Reviewer's report

Title: Bone Mineral Density, Body Mass Index and Cigarette Smoking among Iranian Women: Implications for Prevention

Version: 1 Date: 13 March 2005

Reviewer: Lars Rejnmark

Reviewer's report:

General
This is a cross-sectional study on determinants of BMD in 90 Iranian women living in Australia.

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

1. A major concern is the relative small sample size with a large age range. BMD changes with age. In this study, included subjects were not sampled in an age-stratified manner. Thus, calculation of average T-scores (and the prevalence of osteoporosis) is to a large degree a consequence of the relative distribution of young and old individuals included in the sample.

2. The number of not included subjects should be detailed - especially, women on treatment with drugs affecting bone metabolism. The authors should consider whether exclusion of women on treatment with hormones, calcium, and glucocorticoids might have affected their results.

3. In the Data Analysis section the test used for univariate analyses should be detailed. In the result section, the results of the tests (the strength of association) should be detailed.

4. In the result section it is stated that “the effect of smoking was more pronounced in the obese group (p= 0.029 for LSBMD and p=0.007 for FNBMD) than in the non-obese group (Figure 2)”. According to figure 2, only in the obese group a difference existed between smokers and non-smokers. However, in a study on interactions between smoking and weight it would be more appropriate to compare the difference between smokers and non-smokers across groups of body weight (i.e., to compare the difference between smokers and non-smokers in the obese group with the difference between smokers and non-smokers in the non-obese group). Moreover, this comparison should be adjusted for differences in age and menopausal status (and dose and duration of smoking) between groups.

5. In the discussion it is stated that “Moreover, this study found that the effect of smoking was significant in obese women, where the dose and duration of smoking was higher”. This has not been revealed in the result section. If dose and duration of smoking differed by groups of body weight, no real interaction between body weight and smoking per se may exist?

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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. In the result section it is stated that “…. there was a non-statistically significant interaction between age and smoking, as both smokers and non-smokers appeared …..”. The term “a non-statistically significant interaction” should be explained – is it the same as “no-interaction”?
2. Table 2: The unit should be shown (beta-coefficient?) In a footnote, all included variables should be mentioned.

Discretionary Revisions (which the author can choose to ignore)

**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 limited interest

**Quality of written English:** Acceptable

**Statistical review:** No

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