

The Impact of Ramadan Fasting on Blood Pressure: Observational Study and a Meta-Analysis

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Abstract : Although Ramadan fasting is a ritual that is practiced every year by millions of Muslims, studies on Ramadan fasting are still scarce. To the best of our knowledge, none of the previous studies comprehensively explored the effect on the metabolic profile. In London Ramadan Fasting Study, blood samples were collected from 81 participants before and 10-14 days after Ramadan. Blood samples were analysed using nuclear magnetic resonance (NMR) spectroscopy which covers 249 metabolites. Mixed-effects models were used to analyse collected data and assess the effect of Ramadan fasting on the metabolic profile. Our observational study involved 85 individuals with a mean age of 45.2 years, and 53.1% of them were males. After Ramadan, forty metabolites were affected significantly by Ramadan fasting. Most of these metabolites were metabolites ratios (24), and the rest were three Glycolysis, three ketone bodies, nine Lipoprotein subclasses and one inflammation marker. This study suggests that Ramadan fasting is significantly associated with changes in the metabolic profile. However, the changes are assumed to be temporary, and the long-term effect of these changes is unknown.

Keywords : metabolic profile, Ramadan fasting, metabolites, intermittent fasting

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