Editorial

Awareness of Chronic Kidney Disease: Bangladesh Perspective

*Chowdhury D

English Surgeon and Histologist Sir William Bowan, 1st Baronet (July 20, 1816 - March 29, 1892) who discovered that urine is a byproduct of the blood filtration that is carried on the kidney. The word kidney is probably a compound of the old English cwiα 'womb' and ey, 'egg' describing the organ's shape.

Kidneys are a pair of organs located in the right and left side of the abdomen. Human kidneys are shaped like large beans and this is where the "Kidney Bean" a common red colored bean, gets its name. The organs called kidneys are vital to life, as they filter bad stuff from blood, help body get rid of waste, regulate blood pressure and even produce hormones.

Chronic kidney disease (CKD) is gradually and progressively increasing public health concern among healthcare providers worldwide. CKD which affects more than 10% of the world's population has become a global public health crisis in recent decades. The declaration of 'World Kidney Day' and its annual observance remained us that CKD is common and harmful for almost all cross section of people.[1] CKD is characterized by progressive decline of renal function over three months or more, which is linked to a number of risk factors. Once the kidneys have been damaged, they are unable to filter blood or perform other functions, resulting in a decrease in glomerular filtration rate (GFR) and proteinuria, which can develop to end-stage renal Disease (ESRD) or kidney failure. If not treated with dialysis or a kidney transplant, ESRD is deadly and irreversible.[2]

CKD is a silent disease which is treated as one of the leading causes of death worldwide; many developed countries have studied CKD awareness and developed guidelines and educational programs accordingly. Education to improve knowledge on CKD has been documented to play an important role in reducing this particular problem regardless of whether it is primary, secondary or tertiary prevention.[3] Varied risk factors have been reported in the awareness study on chronic kidney disease in different countries.

Bangladesh being a densely populated developing country, its health care budget is only 1.4% of gross national product (GNP) with the priority areas as population control, provision of clean drinking water and eradication of communicable disease. The treatment of non-communicable disease like chronic kidney disease (CKD) has low priority in Bangladesh because of government health policy and high cost of treatment.[4] Development of awareness through screening and educational programs is still in the stage of infancy. The important causes of CKD leading to kidney failure in South Asian region are chronic glomerulonephritis, diabetes and hypertension.[4] In Bangladesh, leading causes of ESRD are chronic glomerulonephritis (40%) diabetes (34%) and hypertension (15%).[5] Patients are not aware of the importance of good control of these risk factors. Survey in a few rural, urban, disadvantageous population suggested that 18 million people have been suffering from CKD as defined by kidney disease outcomes quality initiative (KDOQI) in Bangladesh.[5] About 30,000 patients are reaching end-stage renal failure every year in this country they need either dialysis or transplantation of kidney.[5] Out of 18% kidney patients, 11% have milder to severe form of kidney failure.[5] Increased CKD awareness over time in different countries and a recent increase in nephrology referrals suggested that these efforts may have some positive impact.[6-8]

It has been observed that physicians other than nephrologists are less likely to recognize CKD and sometimes differ in their clinical evaluation of CKD.[9] A significant number of CKD patients are referred to nephrologists much later than it would have been appropriate.[10] Late evaluation of CKD patients by nephrologists, especially those presenting in End-Stage Renal Disease (ESRD) is associated with suboptimal pre-dialysis care and treatment which ultimately increases mortality.[10–12]

CKD is also associated with a significant financial burden, accounting for more than 2-3% of annual healthcare expenditures in high-income countries, despite the fact that patients with ESRD account for only 0.03% of the total population and lower socioeconomic status is linked to a higher risk of ESRD.[13] The burden of CKD in developing countries is substantially greater due to additional hazards associated with poverty, such as infections, hazardous job, inadequate education and poor maternal health, as well as the additional expense of screening and treatment, which must be paid directly by patients.[14,15]

The public awareness and understanding of CKD is a critical aspect in CKD preventive and screening programs' success, whereby early detection and management of CKD can help prevent disease progression in its early stages.[16] Despite this, the majority of CKD cases are not detected early.[17] General knowledge of CKD, its risk factors and individual risk and CKD status consequence and understanding are all parts of CKD awareness among patients.[18]

A better rate of early identification of those with undetected/early CKD or those at risk of developing CKD may be attainable in populations with high levels of knowledge and awareness about CKD.[19] According to research conducted in both developed and developing nations, the public's understanding of CKD and its risk factors is inadequate.[20]

Finally it may be mentioned that to explore the awareness regarding CKD among the population of Bangladesh, inadequate knowledge of CKD and significant gaps in awareness of CKD were observed in mass populations. Therefore, responsible organizations should make an extra effort to raise community awareness and implement targeted CKD educational activities to improve the early detection and management of CKD.

Professor (Dr.) Dipti Chowdhury.
Professor and Head, Department of Nephrology (Retired), Chittagong Medical College, Chattogram.

***Correspondence:** Email: prodc@gmail.com

References

1. Levey A.S., Andreoli S.P., DuBose T et al. CKD: Common, Harmful, and Treatable - World Kidney Day 2007. Am J Kidney Dis. 2007 Feb;49(2): 175-179.

2. CKD Evaluation and Management - KDIGO [Internet]. 2022.

3. Levin A, Stevens PE, Bilous RW et al. Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney International Supplements. 2013;3:1-150.

4. Kidney Foundation Annual Reports. Dhaka. 2005.

5. Rashid H.U. Reports of President, 9th Conference of NUTS of SAARC Country. 2011.

6. Plantinga L C, Boulware LE, Coresh J et al. Patient Awareness of Chronic Kidney Disease: Trends and Predictors. Arch Intern Med. 2008 Nov 10;168(20):2268-2275

7. Hemmelgarn B R, Zhang J, Manns BJ et al. Nephrology Visits and Health Care Resource Use before and after Reporting Estimated Glomerular Filtration Rate. JAMA. 2010;303(12):1151-1158.

8. Saab G, Whaley-Connell AT, McCullough P A et al. CKD Awareness in the United States: The Kidney Early Evaluation Program (KEEP). Am J Kidney Dis. 2008 Aug;52(2):382-383.

9. Boulware LE, Troll MU, Jaar BG et al. Identification and Referral of Patients with Progressive CKD: A National Study. Am J Kidney Dis. 2006 Aug;48(2):192-204.

10. Gøransson LG, Bergrem H. Consequences of Late Referral of Patients with End-Stage Renal Disease. J Intern Med. 2001 Aug;250(2):154-159.

11. Kinchen KS, Sadler J, Fink N et al. The Timing of Specialist Evaluation in Chronic Kidney Disease and Mortality. Ann Intern Med. 2002 Sep 17;137(6):479-486.

12. Chan MR, Dall AT, Fletcher K E et al. Outcomes in Patients with Chronic Kidney Disease Referred Late to Nephrologists: A Meta-Analysis. Am J Med. 2007 Dec;120(12) :1063-1070.

13. Couser WG, Remuzzi G, Mendis S et al. The contribution of chronic kidney disease to the global burden of major noncommunicable diseases. Kidney Int. 2011;80(12):1258–1270.

14. Kumela Goro K, Desalegn Wolide A, Kerga Dibaba F et al. Patient awareness, prevalence and risk factors of chronic kidney disease among diabetes mellitus and hypertensive patients at Jimma University medical center, Ethiopia. Biomed Res Int. 2019;2019:e2383508.

15. Norton JM, Moxey-Mims MM, Eggers PW et al. Social determinants of racial disparities in CKD. J Am Soc Nephrol. 2016;27(9):2576-2595.

16. Fauziyati A. Global challenge of early detection and Management of Chronic Kidney Disease. J Kedokt Dan Kesehat Indones. 2017;8(1):1-2.

17. Johnson DW, Atai E, Chan M et al. KHACARI guideline: Early chronic kidney disease: Detection, prevention and management. Nephrology (Carlton). 2013;18(5):340-350.

18. 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(8):1443.

19. Ahmed IAB, Alharbi SH, Alateeq FA et al. Knowledge and awareness towards chronic kidney disease risk factors in Saudi Arabia. Int J Clin Med. 2018;9(11):799-808.

20. Gheewala PA, Peterson GM, Zaidi STR et al. Public knowledge of chronic kidney disease evaluated using a validated questionnaire: A cross-sectional study. BMC Public Health. 2018; 18:371.