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Comment on “The atherogenic index of plasma as a predictor of mortality in patients with COVID-19”

To the editor

I have read with great interest the manuscript titled “The atherogenic index of plasma as a predictor of mortality in patients with COVID-19” by Yıldırım and Kaya¹ and would like to commend them for their brilliant efforts. However, a few additional points would enhance the quality of this article.

First of all, while this study concluded that non-survivors of the COVID-19 infection had lower LDL-C values when they were hospitalised, a study conducted on 5274 hospitalised patients found that both low and high LDL-C levels were linked to an increased risk of mortality among such patients.²

Secondly, there is a lack of mention regarding the ethnic background and body mass index (BMI) of patients. To illustrate their importance, consider this nation-wide cohort which shows that risk of COVID-19 mortality is higher in patients from an ethnic minority background.³

With regard to BMI, this nationwide prospective study found that regardless of the associated conditions, it significantly affects the probability of hospitalization and death in COVID-19 patients.⁴

Moreover, this study may have selection bias because there is a dearth of information on younger people who often have reduced cardiovascular risk profiles, perhaps because their serum lipid levels are not routinely checked.

Furthermore, patients may seek medical care at different points during the course of their illness, which may have an impact on the clinical course and results. Serial concentrations of these atherogenic indicators might be measured and contrasted with other COVID-19 biomarkers to minimize this possible bias. The dates of their extraction and the onset of the symptoms can also be used to draw a comparison.

Results may also be influenced by the paucity of knowledge on serum lipid levels in the periods before the COVID-19 testing. Its presence might have made it possible to determine whether the alterations in triglyceride and LDL-C levels were brought on by an underlying clinical condition or whether they were the result of modifications to lipid expression during the pathogenesis of COVID-19 infection.

Additionally, because the laboratory results were only recorded on the first day of hospitalization, there is no documentation of the

subsequent variations in their levels, thereby rendering it difficult to assess the relationship between their fluctuating levels and the prognosis of patients.

Finally, comorbidities such as sepsis, congestive heart failure, and neuropathy have demonstrated considerable heterogeneity among COVID-19 cohorts. Evaluation of competing risks from repeated events or other diseases may have influenced risk estimates.

Declaration of Competing Interest

None.

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Samar Sajid

Dow University of Health Sciences, Mission Rd, New Labour Colony
Nanakwara, Karachi, Sindh 74200, Pakistan
E-mail address: samarsajid@yahoo.com

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