Reviewer's report

Title: Cyclical iron supplementation to reduce anemia among Brazilian preschoolers: a randomized controlled trial

Version: 1 Date: 18 September 2012

Reviewer: Katarzyna Kordas

Reviewer's report:

The authors are encouraged to address the following comments/suggestions:

Background

Major comments:

1. in paragraph 2, when discussing the fact that weekly iron supplementation is as efficacious as daily in reducing anemia prevalence, only 1 reference is cited. There is more work on this and some of it is contradictory to the view presented here. It would be important to acknowledge this. How much of this work has been done in children?

Minor comments:

1. In paragraph 1, sentence 2, revise as "It affects populations not only in developing but also highly-industrialized nations."

2. In paragraph 3, "Alternative strategies" are mentioned in the first sentence. Please explain what this means. Alternative to what?

3. In paragraph 3, it is stated "although there is no prescribed, ideal interval between supplementations". What does this mean? That the regimen proposed by the ACC/ASN is not well tested? Also, this is the reason why this study is being conducted. It is important to really highlight this as a gap in our knowledge and the motivation for the study.

METHODS

1. In paragraph 3, it is stated "all children stayed at the daycare centers fulltime". Does this mean they lived there or that they attended daycare full time? The word "stayed" makes this unclear.

2. In the same paragraph, please describe the typical meals the children received in the daycare.

3. Finally, describe how the schools were chosen. Why was the study conducted in this city? Please describe the setting in more detail and state whether ID/anemia is suspected or documented (provide references to published work as applicable).
4. On the second page, where the dosage and timing of supplement administration are described (first full paragraph), please explain who administered the supplement and where, as well as who evaluated compliance.

5. Pg 2, paragraph 3, please describe in more details how anthropometry was conducted. Who did the measurements, how they were trained/standardized if more than one person did this.

6. Coulter counter and cyanomethemoglobin method are mentioned for measuring hemoglobin levels. Were both methods used at the same time? Why? Where was this analysis done? What quality control measures were used? %CV?

7. For statistical analysis, it is mentioned that ANOVA was used to compare means for three or more variables. You mean three or more groups?

RESULTS

1. In 2nd paragraph, it is mentioned that both groups were "homogenous". You mean comparable? Were they comparable on hemoglobin? this is not mentioned.

2. Throughout, when reporting height, hemoglobin, etc. use only 1 decimal value.

3. In paragraph 3, "some side effects" were mentioned (nausea in parenthesis). If nausea is the only side effect experienced, then do not say "some" but state that three children experienced nausea.

4. In paragraph 4, the percentage of anemic children decreased from 20.2 to 5.0%. Say "the overall percentage" to make sure it is clear that all children are considered together.

DISCUSSION

Why were the duration of the study and dosage smaller than in other studies?

Strengths and limitations need to be discussed.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

None to declare