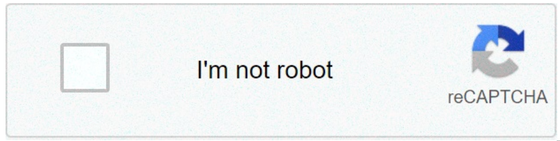

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Intermittent fasting pubmed

The effects of an intermittent fasting diet (IFD) in the general population are still controversial. In this study, we aimed to systematically evaluate the effectiveness of an IFD to reduce body mass index and glucose metabolism in the general population without diabetes mellitus. Cochrane, PubMed, and Embase databases were searched to identify randomized controlled trials and controlled clinical trials that compared an IFD with a regular diet or a continuous calorie restriction diet. The effectiveness of an IFD was estimated by the weighted mean difference (WMD) for several variables associated with glucometabolic parameters including body mass index (BMI) and fasting glucose. The pooled mean differences of outcomes were calculated using a random effects model. From 2814 studies identified through a literature search, we finally selected 12 articles (545 participants). Compared with a control diet, an IFD was associated with a significant decline in BMI (WMD, -0.75 kg/m2; 95% CI, -1.44 to -0.06), fasting glucose level (WMD, -4.16 mg/dL; 95% CI, -6.92 to -1.40), and homeostatic model assessment of insulin resistance (WMD, -0.54; 95% CI, -1.05 to -0.03). Fat mass (WMD, -0.98 kg; 95% CI, -2.32 to 0.36) tended to decrease in the IFD group with a significant increase in adiponectin (WMD, 1008.9 ng/mL; 95% CI, 140.5 to 1877.3) and a decrease in leptin (WMD, -0.51 ng/mL; 95% CI, -0.77 to -0.24) levels. An IFD may provide a significant metabolic benefit by improving glycemic control, insulin resistance, and adipokine concentration with a reduction of BMI in adults. Keywords: body mass index; glucose metabolism; insulin resistance; intermittent fasting. Various intermittent fasting (IF) dietary plans have gained popularity among obese individuals in recent years as a means of achieving weight loss. However, studies evaluating the effect of IF regimens in people with metabolic syndrome, prediabetes and type 2 diabetes (T2D) are limited. The aim of the present review was to briefly elucidate the biochemical and physiological mechanisms underlying the positive effects of IF, especially the effect of the proposed 'metabolic switch' on metabolism. Next, we examined the efficacy and safety of IF regimens in individuals with metabolic syndrome, prediabetes and T2D. To achieve this, we performed a MEDLINE PubMed search using combinations of various IF terms, including trials in which participants met the additional criteria for metabolic syndrome, prediabetes or T2D. We found four studies in individuals with metabolic syndrome, one study in people with prediabetes, and eight studies in people with T2D evaluating the effects of different IF regimens. The limited available evidence, with small sample sizes and short trial durations, suggests that IF regimens have a similar effectiveness compared with calorie-restriction diets for weight loss and improvement in glycaemic variables. In general, most IF regimens are effective and safe. However, there is an increased risk of hypoglycaemia in patients with T2D who are treated with insulin or sulphonylureas. Moreover, long-term adherence to these regimens appears uncertain. There is a need for large controlled randomized trials to evaluate the efficacy of IF regimens, especially in individuals with metabolic syndrome and prediabetes. If proven to be sustainable and efficacious for prolonged periods, IF could offer a promising approach to improving health at the population level, and would result in multiple public health benefits. Keywords: calorie restriction; health span; intermittent fasting; life span; type 2 diabetes. Objective: To verify the relationship of intermittent fasting in the bodyweight of overweight and obese individuals through a systematic literature review. Methods: This is a systematic review based on randomized controlled trials. The articles were consulted in the databases: Science Direct, PubMed e BVS. This review was evaluated through the PRISMA recommendation. Results: After the selection process, four articles were included in this review, comparing intermittent fasting (IF) with calorie restriction diet (CRD) as a control group. In 2 studies using similar protocols, there was no significant reduction in body weight of overweight or obese subjects. In the other two studies using different protocols, weight loss was significant in the IF group compared to the CRD group. Conclusions: Results did not provide evidence of the effect of intermittent fasting on weight loss in overweight or obese individuals. Effects of eight weeks of time-restricted feeding (16/8) on basal metabolism, maximal strength, body composition, inflammation, and cardiovascular risk factors in resistance-trained males. Moro T, Tinsley G, Bianco A, Marcolin G, Pacelli QF, Battaglia G, Palma A, Gentil P, Neri M, Paoli A. Moro T, et al. J Transl Med. 2016 Oct 13;14(1):290. doi: 10.1186/s12967-016-1044-0. J Transl Med. 2016. PMID: 27737674 Free PMC article. Clinical Trial. Intermittent fasting interventions for treatment of overweight and obesity in adults: a systematic review and meta-analysis. Harris L, Hamilton S, Azevedo LB, Olajide J, De Brún C, Waller G, Whittaker V, Sharp T, Lean M, Hankey C, Ells L. Harris L, et al. JBI Database System Rev Implement Rep. 2018 Feb;16(2):507-547. doi: 10.11124/JBISRIR-2016-003248. JBI Database System Rev Implement Rep. 2018. PMID: 29419624 Background: Cardiovascular disease (CVD) is the leading cause of death worldwide. Lifestyle changes are at the forefront of preventing the disease. This includes advice such as increasing physical activity and having a healthy balanced diet to reduce risk factors. Intermittent fasting (IF) is a popular dietary plan involving restricting caloric intake to certain days in the week such as alternate day fasting and periodic fasting, and restricting intake to a number of hours in a given day, otherwise known as time-restricted feeding. IF is being researched for its benefits and many randomised controlled trials have looked at its benefits in preventing CVD. Objectives: To determine the role of IF in preventing and reducing the risk of CVD in people with or without prior documented CVD. Search methods: We conducted our search on 12 December 2019; we searched CENTRAL, MEDLINE and Embase. We also searched three trials registers and searched the reference lists of included papers. Systematic reviews were also viewed for additional studies. There was no language restriction applied. Selection criteria: We included randomised controlled trials comparing IF to ad libitum feeding (eating at any time with no specific caloric restriction) or continuous energy restriction (CER). Participants had to be over the age of 18 and included those with and without cardiometabolic risk factors. Intermittent fasting was categorised into alternate-day fasting, modified alternate-day fasting, periodic fasting and time-restricted feeding. Data collection and analysis: Five review authors independently selected studies for inclusion and extraction. Primary outcomes included all-cause mortality, cardiovascular mortality, stroke, myocardial infarction, and heart failure. Secondary outcomes include the absolute change in body weight, and glucose. Furthermore, side effects such as headaches and changes to the quality of life were also noted. For continuous data, pooled mean differences (MD) (with 95% confidence intervals (CIs)) were calculated. We contacted trial authors to obtain missing data. We used GRADE to assess the certainty of the evidence. MAIN RESULTS: Our search yielded 39,165 records after the removal of duplicates. From this, 26 studies met our criteria, and 18 were included in the pooled analysis. The 18 studies included 1125 participants and observed outcomes ranging from four weeks to six months. No studies included data on all-cause mortality, cardiovascular mortality, stroke, myocardial infarction, and heart failure at any point during follow-up. Of quantitatively analysed data, seven studies compared IF with ab libitum feeding, eight studies compared IF with CER, and three studies compared IF with both ad libitum feeding and CER. Outcomes were reported at short term (≤ 3 months) and medium term (> 3 months to 12 months) follow-up. Body weight was reduced with IF compared to ad libitum feeding in the short term (MD -2.88 kg, 95% CI -3.96 to -1.80; 224 participants; 7 studies; low-certainty evidence). We are uncertain of the effect of IF when compared to CER in the short term (MD -0.88 kg, 95% CI -1.76 to 0.00; 719 participants; 10 studies; very low-certainty evidence) and there may be no effect in the medium term (MD -0.56 kg, 95% CI -1.68 to 0.56; 279 participants; 4 studies; low-certainty evidence). We are uncertain about the effect of IF on glucose when compared to ad libitum feeding in the short term (MD -0.03 mmol/L, 95% CI -0.26 to 0.19; 95 participants; 3 studies; very-low-certainty of evidence) and when compared to CER in the short term: MD -0.02 mmol/L, 95% CI -0.16 to 0.12; 582 participants; 9 studies; very low-certainty; medium term: MD 0.01, 95% CI -0.10 to 0.11; 279 participants; 4 studies; low-certainty evidence). The changes in body weight and glucose were not deemed to be clinically significant. Four studies reported data on side effects, with some participants complaining of mild headaches. One study reported on the quality of life using the RAND SF-36 score. There was a modest increase in the physical component summary score. Authors' conclusions: Intermittent fasting was seen to be superior to ad libitum feeding in reducing weight. However, this was not clinically significant. There was no significant clinical difference between IF and CER in improving cardiometabolic risk factors to reduce the risk of CVD. Further research is needed to understand the safety and risk-benefit analysis of IF in specific patient groups (e.g. patients with diabetes or eating disorders) as well as the effect on longer-term outcomes such as all-cause mortality and myocardial infarction. Fig. 1 Various forms of dietary interventions.... Fig. 1 Various forms of dietary interventions. Daily caloric restriction (CR) and four forms of... Purpose of review: A number of recent studies have suggested that intermittent fasting is as effective as traditional calorie restriction (CR) for weight loss and for cardioprotection. However, it is still unclear whether IF improves diabetes risk indicators as does CR. This review provides an overview of various patterns of intermittent fasting and shows the effect of intermittent fasting on human anthropometric such as excess body weight and biochemical parameters for example high glucose and fasting insulin, which are risk factors for diabetes. Recent findings: There is a growing body of evidence pointing to the benefits of intermittent fasting for glucose and insulin homeostasis, but this should be confirmed by further studies in population groups with (or at high risk) type II diabetes and insulin resistance. Long-term studies are also needed that could reveal potential negative health effects that some studies report. Eleven studies in overweight/obese adult people that included changes in weight, body composition, and diabetic parameters (fasting glucose, fasting insulin, HbA1c concentration, and HOMA-IR index) were published between 2012 and 2020. Seven studies concerning the effects of alternate day fasting (ADF) on weight loss and diabetic parameters were analyzed. All of them have shown the effects of ADF on weight loss and slight improvement in diabetic parameters. For time-restricted feeding (TRF), a significant improvement in the HOMA-IR index was observed in 2 studies. One study saw an increase in fasting glucose. An analysis of 2 studies using a complete alternate day fasting (CADF) was performed. One study showed decrease in fasting glucose and insulin, and in one a decrease in glycosylated hemoglobin (HbA1c) was observed. Conclusion: Different types of intermittent fasting reduce body weight and reduce diabetes parameters such as fasting glucose, fasting insulin, HOMA-IR index, and glycated hemoglobin (HbA1c). Keywords: Anthropometric parameters; Fasting glucose; Fasting insulin; HOMA-IR; Intermittent fasting; Obesity. This systematic review and meta-analysis evaluated the influence of intermittent fasting (IF) in combination with resistance training (RT) on body composition outcomes. Studies examining IF vs. non-IF diets in individuals performing RT, published up to February 2021, were identified through PubMed, the Cochrane Library, Web of Science, Embase, and SCOPUS databases. Eight studies, including 221 participants were analyzed using a random-effects model to calculate weighted mean differences (WMDs) with 95% confidence intervals (CIs). Results indicated that IF had a significant effect on body mass (WMD = -2.08 kg; 95% CI: -3.04, -1.13), fat mass (WMD = -1.36 kg; 95% CI: -1.94, -0.78), body mass index (WMD = -0.52 kg/m2; 95% CI: -0.85, -0.19), and body fat percentage (WMD = -1.49%; 95% CI: -2.24, -0.74) relative to non-IF diets, without a significant effect for fat-free mass (WMD = -0.27 kg; 95% CI: -0.82, 0.28). The present systematic review and meta-analysis demonstrates potentially beneficial effects of IF in combination with RT for reducing body mass and body fat relative to non-IF control diets, with similar preservation of fat-free mass. Keywords: Body composition; Intermittent fasting; Meta-analysis; Resistance training; Weight loss.

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