

Overestimation of Life Expectancy in CKD

To the Editor:

Turin et al¹ reported life expectancies for patients with mild or heavy proteinuria. Their results must be viewed as overestimates. The authors properly excluded persons with end-stage renal disease at baseline, classified the rest as having mild or heavy proteinuria, and followed them up for 3-7 years to determine survival. However, their life expectancies for the mild and heavy groups come from life tables constructed using age- and group-specific mortality rates computed over the 3-7 year period.

These life expectancies apply to only a hypothetical person who, if he or she survives 3-7 years, essentially obtains a clean bill of health at that time. Declines from mild to heavy proteinuria or from heavy proteinuria to end-stage renal disease are reversed every 3-7 years by design. That is, the authors' approach belies the progressive nature of kidney disease. Had the study been over a 1-month period instead, the error would have been more obvious because it would have precluded the very changes in kidney function known to lead to increased mortality risk.² By comparison, it would be similarly optimistic to obtain life expectancies from a short-period study of smokers who were clear of both lung cancer and heart disease at baseline.

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In Reply to 'Overestimation of Life Expectancy in CKD'

We thank Dr Shavelle¹ for his interest in our recent *AJKD* publication regarding the association between level of proteinuria and life expectancy.² Chronic kidney disease (CKD) typically is progressive in nature, with proteinuria and estimated glomerular filtration rate used to estimate the severity of CKD.^{3,4} In his letter, Dr Shavelle¹ has pointed out correctly that we stratified study participants at baseline by the presence and severity of proteinuria and did not attempt to capture the change in proteinuria over time. Proteinuria categorization was based on a single measurement at baseline; thus, misclassification due to transient proteinuria could not be ruled out. Also, because our participants' kidney function status was classified based on proteinuria measurement at one point in time, the life expectancy estimates presented in our article may be an overestimate and thus a conservative estimate of the actual life expectancy for patients with progressive CKD. However, because our main interest was to estimate the effect of varying levels of kidney function on life expectancy, this limitation does not invalidate our results that lower levels of kidney function are associated with a significant reduction in life expectancy for both men and women.^{1,5}

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2. Turin TC, Tonelli M, Manns BJ, Ravani P, Ahmed SB, Hemmelgarn BR. Chronic kidney disease and life expectancy. *Nephrol Dial Transplant.* 2012;27(8):3182-3186.

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