PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Food insecurity and maternal-child nutritional status in Mexico: cross-sectional analysis of the National Health and Nutrition Survey 2012
AUTHORS	Shamah- Levy, Teresa; Mundo-Rosas, Verónica; Morales-Ruan, Carmen; Cuevas-Nasu, Lucia; Méndez-Gómez-Humarán, Ignacio; Pérez-Escamilla, Rafael

VERSION 1 - REVIEW

REVIEWER	Edward Frongillo University of South Carolina, USA
REVIEW RETURNED	23-Oct-2016

GENERAL COMMENTS	[page number, line numbers] 1. [2, 31] “Among school aged children.” is not a sentence. This is one example of many in the Abstract and throughout the manuscript of incorrect grammar and punctuation and unrefined writing. The manuscript needs to be carefully edited. 2. [2, 32-36] The first two sentences of the Conclusions in the Abstract do not make logical sense together, and the Conclusions on the whole are vague and not clear. 3. [3, 47-49] The claim is made that these findings are useful, but no explanation is given as to how or in what way they are useful. 4. [5, 11] There is now ample understanding (including the mechanisms described in this manuscript) that the association between food insecurity and obesity is not in any way “paradoxical”. This word should be deleted here and everywhere because its use perpetuates a false understanding of the issue. See references 32 and 33 cited in this manuscript. 5. [6, 21-25] The authors state two aims for the manuscript: examine association between HFI and child stunting risk and determine if maternal-child overweight/obesity modifies the relationship between HFI and stunting risk. No rationale for either of these aims has been provided in the Introduction of the manuscript. Although one could easily imagine that food insecurity could be associated with stunting risk, the authors have not provided a rationale for why they are looking at this association in this study. Furthermore, for the second aim, it is not obvious why we would expect a statistical interaction, and if so, in what direction. That is, the authors have not provided theoretical or conceptual justification for these aims. 6. [8, 52] No rationale or conceptual model is given for the choice of

	these covariates. Particular attention should be paid to the inclusion of food assistance program participation as a covariate given that food insecurity and food assistance program participation are endogenous. 7. [10, 18] It is not clear what "taking into account the complex sampling design" means. If it means that it took into account both clustering and disproportionate sampling (i.e, sampling weights), then that should be stated. 8. [17, 3-6] It is stated here that "the highest prevalence of stunting occurred in households with moderate or severe HFI" referring to the table. Compared to what? Furthermore, the table presents odds ratios and not prevalence. 9. [18, 5] No information is provided about how Figure 1 was obtained. Unadjusted? Adjusted? Are the points the predicted values from the model? 10. [Tables 3 and 4] What does "P>t" mean? If it is a two-tailed p-value, then it would be best to label it "P-value". 11. [20, 18-23] This sentence is directly contradicted by the results shown in Table 3 and Figure 1: "Our study found, first, that moderate and severe HFI was associated with low height in children under five with mothers who were overweight or obese." The results show that the association was only for mothers not overweight. 12. [20, 44-56] There is no evidence presented in the manuscript to justify this inference: "It can be reasonably inferred that the association between HFI and energy deficit…." This entire paragraph is does not rest on any foundation presented in the manuscript.

REVIEWER	Salwa Massad Palestinian National Institute of Public Health Palestine
REVIEW RETURNED	02-Feb-2017

GENERAL COMMENTS	General comment: It is a good paper addressing important research question. Major revisions 1. Introduction • Needs revision. Need to start with statistics and importance of the research question globally and in Mexico. The way it is now, is like Methods where you define variables. • Need more synthesis in previous studies and gaps to be addressed 2. Methods • Study design is unclear, is it primary or secondary data analysis. • Sample size is unclear. The description of number of schoolers, and mothers is confusing. • Need to list questions used for measuring HFI, cutoff points, and to indicate the reliability and validity of the tool • Page 8 line 22, its describing how malnutrition was classified (operational definition), not prevalence. 3. Results • Tables should be self-explanatory, need to understand them

	without going back to the result section. Need to explain (N thousands) 4. Discussion • Needs more synthesis • Need policy recommendation Minor revisions 1. Abstract • Incomplete sentence in line 31. 2- Introduction • Cannot have paragraphs with one sentence (like page 4 line 30). • Page 5, first paragraph is irrelevant. Can take one or two sentences out of it and added to the previous paragraph, last 2 paragraphs should be at the beginning 3- Results • Table 1: IC should be CI

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Reviewer Name: Edward Frongillo
Institution and Country: University of South Carolina, USA
Please state any competing interests or state 'None declared': None.

Please leave your comments for the authors below
[page number, line numbers]
1. [2, 31] "Among school aged children." is not a sentence. This is one example of many in the Abstract and throughout the manuscript of incorrect grammar and punctuation and unrefined writing. The manuscript needs to be carefully edited.
RESPONSE: Thank you. This specific wording and the writing in general have been carefully edited.

2. [2, 32-36] The first two sentences of the Conclusions in the Abstract do not make logical sense together, and the Conclusions on the whole are vague and not clear.
RESPONSE: Thank you. We have revised the conclusions accordingly.

3. [3, 47-49] The claim is made that these findings are useful, but no explanation is given as to how or in what way they are useful.
RESPONSE: An explanation has been given for this point (page 3, last paragraph).

4. [5, 11] There is now ample understanding (including the mechanisms described in this manuscript) that the association between food insecurity and obesity is not in any way "paradoxical". This word should be deleted here and everywhere because its use perpetuates a false understanding of the issue. See references 32 and 33 cited in this manuscript.
RESPONSE: We agree and have deleted the word "paradoxical" from the entire text.

5. [6, 21-25] The authors state two aims for the manuscript: examine association between HFI and child stunting risk and determine if maternal-child overweight/obesity modifies the relationship between HFI and stunting risk. No rationale for either of these aims has been provided in the Introduction of the manuscript. Although one could easily imagine that food insecurity could be associated with stunting risk, the authors have not provided a rationale for why they are looking at this association in this study. Furthermore, for the second aim, it is not obvious why we would expect a statistical interaction, and if so, in what direction. That is, the authors have not provided theoretical or conceptual justification for these aims.
RESPONSE: The rationale for exploring both interactions has been included.

6. [8, 52] No rationale or conceptual model is given for the choice of these covariates. Particular attention should be paid to the inclusion of food assistance program participation as a covariate given that food insecurity and food assistance program participation are endogenous.
RESPONSE: We consider food insecurity to be exogenous because it is a given condition of both pairs of subjects. We used linear regression residuals to analyze the possibility of a food assistance correlation as an indication of endogeneity. We also constructed a logistic regression model excluding this variable. The results demonstrated that the hypothesis of endogeneity could be rejected.

7. [10, 18] It is not clear what "taking into account the complex sampling design" means. If it means that it took into account both clustering and disproportionate sampling (i.e, sampling weights), then that should be stated.
RESPONSE: Thank you. This point has been clarified.

8. [17, 3-6] It is stated here that "the highest prevalence of stunting occurred in households with moderate or severe HFI" referring to the table. Compared to what? Furthermore, the table presents odds ratios and not prevalence.
RESPONSE: The logistic regression model for categorical independent variables contrasts HFI against the omitted category (in this case, No HFI). An AOR over 1 indicates a greater likelihood of stunting in both categories (moderate and severe HFI) – the significance level was $p<0.05$. The text has been clarified.

9. [18, 5] No information is provided about how Figure 1 was obtained. Unadjusted? Adjusted? Are the points the predicted values from the model?
RESPONSE: Figure 1 shows the marginal prevalence rates together with their respective confidence intervals. This means that the estimates were obtained through the model and were adjusted by all of the covariates included in the model. The standard error for the estimates was also corrected for cluster sampling effects (using the SVY STATA module). Pertinent revisions have been made in the text.

10. [Tables 3 and 4] What does "P>t" mean? If it is a two-tailed p-value, then it would be best to label it "P-value".
RESPONSE: Thank you. The label has been corrected to facilitate understanding.

11. [20, 18-23] This sentence is directly contradicted by the results shown in Table 3 and Figure 1: "Our study found, first, that moderate and severe HFI was associated with low height in children under five with mothers who were overweight or obese." The results show that the association was only for mothers not overweight.
RESPONSE: We have corrected the text and have eliminated this contradiction.

12. [20, 44-56] There is no evidence presented in the manuscript to justify this inference: "It can be reasonably inferred that the association between HFI and energy deficit…." This entire paragraph is does not rest on any foundation presented in the manuscript.
RESPONSE: Justification for our major findings have been included (page 22, last paragraph, and page 23).

Reviewer: 2
Reviewer Name: Salwa Massad
Institution and Country: Palestinian National Institute of Public Health, Palestine
Please state any competing interests or state 'None declared': None declared
Please leave your comments for the authors below
General comment: It is a good paper addressing important research question.
Major revisions

1. Introduction
• Needs revision. Need to start with statistics and importance of the research question globally and in Mexico. The way it is now, is like Methods where you define variables.
RESPONSE: We agree. Thank you. We have changed the text as suggested.
• Need more synthesis in previous studies and gaps to be addressed
Response: Thank you. We have revised the text accordingly.

2. Methods
• Study design is unclear, is it primary or secondary data analysis.
RESPONSE: Thank you. This point has been clarified.
• Sample size is unclear. The description of number of schoolers, and mothers is confusing.
RESPONSE: Thank you. Further information on sample size has been provided.
• Need to list questions used for measuring HFI, cutoff points, and to indicate the reliability and validity of the tool
RESPONSE: The questions have been listed. HFI category cutoffs and tool validation references have been included (page 8, last paragraph).
• Page 8 line 22, its describing how malnutrition was classified (operational definition), not prevalence.
RESPONSE: Prevalence data have been added.

3. Results
• Tables should be self-explanatory, need to understand them without going back to the result section.
RESPONSE: Information has been added for each table.
• Need to explain (N thousands)
RESPONSE: Thank you. A table footnote has been added to explain this point. N represents the expanded population in thousands. It refers to the size of the population represented by the sample. It was obtained based on the sampling weights.

4. Discussion
• Needs more synthesis
RESPONSE: Thank you. We have done this.
• Need policy recommendation
RESPONSE: A recommendation has been included.

Minor revisions
1. Abstract
• Incomplete sentence in line 31.
RESPONSE: Thank you. The wording has been corrected. Grammar and writing have been revised throughout the manuscript.

2- Introduction
• Cannot have paragraphs with one sentence (like page 4 line 30).
RESPONSE: Thank you. This has been corrected.
• Page 5, first paragraph is irrelevant. Can take one or two sentences out of it and added to the previous paragraph, last 2 paragraphs should be at the beginning
RESPONSE: Thank you.

3- Results
• Table 1: IC should be CI
RESPONSE: Thank you. This has been corrected.
Date Sent: 02-Feb-2017

VERSION 2 – REVIEW

REVIEWER	Salwa Massad Palestinian National Institute of Public Health Palestine
REVIEW RETURNED	03-Mar-2017

GENERAL COMMENTS	Thanks for addressing all my comments/concerns. I accept the manuscript.