

## Perbedaan peningkatan kadar asam laktat dan tingkat kelelahan sebelum dan sesudah uji jalan enam menit pada PPOK = Difference of lactic acid and leg fatigue score increase before and after six minute walking test in COPD

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20391143&lokasi=lokal>

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Abstrak

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Latar Belakang : Salah satu dampak sistemik dari penyakit paru obstruktif kronik (PPOK) yaitu modifikasi tipe otot skeletal. Tujuan penelitian ini adalah untuk menilai tingkat kelelahan kaki dengan menilai skala Borg lelah dan asam laktat perifer sebagai penanda kelelahan kaki

Metode : Desain penelitian ini adalah studi potong lintang, terdiri dari 34 subjek PPOK dan 25 subjek kontrol sehat yang seusia dengan usia subjek PPOK. Subjek dinilai skala Borg kelelahan kaki lelah dan asam laktat perifer sebelum dan sesudah uji jalan 6 menit (UJ6M).

Hasil : Terdapat peningkatan lebih tinggi median asam laktat yang tidak bermakna ( $p > 0,05$ ) secara statistik antara subjek PPOK (0,5) dibandingkan kontrol (0,45). Terdapat peningkatan median skala Borg lelah yang bermakna ( $p < 0,001$ ) antara subjek PPOK (5,0) dibandingkan subjek kontrol (1,0). Terdapat jarak tempuh yang lebih besar secara bermakna pada subjek kontrol dibandingkan subjek PPOK ( $p < 0,05$ ).

Kesimpulan : Kelompok PPOK memiliki peningkatan asam laktat yang tidak bermakna dibandingkan kelompok kontrol. Kelompok PPOK memiliki peningkatan skala Borg kaki lelah yang lebih besar dan berbeda bermakna dibandingkan dengan kontrol.

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<b>ABSTRACT</b><br>

Background : One of systemic effects of COPD is a modification of skeletal muscle fiber types. The objective of this study is to determine the increase of leg fatigue by using Borg scale leg fatigue and lactic acid level.

Methods : This is a cross-sectional study design. The samples were 34 COPD patients and 25 healthy adults with the same age as COPD patients as the control. The lactic acid level and Borg leg fatigue scale were measured before and after six minute walking test (6MWT).

Results : There was an unsignificantly difference change of median of lactic acid level ( $p > 0,05$ ) between COPD (0,5 mMol) compared to control (0,45 mMol). There was a statistically significant difference ( $p < 0,001$ ) change of leg fatigue Borg scale between COPD (5,0) compared to control (1,0). There was a significantly ( $p < 0,05$ ) higher mean of distance of 6MWT in control subjects (411,62 meters) compared to COPD (364 meters).

Conclusion : COPD patients had an unsignificantly increase of lactic acid level after the 6MWT compared to control subjects. COPD patients had a significantly higher leg fatigue Borg scale compared to control after the 6MWT.;Background : One of systemic effects of COPD is a modification of skeletal muscle fiber types. The objective of this study is to determine the increase of leg fatigue by using Borg scale leg fatigue and lactic acid level.

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