Author's response to reviews

Title: Health-related quality of life after vertebral or hip fracture: a seven-year follow-up study

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Authors’ response to Reviewer

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Reviewer's report

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Minor Essential Revisions

Are the partial correlations based on the Pearson correlation coefficient? If so, how did the authors incorporate discrete covariates into these analyses given that the Pearson coefficient assumes the variables are continuous and normally distributed. This should be described in the Methods section.

Partial correlations can be determined when covariates are dichotomous, although the formula often used as a definition of partial correlation is based on the Pearson correlation coefficients because this is a convenient way to estimate it (See for example the article Partial correlation by D. Quade in the Encyclopedia of Statistical Sciences (Online), (DOI: 10.1002/0471667196.ess3060.pub2) One can note that, in Fundamentals of Biostatistics (sixth ed., pp 538-539), Bernard Rosner only gives the (equivalent but perhaps more clear) definition of partial correlation in terms of a Pearson correlation between residuals from linear regressions.

Descriptions of the dichotomous covariates are already included in the Methods section in Statistical Analyses, pp 12-13.

Please clarify the following sentence...

Overall, most parametric methods were chosen in the analyses due to the age-matched and weight-adjusted design for the reference group, regarding normative values for SF-36.

The sentence suggests that the choice of analytic techniques was based on sampling weights, but this is not clear from the description of the analysis procedures.

The sentence has been amended to: The parametric methods as statistic analytic techniques were chosen in order to adjust for the sampling weights design in the reference group, regarding normative values for SF-36.

This text has been revised in Statistical Analyses on p 11.
Table 4 does not correspond with the aims of the study and should therefore be revised. In the Methods section, the authors indicate that they test the difference between the hip and vertebral groups on the difference between the two-year and seven-year assessments, which is consistent with aim 1. However, they do not report these results. Instead, Table 4 focuses on the difference between the hip and vertebral groups on the seven-year assessment only. Moreover, Table 4 comes after Table 3, which reports the results for aim 2. The aims should be dealt with in sequence in the Results section and data that correspond with the aims should be reported in the tables.

Table 4 corresponds with aim (ii): compare HRQOL results between reference and fracture groups at seven-year follow-up.

Aim (i) has been revised to: investigate the changes and long-term impact of vertebral or hip fracture and between fracture groups on HRQOL in postmenopausal women prospectively between two and seven years after the inclusion fracture.

The results between fracture groups showed no significant mean value differences in the change between two and seven years (unpaired t-test), or after controlling for covariates, age, new co-morbidity and new fracture (ANCOVA) since two-year follow-up, and is already included in the results (version 3), p 14.

Aim (i) was revised and added to the Abstract on p 2, and to the Background on p 5.

Table 2 focuses on aim (i) and Tables 3 and 4 on aim (ii).

Thank you for all the valuable comments!