

WJC MS 71148: Joint Effect of Vitamin D Deficiency and Metabolic Syndrome on Risk of Cardiovascular Disease and All-cause Mortality among U.S. Adults: A Longitudinal Study and Machine Learning
Dear Dr. Wang,

Ref: Authors' Point-by-point response to the comments from Reviewers and Editors

Thank you for the opportunity to revise and resubmit our manuscript to WJC. We appreciate the helpful and constructive comments and suggestions from the reviewers. The following is our point-by-point responses (**in blue type**) to each related comment. We believe that the revised manuscript is substantially improved and hope it will be acceptable for publication. If you need additional information or have further comments, please let us know. We look forward to hearing from you.

Yours Sincerely,

Longjian Liu, MD, PhD, MSc on behalf of all authors

Reviewers and Editor comments:

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: In this paper the Authors performed an original analysis of the association between vitamin D deficiency and MetSyn and increased risk of CVD and all-cause mortality. A significant joint effect of vitamin D deficiency and MetSyn on risk of mortality was highlighted by using Cox regression model and CART for machine learning. This article expanded our knowledge on the impact of vitamin D deficiency and MetSyn on risk of CVD and all-cause mortality. My only existing question about the methodological approach concerns the basis for classification of race/ethnicity (non-Hispanic white [NHW], non-Hispanic black [NHB], and the others), that requires a more specific or detailed elucidation.

Authors' response to Reviewer 1: Thank you. In the National Health and Nutrition Examination Surveys, race/ethnicity data were collected using standard questionnaire coordinated by the Center for Disease Control and Prevention. In the revision, we give further detail of the codes (page 7): Race/ethnicity are classified based on participants' self-reports using standard survey questionnaire. Three groups are recorded: non-Hispanic White, non-Hispanic Black (i.e., African American), and the other groups (including Hispanic or Latino, Asian, native Hawaiian or other Pacific Islander).

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: N/A

Authors' response to Reviewer 2: Thank you for your time. We accept your comments that you pointed out the manuscript context:

(1) Using MetS instead of MetSyn in the paper.

(2) To further articulate the joint effect of lower vitamin D and MetS on the risk of CVD and all-cause mortality in Abstract. We added values of hazard ratios and their 95%CI to the Abstract in the resubmission (page 2).

4 LANGUAGE POLISHING REQUIREMENTS FOR REVISED MANUSCRIPTS SUBMITTED BY AUTHORS WHO ARE NON-NATIVE SPEAKERS OF ENGLISH

As the revision process results in changes to the content of the manuscript, language problems may exist in the revised manuscript. Thus, it is necessary to perform further language polishing that will ensure all grammatical, syntactical, formatting and other related errors be resolved, so that the revised manuscript will meet the publication requirement (Grade A).

Authors are requested to send their revised manuscript to a professional English language editing company or a native English-speaking expert to polish the manuscript further. When the authors submit the subsequent polished manuscript to us, they must provide a new language certificate along with the manuscript.

Once this step is completed, the manuscript will be quickly accepted and published online. Please visit the following website for the professional English language editing companies we recommend: <https://www.wignet.com/bpg/gerinfo/240>.

Authors' response: Thank you for the comment. Of the authors, Professors Stella L. Volpe, Nathalie S. May, Deeptha Sukumar, Rose Ann DiMaria-Ghalili and Howard J Eisen are all native English speakers and work in US University for years. Each has made significant contribution to the analysis design, critical review and edit. Meanwhile, Professor Stella L. Volpe write a certificate to support the language edit requirement.

5 ABBREVIATIONS

In general, do not use non-standard abbreviations, unless they appear at least two times in the text preceding the first usage/definition. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, and mAb, do not need to be defined and can be used directly.

The basic rules on abbreviations are provided here:

(1) Title: Abbreviations are not permitted. Please spell out any abbreviation in the title.

Authors' response: We checked. It's correct in our MS.

(2) Running title: Abbreviations are permitted. Also, please shorten the running title to no more than 6 words.

Authors' response: Yes, we have added it (page 1 of the resubmission).

(3) Abstract: Abbreviations must be defined upon first appearance in the Abstract. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).

Authors' response: Yes, we have it.

(4) Key Words: Abbreviations must be defined upon first appearance in the Key Words.

Authors' response: Yes, we have it.

(5) Core Tip: Abbreviations must be defined upon first appearance in the Core Tip. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

Authors' response: Yes, we follow this.

(6) Main Text: Abbreviations must be defined upon first appearance in the Main Text. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

Authors' response: Yes, we follow this.

(7) Article Highlights: Abbreviations must be defined upon first appearance in the Article Highlights. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

Authors' response: Yes, we follow this.

(8) Figures: Abbreviations are not allowed in the Figure title. For the Figure Legend text, abbreviations are allowed but must be defined upon first appearance in the text. Example 1: A: Hepatocellular carcinoma (HCC) biopsy sample; B: HCC-adjacent tissue sample. For any abbreviation that appears in the Figure itself but is not included in the Figure Legend textual description, it will be defined (separated by semicolons) at the end of the figure legend. Example 2: BMI: Body mass index; US: Ultrasound.

Authors' response: Yes, we follow this.

(9) Tables: Abbreviations are not allowed in the Table title. For the Table itself, please verify all abbreviations used in tables are defined (separated by semicolons) directly underneath the table. Example 1: BMI: Body mass index; US: Ultrasound.

Authors' response: Yes, we follow this.

6 EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

(1) Science editor:

The manuscript assessed the effects of vitamin D deficiency and cardiac metabolic syndrome (MetSyn) on all-cause mortality from cardiovascular disease (CVD). Respected authors, this is a well written paper and covers an interesting topic. Nevertheless, there are a number points that may deserve some revisions.

1. The choice of the references is outdated.

Authors' response: Than you. Yes, we have updated the relevant references accordingly.

2. Figure legend and notes should be modifiable patterns.

Authors' response: We have provided Figures in both PPT and excel (i.e., they are modifiable for notes at your end). Figures what are produced from SAS software are unmodifiable, which we tried to minimize to use.

Language Quality: Grade B (Minor language polishing)

Authors' response: All authors have read and tried to have the writing polished.

Scientific Quality: Grade B (Very good)

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Cardiology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, "Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...". The title of the manuscript is too long and must be shortened to meet the requirement of the journal (**Title: The title should be no more than 18 words**). Please provide the original figure documents. **Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.** In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.

Authors' response: Yes, we have followed these criteria.

7 STEPS FOR SUBMITTING THE REVISED MANUSCRIPT

Step 1: Author Information

Please click and download the [Format for authorship, institution, and corresponding author guidelines](#), and further check if the authors names and institutions meet the requirements of the journal.

Step 2: Manuscript Information

Please check if the manuscript information is correct.

Step 3: Abstract, Main Text, and Acknowledgements

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(4) Common issues in revised manuscript. Please click and download the [List of common issues in revised manuscripts by authors and comments](#) (PDF), and revise the manuscript accordingly.

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Reminder: It is unacceptable to have more than 3 references from the same journal. To resolve this issue and move forward in the peer-review/publication process, please revise your reference list accordingly.

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