

# A Commentary on “Pain Reduction and Improved Vascular Health Associated with Daily Consumption of an Anti-Inflammatory Dietary Supplement Blend” [Letter]

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## Dear editor

We appreciate the recent publication of the article titled “Pain reduction and improved vascular health associated with daily consumption of an anti-inflammatory dietary supplement blend”.<sup>1</sup> This study explores the effects of anti-inflammatory dietary supplements on pain relief and vascular health, providing valuable insights. However, we believe there are several issues in the study design and result analysis that warrant further discussion.

First, the article lacks detailed inclusion criteria and transparency in the study design. Although the authors mention inclusion criteria such as age, body mass index (BMI), and duration of chronic pain, they do not clearly specify the exact selection criteria for participants, sample size, and representativeness. This lack of detail may affect the generalizability and applicability of the study results.<sup>2</sup> We recommend that future studies include additional criteria such as comprehensive health assessments, records of lifestyle factors, detailed medication usage, and psychological health evaluations, and transparently report these to ensure that the research is of high quality and relevance.

Second, the study inadequately addresses the heterogeneity among participants. Different individuals may respond significantly differently to anti-inflammatory dietary supplements due to various factors,<sup>3</sup> including age, sex, genetic background, lifestyle, baseline health status, and psychological state. For instance, younger and older adults, men and women may exhibit significant differences in physiological response, metabolic rate, and tolerance to supplements. However, the article does not delve into these differences. We suggest that future research conduct subgroup analyses or sensitivity analyses to better understand how factors such as age, sex, and baseline health status affect outcomes.

Furthermore, the article lacks a thorough evaluation of the long-term effects of the anti-inflammatory dietary supplements. There is insufficient discussion regarding the safety and effectiveness of long-term use of these supplements. The study duration was only eight weeks, and while short-term improvements in pain and vascular health may be observed, there is a lack of discussion on the potential risks and benefits of prolonged use.<sup>4</sup> Long-term follow-up studies are crucial for assessing the sustained effects of the supplements and any possible side effects.

Lastly, the study fails to adequately assess and control for confounding factors, which can lead to biased results and invalid conclusions.<sup>5</sup> Common confounding factors include participants' lifestyle, dietary habits, psychological health, and socioeconomic background. For example, dietary patterns directly influence inflammatory status, and certain foods may possess natural anti-inflammatory properties. Additionally, exercise habits significantly affect pain and cardiovascular health, with sedentary individuals potentially experiencing more chronic pain. If these variables are not controlled, the study results may be skewed. Future research should collect detailed lifestyle and dietary data during the design phase and conduct multivariable regression analyses to control for these confounding influences.

In conclusion, while this study offers valuable insights into the role of anti-inflammatory dietary supplements in pain management and vascular health, addressing the aforementioned issues will contribute to improving the rigor and clinical relevance of future research. Thank you for considering these comments to enhance the clarity and impact of this important work.

## Disclosure

The author(s) report no conflicts of interest in this communication.

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