Reviewer’s report

Title: A randomised controlled crossover trial investigating the short-term effects of different types of vegetables on vascular and metabolic function in middle-aged and older adults with mildly elevated blood pressure: the VEgetableS for vaScular hEaLth (VESSEL) study protocol

Version: 0  Date: 02 Oct 2019

Reviewer: Candice Price

Reviewer's report:

Nutrition Journal Review

What are the total kcals provided for each intervention? Are calories the same between both interventions?

The authors state: "During the study, it is expected that there will be a background vegetable intake of approximately 2-3 servings per day during the "usual diet" washout as well as during the 1-week baseline periods where standard lunch and dinner meals will be provided by the study investigators. Therefore, the additional 4 serves of vegetables that the soups provide will shift vegetable intake to above the recommended 5-6 servings per day"

Is there any actual data on total amount of vegetables consumed during intervention? Potentially, if participants are receiving required vegetable intake during the intervention, their ad libitum intake my actually decrease, in which case, they would not be consuming the recommended servings of vegetables per day.

"To match the energy intake from the soups provided during the intervention period, during the 1-week baseline period two slices of multigrain bread with a small amount of margarine will be consumed with lunch and dinner meals." Does this equate to the same macronutrient and fiber intake? Rather than simply matching total caloric intake.

Were dietary records asked to be recorded daily, weekly? Were participants asked to consume all of the soup provided to them? Did they have to return food containers whether empty or with food remaining? This would have been another tool to determine compliance.

In methods:

- Measurement of vegetable metabolites (carotenoids, S-methyl cysteine sulfoxide) not described.

- If participants are not blinded to their glucose readings, this could potentially influence their compliance to diet and other food choices during the intervention periods. Is this addressed?
-line 219: this statement seems out of place.

-Methods section is disjointed. Many sections after line 219 should have been included at or near the beginning.

-line 281: Is this based on prior data? A prior study?

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An article of limited interest

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Needs some language corrections before being published

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