Reviewer's report

Title: Soy isoflavones increase preprandial peptide YY (PYY), but have no effect on ghrelin and body weight in healthy postmenopausal women

Version: 1 Date: 19 June 2006

Reviewer number: 1

Reviewer's report:

General

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

1) Several grammatical errors throughout the manuscript. These are a list of changes, but not an exhaustive list.
   Page 2: "and probably also"
   "show potentially present smaller"
   "indicative for a"
   Page 3: "and has been discussed to be of"
   Page 7: "However, increased protein".
   Page 8: "showed not any effect"
   "physiologically increased"
   Page 9: "in order to standardize for"
   Page 11: "Normally distributed data"
   : should be "log transformation"
   : should be ":these changes corresponded to"

2) Other recommendations:
   Page 5 and 11: The choice of statistical analysis is probably not the best. There appears to have been some changes in many variables during the wash-out period (or random error), so an analysis of covariance (ANCOVA) is a stronger model than the one used. Also, why was BMI used to adjust the results? Did BMI explain a significant amount of variance? Why were certain fixed effects "always in" the model? Which data were log-transformed, and why?
   Page 6: If equol production was a significant factor in ghrelin, was this used as an independent variable (perhaps with BMI) in the statistical analysis? Probably should have been attempted. Again, I am not sure why changes in ghrelin were correlated with BMI. Although significant, the r-value is very low. There appears to have been sufficient power to detect a body weight difference. What was the power to detect ghrelin and PYY?
   Page 7: "However, increased protein"
   The additional protein in the cereal bars was 5.2 g/day. This is not very much additional protein. Please reference studies indicating that low amounts of additional protein lead to significant changes in body weight.
   Page 8: One of the important findings of the study by Paul et al. 2006 is the high within- and between CV in preprandial ghrelin. This indicates that a single measurement of ghrelin may be insufficient to detect "habitual" ghrelin concentrations, and may partially explain why no effect was detected in this study, while significant effects are found in others. In other words, the significant effects detected in other studies could be due to random chance, and not true treatment effects.
   Page 9: Please justify your selection of the quantities of isoflavones/ protein in the cereal bars. It would dispel any concerns that the lack of a treatment effect was due to low doses. Compare and contrast these doses to related studies that have/ have not shown treatment effects. The protein dose is clearly too low to produce a satiety effect.

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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)

Page 5. Please reference which technique was used to assess food intake.
Only use 2 significant digits for r-values.
Page 5: Please detail the energy and macronutrient composition of the evening meal. This is not mentioned
in the methods section
Please explain the purpose of Figure 1. I am uncertain why this analysis was included.
Page 10: Please report the within/between subject CV's for ghrelin. Did all controls fall in the proper ranges?

Discretionary Revisions (which the author can choose to ignore)

Page 2: "Changes inâ€¦". I am not certain why this statistic is reported, or why 3 significant digits are reported. This is not necessary.

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 importance in its field

Quality of written English: Needs some language corrections before being published

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