Reviewer's report

Title: Combination of anxiety and depression is associated with an increased headache frequency in migraineurs: a population-based study

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Reviewer: Ana Recober

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The goal of this study is to assess the comorbidity of anxiety and depression in subjects with migraine and the effects on the clinical characteristics of migraine in a population-based sample from Korea.

The question posed is well defined. The presence of comorbid anxiety and depression in migraine subjects has been well established in other population studies in other countries. It appears that this has not been previously studied in Korea. The negative impact of these comorbidities on migraine manifestations (severity, frequency of attacks, etc) has been described also in studies in other countries.

The methods are appropriate but some details are missing. It is unclear how the interviews were conducted by the “trained interviewers”. The authors used questionnaires that have been previously validated in Korea, but it may be useful to provide the questionnaires as supplementary information.

The interviewers approached 7,430 individuals and 3,114 accepted the survey. Participation rate was 37% after some individuals suspended the interview.

They found that the prevalence of anxiety and depression was higher in subjects with migraine compared with those without migraine. This is consistent with many other population studies in other countries. They also studied clinical characteristics of migraine in each of their groups (migraine alone; migraine with depression; migraine with anxiety; and migraine with depression and anxiety).

The data is clearly presented and the figures and tables are easy to read.

The discussion and conclusions well balanced and adequately supported by the data. Limitations are discussed, although they could be expanded to include the low participation rate.

The title and abstract accurately convey what has been found.

The writing is quite good and there are only a few typos throughout the manuscript.

I recommend accepting this manuscript with the following minor essential revisions:

1. Explain if the interviews were by phone or in person.
2. Provide the surveys or questionnaires used for the interviews.
3. Discuss limitations of low participation as well as diagnoses based on
questionnaires.
4. Discuss further the low migraine prevalence in this population sample.
5. Correct typos (page 13 line 9 – sentence needs revision; page 15 line 7 – “diagnosis” should be “diagnose”)

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
'I declare that I have no competing interests'