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: Brad Klein

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This article provides additional data to the literature between the interrelationships of migraine, depression and anxiety in the Korean population. It provides meaningful information regarding the effect of depression and/or anxiety has on headache frequency and the potential impact of comorbid depression and anxiety on headache chronification.

Major Compulsory Revisions

1. Abstract, under results, you report that 147 patients had migraine, then you broke them into groups noting depression and anxiety, depression, anxiety, or neither depression or anxiety. The sum total of these groups is 138. Can you address the 9 missing subjects? Also based on the study methods, it seems you excluded migraine with aura from consideration. If so, stating that you looked at patients with migraine without aura only would be important when interpreting your migraine prevalence results appropriately.

2. Abstract, Conclusions: In your background statement, you explain that you wish to understand the clinical implications of comorbid depression and anxiety. However, your conclusion only discusses migraine frequency as affected by depression and anxiety. Other clinical implications not discussed but relevant could be 2 week disability, restriction of activities, poorer QOL, and more mental health care usage. This derives from the referenced article by Jette N. Other points of reference you investigated include the VAS and HIT-6. Presenting some additional findings in the abstract would be useful.

3. Methods; Diagnosis of migraine, anxiety, and depression, first paragraph: You diagnose migraine as migraine without aura. Thus it seems you excluded potentially 1/3 of the migraine population. What was the basis for excluding this group? If not included, adding this patient population back in would likely increase your statistical power without tarnishing the results noted.

Minor Essential Revisions

4. Background: Paragraph 2: Can you clarify briefly which symptoms and what impact you are referring to? I am also not clear what you mean by “severe.” Please clarify if you mean chronic migraine versus episodic migraine, intractable, severe pain, etc.

5. Discussion: Paragraph 4: “Numerous studies have shown a close association between depression and migraine has been studied.” Please review the
grammar.

Discretionary Revisions

1. Abstract, under results, if you state: “147 subjects (5.4%) were classified as having migraine during the previous year.” Adding the word “a” prior to migraine will clarify if you meant the subjects were included if they had a migraine versus they had a diagnosis of migraine.

2. Methods, Analyses, Paragraph 3, consider deleting the word “groups” from and migraine with anxiety and depression groups.

3. Conclusion: Consider changing “One-third of migraineurs” to “1/3 of migraineurs” for consistency.

Level of interest: An article of importance in its field

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