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Intermittent fasting as a nutritional tool

Focus on fostering sustainable changes over time

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Fasting is defined as the voluntary abstinence from food for a determined period. Although traditionally associated with religious purposes,¹ the practice has gained relevance today as a nutritional strategy, primarily for cumulative energy restriction. Fasting is used as an alternative to continuous caloric restriction, especially given the difficulties many individuals face in adhering to diets structured under strict parameters.² Adherence to a 30% caloric restriction is maintained during the first three months of the intervention; however, adherence progressively declines, reaching only a 9.5% restriction after 12 months, which compromises the sustainability of the clinical effects.³

In this context, intermittent fasting has emerged as a popular dietary intervention, in which popularity is spread mainly through social media, where its potential benefits for weight loss are emphasised. However, questions remain about its long term efficacy, feasibility in terms of adherence, and effects on cardiometabolic variables. A scarcity of rigorous comparative syntheses mean that uncertainty exists around whether any forms of intermittent fasting are superior, inferior, or equivalent to continuous caloric restriction in terms of clinical efficacy.

To address this gap, a linked network meta-analysis by Semnani-Azad and colleagues (doi: 10.1136/bmj-2024-082007), published in The BMJ, provides relevant evidence by synthesising findings from 99 randomised clinical trials that compared continuous energy restriction and ad libitum diets with any of the three main modalities of intermittent fasting: alternate day fasting, time restricted eating, and whole day fasting.⁴ The results show that all strategies produced significant weight reductions compared with ad libitum diets. Alternate day fasting was the only intervention with additional reductions in body weight (-1.29 kg), body mass index, and certain lipid parameters compared with continuous energy restriction, although with small effects and moderate certainty according to GRADE.⁴ Importantly, these differences did not reach the prespecified clinical relevance threshold of at least 2 kg defined for individuals with obesity. Nonetheless, randomised trials have shown that alternate day fasting can induce more substantial weight losses (around 4-6 kg in 8-12 weeks), accompanied by reductions in visceral fat and cardiometabolic improvements, particularly in adults with obesity or metabolic dysfunction associated steatotic liver disease (previously known as non-alcoholic fatty liver disease).5-7

The value of this study is not in establishing a universally superior strategy but in positioning alternate day fasting as an additional option within the therapeutic repertoire. Pursuit of an ideal diet applicable to the entire population is a reductionist approach that overlooks the necessity of personalised interventions. The choice of dietary scheme should consider medical history, food preferences, psychosocial context, and the feasibility of sustained adherence.⁸9

The population included in Semnani-Azad and colleagues' analysis encompassed adults with overweight, obesity, type 1 and 2 diabetes, metabolic syndrome, and metabolic dysfunction-associated steatotic liver disease, resulting in a wide clinical scope of intermittent fasting. This strategy gains further relevance considering that, according to the World Health Organization in 2022, approximately 2.5 billion adults, 43% of the global adult population, were overweight, and about 890 million (16%) lived with obesity.¹⁰

A relevant methodological limitation is that many comparisons, especially those including alternate day fasting, were conducted against ad-libitum diets, which, although without explicit energy restriction, may include general nutritional recommendations. Within this framework, any structured intervention-including continuous energy restriction-could show benefits derived not only from the dietary pattern but also from professional support, planning, and nutritional education. Diet quality during free eating days could affect alternate day fasting outcomes; however, this association has not been systematically evaluated in clinical trials. Studies specifically designed to isolate this component and understand its impact on metabolic outcomes are required.^{11 12}

Likewise, studies shorter than 24 weeks reported adherence above 80%, while trials with follow-ups longer than 52 weeks showed a marked decline in adherence, especially in the whole day fasting group, with levels below 22% after one year.⁴ In this regard, the clinical goal should not focus solely on weight loss or punctual metabolic improvements but on fostering sustainable changes over time.¹³ Intermittent fasting does not aim to replace other dietary strategies but to integrate and complement them within a comprehensive, patient centred nutritional care model.

Competing interests: The BMJ has judged that there are no disqualifying financial ties to commercial companies. The authors declare no competing interests. Further details of The BMJ policy on financial interests is here: https://www.bmj.com/sites/default/files/attachments/resources/2016/03/16current-bmj.education-coi-form.pdf

Provenance and peer review: Commissioned; not externally peer reviewed.

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