

The influence of a military field-based training on anthropometric measures among Brazilian Air Force cadets

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INTRODUCTION

The Brazilian Air Force Academy's mission is to prepare its cadets over a course of four years for the most physically demanding tasks in combat environments. To achieve this, the cadets undergo survival and field-based training, besides various physical conditioning programs and theoretical classes. The study investigated whether simple anthropometric measures would change after five days of military field-based training and whether there were gender differences in the results. Understanding how this training influences cadets' morphological characteristics is essential to assess whether the demands are fit for its purposes.



METHODS

The sample consisted of 155 cadets; 14 women (age 21 ± 2 years; stature 163 ± 4 cm; body mass 60.19 ± 9.38 kg) and 141 men (age 21 ± 1 year; stature 176 ± 6 cm; body mass 74.51 ± 9.69 kg). The participants were assessed on two occasions: one week before the beginning of the training and on the last day in the field. The data collected included stature, body mass (BM), and three-site skinfold thickness, used to estimate total body density, body fat percentage (BFP), and lean body mass (LBM). For men, the skinfold sites assessed were triceps, suprailiac, and abdominal, and for women, the sites were proximal thigh, suprailiac, and subscapular. The data normality distribution was verified by the Shapiro-Wilk test, and dependent Student t-tests were used to compare means ($p < 0.05$).



RESULTS

All the differences between variable means were significant among males and females ($p < 0,05$), respectively: BM (1.35 ± 1.25 kg vs 0.84 ± 1.32 kg), BFP (2.20 ± 2.25 % vs 2.62 ± 2.32 %), and LBM (-0.50 ± 1.90 kg vs -0.93 ± 1.00 kg).



DISCUSSION AND CONCLUSION

After five days of field-based training, both genders similarly presented a decrease in BM and BFP and an increase in LBM. Considering that morphology (in addition to other variables) can influence performance, these data could be useful for investigating whether the training improves combat readiness among Brazilian cadets.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

