

ABSTRAK

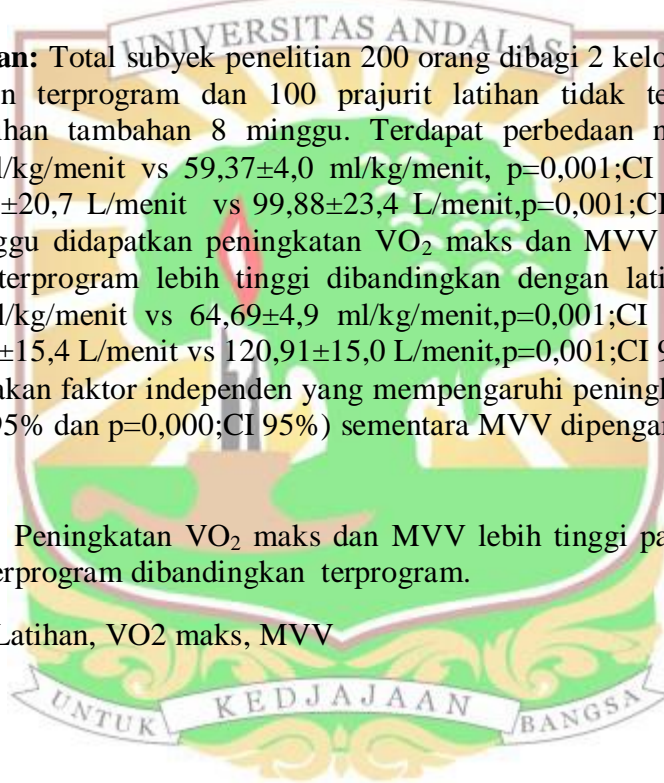
Latar Belakang : Prajurit TNI memerlukan tingkat kebugaran jasmani lebih tinggi dibandingkan orang biasa karena beratnya tugas yang diemban. Kebugaran jasmani dipertahankan dengan berbagai bentuk latihan. Kesegaran jasmani dapat dinilai salah satunya dengan VO_2 maks. Latihan yang dilakukan bisa mempengaruhi fungsi paru diantaranya MVV. Penelitian ini bertujuan untuk menilai pengaruh latihan terhadap peningkatan VO_2 maks dan MVV pada prajurit TNI.

Metode penelitian: Desain penelitian ini cross sectional yang membandingkan efek latihan pada kelompok prajurit TNI yang mengikuti latihan terprogram dan yang tidak terhadap nilai VO_2 maks dan MVV.

Hasil penelitian: Total subyek penelitian 200 orang dibagi 2 kelompok yaitu 100 prajurit latihan terprogram dan 100 prajurit latihan tidak terprogram yang mengikuti latihan tambahan 8 minggu. Terdapat perbedaan nilai VO_2 maks ($66,95 \pm 3,1$ ml/kg/menit vs $59,37 \pm 4,0$ ml/kg/menit, $p=0,001$; CI 95%) dan nilai MVV ($112,52 \pm 20,7$ L/menit vs $99,88 \pm 23,4$ L/menit, $p=0,001$; CI 95%), setelah latihan 8 minggu didapatkan peningkatan VO_2 maks dan MVV pada kelompok latihan tidak terprogram lebih tinggi dibandingkan dengan latihan terprogram ($70,90 \pm 3,5$ ml/kg/menit vs $64,69 \pm 4,9$ ml/kg/menit, $p=0,001$; CI 95%) dan nilai MVV ($127,46 \pm 15,4$ L/menit vs $120,91 \pm 15,0$ L/menit, $p=0,001$; CI 95%). Umur dan latihan merupakan faktor independen yang mempengaruhi peningkatan VO_2 maks ($p=0,000$; CI 95% dan $p=0,000$; CI 95%) sementara MVV dipengaruhi oleh latihan ($p=0,046$).

Kesimpulan : Peningkatan VO_2 maks dan MVV lebih tinggi pada prajurit TNI latihan tidak terprogram dibandingkan terprogram.

Kata kunci : Latihan, VO_2 maks, MVV



ABSTRACT

Background: Every Indonesian Soldier is supposed to have higher level of physical fitness than common population cause by their high level duty. Physical fitness is maintained by various exercise. Physical fitness could be assessed by VO_2 max. Exercise have effect in improving MVV. This study has aim to analyze effect of exercise in improving VO_2 max and MVV in Indonesian soldier.

Methods: Cross sectional study comparing the effects of exercise on a group of soldiers who have been training programmed and not on the value of VO_2 max and MVV.

Results: Total of 200 research subjects were divided into 2 groups: 100 programmed exercise soldiers and 100 not programmed. There are differences in VO_2 max value and MVV at baseline of these two group ($66,95 \pm 3,1$ ml/kg/menit vs $59,37 \pm 4,0$ ml/kg/menit, $p=0,001$; CI 95%), ($112,52 \pm 20,7$ L/menit vs $99,88 \pm 23,4$ L/menit, $p=0,001$; CI 95% respectively). There were improvement of VO_2 max value and MVV after eight weeks additional exercise ($70,90 \pm 3,5$ ml/kg/menit vs $64,69 \pm 4,9$ ml/kg/menit, $p=0,001$; CI 95%) MVV ($127,46 \pm 15,4$ L/menit vs $120,91 \pm 15,0$ L/menit, $p=0,001$; CI 95% respectively). Age and additional exercise were independent factor of VO_2 max improvement ($p=0,000$; CI 95%; $p=0,000$; CI 95%). Only additional exercise was the independent factor for improving MVV ($p=0,046$; CI 95%).

Conclusions: The increase of VO_2 max and MVV are higher on not programmed exercise Indonesian soldires than programmed.

Keywords: Exercise in soldier, Maximal Oxygen Uptake (VO_2 max), Maximal Voluntary Ventilation (MVV).

