Reviewer’s report

Title: Factors that influence dietary behavior toward iron and vitamin D consumption based on the theory of Planned Behavior in Iranian adolescent girls

Version: 0 Date: 11 Dec 2018

Reviewer: Albert Koulman

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Comments on NUTJ-D-18-00324

This is an interesting paper, dealing with a crucial period in life. I do agree that this is probably the most vital period for nutritional and lifestyle intervention to impact the person involved as well as the following generation.

There are several points that need to be clarified to make publication suitable.

1. There is not a clear formulation of the hypothesis of this work. The authors formulate the aim as "to examine potential determinants that influence dietary behavior toward iron and vitamin D consumption in Iranian girls; and to examine whether the constructs from TPB could be used to enhance behavioral intentions and attitude toward iron and vitamin D intake in adolescent girls," but examination of potential determinants or "examine whether the constructs from TPB could be used to enhance behavioral intentions and attitude" is not a scientific endeavour. The authors should formulate a testable and falsifiable hypothesis.

2. The paper does not describe the presence of a clear analysis plan. Therefore, a p-value of 0.05 is not acceptable (a post-hoc change to methods section claiming the presence of an a priori analysis plan is not acceptable). The authors can well have tried over 20 different statistical methods before finding an outcome with a p-value < 0.05. Therefore, the p-value should be set 0.001 to ensure that these results are not the result of a by chance finding and the text should adjusted accordingly.

3. The statement "However, the regression model demonstrated that only 2.3% of total variance of behavioral intention was predicted by socio-demographic variables." Is an oversimplified observation. The authors used a linear regression model, but if the relationship between behavioural and socio-demographic variables does not have to be a linear relationship. In that case the socio-demographic variables could be a much better predictor. This was not tested. The author should be very careful in drawing conclusions from this.

4. There is an error in table 4, the row "knowledge Perceive behavior control" has two different values 0.410 (used to calculate the direct effect) and 0.401 (used to calculated the total effect). The percentages calculated therefore also incorrect. It was
not possible to check anything else, but it is slightly worrying that the only numbers that could be recalculated were wrong…..

5. The authors are quite liberal with the precision of their estimates. It would be good if the authors could limit their number to only 2 (so 32% instead of 32.4%) and even better would be to include confidence intervals. Especially for the number predicting the variations of their behavioral intention the 74%, is that ± 5% or ±25%?

6. The authors could tone down the discussion. This is only a small study and there is no proof that these results are generalisable.

7. The conclusions need to be aligned with hypothesis not with the aim.

8. The authors need to make the raw (anonymised) data available so that their modelling can be independently tested and verified.

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