

Review of: "Google Trends in the Diagnosis of Meteosensitivity"

Andrea E Portt¹

¹ Dalla Lana School of Public Health, University of Toronto, Canada

Potential competing interests: No potential competing interests to declare.

Summary: Overall, this is interesting preliminary work. It will be great to see it expanded for a clearer assessment of a possible association between online searches for headache and migraine and geomagnetic activity.

Introduction:

Paragraph 1: Zhang et al. 2023 suggest 15% migraine prevalence + 42% tension-type headache prevalence = 57% total. Occurring in "more than half of the population" may be more accurate than "nearly everyone," unless I'm misreading the referenced article.

Paragraph 4:

- a. It would be helpful to spell out and describe the RR interval,
- b. "A single-center retrospective observational study concluded that while weather conditions, including temperature, atmospheric pressure, humidity, rainfall, sunshine, and air pollutants, showed no correlation with the risk of febrile seizures in children^[16]. " The logic of this sentence could be improved.
- c. A new paragraph and transition sentence are needed to move into the discussion of weather
- d. These sentences would flow better above with the other discussions of geomagnetic activity: " The results of another study indicated that geomagnetic disturbances, including the level of geomagnetic activity, the number of sunspots, and high proton flux events, may influence the activity of systemic lupus erythematosus. Additionally, an increase in the geomagnetic activity index Ap and high-energy proton flux was associated with decreased activity of systemic lupus erythematosus^[28]. In contrast, an increase in the sunspot number index predicted a decrease in systemic lupus erythematosus activity^[28]."

Results:

Paragraph 2: "anxiety about" may be a strong word here. Perhaps substitute "interest in"?

Table 1: Specify that N is the number of weeks

Paragraph 3: Substitute "frequency" for "popularity"?

“A total of 261 observations” would be clearer as “A total of 261 weekly observations”

Table 2: Correlation analysis. This is a good start in terms of background/exploratory data analysis.

To learn more about potential associations between headache and geomagnetic activity, the next step would be a regression analysis.

A time series analysis could be a useful approach.

The analysis should take into account Ukraine's changing population as well as potential confounders that are associated with both headache/migraine and geomagnetic activity. I'm not an expert in geomagnetic activity, but I think this would include seasonal and long-term trends.

Paragraph 5: From the available data, it's not clear if we can tell whether people with tension-type headache may be more sensitive or if there may simply be more of them. Further analysis will provide more insight.

Conclusion: Neat study! Keep at it.