RISK FACTORS

Contribution of low GFR to the global burden of disease

New data from the Global Burden of Disease, Injuries, and Risk Factor study (GBD) 2013 suggest that the importance of low glomerular filtration rate (GFR) as a risk factor for health loss and mortality is increasing. As low GFR was not included in GBD 2010, study collaborator Norberto Perico from the Mario Negri Institute for Pharmacological Research, Bergamo, Italy, describes its inclusion in GBD 2013 as “a great achievement for the nephrology community.”

The recent study, which analysed data from 188 countries for the period 1990–2013, reports that 79 behavioural, metabolic, environmental and occupational risk factors together accounted for 57.2% of global mortality and 41.6% of global disability-adjusted life years (DALYs) in 2013. Six of these modifiable risk factors—aggregated dietary risks, high systolic blood pressure, child and maternal malnutrition, tobacco smoke, air pollution and high BMI—each accounted for more than 5% of global DALYs.

High systolic blood pressure was the leading individual risk factor in terms of global attributable mortality in both 2000 and 2013. This risk factor accounted for 10.4 million deaths in 2013 compared with 6.9 million in 1990, an increase of 49.1%. High systolic blood pressure was also the leading risk factor for global DALYs in 2013 and the second ranking risk factor in 2000.

The attributable burden of low GFR (defined as GFR <60 ml/min/1.73 m² and excluding

end-stage renal disease) also increased during the study period. The analysis shows a 65% increase in deaths attributable to this risk factor from 1.3 million in 1990 to 2.2 million in 2013. Moreover, low GFR ranked 14th among the risk factors for global DALYs in 2013, compared with 19th in 2000.

“Considering the regional distribution of the leading risk factors in terms of DALYs, it is interesting to highlight that in high income countries as a whole low GFR ranked 7th,” says Perico. “In general, low GFR was preceded as a risk factor for DALYs by high systolic blood pressure, smoking, high BMI, high fasting plasma glucose and high total cholesterol—all of which are also risk factors for kidney damage and low GFR.”

As all of the risk factors included in GBD 2013 are potentially modifiable, the study collaborators hope that their data will help to guide and prioritize disease prevention efforts and health-care policies. In particular, Perico stresses the need for greater understanding and awareness of the importance of kidney disease and its risk factors among the general public and policy makers in order to improve global health.

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