

Uncovering the rising kidney failure deaths in India



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Chronic kidney disease is now recognised as a major medical problem worldwide.¹ The Global Burden of Disease (GBD) study 2015² ranked chronic kidney disease 17th among the causes of deaths globally (age-standardised annual death rate of 19.2 deaths per 100 000 population). In many countries, chronic kidney disease is now among the top five causes of death. In India, GBD 2015 ranks chronic kidney disease as the eighth leading cause of death.

In the *Lancet Global Health*, Dare and colleagues³ present data on the number of deaths due to renal failure in India. These figures come from the Million Deaths Study (MDS), which ascribed cause to all deaths in a nationally representative sample of 1.1 million households using an enhanced verbal autopsy tool between 2001 and 2013.³ Deaths due to renal failure constituted 2.9% of all deaths in 2010–13 among 15–69 year-olds, an increase of 50% from 2001–03. Diabetes was the largest contributor to renal failure deaths. Substantial regional differences were noted in renal failure death rates. The reported proportion of renal failure deaths is close to the GBD 2015 estimate of 3.04%, up from 1.94% in 2000.

These data provide strong evidence of the rising contribution of kidney failure to premature deaths in India, which has one sixth of the world's population, accounts for about 19% of all global deaths, but has dismal cause of death reporting systems.⁴ The GBD 2013 report specifically highlighted this situation by observing that "Important gaps exist in empirical data for cause of death estimates for some countries; for example, no national data for India is available for the past decade."⁵ Because of the large population and ongoing demographic transitions, data from India are important to understand health-care dynamics for the world at large. Absence of such information creates a void in global estimates.

The strengths of the MDS are the ability to provide population-based, disease-specific death data from a nationally representative sample, the large number of deaths profiled, and the use of a validated tool administered by trained personnel.

The reported regional differences in renal failure deaths are intriguing, because regional differences have not been established for the prevalence of known

kidney disease risk factors, including diabetes. Kidney disease hot spots have been reported in some parts of India, especially in Andhra Pradesh, central Odisha, Puducherry and Maharashtra, but these have not yet been substantiated by systematic studies.⁶ The distinction between acute and chronic kidney diseases is relevant for India because the two conditions require different public health responses. This distinction was not possible in the current study.

Similar to most emerging economies, a majority of deaths in India occur at home, and about half are not assigned a certified cause. Although verbal autopsy is valuable in such an environment, it can be problematic for conditions with non-specific symptoms, and for the elderly with multiple morbidities, both of which apply to kidney failure.⁷ Verbal autopsy is also not suited to teasing out the role that kidney disease plays in initiating, accelerating, and multiplying pathophysiologic processes that culminate in mortality. For example, sudden cardiac death, which is common in patients with kidney disease, can get classified as non-renal death. Finally, verbal autopsy is constrained by the primary filtering question used for a disease condition. Reduction in urine output for 24 h might not be sensitive enough, leading to an underestimate of kidney failure deaths.

The analysis of dialysis facilities and transplant numbers in this study are impacted by the poor quality of source data. One hopes that the Indian government will mandate establishment of dialysis and transplant registries alongside the existing National Dialysis Service to allow a more accurate estimate of kidney disease burden.⁸

Despite its growing importance, kidney disease lacks visibility.⁹ Knowledge of renal failure deaths and their correlates are crucial for development of appropriate public health responses.

A vast proportion of kidney failure patients in the developing world, including India, die without receiving renal replacement therapy.¹⁰ The increasing demand for renal replacement therapy is visible throughout the country. Health-economic analysis of the consequences of untreated chronic kidney disease is needed. The answer for the population at large should be prevention, rather than resource intensive tertiary care. For this, the study by Dare and colleagues has both good and bad

news. That diabetes is the main cause of kidney failure is in a way a relief, because how to prevent and slow the progression of diabetes and its complications is already known. The high rates of renal failure deaths in those with diabetes born in the 1970s, when they have barely entered their forties, suggests missed opportunities for prevention that can be fixed through implementation of guideline-based care.⁹ The bad news is that a sizeable proportion of kidney failure is not due to diabetes, which needs more work for identification and prevention, indicating an unfinished research agenda.

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