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REVIEWER'S REPORT

Manuscript No.: JNHM-080

Title: "Association between mustard derivatives Consumption and Incidence of headache: A cross-sectional Study"

Recommendation:

Accept as it is .....
✓ Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Reviewer Name: Dr S. K. Nath

Detailed Reviewer's Report

Strengths of the Study

- **Originality:** The study explores an under-researched area concerning mustard as a potential dietary trigger for headaches, particularly migraine-like headaches.
- **Relevance:** Addressing dietary triggers in headache management is clinically significant, especially given the widespread consumption of mustard products globally.
- **Methodology:** Utilizes a cross-sectional observational design with a structured questionnaire, allowing for systematic data collection on demographics, dietary habits, and headache features.
- **Sample Size & Population:** The inclusion of 112 adult participants with a balanced representation of sexes and urban-rural residency enhances the study's internal validity within its scope.
- **Contribution:** Adds to the limited literature on food-induced headaches by focusing on mustard derivatives and their potential role as triggers, prompting further research.

Weaknesses of the Study

- **Design Limitations:** As a cross-sectional study, it can only infer associations, not causality, which limits the strength of conclusions.
- **Sample Size & Generalizability:** Although reasonable, the sample size (112) may not be sufficient for definitive conclusions or subgroup analyses.
- **Potential Recall Bias:** Reliance on self-reported data about headache occurrence and dietary intake introduces bias, especially regarding timing and frequency.
- **Assessment of Headache Types:** Classification of headaches is based on self-reporting without clinical diagnosis, risking misclassification—particularly differentiating migraine from other headache types.
- **Confounding Factors:** Despite adjustments, residual confounding from other dietary and lifestyle factors may influence results.
- **Statistical Analysis:** The loss of significance after multivariate adjustments suggests limited independent effect, but the paper could benefit from a detailed discussion of potential multicollinearity and model robustness.
- **Formatting & Presentation:** Minor inconsistencies in tables and figures, including clarity of labels, could improve readability.
- **References:** Some recent references seem appropriate; however, a more comprehensive literature review on dietary triggers would strengthen contextual understanding.

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Reviewer Comments

- **Title and Abstract:**The title clearly indicates the research focus but could improve clarity by removing hyphenation ("cross-1 sectional"). The abstract accurately summarizes the study but would benefit from clearer structuring (e.g., explicit subheadings like Background, Methods, Results, Conclusion) for clarity.
- **Introduction and Objectives:** The introduction effectively emphasizes the importance of dietary factors in headache disorders, but a more focused statement of specific study objectives or hypotheses at the end would improve clarity.
- **Methodology and Statistical Analysis:** The use of a structured questionnaire is appropriate; however, details about validation, whether it was pilot tested, and reliability are missing. The choice of chi-square tests, followed by logistic regression, is suitable; nevertheless, discussion of potential issues like multicollinearity or model fit is lacking. It is unclear whether the study obtained ethical approval or informed consent, which are critical for human subject research.
- **Results and Discussion:** Results are presented logically, with appropriate tables and figures; but some data points (e.g., specific odds ratios and confidence intervals) are absent, limiting interpretability. The discussion appropriately considers confounding factors and the limitations of the findings, but it could further explore biological mechanisms linking mustard compounds to headache pathophysiology. The temporal profile of headache onset post-ingestion adds valuable insight, although causality cannot be established.
- **Conclusion and Implications:** The conclusion appropriately states that mustard is not an independent trigger at the population level but may be relevant for susceptible individuals. Recommendations for future research are constructive, including prospective or controlled challenge studies.
- **Ethical Clearance:** The manuscript does not specify whether ethical approval or informed consent was obtained, which should be explicitly stated for ethical transparency.
- **Language & Presentation:** The manuscript is generally clear, but proofreading for minor grammatical errors, sentence clarity, and typographical issues is necessary. Tables and figures are relevant but could benefit from consistent formatting and clearer labels. References are appropriate, though updating with some recent studies could enhance contextual depth.

Additional Note:
Based on the current analysis, there is no evidence that this paper and its genetic findings have been published online before. It appears to be original, although a thorough plagiarism check using specialized tools is recommended prior to final acceptance.