Body Mass Index Superior to Body Adiposity Index in Predicting Adiposity in Male Collegiate Athletes

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ABSTRACT

BMI is moderately correlated with %Fat and has been suggested to be inadequate at predicting overfat status in male collegiate athletes.The Body Adiposity Index (BAI) is an alternative anthropometric measurement suggested to be superior to BMI at predicting adiposity but has not been well assessed within different collegiate sports. **PURPOSE**: The purpose of this study was to determine if BAI is superior to BMI in predicting %Fat in male collegiate athletes. **METHODS**: Collegiate male rugby and baseball players were invited into the laboratory for measurements of height, weight, and %Fat via BOD POD. BAI was calculated as Hip Circumference/Height^1.5–18. Regression analysis was ran using SPSS to determine the ability of BMI and BAI to predict %Fat. **RESULTS**: 75 male athletes from rugby (n=35) and baseball (n=40) completed the study. BMI (r=.796, p<0.001) outperformed BAI (r=.575, p<0.01) on predicting %Fat when all athletes were combined. There were statistically significant sport group differences on height (rugby: 179 ± 7 cm, baseball:185 ± 6 cm, p=.002) and BMI (rugby: 28 ± 5 kg/m, baseball: 26 ± 3 kg/m2, p=.037). BMI was a stronger predictor of %Fat in both the rugby athletes (r=.883, p<0.001) and the baseball athletes (r=.530, p<0.001). **CONCLUSION**: BAI is not an adequate anthropometric replacement for BMI when predicting %Fat in male collegiate rugby and baseball players.