



Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 4th- 5th, 2017
Conference Proceedings
International Journal of Exercise Science, Issue 9, Volume 6



The Relationship Between Waist Circumference and Anaerobic Power Output in College Students

Colton J. Appleman, Cody A. Croall, Joseph L. Andreacci, FACSM. Bloomsburg University, Bloomsburg, PA

There are a variety of components that make up an individual's physical fitness. Some of these are examined in terms of health risk and others in terms of performance. Abdominal adiposity has been shown to negatively impact one's health, but its impact on performance is unclear. **PURPOSE:** To determine if a relationship exists between abdominal adiposity and muscular power. **METHODS:** One hundred subjects (50 females; 50 males) volunteered to be tested. Height, weight, and waist circumference (WC) were recorded on all subjects. The Wingate Anaerobic Test (WAnT) was used to assess muscular power. **RESULTS:** Mean WC values for females and males were 75.5 ± 10.1 cm and 86.7 ± 10.5 cm, respectively. Mean peak power values for females and males were 539.0 ± 140.6 W and 844.7 ± 143.7 W, respectively. Mean relative peak power values for females and males were 8.0 ± 1.1 W/kg and 9.9 ± 1.3 W/kg, respectively. Pearson-product moment correlations displayed a significant correlation between WC and Peak Power for females ($r = 0.775$, $p < 0.001$) and males ($r = 0.324$, $p = 0.022$), respectively. There was a significant inverse correlation between WC and Relative Peak Power in males ($r = 0.450$, $p = 0.001$). However, no relationship was observed between WC and Relative Peak Power in females. **CONCLUSION:** Our results indicate that a larger WC resulted in a lower relative peak anaerobic power in males, whereas no influence in females. It appears that there are a number of other factors that must be considered when examining anaerobic power. Future examination of how lean body mass and fat mass influence anaerobic power should also be explored.