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Trends in real-world lipid lowering therapy use among adult patients with chronic kidney disease: 5-year single center experience in the Philippines

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Background and Aims: Patients with chronic kidney disease (CKD) carry an extremely high burden for atherosclerotic cardiovascular disease (ASCVD), which worsens as CKD progresses. Several international guidelines, including the 2013 Kidney Disease: Improving Global Outcomes (KDIGO) guidelines, have recommended the use of lipid-lowering therapy (LLT) in this high-risk population. To evaluate the implementation of these recommendations in real-world practice, we assessed patterns of dyslipidemia management among patients with CKD. Specific objectives include describing the prevalence and intensity of LLT prescription [stratified by estimated glomerular filtration rate (GFR) and whether requiring renal replacement therapy or not] as well as adherence to guideline recommendations on LLT use.

Method: We conducted a single-center, cross-sectional study covering the period of January 2019 to December 2023. A review of inpatient and outpatient medical records of the Department of Medicine, University of the Philippine—Philippine General Hospital was done. Eligible patients were at least 18 years of age, and diagnosed with CKD. Exclusion criteria included having a concomitant diagnosis of Acute Kidney Injury, and being pregnant or breastfeeding at any point in the study period. Sociodemographic, clinical, and laboratory data were based off the latest entry in each patient's medical record. No clinical data were collected beyond those that were available on the records. Classification of statin intensity was based on the 2019 American Heart Association/American College of Cardiology Guidelines on the Management of Blood Cholesterol as well as the 2020 Philippine Clinical Practice Guidelines on the Management of Dyslipidemia. All analyses were descriptive and done using STATA 18. Categorical variables were summarized as frequencies and percentages. Continuous variables were reported as measures of central tendency [i.e. mean (SD) or median (IQR), as appropriate].

Results: Of the 3845 patients included in the study, 2922 (76%) were prescribed LLT. The most common LLT were statins (92%), followed by statin/ezetimibe combinations (6%), then statin/fibrate combinations (2%). None were prescribed PCKS9 inhibitors, niacin, omega-3 fatty acids, or bile acid sequestrants. Among non-dialytic patients, the distribution of LLT use was as follows: a) eGFR ≥ 60 ml/min/1.73 m²: 40% (173/431) b) eGFR 30-60 ml/min/1.73 m²: 76% (1198/1576) c) eGFR < 30 ml/min/1.73 m²: 84% (1551/1838). Among dialytic patients, 68% (601/884) were already on LLT prior to initiation of dialysis while 35% (283/884) were started on LLT after dialysis initiation. Notably, 89% (786/884) of these dialytic patients were still on moderate-to-high-intensity statin doses. Based on recommendations from the 2013 KDIGO guidelines, only 78% (2610/3334) of eligible patients were prescribed on LLT, while 61% (312/511) of ineligible patients were prescribed on LLT. Similar rates of adherence were seen to other international guideline recommendations on the management of dyslipidemia in CKD (e.g. 2018 American Heart Association/American College of Cardiology Guideline on the Management of Blood Cholesterol, 2019 European Society of Cardiology/European Atherosclerosis Society guidelines for the management of dyslipidaemias, 2020 Clinical Practice Guidelines for the management of dyslipidemia in the Philippines).

Conclusion: Real-world LLT use among CKD patients remains high, even at lower eGFRs. More importantly, a large proportion of patients remain under- and over-treated, highlighting significant gaps between guideline recommendations and real-world clinical practice. Further investigation regarding the underlying reasons for these practice variations is necessary to improve quality of care, and safely reduce the burden of dyslipidemia and ASCVD among CKD patients.