

Dear respected Editor in Chief, World Journal of Diabetes

Manuscript ID: 95463

Thank you for the opportunity to revise our manuscript, **Associations Between Food Insecurity with Gestational Diabetes Mellitus, Gestational Hypertension, and Maternal Outcomes Mediated by Dietary Diversity Index: A Cross-Sectional Study**. We appreciate the careful review and constructive suggestions. It is our belief that the manuscript is substantially improved after making the suggested edits. Changes made in the manuscript are highlighted. Also we have done some improvements in language and structure, reference, discussion, and results more than what you wanted. Please The revision has been developed in consultation with all coauthors, and each author has given approval to the final form of this revision.

Thank you for your consideration.

Sincerely,

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## **Reviewer Comments and Responses**

### **Comment 1:**

Food insecurity (FI) during pregnancy can have detrimental effects on maternal health and increase the risk of developing gestational diabetes mellitus (GDM) and pregnancy-induced hypertension (PIH), leading to adverse health outcomes for both baby and mother. This study aimed to explore the associations between FI and pregnancy outcomes, with a specific focus on GDM and PIH, and to explore the mediating role of dietary diversity score (DDS) in these associations. This is an interesting investigation. The conclusions appropriately summarize the data this study provided. I think there are some original findings of this manuscript.

**Response:** Thank you for your positive feedback. We appreciate your acknowledgment of the original findings in our study. We have emphasized these contributions in the revised manuscript. Additionally, some modifications and language editing have been made, as indicated by the Blue color.

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**Comment 2:**

*This study revealed that gestational diabetes mellitus (GDM) and pregnancy-induced hypertension (PIH) are significant complications of pregnancy that have been linked to negative neonatal and maternal outcomes.*

**Response:** We agree and have expanded our discussion on the implications of GDM and PIH in the revised manuscript to highlight their significance further.

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**Comment 3:**

*Some questions still need to be solved. Such as self-reporting of food insufficiency limited the capture of detailed information, such as cultural or environmental practices related to eating and food purchasing habits.*

**Response:** We acknowledge this limitation and have added a section discussing the potential impact of self-reporting biases on our findings. We suggest future research could incorporate qualitative methods to capture these details. For the response, please refer to page 9, line 245

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**Comment 4:**

*How the convenience of specific food purchases might have influenced the survey data? What about some potential confounders like other health conditions or socioeconomic status?*

**Response:**

These are valid points. We have included a discussion on the potential confounding factors, including socioeconomic status and health conditions, in the limitations section of the manuscript.

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**Comment 5:**

*In addition to economic level, the educational level of pregnant women should also be a consideration.*

**Response:**

We appreciate this suggestion and have included a discussion on the role of educational level in influencing dietary diversity and food choices among pregnant women. For the response, please refer to page 8, line 208-214

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**Comment 6:**

*The questionnaire assessed household food security over the past 12 months and was completed through interviews. How long about every assessed period? One day, one week, or one month?*

**Response:** We have clarified in the revised manuscript that the questionnaire assessed food security over the past 12 months, with specific questions designed to capture variations in food access and consumption during this timeframe. "This is a cross-sectional study, meaning that the questionnaire was completed once, reflecting the participants' experiences over the past 12 months."

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**Comment 7:**

*I think this questionnaire should be listed in the article.*

**Response:** We have included the questionnaire as an S1 in the revised manuscript for transparency and to facilitate replication of the study. For the response, please refer to page 3, line 87-90 and S1 file.

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**Comment 8:**

*Some gestational diabetes can resolve itself with the end of pregnancy, and some women will continue to have diabetes after the end of pregnancy. I think the authors should distinguish between these two conditions on the impact of pregnancy outcomes.*

**Response:** "I completely agree with your perspective. Some cases of gestational diabetes may resolve on their own after pregnancy, while others may persist. Regardless, gestational diabetes is associated with various complications, which we investigated in our study. Although it is true that gestational diabetes can disappear after pregnancy, our research focused solely on the period during pregnancy and did not examine outcomes beyond that timeframe."

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**Comment**

**9:**

*Gestational diabetes is not only related to diet, but also might relate to family genetics, and authors should consider this part of the influence of factors.*

**Response:** We recognize the significance of genetic factors in gestational diabetes and have addressed this by including a limitation regarding potential genetic influences in the revised manuscript."

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*Comment 10: "How to clarify the dietary diversity and dietary insecurity? I think dietary insecurity should include some unsafe food such as food additives. What pregnant women understand about the process of pregnancy often determines the food diversity."*

**Response** We appreciate your valuable feedback regarding dietary diversity and dietary insecurity. To clarify these concepts, we will define dietary diversity as the variety of different foods consumed over a specific period, which is essential for meeting nutritional needs. Dietary insecurity, on the other hand, refers to the lack of consistent access to enough safe and nutritious food, which may include concerns about unsafe food practices, such as the use of harmful food additives.

In response to your comment about the understanding of pregnancy, we acknowledge that a pregnant woman's knowledge about the pregnancy process significantly influences her dietary choices and food diversity.

We added the following text to the manuscript: "To clarify, dietary diversity refers to the variety of foods consumed, which is crucial for adequate nutrition. Dietary insecurity encompasses not only the lack of access to safe and nutritious food but also concerns regarding unsafe food practices, including the use of food additives. Furthermore, a pregnant

woman's understanding of the pregnancy process plays a vital role in determining her food diversity, influencing her dietary choices and overall nutritional intake."

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## Reviewer 2

Your research provides critical insights into the intricate relationship between food insecurity (FI) during pregnancy and adverse maternal and neonatal health outcomes, particularly gestational diabetes mellitus (GDM) and pregnancy-induced hypertension (PIH). The robust methodology and substantial sample size of 600 pregnant women lend weight to your findings. The stark association between FI and heightened risks of GDM and PIH underscores the urgent need for interventions to address food insecurity during pregnancy. Your study also sheds light on the mediating role of dietary diversity score (DDS), elucidating how improving DDS could potentially mitigate the adverse effects of FI on maternal and neonatal health. Addressing food insecurity during pregnancy not only holds promise for improving immediate health outcomes but also for fostering long-term well-being for both mothers and babies. Congratulations on this impactful study and for your valuable contributions to the field.

Thank you for your thoughtful and encouraging feedback on our research. We appreciate your recognition of the critical insights our study provides regarding the relationship between food insecurity (FI) during pregnancy and adverse maternal and neonatal health outcomes, specifically gestational diabetes mellitus (GDM) and pregnancy-induced hypertension (PIH). We are pleased that you found our methodology robust and the sample size substantial, as these factors indeed strengthen the validity of our findings. Your acknowledgment of the stark association between FI and the increased risks of GDM and PIH highlights the urgent need for targeted interventions, which we believe is essential for improving health outcomes for pregnant women and their infants. Furthermore, we are glad that you noted the mediating role of dietary diversity score (DDS) in our study. We agree that enhancing DDS could serve as a viable strategy to mitigate the adverse effects of FI, and we hope our findings will inspire further research and practical interventions in this area. Thank you once again for your kind words and support.

Round 2

Dear Reviewer, Thank you for your insightful comments and suggestions regarding our manuscript. I appreciate your perspective on the concepts of dietary diversity and dietary insecurity. We agree that dietary insecurity can encompass concerns about food safety, including the presence of food additives. Additionally, we acknowledge that a pregnant woman's understanding of dietary diversity can significantly influence her food choices. We expand our discussion on this topic to highlight its importance in the context of food insecurity and pregnancy outcomes. Regarding the food insecurity questionnaire, we recognize that it does not assess food preferences or specific consumption patterns, which is a limitation noted in many studies. To address this, we also employed a dietary questionnaire focused on food variety as indexed by DDS data. Our findings indicate that higher levels of food insecurity are associated with lower consumption of healthy foods, further emphasizing the impact of food insecurity on maternal health. As for gestational diabetes, we understand that it can resolve postpartum; however, our study specifically focuses on the implications during pregnancy. We aimed to explore the immediate effects of food insecurity on gestational diabetes and pregnancy-induced hypertension, which we believe are critical for maternal and fetal health. We have made the suggested modifications to improve the language, structure, references, discussion, and results sections, and we believe the manuscript is significantly enhanced as a result. Thank you once again for your valuable feedback. Sincerely, h h