

Fasting For Weight Loss

Can modified fasting improve fat loss?

Many of us will have to lose some weight as a New Year's resolution. What is the best way to lose weight? Intermittent fasting has been gaining a lot of attention as a potential aid to losing weight. What is intermittent fasting? Does it work? How effective is it? What is the best way to go about putting a program of intermittent fasting into place? Will I be hungry all the time? Is it safe?



This study is a systematic literature review to identify randomized controlled studies that assessed the associations of intermittent fasting (zero-calorie alternate-day fasting, modified alternate-day fasting, the 5:2 diet, and time-restricted eating) with obesity-related health outcomes. The researchers found that intermittent fasting showed beneficial outcomes for body mass index, body weight, fat mass, low-density lipoprotein cholesterol, total cholesterol, triglycerides, fasting plasma glucose, fasting insulin, homeostatic model assessment of insulin resistance, and blood pressure. There was an association observed between intermittent fasting and reduced fat-free mass.

Abstract

Importance: Several meta-analyses of randomized clinical trials (RCTs) have demonstrated the many health benefits of intermittent fasting (IF). However, there has been little synthesis of the strength and quality of this evidence in aggregate to date.

Objective: To grade the evidence from published meta-analyses of RCTs that assessed the associations of IF (zero-calorie alternate-day fasting, modified alternate-day fasting, the 5:2 diet, and time-restricted eating) with obesity-related health outcomes.

Evidence Review: PubMed, Embase, and Cochrane database of systematic reviews were searched from database inception to January 12, 2021. Data analysis was conducted from April 2021 through July 2021. Meta-analyses of RCTs investigating effects of IF in adults were included. The effect sizes of IF were recalculated using a random-effects model. We assessed the quality of evidence per association by applying the GRADE criteria (Grading of Recommendations, Assessment, Development, and Evaluations) as high, moderate, low, and very low.

Findings: A total of 11 meta-analyses comprising 130 RCTs (median [IQR] sample size, 38 [24-69] participants; median [IQR] follow-up period, 3 [2-5] months) were included describing 104 unique associations of different types of IF with obesity-related health outcomes (median [IQR] studies per association, 4 [3-5]). There were 28 statistically significant associations (27%) that demonstrated the beneficial outcomes for body mass index, body weight, fat mass, low-density lipoprotein cholesterol, total cholesterol, triglycerides, fasting plasma glucose, fasting insulin, homeostatic model assessment of insulin resistance, and blood pressure. IF was found to be associated with reduced fat-free mass. One significant association (1%) supported by high-quality evidence was modified alternate-day fasting for 1 to 2 months, which was associated with moderate reduction in body mass index in healthy adults and adults with overweight, obesity, or nonalcoholic fatty liver disease compared with regular diet. Six associations (6%) were supported by moderate quality evidence. The remaining associations found to be significant were supported by very low (75 associations [72%]) to low (22 associations [21%]) quality evidence.

Conclusions and Relevance: In this umbrella review, we found beneficial associations of IF with anthropometric and cardiometabolic outcomes supported by moderate to high quality of evidence, which supports the role of IF, especially modified alternate-day fasting, as a weight loss approach for adults with overweight or obesity. More clinical trials with long-term follow-up are needed to investigate the effects of IF on clinical outcomes such as cardiovascular events and mortality.

There are many forms of intermittent fasting. These include zero-calorie alternate day fasting (nothing but water for 24 hours alternating with regular eating), modified alternate-day fasting (MADF), which alternates between days of regular eating, and days of fasting with total caloric intake generally limited to 0 to 600 kcal per day for 3 to 5 days per week; the 5:2 diet, in which participants fasted for 1 to 2 days per week (either consecutively and nonconsecutively) with total caloric intake ranging from 0 to 600 kcal per day and 5 days of regular eating; and time-restricted eating (TRE), which involved fasting for 12 to 24 hours per day. This would include the popular 16/8 plan (16-hour fast followed by an 8-hour eating window). Most of the trials examined in this analysis involved adults who were overweight or obese.

What are the findings? MADF for 1-2 months was associated with reduced BMI in adults (normal weight or overweight). MADF for 2-3 months was associated with reduced body weight in overweight and obese adults. MADF for 2 to 6 months was associated with reduced body weight in adults with obesity compared with continuous energy restriction. Zero-calorie ADF for 1 to 2 months was associated with reduced fat mass in adults with overweight or obesity compared with regular diet or continuous energy restriction. The 5:2 diet for 3 to 6 months was associated with reduced fasting insulin in women with overweight or obesity compared with continuous energy restriction.

There are several forms of intermittent fasting. This review found that intermittent fasting is associated with successful weight loss and has metabolic benefits for adults with obesity. The modified alternate-day fasting (MADF) and the 5:2 diet were associated with statistically significant weight loss of more than 5% in overweight or obese adults. Intermittent fasting is at least as effective as caloric restriction so this can be a way to potentially lose weight while not having to worry about counting calories daily. Of note is that over time there can be a loss of fat-free mass. This is muscle mass so we have to be aware of this over time. Another recent study using a group of expert resistance trainers found that a 16/8 pattern of eating over 12 months resulted in a loss of 11.8% body fat mass, 18.8% visceral fat mass loss, and a reduction in inflammatory markers and insulin resistance but did also show a slight loss in muscle mass.

Intermittent fasting can be an effective tool that we use to battle fat gain. There are several techniques ranging from no food intake for 24 hours to time-restricted eating so you can experiment with this to see what works best. One of the big keys to the effectiveness of time-restricted eating is avoidance of late-night snacking. I have found this alone to be very effective for weight loss since we rarely are eating cucumbers or celery sticks late at night.

Patikorn C, Roubal K, Veettil SK, et al. Intermittent Fasting and Obesity-Related Health Outcomes: An Umbrella Review of Meta-analyses of Randomized Clinical Trials. JAMA Netw Open. 2021;4(12):e2139558.
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