exchanging of important and relevant knowledge with the national and international CKD community, should never be underestimated, but encouraged and funded.

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1. Japanese Society of Nephrology. Japanese Guidelines. Clin Exp Nephrol 2009;13(3):192-248. [http://dx.doi.org/10.1007/s10157-009-0188-0]

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