

## LETTER TO THE EDITOR

# Authors' response: Ethnicity and vitamin D supplementations for COVID-19

Dear Editor,

We have read with the great interest a letter to editor by Akbari AR et al.<sup>1</sup> which commented on our recent publications regarding vitamin D supplementations and coronavirus disease 2019 (COVID-19) outcomes.<sup>2</sup> In their letter, the authors have raised important issue regarding ethnicity as a potential confounding factors which may influence the relationship between vitamin D supplementation and COVID-19 outcomes. We agree with the Akbari AR et al.<sup>1</sup> that African-American adults may have higher prevalence of vitamin D deficiency and subsequently may affect the benefit of vitamin D supplementation during infection with Severe Acute Respiratory Syndrome-Coronavirus-2 in those groups of patients. We also agree that based on systematic review and meta-analysis study, black ethnicity may have worse outcomes from COVID-19 and can also affect these benefits of vitamin D supplementation.<sup>3</sup> Even, our previously published meta-analysis study have already addressed the ethnicity as a potential confounding factors for Covid-19 and therefore analysed further during meta-regression analysis.<sup>4</sup> However, in the current study, it is not possible to analyse further the role of ethnicity through meta-regression analysis because only 2 out of 11 included studies which have data regarding ethnicity characteristics.<sup>2</sup> If we use the data only from two studies for meta-regression analysis, we were afraid that it will cause a biased results. Therefore, we suggest that further studies regarding vitamin D supplementation in COVID-19 patients to address the ethnicity as an important factors to be included in the studies' characteristics.

## KEYWORDS

COVID-19, treatment, vitamin D

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None.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## AUTHORS CONTRIBUTIONS

Conceptualisation, methodology, formal analysis, data curation, writing-original draft, visualisation, writing-review and editing:

Timotius Ivan Hariyanto. Conceptualisation, methodology, formal analysis, data curation, writing-original draft, writing-review and editing; Denny Intan. Conceptualisation, validation, supervision, writing-review and editing; Joshua Edward Hananto. Conceptualisation, validation, supervision, writing-review and editing; Harapan Harapan. Conceptualisation, validation, supervision, writing-review and editing; Andree Kurniawan.


## DATA AVAILABILITY STATEMENT


Data analysed in this study were a re-analysis of existing data, which are openly available at locations cited in the reference section.

Timotius Ivan Hariyanto<sup>1</sup> 

Denny Intan<sup>1</sup>

Joshua Edward Hananto<sup>1</sup>

Harapan Harapan<sup>2,3,4</sup> 

Andree Kurniawan<sup>5</sup> 

<sup>1</sup>Faculty of Medicine, Pelita Harapan University, Tangerang, Indonesia

<sup>2</sup>Medical Research Unit, School of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia

<sup>3</sup>Tropical Disease Center, School of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia

<sup>4</sup>Department of Microbiology, Universitas Syiah Kuala, Banda Aceh, Indonesia

<sup>5</sup>Department of Internal Medicine, Faculty of Medicine, Pelita Harapan University, Tangerang, Indonesia

## Correspondence

Andree Kurniawan, Department of Internal Medicine, Faculty of Medicine, Pelita Harapan University, Boulevard Jendral Sudirman street, Karawaci, Tangerang 15811, Indonesia.

Email: [andree.kurniawan@uph.edu](mailto:andree.kurniawan@uph.edu)

## ORCID

Timotius Ivan Hariyanto  <https://orcid.org/0000-0002-1748-9776>

Harapan Harapan  <https://orcid.org/0000-0001-7630-8413>

Andree Kurniawan  <https://orcid.org/0000-0002-5219-9029>

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