

## **Reviewer's report**

**Title:** Effect of commercial weight loss diets on macronutrient composition and micronutrient adequacy in free living adults participating in a randomised controlled weight loss trial

**Version:** 1 **Date:** 5 February 2008

**Reviewer:** Susan Ash

### **Reviewer's report:**

This paper will make a new contribution to the literature on efficacy and safety of weight loss diets from a nutritional adequacy perspective and the authors need to be congratulated. The methods are appropriate although a little more detail is required on the randomisation and also the methods for undertaking the physical activity diaries. The data appear sound and the methods of analysis very thorough indeed. In terms of reporting standards, a diagram in keeping with the Consort requirements, would be clearer than Table 1, which outlines the drop out rate. The discussion and conclusion are well balanced and supported and it is thoroughly and well written.

I think the title could be changed to reflect the conclusions and be punchier, ie Commercial Weight Loss diets meet nutrient requirements in free living adults over 8 weeks: A randomised controlled weight loss trial.

The following Minor essential revisions are required:

1. Some discussion about the length of the weight loss period, ie 8 weeks vs 12 weeks which most of the literature reports. Why was 8 weeks chosen? Some discussion is required about whether the weight lost in this time period was expected based on the energy deficit.
2. The study design needs to conform to the Consort diagram requirements, so that the drop out rate is clearly evident. The drop out rate is quite high and the effect of this on overall numbers is further exasperated by the exclusion of non-plausible reporters. While appreciating the difficulty of retaining free living subjects in a weight loss trial and the inaccuracies of dietary methodology, the small numbers finally assessed, ie 17 and 15 vs 44 and 31 in the Atkins group, is a weakness and it is not clear how many were drop outs and how many were excluded. A diagram would assist with clarifying this and the low numbers need to be highlighted as a weakness in the discussion.
3. It is also not clear how many people in each diet group were at each centre. It appears that centre was not included in the stratification before randomisation. This may have been reported in the main paper but it needs to be clear in this one as well. Were there more drop outs from some centres than others? and how was the quality of the data management maintained between centres?

4. There also needs to be more detail about the method of collecting physical activity. On p5 para 3, there is extensive detail about the dietary records but nothing about the PA records. As the PA is the basis for determining PAL and the exclusion of non-plausible reporters, some idea of how accurate these records were, needs to be evident.

5. ON p12 para 2, reference is made to Figure 3 for the changes in iron, however no absolute figures for change in women are provided. It appears that only the Atkins diet had mean change greater than 5 mg/day and this affected both men and women. I found Figures 2-4 hard to interpret and perhaps some detail in the text would assist.

6. Figures 2-4 need to have all symbols described (perhaps this was not available electronically on download?). It is not clear what the clear circles and asterisks mean.

7. Finally it would be good to have the strengths of the study highlighted in the conclusion. This is an important study done in free living individuals and using gold standard methodology. Despite the low numbers the results are a significant achievement.

Discretionary revisions.

p. 15 last line, perhaps some explanation of "dubious quality" of the RNI, seems rather judgemental and not clear to the reader what is meant.

p.3 1 para 2nd last line, define 'ridiculous marketing techniques'. 2nd last word on 2nd last line should be 'bears' not 'bares'.

**What next?:** Accept after minor essential revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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