Reviewer's report

Title: Determinants of rapid weight gain during infancy in participants in the NOURISH early feeding trial.

Version: 1 Date: 20 March 2011

Reviewer: Mandy Belfort

Reviewer's report:

These authors address an important scientific question regarding the potentially modifiable risk factors for rapid infant weight gain. They use an appropriate dataset to examine this question, and specifically focus on feeding practices and behaviors. I do have several critiques and suggestions for the authors, as listed here.

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Here I list concerns regarding the methods as currently described.

2a. This appears to be a cross sectional analysis, that is, the assessment of feeding practices (the exposure) occurs at the same time as the assessment of the infant’s weight, which reflects the weight gained from birth (the outcome). The authors should clarify that this is a cross sectional study.

2b. It is not clear to me how feeding type was categorized. When the authors write “breastfeeding,” do they mean feeding at the breast, or feeding breast milk (at the breast or from a bottle)? Similarly, does “combination feeding” mean breast milk and formula, or feeding at the breast and from a bottle (which could be expressed breast milk). These are key distinctions given the authors’ hypotheses regarding behaviors around feeding from bottle vs. at the breast with respect to self-regulation and satiety.

2c. Why did the authors combine all the breastfeeding categories and compare with formula only? Would be interesting to see if there is a “dose response” across categories.

2d. Did the authors administer only those 2 questions from the Infant Feeding Practices Questionnaire? If they administered more than the 2, they should report all the relevant questions asked (even if results are null).

2e. Why did they authors combine “on demand” and “mixed” feeding styles? Again would be interesting to evaluate potential “dose response” across >2 categories.

3. Are the data sound?

3a. Please clarify how the sample was derived. How many eligible? How many provided data in newborn period? How many provided data at follow up? How many excluded due to missing data? These seem more relevant to this analysis than whether participants ultimately enrolled in the trial.
3b. In the descriptive results of feeding practices, the categories for breast and formula feeding should be identical to how described in the methods section.

3c. Suggest highlighting that participants' mean weight-for-length z score was -0.28, suggesting that overall infants were ~1/3 SD thinner than the WHO standard.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes

6. Are limitations of the work clearly stated? The authors do state some limitations but I think they also need to emphasize the cross-sectional nature of the study. An additional limitation is that they assessed weight gain, rather than gain in weight-for-length which reflects adiposity better and may be more relevant to later obesity.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes

8. Do the title and abstract accurately convey what has been found? Yes

9. Is the writing acceptable? Yes

Discretionary revisions:
- p. 5, Background, 2nd para regarding definition of overweight/obesity could be omitted, as not relevant to outcome of this study (rapid infant weight gain)
- p. 4, Background, 1st para, 3rd sent, birth weight does not truly influence weight gain, rather is (inversely) associated with it, suggest rewording.
- Consider adding table with prevalence of responses to infant feeding questions
- Consider highlighting that participants’ mean weight-for-length z score was -0.28, suggesting that overall infants were ~1/3 SD thinner than the WHO standard.

Minor essential revisions:
- p. 6, Methods, Study design and participants, please clarify how the sample was derived (see 3a above)
- p. 6, Methods, Study design and participants, term is #37 weeks, not >35 weeks
- p. 7, Methods, Data collection, last sentence, should be “weight-for-height” not “height-for-weight”
- p. 9, Methods, Outcome variables, please clarify what is meant by “…tracking above weight percentiles”
- p. 9, Methods, Statistical analyses, please clarify what is meant by “…in a contextual sense” regarding differences between included and excluded participants
- p. 10, Results, Feeding practices and styles, categories should be identical to Methods section
- p. 12, Discussion, sentence starting with “Formula feeding has been…,” add “excessive” before “early weight gain”

Major essential revisions:
- Please clarify that this is a cross sectional study, both in the methods and in the Discussion sections (see 2a and 6 above).
- Please clarify how feeding type was categorized (see 2b above)
- If feasible, please analyze feeding type and style across >2 categories (see 2c and 2e above)
- Please address comment re: other questions from the Infant Feeding Questionnaire were asked (see 2d above)
- Please address additional limitation in Discussion section (see 6 above)

Level of interest: An article whose findings are important to those with closely related research interests

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 I have no competing interests