Author's response to reviews

Title: The association of gout with sleep disorders: a cross-sectional study in primary care

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Author's response to reviews: see over
9th March 2013

Dear Dr Cooper,

Re: MS 9351435797356347 The association of gout with sleep disorders: a cross-sectional study in primary care

Thank you for forwarding both the reviewers’ and your comments on this manuscript which we read with great interest. In conjunction with my co-authors, the following changes have been made to the manuscript in light of these comments:

Reviewer 1 (Ning-hung Chen)
The authors using a database in primary care group to analysis the relationship of sleep apnea, sleep disorders and gout.
This is an interesting topic that few researchers had been addressed on. However, there are some concerns on this manuscript

The authors response to my concerns clearly, however, there is still a major problem in this study: That is, There are no clear definition of sleep disorders for the study. Sleep disorders are the major target that authors wish to study. Especially the association of Gout and any sleep disorders was the only positive finding in this study. It is mandatory to have a clear definition for sleep disorders in the study. As authors explain how Read code is created as: “to ensure that at least one Read code is entered for each patient consultation providing high-quality computerised morbidity coding” in his cover letter.
Since authors have done validity of the diagnosis of Gout amongst in their previous work, The validation of sleep disorders were also suggested for this study.

RESPONSE: We believe that it is clear in the manuscript that the definition of sleep disorders is based on a diagnosis of sleep disorders entered by a general practitioner. We acknowledge limitations of this approach in the discussion section. Whilst we appreciate that it would be desirable to validate this diagnosis, it would be virtually impossible to do so in this dataset owing to the lack of gold standard in primary care, in contrast to the situation with gout which we have previously validated by examination of the documentation of the very characteristic clinical features that gout presents with. Such a validation study would require a separate study in a different dataset. We feel that this validation study is beyond the remit of the current study.
We are grateful to the Associate Editor for clarifying in recent e-mail communication that the validation study suggested by Reviewer 1 is not a compulsory revision.

Reviewer 2 (Martin Underwood)
I think this paper is much improved after revision in light of reviewers comments. I have no major compulsory revisions. I am however still slightly bothered by the hyphenation of non and sleep in this context. The construction 'Non-sleep apnoea problem' used in table 2 reads to me as if these are people who are affected by apnoea when they are awake.
Arguably this is an editorial decision, and may be considered a trivial point, but might avoiding the need for a hyphen help avoid any issues here Hence; 'sleep problems other than sleep apnoea' clearly describes he group of interest.
RESPONSE: We thank reviewer 2 for the suggestion to change “non-sleep apnoea sleep problems” to “sleep problems other than sleep apnoea” and have adopted this latter term throughout the manuscript.

Associate Editor

Thank you for addressing the previous comments provided previously. In preparing a final revision, please pay particular attention to the following notes:

Abstract: I think it would be useful to include a sentence providing the prevalence of the outcomes of interest (i.e., sleep problems 3.5%, sleep apnea 0.3% in controls), so the reader has that data in mind when thinning about the rest of the results. Also, with respect to the gout-sleep apnoea association, I like the phrase you used in the main body of the text better than the one in the abstract (i.e., the association was attenuated (OR 1.48...)).

RESPONSE: Thank you for the suggestion to insert a sentence describing the prevalence of the outcomes of interest into the abstract. The following text has been added:

“Amongst those with gout, the prevalence of any sleep problem was 4.9%, sleep problems other than sleep apnoea 4.2%, and sleep apnoea 0.7%, compared to 3.5%, 3.2% and 0.3% respectively in controls.”

We have also revised the results section of the abstract to state that the association of gout with sleep apnoea was attenuated as follows:

“….however the association with sleep apnoea was attenuated (OR 1.48, 95% CI 0.70, 3.14)).”

It is interesting that the magnitude of the association, even the adjusted analysis, was similar to that of the other sleep problems, especially given the imprecision resulting from the smaller sample size and the misclassification introduced by the outcome definition.

RESPONSE: We agree that the similarity of the magnitude of associations between gout and sleep apnoea and sleep problems other than sleep apnoea is interesting. Our discussion section acknowledges that our analysis is likely to have been under-powered to detect a significant association between gout and sleep apnoea and also possible misclassification of sleep apnoea. However, in light of the reviewers’ comments on the version of the manuscript first submitted, we reduced the emphasis of our discussion on the hypothesised but not-proven association between gout and sleep apnoea in the revised manuscript. We are keen therefore to avoid over-emphasising this point again and have not revised the manuscript further as we believe our discussion section acknowledges these issues appropriately.

Also, I find the phrase “non-sleep apnea sleep problems” to be quite awkward, regardless of whether it is hyphenated. I suggest changing this throughout the paper to “sleep problems other than sleep apnoea”.

RESPONSE: See response to reviewer 2 above.

On behalf of my co-authors, I would be grateful if the manuscript could be reconsidered for publication in *BMC Musculoskeletal Disorders*.

Yours sincerely,

Dr Edward Roddy