

## Reviewer's report

**Title:** Dietary factors associated with obesity indicators in Flemish adults with different levels of sports participation: a cross-sectional study

**Version:** 1 **Date:** 14 May 2007

**Reviewer:** Zalilah Mohd Shariff

### Reviewer's report:

#### General

The study points out the importance of considering under-reporting when establishing relationship between dietary intakes and health measures as under-reporting may lead to incorrect conclusions on diet

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

#### 1. Title

There are two main objectives of the paper:

- a. Assessment of dietary intake by BMI levels controlling for age and PA
- b. Assessment of dietary intakes by levels of sports participation controlling for age and BMI

The title, however, reflects more of the first objective of the paper. If the authors would like to retain the two objectives, then the title should reflect both findings.

#### 2. Method

a. It is not clear if the sample is a nationally representative sample and the type of sampling method utilized (e.g. cluster, stratified etc) in the study. If it is a national representative sample and involved complex sampling, are there statistical adjustments (e.g. inclusion of sampling weights) been made during the analysis?

b. Although the subjects completed a 3-day diet record, different food quantification methods were utilized, namely food weighing and food estimation. Will these different methods affect the quality of dietary data? How did the authors ensure the quality of the dietary data e.g. use of photo albums and standard food weighing machine for food amount estimation, random checks on subject's food record method?

#### 3. Results and Discussion

a. Dietary fat, carbohydrate and protein, glycemic index of food, energy density and fiber have been shown in the literature to be associated with weight gain. In particular, low intake of fiber is associated with excess energy intake and can contribute to weight gain. In this present study, although fiber intake is lowest in obese men, the reverse is true for obese women along with other components of carbohydrate. The authors may want to offer some explanation for these findings.

b. It is also reported in the study that in women, those in the obese or with high sport participation had the highest intake of sugar and carbohydrate.

i. The high sugar consumption is not in line with the authors' discussion on the role of carbohydrate in physically active individuals.

ii. Is it possible that at least for the women, there may be interaction between BMI and sports participation? Women with high BMI are also the ones that are physically active?

iii. As some of the findings are sex specific, a discussion on sex differences in dietary intakes (e.g. obese men vs. women; physically active men vs. women) may be worthwhile.

#### 4. Conclusion

a. The authors concluded that 'the results of this study support the evidence that dietary intake is closely associated to the development of overweight and obesity

i. As the present study is cross-sectional, it is difficult to establish cause-effect relationship. For example,

obese women may take a longer time to reduce dietary fat intake or increase fiber intake than adopting a physically active lifestyle.

ii. The conclusion did not support the findings in women i.e. high fiber (instead of low fiber) intake in obese women

b. The authors should also stress on the importance of exclusion of under-reporters when establishing associations between intakes of energy and nutrients with anthropometry status

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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)

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Discretionary Revisions (which the author can choose to ignore)

**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.