Metabolic changes following intermittent fasting:
A rapid review of the evidence

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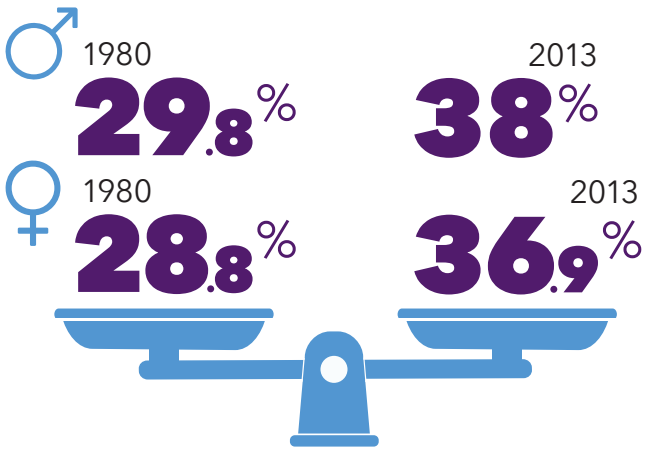
Introduction

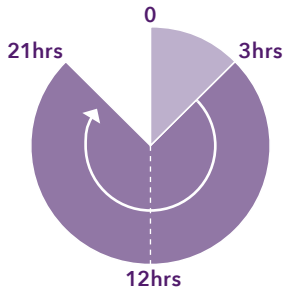
Obesity is on the rise globally and effective strategies to treat obesity are needed. Between 1980 and 2013 the number of people living with obesity significantly increased. It is estimated that by 2050 treatment of obesity associated ill health will cost NHS £9.5 billion.

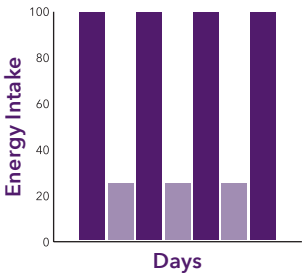
Continuous energy restriction (CER) has been the most popular dieting technique for weight loss previously. Intermittent fasting (IF) has received growing interest from public, as well as healthcare providers as it may be a more achievable long term calorie restriction.

Rationale: Recent evidence has suggested that some forms of IF are just as effective for weight loss as CER. We wanted to review evidence to support this.



Types of intermittent fasting diets





- **Time restricted feeding**: this is a fasting period each day between 3 and 21 hours (most commonly >12 hours). This is the type of IF that fasting for Ramadan and abstaining from breakfast falls under.
- **Alternate day fasting**: individual eats 25% of their daily energy requirements one day, and then ad libitum the next day. Or goes through 24-hour fast period one day and ad libitum the next, also known as periodic fasting.
- **Intermittent energy restriction (IER)**: periods of energy restriction alternated with periods of habitual intake or minimally restricted dietary intake.

Results

Effects on weight
All studies were maximum of 6 months duration. IF leads to a weight loss, up to 12.9%, and is similar to weight loss sustained after CER

Effects on fat mass
Most studies showed IF leads to a reduction in fat mass (up to 1.3kg), effects are similar to CER

Effects on Cholesterol, Insulin and blood sugar levels
No clear effect following IF observed, due to limited number of studies

Considerations

For anyone taking insulin, IF diet needs to be consulted with your doctor in order to adjust your insulin levels

Take home message

Intermittent fasting diets are as effective as continuous energy restrictions for weight loss.

Created by Warwick Obesity Network, February 2022
https://warwick.ac.uk/research/priorities/food/research/food-health/hp-contents/intermittent_fasting_references.pdf