Reviewer's report

Title: Western and Modern Mexican dietary patterns are directly associated with incident hypertension in Mexican women: a prospective follow-up study

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Reviewer: Parvin Mirmiran

Reviewer's report:

Adriana monge, et al have studied the association of dietary patterns and incident hypertension among 62913 Mexican women. They extracted three dietary patterns using principal component analysis (PCA) and investigated their association with hypertension incidence. Participants who were in the highest quartile of western and Modern Mexican patterns compared to the lowest quartile had higher risk of hypertension, whereas they showed no significant association between fruit and vegetable dietary pattern and incidence of hypertension. Present research is a prospective population-based study, with a large sample size. Self-reported diagnosis of hypertension and low follow up time for determining the incidence of hypertension are major limitations of this study.

Comments:

1- In abstract, a brief descriptive statistics about percent of incident hypertension and mean ± SD of age and body mass index of participants should be mentioned.

2- Material and methods, subjects: It was much better if researchers exclude subjects with specific diets such as hypertension and cardio vascular disease, and also pregnant and nursing subjects, because in this two duration of women's life it more probable that dietary patterns undergoes a lot of changes.

3- The final sample size for data analysis was 62913 subjects, however PCA was conducted on 88082 women, it is much more better that PCA for extraction of factors be conducted in final sample size (62913). It is probable that the dietary patterns changed. Due to changing patterns it is suggested to comparing the mean of dietary score, the percent of macronutrient, and main demographic variables between this 88082 women used for pattern extractions and whom which excluded using a t test analysis. And if there were no significant differences between two groups, report it in a paragraph at method section.

4- The follow up time (1.7 years) for determining the incidence of hypertension based on usual dietary patterns is not suitable time, please added this issue into your limitation section.
5- In page 9, line 193, the authors has stated that "in an exploratory model we also adjusted for BMI (kg/m2) as a potential mediator". Since that BMI is a common confounder adjustment variable in hypertension researches, this is unclear that researchers considered BMI as a confounder variable or performed a separate exploratory mediator analysis for diagnosis BMI as a mediator variables for incident hypertension. Please, clearly explain this point.

6- Discussion: since the significant relationships were observed between western and modern Mexican patterns with incident hypertension, the complementary discussion about the relevance of western and modern Mexican patterns to the hypertension is highly desired to justify their finding and investigate underlying mechanism, e.g. dietary component and molecular biological studies about the impact of these patterns to the incident hypertension.

7- In repeated analysis of dietary patterns, author's extracted two factors (patterns), by different design of factor analysis such as entering all items of FFQ to analysis; when the number of items which entered to factor analysis increases, it expected that total variances of covering dietary food items by identified factors been decreased, (authors have not mentioned about explained variances by two dietary factors in repeated analysis). It seems which after repeated analysis, not only the fruit and vegetable pattern indicated no significant association with incident hypertension, but also the third pattern (Modern Mexican pattern) which it was interestingly exhibited the nutrition transition in Mexican population and indicated a new dietary pattern in Mexican women was eliminated. So I think this repeated analysis does not give us a new finding and it not necessary to be included in the manuscript.

Level of interest
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Please indicate the quality of language in the manuscript:

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