

Albuminuria Testing in Low-Income Setting

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The interesting commentary by Christofides and Desai highlights albuminuria as a strong predictor for increased cardiovascular risk in diabetic individuals.¹ Diabetic nephropathy, one of the micro-vascular complications of diabetes develops due to interplay of various hemodynamic and metabolic factors. The kidney function deterioration leads to the fast progression into chronic kidney disease, renal failure, and end-stage renal disease. These conditions increase the burden of disease, and result in inadequate access to health care facilities across the low income based countries. Furthermore, inadequate funds, absence of efficient infrastructure and limited resource availability for diabetes management and its complications add to the barriers of kidney health care.²⁻⁴ However, some facilitators have been identified in low income settings like India which include improving knowledge & health literacy and access to health services at primary care hospitals.^{5,6}

A recent study on Indian metropolitan cities predicts an alarmingly high probability and lifetime risk of diabetes development in Indian urban settings. It is noteworthy that an equivalent risk also prevails among the rural residing Indian population.⁷ Thus extensive utilization and promotion of m-health technologies may serve as useful tools to connect primary care hospitals to highly advanced tertiary level hospitals.

The Chunampet Rural Diabetes Prevention Project Model is 1 such unique tele-diabetes model conducted in Southern India.⁸ Similarly another community based study in Southern India addressed the diabetic foot complications among diabetic individuals.⁹ Despite geographical and etiological variations in growing prevalence of diabetic/chronic kidney disease in India, there is insufficient evidence on standardized renal function test routinely used for estimation and reporting.¹⁰ Three phenotypes of chronic kidney disease have been recognized which include: estimated glomerular filtration rate decline only, albuminuria decline only or both.¹¹

In routine clinical practice, assessments of serum creatinine levels are common over albuminuria although most diabetics present with no/normo-albuminuria. The question as to when the transition from normo-albuminuria to micro/macro albuminuria occurs among diabetic individuals remains largely unclear. To address this growing concern of

non-communicable disease like diabetic nephropathy, should the low income countries march towards “Prevention is better than cure” using cost-effective approaches like targeting health literacy, behavioral change and lifestyle modification in the near future?

Authors' Note

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References

1. Christofides EA, Desai N. Optimal early diagnosis and monitoring of diabetic kidney disease in type 2 diabetes mellitus: addressing the barriers to albuminuria testing. *J Prim Care Community Health*. 2021;12:21501327211003683. doi:10.1177/21501327211003683
2. Crews DC, Bello AK, Saadi G. World kidney day steering committee. Burden, access, and disparities in kidney disease. *Braz J Med Biol Res*. 2019;52:e8338. doi:10.1590/1414-431X20198338

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3. Hussain S, Habib A, Najmi AK. Limited knowledge of chronic kidney disease among type 2 diabetes mellitus patients in India. *Int J Environ Res Public Health*. 2019;16:1443. doi:10.3390/ijerph16081443
4. Chow WL, Joshi VD, Tin AS, et al. Limited knowledge of chronic kidney disease among primary care patients—a cross-sectional survey. *BMC Nephrol*. 2012;13:54. doi:10.1186/1471-2369-13-54
5. Jafar TH, Ramakrishnan C, John O, et al. Access to CKD care in rural communities of India: a qualitative study exploring the barriers and potential facilitators. *BMC Nephrol*. 2020;21:26. doi:10.1186/s12882-020-1702-6
6. Dageforde LA, Cavanaugh KL. Health literacy: emerging evidence and applications in kidney disease care. *Adv Chronic Kidney Dis*. 2013;20:311-319. doi:10.1053/j.ackd.2013.04.005
7. Luhar S, Kondal D, Jones R, et al. Lifetime risk of diabetes in metropolitan cities in India. *Diabetologia*. 2021;64:521-529. doi:10.1007/s00125-020-05330-1
8. Mohan V, Prathiba V, Pradeepa R. Tele-diabetology to screen for diabetes and associated complications in rural India: the Chunampet rural diabetes prevention project model. *J Diabetes Sci Technol*. 2014;8:256-261. doi:10.1177/1932296814525029
9. Maiya AG, Gundmi S, Matpady P, et al. Prevalence of foot complications in people with type 2 diabetes mellitus: a community-based survey in rural Udipi. *Int J Low Extrem Wounds*. 2018;17:169-175. doi:10.1177/1534734618791853
10. Varughese S, Abraham G. Chronic kidney disease in India: a Clarion call for change. *Clin J Am Soc Nephrol*. 2018;13:802-804. doi:10.2215/CJN.09180817
11. Pugliese G, Penno G, Natali A, et al. Diabetic kidney disease: new clinical and therapeutic issues. Joint position statement of the Italian Diabetes Society and the Italian Society of Nephrology on “The natural history of diabetic kidney disease and treatment of hyperglycemia in patients with type 2 diabetes and impaired renal function”. *J Nephrol*. 2020;33:9-35. doi:10.1007/s40620-019-00650-x