Reviewer's report

Title: Is health related quality of life associated with the risk of low-energy wrist fracture? A case control study.

Version: 2 Date: 15 April 2009

Reviewer: ELIZABETH J SAMELSON

Reviewer's report:

General comments

The manuscript has been revised to clarify the methods used in this study. The rationale for the study and the limitations of the approach, while improved over the original submission, however, are still not described very well. This manuscript requires additional editing for English language, in particular, but not limited to awkward phrasing such as, “role limitation physical “(page 10)

Intro

The rationale that no studies have examined pre-fracture HRQOL is not compelling given that the current study is a case-control study of recalled pre-fracture HRQOL. Page 5, para 1.

Study design

Delete ‘cross-sectional.’ Page 5

Delete ‘HRQOL.’ Page 6, para 1, line 1.

What was the time period between data collection for case versus for his/her matched control?

Results on participation (and eligibility) need to be reported for controls, not just the cases. Page 6.

List the diseases used to create the ‘sum score.’ Rephrase ‘sum score’. Page 7.

Delete text on multivariate analysis (not part of ascertaining diseases) Page 7.

When was BMD measured with respect to fracture and assessment of other variables? Page 7

Statistical analysis

Was unconditional or conditional logistic regression used to account for the matching scheme? Page 8,

Response
Rephrase/clarify: we used the ‘enter method’. Page 9

Information on response for both cases and controls is needed. Page 9

Do not abbreviate ART. Page 9

Results

The sentence ending the paragraph at top of page (‘Using the wrist fracture dichotomy…’) should be revised to read (for example): These associations persisted after adjustment for age. Page 10

Delete: ‘Logistic regression analysis was used to assess (controlled) the effects of potential risk factors. The final models using logistic regression analysis are shown in Table 3.’ Page 10

“Favourable scores”… is confusing. Results should be written as (for example): Persons reporting high scores of general health and mental health and low prevalence of pain….had increased/decreased odds of fracture….

The units for each predictor need to be clear for each of the tables.

For example, if the OR for age is for one year, then the row heading should read: Age (per year). If general health is per 10 points, then this should read: General health (per 10 points), not (scale 0-100).

Tables.

Delete the column heading: Controls (0) vs wrist fracture patients (1). ORs refer to odds being a case=odds of being a control=odds of having been exposed, etc so this heading does not make sense. Tables.

Delete: ‘…before fracture,’ para 1 page 11. This text does not hold for controls. Need to rephrase as (for example), ‘in the previous year.’

I do not understand the ** note in the middle of page 11. It does not belong in the middle of the results.

Discussion

First paragraph needs to be re-written, needs to be focused on interpreting the main message of results.

First full paragraph of page 12 is still incorrect. Age is not a risk factor because the authors matched on age.

Need to address selection and participation bias separately for cases and controls in discussion and how possibly affected your results. Page 13

Need to address issues surrounding recall bias for controls, not just cases, and
how possibly affected your findings. Page 13

Need to specify limitations of self reported measurements (height, weight, comorbidities, etc) and that BMD was measured after fracture (for cases), and discuss implications for findings.

Need to address possible limitation that time period was median 10 days from fracture to data collection in cases but controls were likely interviewed at different point in time.

Delete: ‘who are capable and willing to report their HRQOL before fracture’. Page 14

Is it possible that the inconsistent results observed in this study are including: case-control design, retrospective recall used to assess HRQOL and covariates, differences in sampling fractions for cases and controls, and other factors?

Concluding sentence does not seem warranted without a compelling biological mechanism proposed to address the research question.