Author's response to reviews

Title: Prevalence of anemia and deficiency of iron, folic acid, and zinc in children under 2 years of age and beneficiaries of the Mexican Social Security Institute.

Authors:

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Version: 3 Date: 25 October 2007

Author's response to reviews: see over
Reviewer's report
Title: Prevalence of anemia and deficiency of iron, folic acid, and zinc in children under 2 years of age and beneficiaries of the Mexican Social Security Institute.
Version: 2 Date: 10 September 2007
Reviewer: ann hill

Reviewer's report:
General:
The authors have made a genuine effort to address the points raised previously, but some of the resulting inserts to the text are wrong and some are too lengthy.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. (Methods) Asterisks in the formula for adjusting Hb for altitude are not acceptable. This formula needs to use appropriate mathematical symbols.

   Thank you for pointing this out. The corrected formula now reads:
   \[ %\text{Hb} = 93.3197 \times (10^{-0.0000251 \times \text{altitude}}) \], p9, cut-offs, anemia.

2. (Results) The new section on p9 regarding the age distribution of the children does not tally with Table 1: In the RR and IO groups respectively, those aged <6m represent 13.2% and 4.9% of the sample (not 37.5% and 26%); those 6-11m represent 38.2% and 31.0% (not 32% and 27.8%); and those aged 12-23m represent 48.7% and 64.1% (not 30.6% and 46.1%).

   Thank you for your careful revisions. The corresponding corrections have been made, p11 paragraph 2.

3. (Results) p10 para 2: The age groups are incorrect. This sentence should read ‘…for children <6 months the prevalence was 6.8%; for children 6-11 months it was 26.7%’.

   The suggested corrections have been made. P12, paragraph 2 (Prevalence of iron deficiency).

4. (Results) p13 para 2: In IO, the prevalence of folic acid deficiency <6m was 0.4% (not 6.6%).

   The suggested corrections have been made, p15, prevalence of folic acid deficiency.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. (Results) p9 para 2, penultimate line: infections make it difficult to assess the nutritional status of zinc and iron (rather than affecting the nutritional status per
se) so this sentence needs rewording.

The suggested corrections have been made. These lines now change to: “...as acute infections affect the serum status of zinc and iron, making interpretation difficult.”

2. (Results) p9 last para, penultimate sentence: the age group should be 12-23m (not 11-23m).
The suggested corrections have been made.

3. (References): errors still exist e.g. Habicht (not Habich); Penny (not Peny); World Health Organization (not Organization WH); Summary (not Sumary) and all the references need careful checking.

Thank you for your careful revision. We have gone carefully through the citations to have them correct this time.

4. Tables 4, 6 and 7: For consistency say 95% CI (not IC 95%).
The suggested corrections have been made.

5. Figures 1 and 2: axis <6 months (not 1-5months).
The suggested corrections have been made.

Discretionary Revisions (which the author can choose to ignore)
1. (Results) p11, para 3: ‘Of all cases…. fewer than half …’

The suggested corrections have been made. P13 paragraph 3: #Of all cases of anemia found in IO (17.5%), fewer than half (7.0%) were due to iron deficiency;…”

2. (Discussion) p16: the new section giving the context could be shortened and made more succinct. The differences in the service packages provided by RR and IO, including provision of haematinics, are particularly relevant to include, as it now appears from the authors’ responses that the South IMSS-IO were actually receiving food aid.

Following this suggestion (and that from another Reviewer), the relevant context information for RR and IO activities has been included in the Background (Page 5 paragraphs 2 and 3 and Page 6 paragraph 1), Results (page 11 paragraph 1) and Discussion sections (pages 18 paragraph 1, 20 paragraph 3).

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
Level of interest: An article of limited interest
Quality of written English: Needs some language corrections before being published

We have sent the article to a native English speaker, professional editor, before re-submission.

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
I declare that I have no competing interests
Reviewer's report
Title: Prevalence of anemia and deficiency of iron, folic acid, and zinc in children under 2 years of age and beneficiaries of the Mexican Social Security Institute.
Version: 2 Date: 27 August 2007
Reviewer: Steven S Abrams
Reviewer's report:
General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
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Discretionary Revisions (which the author can choose to ignore)
The discussion section is too long and contains results. The actual numbers would be best moved to the results and the discussion focused more on interpretation.

We have moved the information on sociodemographic and nutritional differences by region and regimen to Results (Page 11, paragraph 1).

A brief mention to the possible reasons that explain why no more differences were found in the prevalencias of micronutrient deficiencies between regimens has been included in the Discussion, page 22, paragraph 1.

What next?: Accept after discretionary revisions
Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Reviewer's report
Title: Prevalence of anemia and deficiency of iron, folic acid, and zinc in children under 2 years of age and beneficiaries of the Mexican Social Security Institute.
Version: 2 Date: 8 September 2007
Reviewer: Masahiro Hashizume
Reviewer's report:
General
The authors have revised the manuscript in a satisfactory way.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept without revision
Level of interest: An article of limited interest
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests.
Reviewer's report
Title: Prevalence of anemia and deficiency of iron, folic acid, and zinc in children under 2 years of age and beneficiaries of the Mexican Social Security Institute.
Version: 2 Date: 20 September 2007
Reviewer: Lehana Thabane

Reviewer's report:
General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
Overall, the description of the statistical analysis seems adequate, with appropriate references. However, it is unclear how some of the results presented in Table 7 were obtained. For example, there is a markedly large discrepancy between the unadjusted and the adjusted (for the stratified two-stage design) prevalence estimates in the IMSS-Oportunidades (IO) group. This reviewer suggests revising these analyses or providing a discussion of the observed large discrepancies.

We asked the co-author who is an expert in statistics to go over the results presented in Table 7, and he confirmed that the results presented are correct. To satisfy the Reviewer’s suggestion, we are including a copy of the output of our statistical analysis, which includes more information on the effect of sampling than that provided in the text. We may observe that $deff$ for folic acid deficiency by iron nutritional status and by low zinc concentrations, is high for IO. In general, in all the analyses, $deff$ is different, which is the reason why the prevalences have to be reported taking the sampling effect into consideration, instead of the unadjusted prevalences.

We have observed that in all the estimations of prevalences, the South region has an important weight on the results obtained for IO in general. As it includes the largest number of children cared for by IO as is show in all tables by the n and the N. IO has more care facilities in the South region due to its socio-economic characteristics (already alluded to and described in the text). However, as has been discussed in the paper, this region had the lowest response rate. For these reasons the prevalences should be reported taking the sampling effect into consideration.

For folic acid deficiency by iron status in RR: $afdi$ is the variable that mean folic acid deficiency (1), and $edofe$ is the variable for iron status: 1=iron deficiency anemia, 2= anemia due to other causes, 3= iron deficiency without anemia and 4= normal iron status.

```
.svystab afdi edofe , column ci deff obs percent
pweight: weightaf
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Strata: straaf
Number of strata = 13
PSU: upm
Number of PSUs = 31
```
Population size  = 856699.17

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Key: column percentages
[95% confidence intervals for column percentages]
deff for variances of column percentages
number of observations

Pearson:
Uncorrected chi2(3) = 37.0014
Design-based F(1.33, 23.98) = 2.7411 P = 0.1017
Mean generalized deff = 4.5493
CV of generalized deffs = 1.1067

Likewise for IO

. svytab afdi edofe , column ci deff obs percent

pweight: weightaf Number of obs  =  1062
Strata: strataaf Number of strata =  6
PSU: upm Number of PSUs  =  34
Population size  = 88847.523

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Key: column percentages
[95% confidence intervals for column percentages]
deff for variances of column percentages
number of observations

Pearson:
Uncorrected chi2(3) = 21.1229
Design-based F(1.97, 55.12) = 1.6197 P = 0.2075
Mean generalized deff = 6.1453
CV of generalized deffs = 0.6699
For low zinc concentration by iron status in RR, znudldi represents a variable for low zinc concentration, while edofe refers to iron status: 1 = iron deficiency anemia, 2 = anemia due other causes, 3 = iron deficiency without anemia and 4 = normal iron status.

```
svytab znudldi edofe, column ci deff obs percent
```

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Key: column percentages
[95% confidence intervals for column percentages]
deff for variances of column percentages
number of observations

Pearson:
Uncorrected chi2(3) = 4.9931
Design-based F(2.50, 49.96) = 0.8736 P = 0.4445

Mean generalized deff = 1.9844
CV of generalized deffs = 0.4479

Likewise for IO.
```
svytab znudldi edofe, column ci deff obs percent
```

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Key: column percentages
[95% confidence intervals for column percentages]
deff for variances of column percentages
number of observations
Pearson:
Uncorrected chi2(3) = 10.3602
Design-based F(1.68, 51.95) = 1.4781 P = 0.2377
Mean generalized deff = 2.6231
CV of generalized deffs = 0.8994

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
-----------------------------------------------
Discretionary Revisions (which the author can choose to ignore)
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

We have sent the article to a native English speaker, professional editor, before re-submission.

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests.