



# Does Brazilian Air Force physical fitness test predict operational performance? Evaluation of its accuracy in the air force's wing operational exercise.

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## INTRODUCTION

Brazilian Air Force (BAF) Physical Fitness Test (PFT) evaluates health-related parameters. Currently the BAF PFT is composed of 12 min run, push ups, sits ups (1 min.), body composition (Pollock 3-site caliper method)<sup>2</sup> and passive flexibility test (FLEXITEST)<sup>3</sup>. However, the PFT may not accurately provide relevant assessment on the military combat performance. This study evaluated the accuracy of PFT to predict performance in a operational test composed by military tasks.

## METHODS

Fifteen male had to climb up and down a rope of 4m high, wear a 10kg backpack, and sprint 400m on a track. In a separate session, the same subjects were submitted to the BAF PFT. Free-fat body mass percentage (%FFBM), heart rate reserve (HRR), the sum of the FLEXITEST scores and VO<sub>2</sub>max were used as PFT variables. The total time (T<sub>1</sub>), time to climb up rope (T<sub>2</sub>) and time to run 400m (T<sub>3</sub>) were recorded and compared with the PFT performance by using linear multiple regression models,  $P < 0.05$ .

## RESULTS

Analysis of seven predicting models showed only moderate but significant association between %FFBM and T<sub>1</sub> ( $R^2$  0.31) and T<sub>2</sub> ( $R^2$  0.34).

## DISCUSSION AND CONCLUSION

The results demonstrate that %FFBM could moderately explain performance in the operational test. This correlation might be related to the high intensity nature of this task. However, PFT does not have a specific anaerobic or muscular power test and the inclusion of one of these tests, might contribute to improve this relationship. Data of the present study are in agreement to the other Armed Force findings which have already developed their own operational tests. The present work is a preliminary study reinforcing the hypothesis that PFT is not an accurate tool to select and evaluate the military personal for BAF operational tasks.

## PRACTICAL IMPLICATIONS

To encourage CISM in developing international contests based on the military combat tasks similarly to the one proposed in the study.

## REFERENCES

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## CONFLICT OF INTEREST

The authors declare no conflict of interest.