18-Feb-2016

Dear Dr. Borgi:

Manuscript ID BMJ.2015.030374.R1 entitled "Potato Intake and the Incidence of Hypertension in Three Prospective Cohort Studies" which you submitted to BMJ,

Thank you for sending us your revised paper and for your attention to the matters raised by reviewers and editors. Our statistician has some remaining queries and points that need to be addressed. I am hopeful this will not take you very long. We are interested in publishing the paper, contingent of course on a satisfactory response to the remaining matters of concern to our statistician.

We are looking forward to reading the revised manuscript and, we hope, making a final acceptance decision.

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Very truly yours,

Elizabeth Loder, MD, MPH BMJ Editorial Team

In your response please provide, point by point, your replies to the comments made by the statistician, explaining how you have dealt with them in the paper.

STATISTICIAN COMMENTS

Reviewer: 1

Recommendation:

Comments:

Although the authors have addressed some of my points there remain outstanding issues:

1. Of particular importance is the coding of potato intake as this is fundamental to the whole question/ interpretation of findings. It is still unclear how this was done and incorporated into the models.

It seems that at baseline and approximately every 4 years thereafter participants recorded how often on average over the preceding year they had consumed each of the potato categories in a standard portion size. For each potato type they were asked to give this information as one of 9 categories ranging from "never or less than once a month" to "6 or more a day".

This data was then re-grouped into 4 categories ranging from "<=1 serving /month" to ">=4 servings a week". Additionally for all except potato chips a 5 category combined grouping was used ranging from "<1 serving a month" to ">=1 serving/day".

- Why the changing categories? Were some levels of the original 9-category not used or very small and hence combined? More information/justification should be given.
- Why 5 then 4 categories for any collapsing of the full range?
- The paper subsequently refers to the baseline category for the 4 category response as "< 1 serving/month" rather than "<= 1 serving/month". Presumably this is a typo in the analysis section?

Although baked, boiled and mashed have information collected separately, they are combined in all analyses. Why is this? Why collect separately if the combined is only of interest? What are the individual associations?

Additional to these issues remains the question of how "cumulative average" (or "cumulative weighted average" as suggested in the author response) is calculated for each participant. If for example, someone records "< 1 serving/month" at the baseline and then "1-3 per week" at the next assessment, followed by ">= 4 per week" and then "1-3 per week", what values are used for them throughout the modelling process?

- 2. Although the authors state that the random effects models did not materially change the pooled HRs apart from widening confidence intervals, and give one example in the response, I think that these should be the primary analyses with the fixed effects secondary. The p-values for heterogeneity as requested by reviewer 2 have not been given.
- 3. There was a typo in the substitution analysis query apologies for this. My question was why NOT include a unit decrease in potato consumption when calculating the effect of substitution. It seems that the authors have fitted a model with all predictors (including potato) and then interpreted the coefficient of the non-starchy vegetable as the effect of replacing one portion of potato with this which it is not. The coefficient for the non-starchy vegetable gives the average change associated with an increase in one serving of that vegetable, all else (including potato consumption) kept constant ie. not replacing/substitution but additional to the current consumption.
- 4. The authors have verified that time-varying covariates have been used. Given the interval censored nature of the outcome, at what point are they assumed to have changed?

Additional Questions:

Please enter your name: Angela Wade

Job Title: Professor of Medical Statistics

Institution: UCL Institute of Child Health

Reimbursement for attending a symposium?: No

A fee for speaking?: No

A fee for organising education?: No

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- g. Footnotes and statements

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Date Sent: 18-Feb-2016