Reviewer’s report

Title: Quality of life and organ damage are intimately related to activity limitations in patients with systemic lupus erythematosus

Version: 1 Date: 16 April 2015

Reviewer: James Andrews

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Major Compulsory Revisions

1. My greatest overall concern is that the authors are examining whether the history of disease manifestations (that is, ever having a given manifestation) is related to risk of an elevated HAQ score. It seems much more relevant to look at current disease activity and risk of elevated HAQ. The authors need to present a stronger justification why it is logical to expect that prior disease activity is associated with current physical limitations. Based on Table 1, it seems like this cohort has very little active disease (based on SLEDAI, and PGA).

2. It is important to put the degree of physical limitations in this cohort into context. The overall mean HAQ is 0.44. How does this compare to other lupus cohorts? How does this compare to the general population?

3. Please clarify in the “Methods” specifically whether patients were classified in SLE disease phenotypes based on history of the given disease manifestation (e.g., arthritis) or based on currently having the given disease manifestation as this is a crucial distinction for the reader.

4. The authors state that, “The HAQ instrument has previously been shown to be strongly associated with well-being and QoL in SLE [5, 32]” (page 12, line 16-17). Therefore, how does their finding that the EQ5D is associated with risk of elevated HAQ add to the literature?

Minor Essential Revisions

5. The first sentence in the “Results” section (“This cross-sectional study was based on data from the most recent visit to the rheumatologist.”) should be moved to the “Methods” section.

6. Fatigue and depressive symptoms are likely to be strongly associated with physical limitations. If at all possible, the authors should include these variables in their analyses. If unable, this is a limitation that needs to be mentioned.

7. The titles to Table 2 and 3 need to be made clearer. For example for Table 2, “Logistic regression models of the effect of clinical measures on the risk of elevated HAQ score among individuals with SLE.”

8. In Table 3, what is the difference between B and BETA? Which is the
regression coefficient? And, the regression coefficients for pain, well-being, and age should be included for the reader even if they were not statistically significant in the univariable models.

9. The analysis in Figure 1 needs to be explained in the “Results.”

10. The following sentence from the “Discussion” is not clear and needs to be revised: “However, since the HAQ instrument is known to cover different aspects of arthritis, and that hematologic disorder and arthritis were inversely associated herein, it may well be the presence of arthritis per se, rather than the absence of hematologic disorder, which drives this significance.” (pg 12, line 13-16) Moreover, where is it shown in the paper that arthritis and hematologic disorder are inversely related? More thought needs to be given in explaining the observed relationship between hematologic disorder and HAQ score as this relationship seems unexpected.

Discretionary Revisions

11. In Table 2, it seems that B(SE), sensitivity, and specificity results do not add very much and could be omitted to improve overall clarity.

12. In Table 3, the correlation coefficients could likely be omitted as they do not seem to add very much.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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' below