

ABSTRAK

HUBUNGAN *MAXIMUM PHONATION TIME* DENGAN *VO₂MAX* SEBAGAI PENILAIAN *ENDURANCE* PADA SUBYEK LAKI-LAKI USIA 25 SAMPAI 35 TAHUN

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Latar belakang : *Endurance* menurun 1% tiap tahun atau 10% per dekade yang dimulai pada usia 25 tahun. Penurunan *endurance* dapat dinilai dengan uji latihan beban. Beberapa pasien memiliki keterbatasan sehingga belum mampu melakukan uji latihan. Tujuan penelitian ini adalah untuk mengetahui hubungan antara *maximum phonation time* dengan nilai *VO₂max* dari uji latihan beban maksimal ergometri anggota gerak bawah sebagai penilaian *endurance* kardiorespirasi.

Metode : Penelitian ini merupakan analitik observasional dengan pendekatan *cross sectional study* yang dilakukan pada 34 orang laki-laki usia 25 sampai 35 tahun. Semua subyek diukur nilai *VO₂max* dengan ergometri anggota gerak bawah dan nilai *maximum phonation time*. Pengukuran *maximum phonation time* dengan posisi duduk dan subyek diminta untuk mengucapkan suara vokal “a” selama mungkin setelah inhalasi maksimal.

Hasil : Tiga puluh empat subyek dapat menyelesaikan uji latihan beban maksimal ergometri anggota gerak bawah dan pengukuran *maximum phonation time*. Hasil penelitian menunjukkan adanya hubungan antara *VO₂max* dan *maximum phonation time* dengan nilai koefisien korelasi Pearson (r) 0,890.

Kesimpulan : Penelitian ini menunjukkan bahwa *VO₂max* memiliki hubungan dengan *maximum phonation time*. Penelitian lebih lanjut diperlukan pada subyek yang lebih bervariasi, baik dari usia, jenis kelamin, indeks massa tubuh, maupun status kondisi kesehatan.

Kata kunci : *Maximum phonation time*, *VO₂max*, *endurance*, uji latihan kardiorespirasi.

ABSTRACT**RELATION BETWEEN MAXIMUM PHONATION TIME AND VO₂MAX
AS AN ASSESSMENT OF ENDURANCE IN MALE SUBJECTS
AGED 25 TO 35 YEARS**

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Background : Endurance decreased 1 % per year or 10% per decade starting at age 25 years. Decrease in endurance can be assessed by exercise stress test. Some patients have the limitations that still have not been able to do some exercise test. The aim of this study was to determine the relation between the maximum phonation time with VO₂max values of maximal exercise stress test lower limbs ergometry as cardiorespiration endurance assessment.

Material and Method : This research is an analytic observational with cross sectional study conducted on 34 men aged 25 until 35 years. All subjects were measured VO₂max values with lower limbs ergometry and the value of maximum phonation time. Measurements of maximum phonation time were taken in the seated position and all subjects were asked to produce a sustain vowel /a/ for as long as possible after maximal inhalation.

Result : Thirty-four subjects can complete the maximal exercise stress test with lower limbs ergometry and the measurement of maximum phonation time. The results showed a relation between VO₂max and maximum phonation time with Pearson correlation coefficient (r) is 0,890.

Conclusion : This study showed that VO₂max has a relation with the maximum phonation time. Further research is needed on the subjects are more varied, with other age, gender, body mass index, and the status of health conditions.

Keywords : **Maximum phonation time, VO₂max, endurance, cardiorespiratory exercise test.**