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Reference

1. Tandon D, Joshi B, Begum S, Surve S, Kokate P, Patil AD. Effect of vitamin D deficiency on the metabolic profile of women with polycystic ovary syndrome. *Indian J Med Res* 2022; *156* : 693-5.
2. Fischer PR, Johnson CR, Leopold KN, Thacher TD. Treatment of vitamin D deficiency in children. *Expert Rev Endocrinol Metab* 2023; *18* : 489-502.
3. Trummer C, Pilz S, Schwetz V, Obermayer-Pietsch B, Lerchbaum E. Vitamin D, PCOS and androgens in men: a systematic review. *Endocr Connect* 2018; *7* : R95-113.
4. Jedrzejuk D, Łaczmański Ł, Milewicz A, Kuliczkowska-Płaksej J, Lenarcik-Kabza A, Hirnle L, *et al*. Classic PCOS phenotype is not associated with deficiency of endogenous vitamin D and VDR gene polymorphisms rs731236 (TaqI), rs7975232 (ApaI), rs1544410 (BsmI), rs10735810 (FokI): a case-control study of lower Silesian women. *Gynecol Endocrinol* 2015; *31* : 976-9.
5. Zhang N, Liao Y, Zhao H, Chen T, Jia F, Yu Y, *et al*. Polycystic ovary syndrome and 25-hydroxyvitamin D: a bidirectional two-sample Mendelian randomization study. *Front Endocrinol (Lausanne)* 2023; *14* : 1110341.
6. Dokuzeylül Güngör N, Güngör K, Celik N, Önal M, Madenli AA. Impact of body mass index and vitamin D on serum AMH levels and antral follicle count in PCOS. *Eur Rev Med Pharmacol Sci* 2023; *27* : 179-87.

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Quick Response Code:

Authors' response

Sir,

Thank you for your interest in the article titled "Effect of vitamin D deficiency on the metabolic profile of women with polycystic ovary syndrome" by Tandon *et al*[1], which was recently published in IJMR. I appreciate the thoughtful remarks and would like to provide further clarification on the discussed limitations.

It is important to note that the study's main objective was to evaluate the effect of low levels vitamin D deficiency on metabolic parameters, without claiming a causative role in the development of polycystic ovarian syndrome (PCOS). Vitamin D deficiency as rightly pointed out is quite prevalent in India and is commonly found in both healthy individuals as well as those with various diseases[2]. While it may not necessarily be symptomatic or associated with specific conditions, investigating its potential role in PCOS is still relevant as insulin resistance is the cornerstone for the pathophysiology of PCOS and it is postulated that vitamin D deficiency affects insulin resistance[3,4].

The primary concern raised is the absence of a control group, both healthy and diseased, matched for age and sex, which limits the significance and interpretation of the study findings. As already mentioned, we acknowledge the importance of having a control group for better understanding the correlation between vitamin D deficiency and high-density lipoprotein (HDL) levels. In future studies, including such control groups will allow for a comprehensive evaluation of the association between vitamin D deficiency, metabolic parameters, and PCOS.

The reference to a bidirectional two-sample Mendelian randomization (MR) study is informative[5]. However, these studies may not capture the full complexity of the relationship between vitamin D deficiency and PCOS due to the multifactorial nature of this disorder. The presence of conflicting results in previous studies that either support or refute the association between vitamin D deficiency and PCOS further emphasizes the complexity of the condition.

The concern regarding the lack of measurement for calcium levels is valid. Given the role of vitamin D in regulating calcium homeostasis, assessing calcium levels in relation to vitamin D deficiency would provide valuable insights into the potential implications on calcium metabolism in PCOS patients.

Lastly, the manifestation of symptoms related to vitamin D deficiency in women with PCOS is an important aspect to consider. PCOS being a heterogeneous disorder symptoms such as tiredness, exhaustion, mood swings, increased susceptibility to infections, and hair loss would not be specific

to just vitamin D deficiency alone but could also be present due to PCOS alone given the psychosocial implications of the disorder. However, we admit that in this retrospective data set, we did not analyze these symptoms even if present to correlate it with symptoms of vitamin D deficiency.

In conclusion, we appreciate the thoughtful discussion on the limitations of the study. Addressing these issues in future research endeavors would strengthen the conclusions and enhance our understanding of the relationship between vitamin D deficiency and PCOS. While the findings of the study suggest an association between vitamin D deficiency and HDL levels, as mentioned further studies are required to understand the molecular mechanism of this association.

Deepti Tandon[1], Beena Joshi[2], Shahina Begum[3], Suchitra Surve[1], Pratibha Kokate[1] & Anushree Devashish Patil[1*]

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References

1. Tandon D, Joshi B, Begum S, Surve S, Kokate P, Patil AD. Effect of vitamin D deficiency on the metabolic profile of women with polycystic ovary syndrome. *Indian J Med Res* 2022; *156* : 693-5.
2. Aparna P, Muthathal S, Nongkynrih B, Gupta SK. Vitamin D deficiency in India. *J Family Med Prim Care* 2018; *7* : 324-30.
3. Al-Shoumer KA, Al-Essa TM. Is there a relationship between vitamin D with insulin resistance and diabetes mellitus? *World J Diabetes* 2015; *6* : 1057-64.
4. Szymczak-Pajor I, Śliwińska A. Analysis of association between vitamin D deficiency and insulin resistance. *Nutrients* 2019; *11* : 794.
5. Zhang N, Liao Y, Zhao H, Chen T, Jia F, Yu Y, *et al*. Polycystic ovary syndrome and 25-hydroxy vitamin D: A bidirectional two-sample Mendelian randomization study. *Front Endocrinol (Lausanne)* 2023; *14* : 1110341.