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LETTER

Comment: Association Between Psoriasis and Non-Alcoholic Fatty Liver Disease: A Two-Sample Mendelian Randomization Study: Comment from Li et al [Letter]

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Dear editor

I am reaching out to discuss some reservations I have about the study titled "Association Between Psoriasis and Non-Alcoholic Fatty Liver Disease: A Two-Sample Mendelian Randomization Study" by Li et al,[1] published on November 14, 2023, in the journal Clinical, Cosmetic and Investigational Dermatology.

To begin with, the Cochran's Q test is essential for evaluating the variability of genetic variant impacts on both exposure and outcome.[2] Choosing the appropriate model—either fixed-effect or random-effects—based on heterogeneity is vital for the dependability of MR estimates. Regrettably, the authors have not thoroughly addressed this issue, which could lead to misinterpretation of the study's findings by readers, raising the risk of overgeneralization or erroneous conclusions, and ultimately, undermining the study's credibility.

Additionally, the paper lacks a clear presentation of the F-statistic and R^2 values.[3] The R^2 value is pivotal in MR studies, as it reveals how much of the dependent variable's variance can be predicted by the independent variables, thereby validating the use of instrumental variables as exposure proxies. The F-statistic is equally important, commonly applied in ANOVA and regression to gauge the significance of predictor variables' impact on the response variable. In MR, it measures the robustness of the link between the instrumental variables and the exposure, ensuring the study's methodological rigor. A low F-statistic, particularly one below 10, may indicate weak instrumental variables, thereby casting doubt on the study's methodological soundness.

Moreover, the study may have overlooked potential confounding factors. MR relies on genetic variants as instrumental variables, assigned randomly in early life, which typically helps to reduce bias by controlling for confounders.[4] Nonetheless, this method cannot eliminate all biases, particularly in the presence of intricate biological pathways and the possibility of pleiotropic effects. The authors might not have adequately controlled for or analyzed environmental and lifestyle factors, medications, treatments, and the inconsistent definitions and diagnostic criteria for psoriasis and NAFLD across different studies. In MR studies, confounding factors are usually managed through statistical adjustments, matching, or stratified analysis. I recommend that the authors manually remove confounding factors using resources like the Phenoscanner website or the Ldtrait tool,[5] or consider employing a multivariable MR approach to address potential confounders effectively.

Finally, the paper's transparency and reproducibility are compromised by the absence of detailed information regarding the instrumental variable dataset used. This omission restricts the ability of other researchers to validate the study's methodology and findings, thereby potentially weakening the external validity of the research.

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I extend my thanks to the editorial team and the authors of Clinical, Cosmetic and Investigational Dermatology for their openness to addressing these concerns. Their willingness to engage with this feedback is crucial for upholding the principles of scientific transparency and integrity.

Ethics Statements

This study was solely based on publicly accessible deidentified data from published studies and summary databases. No separate ethical approval was needed in this study.

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Disclosure

Ao He and Hainan Li share the first authorship for this communication. The authors report no conflicts of interest in this communication.

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