Reviewer's report

Title: Do Patients Perceive a Link Between a Fragility Fracture and Osteoporosis?

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Reviewer: Mary A Gerend

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This study of 127 patients who had experienced a fragility fracture examined a) the extent to which these patients viewed themselves at risk for a future fracture, b) factors associated with perceived risk of future fractures, and c) the extent to which these patients thought their fragility fracture was related to osteoporosis.

The study is well written and concise. The authors pose important questions relevant to the management of osteoporosis as well as the prevention of future fractures. These questions are clearly stated and addressed in the manuscript.

Despite these strengths, I think the paper could benefit from clarification of certain points and perhaps further exploration/discussion of several issues. I outline my general comments and suggestions below.

Minor Essential Revisions

1. Abstract: Results reported in the abstract describing predictors of risk for future fracture do not match the results reported in the text. The abstract mentions "use of assistive aid" as a significant predictor, but this factor is not discussed as a significant predictor in the results or in Table 3.

2. Statistical Analyses: (p. 7) The authors clearly stated their analysis plan to include predictors that were statistically significant (alpha = .20) in the univariate analyses, and provide a long list of potential correlates on page 7. Yet the univariate relationships were never reported. I think it would be helpful to provide the observed correlations between each potential correlate and patients' perceptions of risk.

More detail is also necessary to describe how collinearity issues were decided, and which variables demonstrated significant overlap in the univariate analyses.

In addition, please define "use of an assistive aid" in the text. (page 7).

3. Results: (p. 10) On a related note, it is difficult to assess which variables were included in each of the multivariate analyses. Table 3 lists other factors that appear to have been included in the analyses. Were these other variables (e.g., sex, use of an assistive aid) correlated with the primary outcome variables or were they included in these analyses as covariates? Please clarify.

It may not be necessary to report the OR info in the text, as it is given in Table 3.
Discretionary Revisions

1. Results: It was very interesting that only 17% of respondents attributed their fragility fracture to osteoporosis. For those patients who did not attribute their fractures to osteoporosis, did the authors assess what factors they thought were related to/caused their fragility fractures?

2. The authors assessed respondents’ participation in osteoporosis prevention behaviors (e.g., exercise, calcium intake, fall prevention). Previous studies have identified such behaviors as important correlates of perceived risk of osteoporosis. I was curious as to why these factors were not included in the list of potential correlates (described on p. 7), and the author’s justification for excluding these variables from the analysis. Did any of these variables correlate with their perceived risk of future fractures?

3. Discussion: The authors suggest that if fragility fracture patients do not perceive themselves at risk for future fractures, they may be less likely to engage in recommended treatment (or prevention behaviors). Based on the present findings, do the authors have any specific suggestions on how to increase patient understanding of their future risk?

I am happy for my signed report to be posted on the BMC Musculoskeletal Disorders website as part of the pre-publication history of this article.

What next?: Accept after minor essential 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, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.