

The effects of Ramadan fasting on the resting metabolic rate in patients with diabetes

Saadane I, Wazan M, Gines K, Barakat M T, Lessan N

Imperial College London Diabetes Centre, Abu Dhabi, United Arab Emirates

Aims:

Ramadan fasting is observed annually by Muslims around the globe which entails fasting from dawn to sunset. The sick are exempt, but many patients with diabetes choose to fast. Effects of fasting on energy expenditure in diabetes are not known; this can have implications on control. This study aims to investigate the effect of Ramadan fasting on the resting metabolic rate (RMR) of patients with diabetes.

Methods:

Individuals with diabetes (n=26, male: female = 7:6, age= 50.1 ± 11.6 years, HbA1c= 7.5 ± 1.9 %) fasting during Ramadan were recruited from patients attending the Imperial College London Diabetes Centre. Patients were on various combinations of anti-diabetic treatments. RMR was measured using indirect calorimetry (Cosmed Quark). Physical activity was assessed (triaxial accelerometry-actigraph GT9X) in a subset of patients (n=7).

Results:

There was no significant change in weight with Ramadan fasting. Mean $\pm$ SD number of hours fasting prior to measurement was 10.2 ± 1.8 hours during Ramadan and 11.3 ± 2.4 hours in non-Ramadan period. There was no significant difference in mean RMR between Ramadan and non-Ramadan periods (1800 ± 330.2 kcal/day v 1785 ± 342.3 kcal/day, $p=0.729$). Furthermore, we found no significant change in activity between Ramadan and non-Ramadan periods (854.6 ± 362.4 v 816.4 ± 353.7 kcal/day respectively, $p=0.490$).

Conclusions:

In this study, we found no significant change in RMR in patients with diabetes during Ramadan fasting. Larger studies with specific medication groups are under way to investigate these further.