The major global burden of chronic kidney disease

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Chronic kidney disease is a global public health problem, involving about 10% of the global population.[1] The awareness of this major burden is relatively recent and still incomplete. Unfortunately, the multifaceted burden of chronic kidney disease (prevalence, morbidity, mortality, costs) is relentlessly growing, particularly in low-income countries (LIC).[1]

In *The Lancet Global Health*, Aminu K Bello and colleagues update the International Society of Nephrology Global Kidney Health Atlas, which assesses disparities in kidney disease burden and care across around 200 countries.[2] The report relies on a detailed review of the literature, available databases and registries to estimate the burden of chronic kidney disease, the incidence and prevalence of treated kidney failure. Findings were triangulated with data from a multinational survey of opinion leaders based on WHO's building blocks for health systems (ie, health financing, service delivery, access to essential medicines and technology, health information systems, workforce, and governance). The authors deserve to be congratulated for this colossal effort. The global median prevalence of chronic kidney disease is 9·5% (IQR 5·9–11·7). Haemodialysis (defined as provided to >50% of people with kidney failure, a minimalist definition) is available in 162 (98%) of 165 surveyed countries, whereas peritoneal dialysis and kidney transplantation are available in about three-quarters of countries. The prevalence of kidney replacement therapy (KRT, either dialysis or kidney transplantation) varies by a factor 200 from high-income regions (highest in Taiwan) to LIC such as sub-Saharan Africa countries. Within LICs, wide disparities in KRT availability depend on political or public health agendas of individual countries. The workforce for kidney care increased somewhat recently, but the number of nephrologists remains very low in LIC. In almost 50% of surveyed countries, funding for KRT expenses relies solely on private and out-of-pocket payments.[2]

The global picture captured by this report is important. Unsurprisingly, for such a massive effort, some results raise questions or point to limitations. In Africa, the authors report a 4·2% prevalence of chronic kidney disease, which is much lower than the prevalence in other recent reports (12·2–15·8%).[3,4] This low prevalence is unexpected because of the high prevalence of apolipoprotein L1 mutations, a major risk factor for chronic kidney disease, in populations of recent sub-Saharan African ancestry.[4] The authors do not discuss KRT quality (frequency and duration of haemodialysis sessions, availability of modern immunosuppressive drugs, etc). In addition, they just mention that half of countries provided some public funding for chronic kidney disease care before KRT. Finally, the paper had only a small component devoted to patients' voices regarding the impact of KRT on their quality of life.

In addition to reducing the above-mentioned limitations, the next iteration(s) should expand on chronic kidney disease care before KRT. Indeed, kidney failure treated by KRT is just the costly tip of the chronic kidney disease iceberg. Morbidity and mortality from chronic kidney disease mostly occur before KRT and are largely driven by cardiovascular disease. Whereas until recently, the tools to delay progression of chronic kidney disease were limited to antihypertensive and renin angiotensin system blockers, chronic kidney disease care now moves into the direction of multidrug therapy. Multiple trials have demonstrated that SGLT2 inhibitors reduce hard kidney outcomes and cardiovascular events in patients with albuminuric chronic kidney disease, both with and without diabetes.[1,5] Finerenone, a non-steroidal mineralocorticoid receptor antagonist, has been approved for the management of chronic kidney disease in patients with type 2 diabetes.[6] Thus, the Kidney Disease: Improving Global Outcomes (KDIGO) global guidelines recommend the use of both SGLT2 inhibitors and finerenone in appropriate patients. This wave of new chronic kidney disease drugs is likely to continue: indeed, a phase 3 finerenone study is ongoing in non-diabetic albuminuric chronic kidney disease. An endothelin-receptor antagonist and an aldosterone synthase inhibitor will soon be tested in phase 3 trials, after positive phase 2 studies.[7,8] In addition, a large as yet unpublished trial with semaglutide, a GLP1 agonist, was terminated because an interim analysis by the independent Data Monitoring Committee concluded that prespecified criteria were met for stopping the trial early for efficacy on the primary kidney outcome.[9]

But drugs' registration is just the end of the beginning of the battle. Indeed, the role of many health-care

physicians, not just nephrologists, but also primary care physicians, cardiologists, endocrinologists, and others caring for patients with undiagnosed chronic kidney disease will be key. The recent position statement from the American Heart Association[10] on the cardio-kidney metabolic syndrome (whose earlier diagnosis is possible by urinalysis, when eGFR is still normal) is noteworthy. Collaboration between medical specialties, patients, and public health organisations will be important to increase the prescription of drugs effectively delaying progression of chronic kidney disease. Admittedly, having a prescription is not enough. Access to new medications is required and remains poor in low-income and middle-income countries. Hence, additional efforts from WHO and policy makers is needed to make such medications globally available.

In conclusion, the report by Bello and colleagues highlights that additional advocacy efforts are urgently needed for the inclusion of chronic kidney disease care in the global health agenda. KRT funding is insufficient and policies for care are missing in most countries. Future action plans should improve awareness of the burden of chronic kidney disease and promote early detection and management in high-risk groups, training of additional health-care practitioners, and provision of essential medicines for patients with chronic kidney disease.

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