Reviewer's report

Title: Effect of Iron Content on the Tolerability of Prenatal Multivitamins in Pregnancy

Version: 2 Date: 3 December 2007

Reviewer: Anne-Louise Heath

Reviewer's report:

GENERAL

In this paper the authors report a study in which they randomised 167 pregnant women to follow either of two prenatal multivitamin tablet regimens. The women had contacted a pregnancy help programme and had not started taking, or had discontinued a multivitamin due to adverse events. Adherence and adverse events were determined by recall at monthly follow-up interviews. Mean adherence to the tablet regimens was 50% and there were no significant differences in self-reported rates of adherence or adverse events between the groups. The authors conclude that tablet size is a more important determinant of adherence with prenatal multivitamins than iron content.

MAJOR COMPULSORY REVISIONS (that the author must respond to these before a decision on publication can be reached)

1. The study design is not able to provide data in support of the authors’ conclusions that: iron content (35mg vs 60mg elemental iron) is not a major determinant of compliance with prenatal multivitamins, and tablet size appears to be the more definitive factor affecting compliance, because the tablets in the current study differ in a number of ways that may influence compliance independent of iron content. Specifically, the 35mg iron tablet, compared to the 65mg iron tablet: (a) has a larger volume, (b) is a different shape, (c) is given in two doses per day rather than one, and (d) contains a different iron compound (fumarate vs sulphate). The authors must therefore limit their discussion and conclusions to statements that can be supported by their study design. These will need to be about the two specific products tested and are therefore not of wide scientific interest.

2. Include in the Discussion comments on the specific nature of the population studied, that is pregnant women (a) who had contacted the Motherisk program presumably with concerns about maternal exposure to drugs, chemicals, and disease, and (b) 66% of whom had a history of discontinuing multivitamin supplement use in the current pregnancy; and the extent to which these findings can be applied to pregnant women in general.

3. Please remove the statement in the Introduction that: no study is presently available which has separated the effect of iron content, as opposed to the tablet size, on tolerability because this implies that this question has been
answered in the current study (see comment #1 above).

4. There needs to be more discussion of the methodology used to collect the adherence data and how this may have impacted on the findings. In particular, do you have data that suggest that a monthly recall of pill intake provides valid estimates of actual pill intake in the previous month?

5. Please state in the Methods how discontinuation of the tablet regimen was defined - was the date of discontinuation the date reported by the mother in a recall interview, or was it the date of the first recall interview at which the discontinuation was reported? How might this have impacted on the results?

6. Please state in the Methods how the number of pills prescribed was determined - from participant recall? From information collected directly from the prescribing health professional?

7. I would advise statistical advice to determine whether there are more powerful statistical methods that may be more appropriate - i.e. using the adherence data as a continuous variable, controlling for gestational age etc.

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. The descriptions â##35mg ferrous fumarateâ## and â##60mg ferrous sulphateâ## should be corrected to â##35mg elemental iron as ferrous fumarateâ## etc.

2. Need to reference statements in Introduction about tablet size aggravating GI symptoms (p.3 para 2, line 3), and multivitamins worsening GI conditions (p.3 para 2, line 9).

3. Differentiate between Tables 2a and 2b by incorporating the content of the first footnote in the title. Similar for Tables 3a and 3b.

4. The key to Figure 2 is not clear, please re-label.

5. Please make the format of Figs 2 and 3 consistent - including use of the same coloured line for the two groups in both Figures.

DISCRETIONARY REVISIONS (which the author can choose to ignore)

1. Have the authors considered using the term â##adherenceâ## rather than â##complianceâ## to describe the relationship between their participants and the intervention?

Additional questions

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
* Acceptable

Statistical review
* Yes, but I do not feel adequately qualified to assess the statistics

Declaration of competing interests
* I declare that I have no competing interests