

LETTER TO THE EDITOR

Ethnicity as a risk factor for vitamin D deficiency and undesirable COVID-19 outcomes

Dear Editor,

We found the article 'Vitamin D supplementation and COVID-19 outcomes: A systematic review, meta-analysis and meta-regression', by Timotius Ivan Hariyanto et al.¹ to be of great interest. Timotius Ivan Hariyanto et al. conducted a meta-analysis on the efficacy of vitamin D in improving the outcomes of coronavirus disease 2019 (COVID-19) patients.¹ The main limitation identified within this study was the lack of consideration for ethnicity as a risk factor for vitamin D deficiency and undesirable COVID-19 outcomes. Therefore, we believe that this may present a potential confounding variable within this study and would like to provide our perspective on the issue.

The study accounted for many patient characteristics, such as age, gender, hypertension, diabetes and corticosteroid usage/consumption.¹ Although we acknowledge that these are important factors, we believe there should be further investigation into ethnicity as a patient characteristic.

Race is a well-documented cause of vitamin D deficiency, and studies within the United States of America have shown that African-American adults have the highest prevalence rate of vitamin D deficiency, followed by Hispanic adults.² Additionally, systematic review of ethnicity and clinical outcomes in COVID-19 has demonstrated that patients of Black ethnicity have worse patient outcomes.³ It would be of great interest to observe what proportion of worse COVID-19 outcomes among ethnic minorities can be accounted for by vitamin D deficiency. Inversely, worse patient outcomes in those with vitamin D deficiency could be explained by a higher prevalence of vitamin D deficiency among ethnic minorities. As this study does not attempt to include ethnicity as a patient characteristic, its association with both vitamin D deficiency and worse COVID-19 outcomes could present a potential confounding variable.

We propose that a breakdown of ethnicities should be utilised in analysis to investigate this variable further, as this would provide an opportunity for early vitamin D supplementation and subsequent prevention to those at greatest risk.

ACKNOWLEDGEMENT

This research received no external funding.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Each author made an equal contribution to the combined piece, in both the analysis of the original document and writing the response. All authors have revised the piece and read the final version prior to approval. All authors accept full responsibility for the produced document.

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