LETTER

Exploration of the Application Rules and Clinical Significance of Acupoints in Acupuncture Treatment of Migraine Based on Data Mining [Letter]

Zhe Shen[1], Chuanlong Zhou [2], Xianming Lin [2]

[1]Zhejiang Chinese Medical University Third Clinical College, Hangzhou, Zhejiang, 310053, People's Republic of China; [2]The Third Affiliated Hospital of Zhejiang Chinese Medical University, Hangzhou, Zhejiang, 310005, People's Republic of China

Correspondence: Xianming Lin, The Third Affiliated Hospital of Zhejiang Chinese Medical University, Hangzhou, Zhejiang, 310005, People's Republic of China, Email linxianming1966@163.com

Dear editor

We read with great interest the paper entitled "Exploration of the Application Rules and Clinical Significance of Acupoints in Acupuncture Treatment of Migraine Based on Data Mining" by He et al.[1] The study integrated four data mining methods, to conduct an in-depth analysis of 1610 acupuncture prescriptions, and for the first time, comprehensively revealed the core acupoint combinations (GB20, EX-HN5, and GB8) and meridian usage patterns in the treatment of migraine, which lays a solid evidence-based foundation for the standardization of acupuncture. However, we believe that the following aspects deserve further in-depth exploration and improvement.

Limitations of Factor Analysis Methodology

In the present study, the factor analysis was judged to be "applicable" (KMO = 0.551, p < 0.001), and according to Kaiser, a KMO value in the range of 0.50–0.59 was only a "Mediocre" grade, which did not meet the minimum standard (≥0.60) recommended for factor analysis,[2] and posed a methodological risk. This meant that the current findings may lead to unstable factor loadings, and the 15 male factors can only explain 59.78% of the variance, which indicated that there was a potential loss of information and that the model's explanatory power is insufficient.[3]

Sample Heterogeneity and Deficiencies in Diagnostic Criteria

In terms of inclusion criteria, the requirement of "at least 10 patients per group or study" is a relatively small sample size, which may amplify the law of chance. Also, the inclusion of the literature spanned a long period (from the beginning of the database to 2025), and while there were inconsistencies in disease diagnostic criteria across time, the study did not clearly articulate how to reconcile these differences in criteria. In addition, studies did not analyze migraine by subtype (for example, without aura, with aura, chronic migraine), and the efficacy of acupuncture may vary among patients with different subtypes.[4] Based on the above issues, we recommend performing sensitivity analyses, excluding studies with sample sizes less than 30, and reporting results stratified according to the ICHD version, with further subgroup analyses specific to migraine subtypes if conditions permit.

Inconsistencies in Raw Data

When the distribution of acupoints was analyzed, there were 67 acupoints in the head and neck region, accounting for 37.02% of the total number of acupoints. The value in the original text was correct on the first occurrence, but the value on the second occurrence was 17.68%, which was contradictory.

 Overall, the study by He et al has made an outstanding contribution to the treatment of migraine with acupuncture. We make the above recommendations to further optimize the results of this outstanding research, and we look forward to

more high-quality academic results in this field of research, which will jointly promote the in-depth development of the treatment of migraine with acupuncture.

Disclosure

The authors declare that there is no conflict of interest in this communication.

References

1. He Y, Wang X, Liu M, et al. Exploration of the application rules and clinical significance of acupoints in acupuncture treatment of migraine based on data mining. *J Pain Res*. 2025;18:3049–3067. doi:10.2147/JPR.S527987
2. Kaiser HF, Rice J. Little Jiffy, Mark Iv. *Educ Psychol Meas*. 1974;34(1):111–117. doi:10.1177/001316447403400115
3. Field A. *Discovering Statistics Using IBM SPSS Statistics*. 4th ed. London: Sage Publications; 2013.
4. Wang Y, Xue C, Wang L, et al. Acupuncture for chronic migraine: a randomized clinical trial based on ICHD-3 diagnostic criteria. *J Headache Pain*. 2021;22(1):102. doi:10.1186/s10194-021-01315-6