SWACSM Abstract

"Cheating" In a Fast by Exercising After a Snack

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ABSTRACT

As the prevalence of chronic diseases has increased, research has emerged supporting the utility of intermittent fasting in managing certain health conditions. Despite potential benefits, adhering to a fasting regimen can be difficult. **PURPOSE:** The purpose of this study was twofold. The first purpose was to describe how consuming a modest snack prior to exercise influences plasma glucose, beta-hydroxybutyrate and hunger in reference to fasting with and without exercise. The second purpose was to examine how exercising in a fasted state influences plasma glucose, beta-hydroxybutyrate and hunger. **METHODS:** A randomized crossover design with counterbalanced treatment conditions was used to compare the influence of fasting alone (control), fasting with exercise (exercise), and fasting with the addition of a snack immediately prior to exercise (snack/exercise). The effects of these interventions on beta-hydroxybutyrate levels, blood glucose, hunger, and mood were assessed. **RESULTS:** BHB was significantly higher in the exercise condition than control starting at 24 hrs to the end of the study ($p < 0.05$). BHB levels between control and snack/exercise conditions were not different. Immediately after participants had exercised, blood glucose levels were higher in both the exercise and snack/exercise conditions than control ($p < 0.001$). With the exception of one time point, there were no additional differences. In the exercise and snack/exercise conditions, hunger was significantly lower than control right after exercise ($p = .0043$ and $p = .0003$, respectively). Hunger was not different between the exercise and snack/exercise conditions at any time point. Mood was not different between conditions. **CONCLUSIONS:** Exercising after modest caloric intake produces BHB and glucose levels that are similar to fasting alone. Exercising without a snack briefly interrupts the fast but elevates BHB production starting around three hours after the exercise bout. Finally, mood was not different between any conditions and calls into question the assumption that a snack/exercise fasting protocol is in fact easier to adhere to.