Reviewer’s report

Title: Diet Induced Weight Loss Increases Satiety in Obese Women

Version: 1 Date: 4 April 2005

Reviewer: Eric Doucet

Reviewer’s report:

General
This is an interesting paper that addresses whether negative allesthesia is changed with weight loss in 10 obese women. These women underwent a 3 month commercially-based weight loss program (Mincavie). The main outcome consisted in consuming 7 ml of Vanilla Ensure or 7 g of caramel candy at 3 minute interval until negative allesthesia occurred, i.e. the subjects rated the sweet stimulus as being unpleasurable (when subjects rated the stimulus as negative on the linear analogue scale). The main finding of the study is that after a modest weight loss (4.8 kg), the mean time before reaching indifference, or 0 on the hedonic scale, was shorter. From this, the authors thus concluded that «Diet induced weight loss increases satiety in obese». This reviewer has several concerns that are listed below.

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

1- The fact that the authors used satiety and negative allesthesia interchangeably is of some concern. As stated by the authors in their introduction, satiety is a term coined to define a state when food intake is generally terminated because of a number of feedback cues. Although the reviewer does not disagree with the notion that people generally stop eating when a food becomes displeasurable, the fact that the two terms are equated in this paper needs to be better defended. Because very little food was consumed during the allesthesia tests, this reviewer does not understand why the authors referred to satiety to describe their main finding. Further, meals generally present more variety than one single item. Can it then be assumed that because one particular item becomes less pleasurable, all others would be perceived the same way? It is suggested that, unless the argument can be better defended, the authors change their title and not use these 2 terms interchangeably in the text.

2- It is now well known that weight loss causes changes in peptides (and neuropeptides) known to impact on energy intake and expenditure. Without going into the details, these changes have been shown to favor anabolism (increase energy intake and decrease in energy expenditure). Further, these results become apparent early into the energy restriction process even without any noticeable changes in body weight or composition. This being said, how do the authors reconcile their results with this increasing pool of published data. One wonders whether the observed differences rather resulted from changes in macronutrient preference, or more specifically a change in sweet preference that could have arisen from the nutritional education obtained over the course of the weight loss program. Although the authors partially addressed this issue in the discussion and even cite papers that have indeed shown changes in taste preferences, they need to further modify this section.

3-In the opinion of this reviewer, the paper needs to be more focussed on the main research question. Although the sections on set-point theory are interesting and important for the background of the paper, they should be limited to this section. The main research question of this paper did not
address the issue of the set-point theory.

4- The discussion needs some attention. For example, the sections on ghrelin and calcium do not seem to add anything to the main finding of this study.

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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)

1-When addressing the set-point theory, some mention of down-regulation in heat production should be made.

2-If the reviewer understood correctly, subjects were measured before and after a 3 mo. intervention. How then can the authors allude to «better weight maintenance» at the end of the eight paragraph of the discussion?

3-Could carbohydrate reserves (on this relatively high-carbohydrate diet) have influenced the main outcome of the study?

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Discretionary Revisions (which the author can choose to ignore)

1-This reviewer applauds the inclusion of classic studies throughout the manuscript. It is suggested that the re-analysis of Minnesota semi-starvation study by Keys also be cited in the introduction.

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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

Statistical review: No

Declaration of competing interests: I declare that I have no competing interests.