

Lipid Profiles of Judo Athletes during Ramadan.

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The effect of Ramadan intermittent fasting (RIF) was studied on a battery of blood lipid markers in 15 elite judo athletes during a period when they were maintaining their training load without competing. Nine-to-twelve hours postprandial serum lipid and lipoproteins were measured on five occasions: before, three times during Ramadan, and three weeks post-Ramadan. Dietary data were collected using a 24-hour recall method for three days before, during and after the Ramadan month. Mean energy intake (12.9 MJ/d) remained similar throughout the study as did the macronutrient constituents of the diet. Mean body mass was slightly reduced (2 %; $p < 0.01$) by the end of Ramadan due mainly to a 0.65 ± 0.68 kg decrease in body fat ($p < 0.05$). The RIF produced significant changes in some of the blood lipid levels: both HDL-C and LDL-C increased by 0.12 ($p < 0.01$) and 0.20 mmol . l⁻¹ ($p < 0.05$), respectively. During Ramadan, mean non-esterified fatty acid (NEFA) levels decreased from 0.73 to 0.28 mmol . l⁻¹ ($p < 0.01$) during the first week, then increased ($p < 0.05$) to 1.22 mmol . l⁻¹ over the middle of Ramadan and recovered to pre-Ramadan concentrations for the end and the post-Ramadan periods. Apolipoprotein A1 (Apo-A1) levels were significantly elevated at the end ($p < 0.01$) and the post-Ramadan periods ($p < 0.05$). Three weeks after Ramadan, blood levels of glucose, NEFA, Apo-A1, and Apo-B did not return to the values observed before Ramadan. In conclusion, the present results show that the combination of the change in diet pattern during Ramadan, along with intense exercise training, induced a significant decrease in body mass associated with a reduction in body fat and changes in some of the serum lipids and lipoproteins. Nevertheless, all the measured serum parameters remained within normal levels for young and active individuals. The volunteers, in this study, were able to maintain a constant training load during RIF.