

Inadequate Caloric Intake Among Collegiate Baseball Athletes

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Purpose: The aim of this pilot study, conducted on Division I collegiate baseball players, was to analyze the correlations between hourly energy balance, body composition, and performance.

Methods: At visit 1, athletes were informed about the study and informed consent was obtained. At visit 2, participants' dietary intake and activity were recorded and assessed through NutriTiming®, body composition was measured using Bioelectrical Impedance Analysis, and performance was measured via a 30-yard sprint test and vertical jump test using the Just Jump! Mat.

Results: There were 13 male Caucasian participants. Nine athletes fell below the recommended 45 kcals/kg of fat free mass (FFM). On average, the participants spent 12 hours in energy balance (+/- 400kcal), 8 hours in a caloric deficit, and 3 hours in a caloric surplus. Vertical jump values were higher for athletes who consumed the recommended 45 kcal/kg of FFM; however, results were not statistically significant ($p=0.193$). Sprint times were significantly faster ($p=0.05$) in those athletes who consumed the recommended 45 kcal/kg of FFM compared to the participants who did not. Body fat percentage and performance measurements were not correlated ($p=.984$ for vertical jump, $p=.759$ for sprint test).

Conclusion: Most participants exhibited inadequate caloric intake; resulting in excessive hours of the day spent in energy deficit. Future studies should aim to assess athletes who properly sustain energy balance in order to support expenditure and its impact on optimal performance.

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