Reviewer's report

Title: Effect of Urbanization on Bone Mineral Density: A Thai Epidemiological Study

Version: 1 Date: 28 September 2004

Reviewer: thierry Chevalley

Reviewer's report:

General
In a well designed cross-sectional population-based study, the authors have reported that bone mineral density (BMD) in a rural Thai population was significantly higher than in an urban population, particularly at femoral neck with a magnitude of difference of more than one standard deviation which is clinically relevant. On the other hand no difference was observed at the lumbar spine. They also found that the urban-rural difference in femoral neck BMD decreased with advancing age and therefore was more pronounced before the age of 50 in men and women. However, the authors may consider the following comments:

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. Table 1 showed that urban men and women had also greater height than rural men and women. Therefore, in order to test for difference in femoral neck and lumbar spine BMD between urban and rural regions, the model of analysis of covariance should also integrate height and not only age and weight as covariates. In fact, Table 2 should demonstrate that urban-rural difference in BMD is significant after adjustment for age, weight and height.

2. It is already shown in the figure and in particular at the femoral neck BMD, that the urban-rural difference was more pronounced before the age of 50 and therefore that among those aged > 50 years, BMD in rural subjects tended to be lower than or converged to BMD in urban subjects as mentioned by the authors in the results section of page 6.

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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)

3. If my comments under number 1 and 2 would be taken in account by the authors, Table 3 would not be required.

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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 whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: No

Declaration of competing interests:
None