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# Nutritional Data and Corresponding Performance Impacts of URI Student-Athletes

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# Nutritional Data and Corresponding Performance Impacts of URI Student-Athletes

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## Introduction

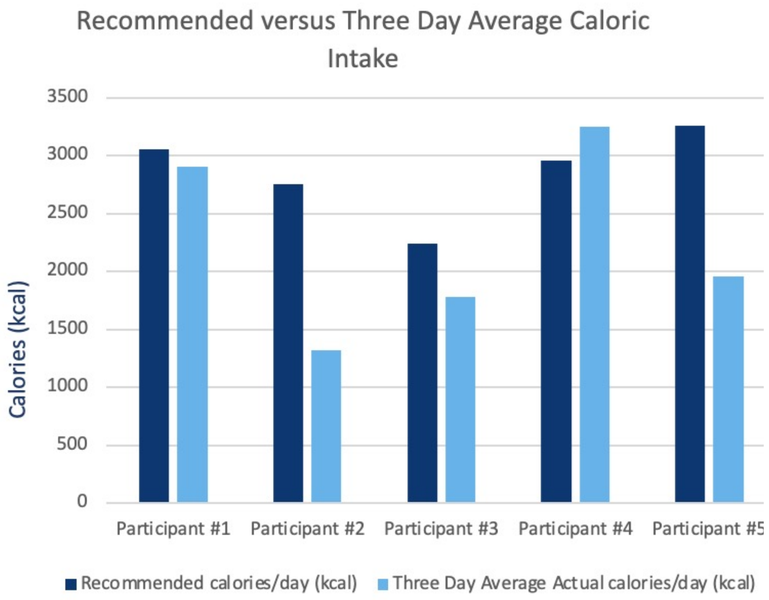
The purpose of this study is to collect and present dietary data of student-athletes at the University of Rhode Island and compare to recommended daily values. By collecting these data, further performance implications of malnourishment in this community can be assessed and reported.

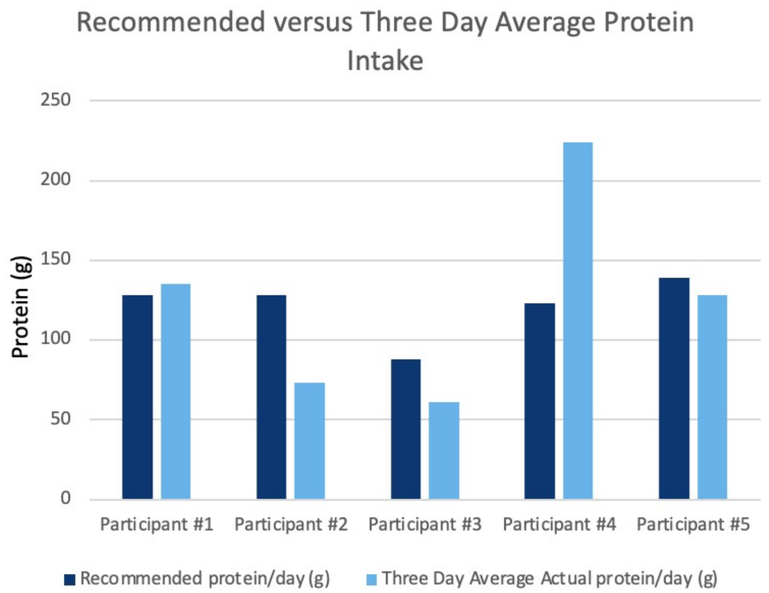
## Methods

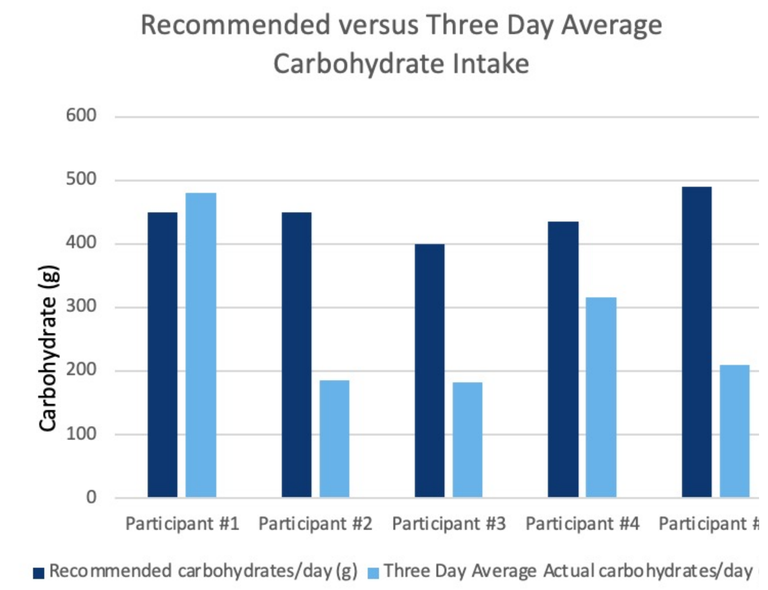
Five participants of varying sports at the University of Rhode Island were recruited as volunteers for the study. The age ranges are from 19-22 and represent male and female athletes, and sports of various metabolic systems. Three days of 24-hour dietary recalls along with practice information for each day and food availability questions were recorded. Data was entered into Excel and ASA 24 was used to measure calories and macronutrients for each day. Research on performance implications of malnourishment was found and data was compared to recommended daily values.

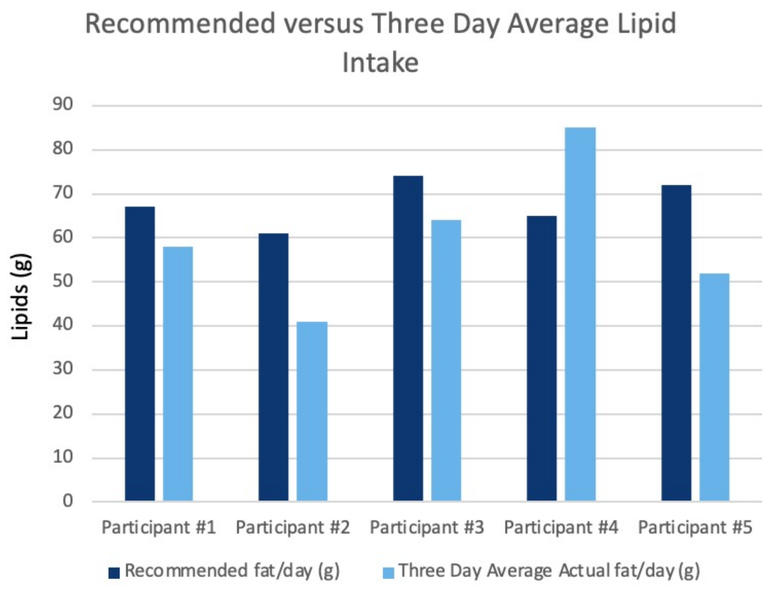
## Implications

- Overall calorie deficit will result in loss of adipose tissue and muscle mass, negative effects on bone density, fatigue, increased injury risk, and prolonged recovery.
- Consuming too little carbohydrates will result in decreased post-exercise muscle recovery, muscle glycogen depletion, blood sugar maintenance imbalances, and diminished energy production.
- Suboptimal consumption of protein results in lower rates of muscle proteins synthesis, higher rates of muscle protein breakdown, and decreased net muscle protein balance. Net muscle protein balance is the main variable deciding muscle mass gain or loss.
- Lipids provide energy, compose cell membranes, and are involved in the absorption of vitamins. Low levels of dietary fat intake can result in decreased energy availability, especially for endurance athletes. Diets too high in fat prior to exercise can result in gastrointestinal distress.




## Food Security Answers

- "Not enough access or time to find healthy foods"
- "Dining hall options not sufficient with healthy options"
- "Limited time and not enough access to food"
- "Do not know what to eat and not enough food available"
- "Limited access to healthy food on campus, quality of fruits and vegetables low"

## Recommendations

- Implement a designated "nutrition station" that has food available all day within athletic facilities.
- Improve availability of post-exercise snacks, specifically carbohydrate rich food such as fruits, chocolate milk, and bread products.
- Have required team meetings throughout the year with a nutritionist to increase knowledge and importance of proper nutrition on performance.