

AEROBIC CAPACITY OF INDIVIDUALS WITH DISABILITIES: A COMPARATIVE STUDY AMONG MILITARY SOLDIERS AND CIVIL POPULATION IN SRI LANKA

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Consequent to the thirty years of war in Sri Lanka, many civilians and military soldiers were made disabled. Disability can impact on the physical, social and psychological well-being of individuals. Participation in regular physical activity is known to have positive effects on the level of fitness. The aim of this study is to compare the aerobic capacity of individuals with disabilities from military and civil populations.

Aerobic capacity was studied in 46 individuals with lower limb amputation and paraplegia. Among them 26 were military soldiers and 20 were civilians. All 26 military soldiers were unilateral lower limb amputees whereas in the civilian group 10 were unilateral amputees and 10 were paraplegic. All subjects underwent aerobic fitness assessment with determination of maximal aerobic capacity (VO₂ max) by using arm crank ergometry. The mean VO₂ max averaged 49.61 ml.kg⁻¹.min⁻¹ and 37.53 ml.kg⁻¹.min⁻¹ in military and civilian groups, respectively. Mean VO₂ max value for amputees in the civilian group was 39.93 ml.kg⁻¹.min⁻¹ whereas mean VO₂ max value for paraplegic was 34.60 ml.kg⁻¹.min⁻¹ in the civilian group. Aerobic capacity was significantly higher in military soldiers than in civil people and it was also higher in military soldiers when compared to same type of disabilities in the civilian group. VO₂ max was found to be significantly related to the type of disability in civilian group. Aerobic performance of amputees was significantly better than that of paraplegic in civil population. Mean values of VO₂ max were compared with 'Fitnessgram' standards to evaluate aerobic capacity in order to compare with general population. Accordingly only 10% of the civilian group fell into the healthy fitness zone, 15% needed improvement and 75% were at the healthy risk zone. In the military group 69% were in the healthy fitness zone, 19% needed improvements and 12% were in the healthy risk zone.

The findings suggest that military soldiers with disabilities have higher aerobic capacity when compared to civilians with disabilities. However, this is a pilot study and describes aerobic capacity profiles of only a selected cohort of military soldiers and civilians with disabilities. It is recommended that future studies to evaluate the aerobic capacity in relation to different types of disabilities be carried out in a large cohort.