Reviewer’s report

Title: Effect of maternal pre-pregnancy BMI and weekly gestational weight gain on the development of infants

Version: 0 Date: 27 Oct 2018

Reviewer: Alejandra Cantoral

Reviewer's report:

Abstract

In the objective (and in the entire paper) authors mentioned that physical development meanwhile Bayley Scale evaluates Motor development, please specified whit the author mean with Physical development

Methods

Where does the study take place (where in China?), authors should give more information about the settings, they only mentioned in the introduction that there are lack of studies in lower resources setting, but in the Methods section they don´t specified where did the study take place?

In page #6 authors mentioned that they only considered singleton born in 2004 due to limited funding, but they don´t mention that if they do a statistical comparison between the original cohort and this subsample

Why the authors did not also estimated Weight for Length Z score (WLZ)? Only LAZ and WAZ

Statistical analysis

Page 9, lines-31 to 53, authors declare that "Previous studies identified social factors and prenatal multi-micronutrients supplementation detrimentally affected physical development and mental development of children [24-28]. In addition, previous studies reported higher weight before pregnancy results in less weight gain during pregnancy [29]. Therefore, separate models are fitted to study the effects of maternal weight and weight gain on child development: the model for maternal BMI was not adjusted for maternal weight gain as gestational weight gain is a downstream consequence of maternal weight status, while the model for weekly gestational weight gain was adjusted for maternal pre-pregnancy BMI." But does the authors adjust the models presented by the prenatal micronutrient supplementation (as the participants came from a randomized trial)? Please clarified this point.
Results

Page 11, lines 1 to 23, why authors did not present if the differences in the prevalence are statistically significant?

Discussion

My main concern in discussing the results is that authors did not take into account the supplementation with multivitamins trial during pregnancy as modification of the effect variable between the relation of weight gain during pregnancy and neurodevelopment. Please run again the analysis with an interaction term and present the results.

Conclusions

The authors wrote: "In conclusion, we identified the positive effect of pre-pregnancy and prenatal nutrition on physical development of infants." All the results presented and discussed was based on pre-pregnancy and weight gain during pregnancy, what did authirs mean with prenatal nutrition???

Table 1

The current format of Table 1 is difficult to read and follow the lines, please change.

There is a mistake, the authors named "Underweight" when the maternal pre-pregnancy BMI is <25? The definition of underweight using BMI for adults is <18.5

The authors should include in table 1 a statistical comparison between the 3 groups presented, so the reader can see the significant differences

Table 2

If maternal pre-pregnancy BMI is presented in 3 categories, why in table 2 we can not see the differences between them in the coefficients presented.

Figure 1.

The authors did not explain how the los the n from 4604 to 1305
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