

Reviewer's report

Title: Nutrient adequacy during weight loss interventions: a randomized study in women comparing the dietary intake in a meal replacement group with a traditional food group

Version: 1 **Date:** 16 January 2007

Reviewer: Judy A Driskell

Reviewer's report:

General

This study is a follow-up of the authors' previously published research showing the effectiveness of meal replacements in weight loss and in improving clinical health risks. The study is of interest to health professionals in the area of weight control. Unfortunately the authors fail to discuss the meaning of much of the data that they report.

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

Justify using a BMI of 25-35 for subjects, especially why the upper cutoff was set at 35.

The author mentions that the subjects' serum vitamin A and vitamin E concentrations were determined under Methods, Participants. No information justifying the determination of vitamin A and vitamin E concentrations was given in the Introduction or the Methods. The authors need to justify why they choose to determine the subjects' serum concentrations of these two vitamins and not that of other vitamins or minerals.

The authors need to justify using the Food Guide Pyramid for the self-selection instruction? The Food Guide Pyramid is outdated and has been replaced by MyPyramid. Perhaps the study was conducted before 2005. The authors need to add the dates during which the study was conducted to the Methods section.

The authors should justify using meal replacement drinks or meal replacement bars and not just one of these. Also the subjects could chose to consume other bars than Unilever. Different meal replacement bars and drinks have different nutrient compositions. Why not choose one brand of the bars and/or drinks and provide these to the subjects?

The description under Group 2: Meal Replacement Group indicates that "it was recommended that the women incorporate fruits and vegetables as snacks, along with one moderately low fat, low energy meal each day". From the Discussion, it seemed that this was also true for Group 1. If so, this information should be added under the Group 1 description in the Methods.

Methods, Dependent Outcome Measures - the methods used by Covance Labs for the determination of vitamin A and vitamin E plasma concentrations (do not use the word levels) used need to be referenced. There are several methods for the determination of vitamin A and vitamin E, and the authors should briefly describe the two methods and justify the use of these two methods.

The year version 3.2 of the Minnesota Nutrient Data System Research program was released should be added.

Statistical Design - The statistical design accounted for a 20% attrition rate, yet the attrition rate was higher than 20%. The authors should discuss the adequacy of their statistical design.

Last sentence of Methods - Recommend omitting the sentence stating (See discussion" as typically such a discussion is included either in the Discussion or the Introduction.

Second sentence under Results, Nutrient mean intake changes from three-day food records - The authors should not refer to the ratio as the DRI recommendation ranges, rather use the term Acceptable Macronutrient Distribution Range. There are several types of DRIs, not just one.

Page 9, last paragraph, both sentences - The EAR, not <2/3 RDA, is recommended for use in evaluating adequacy of nutrient intake for a group of people. The <2/3 RDA comparison is outdated. A discussion of this use of the EAR, and not <2/3 RDA, is included in the references 13-16. The authors do discuss the use of the EAR on page 10, lines 10-12.

Page 13, lines 6-7 - The authors have a one-sentence discussion of plasma retinol and alpha-tocopherol concentrations. The authors need to more thoroughly discuss this finding as it is included in both Tables 1 and 2. They need to discuss and reference why just trans retinol and alpha-tocopherol and not the other retinoids, carotenoids, and tocopherols were measured.

The authors did determine serum homocysteine concentrations, lipid panels, and serum chemistry panels of their subjects. The data are given in Tables 1 and 2. However, these findings were not included in the Discussion which leads one to ask why they were done and reported in two tables.

Page 14, lines 3-5 - The sentence about calcium intake belongs in the Discussion not the Conclusion.

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

The authors need to discuss what an EAR and a RDA are, and that they are both established by the Institute of Medicine as cited in the DRI publications. The terms EAR, RDA, AMDR, and DRI should be defined and referenced.

First sentence of Conclusions - The words overweight/obese should be added after healthy.

Tables 1 and 2 - Weight values should be given in kg, not both kg and lb. Also suggest adding height values in cm.

Tables 3 and 4, last column, These values are not all RDAs; some are AIs and some are AMDRs. Suggest using the term Recommended intake and reference the DRI publications.

Discretionary Revisions (which the author can choose to ignore)

Last sentence in Methods, Lifestyle Dietary Intervention - Suggest using "increase their energy intake by about...."

Page 12, line 14 - Omit the word "subjects".

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: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.