

Parma, March 5, 2019

World Kidney Day: 'Is this just the tip of the iceberg?'

850 million people worldwide are affected by kidney disease [1] – a worrying figure, and one that continues to rise. Prevention of chronic kidney disease is therefore more important than ever, as Professor Carmine Zoccali (Reggio Calabria, Italy), President of the ERA-EDTA, emphasizes on the occasion of World Kidney Day on March 14, 2019.



Professor Carmine Zoccali, President of the ERA-EDTA

March 14 is World Kidney Day. What exactly is chronic kidney disease and how many people are affected by it worldwide?

Chronic kidney disease (CKD) is defined as an abnormality of kidney structure or function which persists for more than three months. The kidneys become less able to perform their defined roles within the body including an inability to effectively filter waste products from the blood. CKD affects approximately one in ten people worldwide. There are several degrees of CKD (stages 1-5) and it is a disease which can be progressive. When kidney function drops into stage 5 CKD (kidney filtration ability reduced to ≤ 15 ml/min/1.73 m² compared to normal which is ≥ 60 ml/min/1.73 m²), kidney replacement therapy (dialysis or transplantation) needs to be considered. We estimate that, worldwide, between 5.3 and 10.5 million people are undergoing kidney replacement therapy. However, financial barriers or lack of resources means that there are many patients who are deprived of these lifesaving treatments. This year the World Kidney Day motto is aimed at raising awareness of this inequality by demanding '**Kidney Health for everyone everywhere**'.

But isn't this a bit utopian? How can this aim be achieved?

Yes, certainly, but as Anatole France once said, 'Without the Utopians of other times, men would still live in caves, miserable and naked. Utopia is the principle of all progress, and the essay into a better future.' If you bear this in mind then the logical consequence is to demand 'Kidney Health for everyone, everywhere'. If we do not make this a priority, then the problem of CKD will not be realized to its full extent by the public, the policymakers and society at large. Additionally, it remains crucial that significant steps are taken towards improving prevention strategies, worldwide. The number of affected patients is rising and this is a significant public health problem; we can no longer afford to remain silent.

Why is it that urgent to improve the prevention of chronic kidney disease?

The unadjusted incidence rate of renal replacement therapy amongst all countries represented in the European Renal Registry was 121 per million in 2016 – compared to 117 per million population five years previously in 2011 [2]. This is largely explained by the significant rise in the previous decade in the number of people who suffer from diabetes and hypertension (high blood pressure), conditions which can lead to chronic kidney disease. Approximately 425 million adults (20-79 years of age) were living with diabetes in 2017, and this figure will rise further to 629 million by 2045, according to the International Diabetes Federation [3]. The number of people affected by hypertension has increased from 594 million in 1975 to over 1.1 billion in 2015 [4]. With ever-increasing numbers of patients with diabetes and hypertension, there is significant and justified concern that the incidence of chronic kidney disease, too, will continue to rise steeply. It is very likely that we are only seeing the tip of the iceberg right now.

What are effective prevention strategies?

Diabetes and hypertension are the two most common causes of end stage kidney disease requiring renal replacement therapy; approximately one third of patients need dialysis secondary to diabetes. If a patient suffers from diabetes or hypertension, it is important that the blood sugar (or blood pressure) levels are kept within the normal range and that the kidneys are regularly checked by a doctor. In many instances, the development of diabetes and hypertension is avoidable. It is important to motivate people to adopt a healthy lifestyle, which involves sports and healthy food. It is important to gain and keep a normal body weight. Obesity is an epidemic in the developed world. Studies have shown that being overweight can be both a direct cause of CKD and an indirect cause via its association with the development of diabetes and hypertension.

Another effective prevention strategy is to stop smoking. The kidneys rely upon their millions of tiny blood vessels to filter and clean the blood; smoking destroys these blood vessels. Fighting to support wide-ranging policies aimed at limiting air pollution is also fundamental, because high levels of particulate matter (i.e. fine particles) have been associated with the risk of CKD. Finally care should be taken with painkillers. Some over-the-counter drugs (e.g. diclofenac, ibuprofen) can harm the kidneys if taken unnecessarily for prolonged periods of time.

To what extent do you expect policymakers to support prevention measures – and why should they do so?

Kidney disease has not played a major role in most health promotion and public awareness campaigns to date. This is completely unjustified. We estimate that over 850 million people worldwide have some form of kidney disease, which is roughly double the number of people who live with diabetes (422 million, [5]) and 20 times greater than the prevalence of cancer worldwide (42 million [6]), or people living with AIDS/HIV (36.7 million [7]). This means that kidney disease is one of the most common diseases worldwide, yet the public is unaware of the scale of this health issue. We need politicians to address this important health issue and to be willing to invest in prevention strategies. It is not difficult to appreciate that this represents a good investment, because kidney disease imposes a heavy financial burden on healthcare budgets. The annual per patient cost for hemodialysis (HD) ranges from US\$ 88,195 in the USA [8], to US\$ 58,812 in Germany, US\$ 83,616 in Belgium and US\$ 70,928 in France [9]. There is little doubt that prevention is key and offers the prospect of significant cost savings

What about the individual patient? Does prevention pay off for her or him as well?

Of course! A patient with CKD may not feel classically unwell, especially in the earlier stages. However, CKD greatly increases the risk of particularly cardiovascular disease and death. It is imperative, therefore, that steps are taken where possible to ideally prevent the development of CKD and where this is not possible, patients with CKD need to have regular checkups and early treatment strategies employed to reduce their cardiovascular risk. If there is significant deterioration or a rapid decline in kidney function, the nephrologist should be involved. We can, for example, slow CKD progression by prescribing RAAS inhibition drugs. This can postpone the need for kidney replacement therapy and lower the cardiovascular risk of the patients.

What is the significance of nephrology among all subspecialties of inner medicine?

I think that nephrology is a key discipline in modern medicine. The number of patients is growing and the patients need special care. A recently published study [10] showed that renal patients are extremely complex patients – they have more comorbidities and the highest risk of mortality, when compared to patients managed by other specialties, including infectious disease specialists, pulmonologists, hematologists, rheumatologists, gastroenterologists, cardiologists, endocrinologists, and family physicians. Obviously, it is **time for nephrology** to be upgraded and more properly funded than it is today in most healthcare systems.

Press Contact:

ERA-EDTA PRESS OFFICE

Dr Bettina Albers

Jakobstrasse 38

99423 Weimar

Germany

Tel. +49 3643/ 7764-23

Fax +49 3643/ 7764-52

[1] <https://web.era-edta.org/uploads/180627-press-era-asn-isn.pdf>

[2] ERA-EDTA Registry. Annual Report 2016 and 2011: <https://www.era-edta-reg.org/index.jsp?p=14>

[3] <https://idf.org/52-about-diabetes.html>

[4] <http://www.bloodpressureuk.org/mediacentre/Newsreleases/1billionpeopleworldwidenowhavehighbloodpressure>

[5] <http://www.who.int/news-room/fact-sheets/detail/diabetes>

[6] <https://ourworldindata.org/cancer>

[7] <http://www.who.int/gho/hiv/en/>

[8] United States Renal Data System. 2017USRDS annual data report: Epidemiology of kidney disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2017.

[9] Vanholder R et al. J Am Soc Nephrol 2012;23(8):1291-8

[10] Marcello Tonelli et al. Comparison of the Complexity of Patients Seen by Different Medical Subspecialists in a Universal Health Care System. JAMA Netw Open. 2018;1(7): e184852. doi:10.1001/jamanetworkopen.2018.4852

About ERA-EDTA

With more than 11,000 members, the ERA-EDTA ("European Renal Association – European Dialysis and Transplant Association") is one of the biggest nephrology associations worldwide and one of the most important and prestigious European Medical Associations. It supports basic and clinical research in the fields of clinical nephrology, dialysis, renal transplantation and related subjects. It also supports a number of studies as well as research groups and has founded a special "Fellowship Programme" for young investigators as well as grant programmes. In order to involve young nephrologists in all its activities, ERA-EDTA has created the "Young Nephrologists' Platform" (YNP), a very active committee whose board includes members who are 40 years old or younger. In addition, it has established various

working groups to promote the collaboration of nephrologists with other medical disciplines (e.g. cardiology, immunology). Furthermore, a "European Renal Best Practice" (ERBP) advisory board was established by the ERA-EDTA to draw up and publish guidelines and position statements. Another important goal of the ERA-EDTA is education: The series of CME courses combined with the annual congress offer an attractive scientific programme to cover the need for continuous medical education for doctors working in the fields of nephrology, dialysis and transplantation. The association's journals, NDT (Nephrology, Dialysis, Transplantation) and CKJ (Clinical Kidney Journal), are currently the leading nephrology journals in Europe; furthermore NDT-Educational is the Society's online educational journal, with free access for all users, as well as being a very important and useful feature of the NDT-Educational "Literature Review". The ERA-EDTA Registry is a large epidemiologic database comparing countries by assessing nephrology practices throughout Europe. ENP, the European Nephrology Portal, is the latest new initiative of ERA-EDTA, where all those interested in the activities of the Society can find everything that is happening, all in one place. Finally, ERA-EDTA is a member of the European Kidney Health Alliance (EKHA), a consortium of patients, nurses and foundations relating to renal issues that actively interacts with the European Parliament. For more information, please visit www.era-edta.org