Author's response to reviews

Title: Evaluation of Easily Measured Risk Factors in the Prediction of Osteoporotic Fractures

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Author’s response to reviews: see over
July 6, 2005

Dear Editors:

Please accept this revised manuscript for consideration for publication in BMC Musculoskeletal Disorders. The contents of the manuscript are original and have not been published elsewhere. The material and results outlined in this manuscript are of considerable value to clinicians and in the prediction of fragility fracture risk.

The following pages address comments made by the reviewer of this manuscript. We have attempted to clearly and concisely address all of these comments. If you have any additional comments please feel free to be in contact.

Yours sincerely,

Robert Bensen, B.Sc., M.Sc candidate
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1.) Can you please give the mean and standard deviations for the follow-up time. At the current time it is difficult to know if a Cox-Regression analysis is more appropriate. If there are large variation in follow-up time the current analysis may not be appropriate. The Cox-Regression analysis calculates a Hazard ratio but takes into account time to follow-up. Since you have not provided us with this information a decision cannot be made regarding the appropriateness of the statistics.

- Included below are the data for mean and standard deviation for follow-up time for each of the respective fracture groups:

<table>
<thead>
<tr>
<th>Fracture Type</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertebral</td>
<td>158</td>
<td>5.2321542</td>
<td>3.1508317</td>
</tr>
<tr>
<td>Wrist</td>
<td>99</td>
<td>5.3032723</td>
<td>3.1024265</td>
</tr>
<tr>
<td>Rib</td>
<td>64</td>
<td>6.1096424</td>
<td>2.8297734</td>
</tr>
<tr>
<td>Hio</td>
<td>40</td>
<td>5.0865161</td>
<td>2.8421292</td>
</tr>
</tbody>
</table>

- Due to the small variation in follow-up time and the standard deviations for each of the respective fracture groups, we feel that a Cox-regression analysis is not appropriate for this data.

2.) With regard the confirmation of incident fractures it is normal practice to include all self-reported fractures or only the confirmed fractures. Why go to the bother of confirming the fractures if you are going to include the self-reported ones anyway? You have not made this clear in your manuscript and numbers of how many were confirmed would be good. Simply to say the majority is not sufficient. If self-reported fractures are included it may also be good to see if there is any difference in results when they are excluded compared to when they are included.

- The CANDOO database collected fracture data on individuals using self-reports and direct confirmation. As this study relied on data collected in CANDOO, it includes fracture data from self-reports and confirmation.
- If we had used prospective data then we could have specifically targeted either self-reported or confirmed groups, but because of our reliance on CANDOO this was not reasonable
- A variety of other studies (which were sited in our response to the first revisions) have indicated the relevance of self-reported fracture data. As a result, it was deemed
appropriate to use data from CANDOO that also included confirmed fractures, as this would have little bearing on the relevance of our findings.

- To further clarify this we have re-stressed in the limitations paragraph of the conclusion that CANDOO incorporated information on confirmed and self-reported fractures.
- If you require an exact break-down of the number of confirmed vs. self-reported fractures, we will need more time as our database manager is away. If this is necessary we can provide this information upon his return.

3.) You need to make absolutely clear in your Methods that only fractures of the vertebral, hip, wrist and rib are included in the CANDOO database. Currently the reader would assume that information was collected on all incident fractures and you chose to examine "osteoporotic" sites only.

- We have made this clear in both paragraphs 1 and 3 of the methods section by replacing “fractures” with a more thorough “vertebral, rib, wrist and hip fracture”.

Discretionary Revisions

4.) In the tables it would make it even more clear regarding the BMD measurements if asterisks were used to indicate in a footnote that BMD was only performed in 447 subjects.

- Asterisks have been added to the BMD section of tables 2-5 with a footnote stating that only 447 eligible subjects had BMD results available in CANDOO.
- This footnote can be found under the heading “Table Footnote” on the final page of the original manuscript.

5.) In Table 3-5 family history has not been replaced with maternal hip fracture

- This has been corrected in Tables 3-5.

6.) In Figure 1 should maternal hip fracture also be shown in the results for the hip?

- Of the eligible subjects with incident hip fracture, none had maternal history data available in CANDOO.
- This is stated clearly in the hip fracture section of the Results.