

# Statin Prescription Patterns and Associated Factors Among Patients with Type 2 Diabetes Mellitus Attending Diabetic Clinic at Muhimbili National Hospital, Dar es Salaam, Tanzania [Response to Letter]

Aneth Telesphore Bideberi<sup>1,2</sup>, Reuben Mutagaywa<sup>1,2</sup>

<sup>1</sup>Department of Internal Medicine, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania; <sup>2</sup>Department of Internal Medicine, Muhimbili National Hospital, Dar es Salaam, Tanzania

Correspondence: Aneth Telesphore Bideberi, Department of Internal Medicine, Muhimbili University of Health and Allied Sciences, P. O. Box 65001, Dar es Salaam, Tanzania, Tel +255 759334883, Email [anethdoc1@gmail.com](mailto:anethdoc1@gmail.com)

## Dear editor

We thank Abdul Moeed for comments on our article in his letter titled;- Liver Enzymes and Non-Alcoholic Fatty Liver Disease: Important Factors in Assessing Patterns of Clinical Management in Type-2 Diabetes Patients.<sup>1</sup> Our study main goal was to determine the patterns of statins prescriptions of diabetes participants based on their risk stratification categories. According to several societies including but not limited to American Diabetes Associations (ADA), diabetes patients are prescribed either high intensity or moderate intensity statins based on their cardiovascular risk categories.<sup>2</sup> According to ADA, recommendations for statin prescriptions are graded from A-E depending on age, traditional risk factors (smoking history, duration of diabetes mellitus, obesity and hypertension), Low density lipoprotein (LDL), presence or absence of atherosclerotic vascular disease (acute coronary syndrome, peripheral arterial disease and cerebral vascular events) and chronic diabetes complications (neuropathy, retinopathy and nephropathy).<sup>2,3</sup> Our study revealed that, out of 400 participants, 395 were eligible for statin prescription according to ADA criteria. We found that only 47.3% of participants were on moderate intensity prescriptions, whereas 52.3% of high-risk participants were not on any statins prescription.<sup>4</sup> Our findings are critical especially in the studied setting where the burden of cardiovascular disease is on the rise, and calls for more studies in this area. We recommended the need to increase awareness among prescribers to adhere to established international guidelines.

In response to Moeed, who has made critical comments on the fact that we failed to identify aspartate aminotransferase (AST) and alanine aminotransferase (ALT), together with non-alcoholic fatty liver disease (NAFLD) as potential aspects when prescribing statins;<sup>1</sup> we think that Moeed missed a big picture. Our study on statins prescription patterns was according to well-established criteria as stated above. On the other hand, liver enzymes and NAFLD are not included in any of the graded recommendations/guidelines for statins prescription among diabetes patients. We have read the references quoted by Moeed, the second reference describes ALT isoenzymes in the plasma and mitochondria, nowhere does it state about the use of AST to ALT ratio in predicting cardiovascular risk in diabetes. In his third reference, Moeed quotes the importance of non-alcoholic steatohepatitis (NASH) and visceral fat in men in predicting cardiovascular risk biomarkers. Despite the fact that this appears a worthy reference, it does not relate to our study findings.

NAFLD is a well-known risk factor for cardiovascular disease,<sup>5</sup> shares several risk factors with diabetes and as correctly stated by Moeed; majority of diabetes patients have NAFLD. Establishing a diagnosis of NAFLD in diabetes patients is important for improving care, however it should be born in mind that, the already established standard of care

guidelines for statins prescription in diabetes are exhaustive and would include eligible participants including those with undiagnosed NAFLD. In sub-Saharan Africa and similar lower middle-income (LMICs) settings, it will be tedious to try to diagnose NAFLD to all diabetes patients with systematic challenges including but not limited to shortage of expertise and lack of diagnostic tools. More importantly, we do not see any added benefit of using NAFLD in deciding statins prescription among diabetes participants as either effect of statins in liver histology of NAFLD and treatment or preventing progression to fibrosis remains controversial with need for more randomized controlled trials (RCTs).<sup>5</sup>

## Disclosure

The authors report no conflicts of interest for this communication.

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