

# Retraction: Apple cider vinegar for weight management in lebanese adolescents and young adults with overweight and obesity: a randomised, double-blind, placebo-controlled study

This paper<sup>1</sup> is retracted by the journal, with the agreement of the authors.

## WHAT HAPPENED POST-PUBLICATION

Wide ranging concerns were raised about the quality of the work after publication, including the approach to statistical analysis of the dataset; implausible values; concern about the reliability of the underlying dataset; inadequate reporting of the work; and absence of prospective trial registration, which is a breach of BMJ policy.<sup>2,3</sup>

The authors supplied their dataset to BMJ on request so that BMJ could conduct a post-publication review of the work, including efforts to replicate the results and to review markers of data authenticity. The authors were transparent about the lack of prospective trial registration for this study.

## REASONS FOR RETRACTION

The paper is being retracted because the authors' analyses could not be replicated and multiple errors were identified. The authors supplied dataset also demonstrated patterns inconsistent with random allocation of participants to treatment groups, improbably small p-values given the limited number of participants included in the study (see online supplemental material 1).

The authors state that the discrepancies were honest mistakes that arose from version mismatches, data rounding or formatting differences when exporting from statistical software to reporting spreadsheets. However, the authors agree with the decision to retract the work.

## FURTHER ACTION

The authors' institutions have been informed. They have been supplied with the post-publication statistical report for investigation, and with the identifiers for the participants whose data would require close, independent verification before any attempt at correcting the analyses could be made.

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## REFERENCES

- 1 Abou-Khalil R, Andary J, El-Hayek E. Apple cider vinegar for weight management in Lebanese adolescents and young adults with overweight and obesity: a randomised, double-blind, placebo-controlled study. *BMJ Nutr Prev Health* 2024;7:61–7.
- 2 Malbouby V, Trexler ET, Heathers J. Improbable data characteristics and extreme effects of apple cider vinegar on weight loss. *BMJ Nutr Prev Health* 2025;8:e000997.
- 3 Abou-Khalil R, El-Hayek E. Comprehensive clarification of statistical and data concerns on the effects of apple cider vinegar on weight loss. *BMJ Nutr Prev Health* 2024;7:e001102.