

## The Role of Intermittent Fasting and Exercise in the Reduction of Diabetes Risk Factors; A Narrative Review

Jade Wilmot

University of Warwick

### Background

The burden of diabetes is an ever-increasing problem for health systems worldwide. 463 million people are currently living with diabetes globally and that number has been projected to rise to near 700 million by 2045.

### Aim

To explore the impact of intermittent fasting (IF) and exercise training (ET) on the known risk factors for diabetes and infer its potential effect on the prevention of, touching on its potential use for managing diabetes itself.

### Methods

Systematically searching the databases Embase, Medline and Web of Science for RCT published in the last 5 years using the search terms 'fasting' and 'diabetes mellitus, type 2' or 'prediabetic state' or 'metabolic syndrome'. Quality assessment performed using the CASP tool and bias assessed using the Cochrane Collaboration tool. No formal statistical analysis of the results of the included studies was performed.

### Results

13 studies were included (six used the intervention, IF, and seven studies used ET). All of which found a significant change due to the intervention – intermittent fasting or exercise training – in one or more of the outcomes measured. Of studies involved; HbA1c was reduced in 4 of 6, glycaemic indices were improved in 8 of 11, 50% saw a reduction in insulin indices, and body composition was improved in all 7 as a result of the intervention compared to the control or with change over time (from baseline to post-intervention tests).

### Key Messages

The results from these studies would indicate that IF and ET, especially in combination should be considered in playing a role in the management of diabetes.

