

ABSTRAK
HUBUNGAN KEBUGARAN YANG DIUKUR DENGAN
TES *TREADMILL* METODE BRUCE DENGAN
TES BANGKU QUEEN'S COLLEGE

Rina Napitupulu, 2010.

Pembimbing : Dr. Iwan Budiman, dr., MS, MM, MKes, AIF

Latar Belakang: Kebugaran dapat diukur dengan tes *treadmill* metode Bruce dan tes bangku Queen's College. Hasil VO_2 maks yang diukur dengan tes *treadmill* 5-15% lebih tinggi daripada yang diukur dengan tes sepeda atau tes bangku.

Tujuan: Ingin mengetahui hubungan tes *treadmill* metode Bruce dengan tes bangku Queen's College.

Metode Penelitian: Subjek Penelitian adalah 40 mahasiswa laki-laki UKM, berusia 18-25 tahun, tinggi minimal 165 cm. Desain penelitian adalah survei analitik. Pengukuran kebugaran dilakukan dengan tes *treadmill* metode Bruce dan tes bangku Queen's College.

Hasil: Pada tes *treadmill* metode Bruce didapatkan hasil 95% berkriteria Baik, 5% berkriteria Sedang dan 0% berkriteria Buruk. Dengan VO_2 maks rata-rata = 54.92 mlO₂/kgBB/menit (Baik). Pada tes bangku Queen's College didapatkan hasil 72.5% berkriteria Baik, 27.5% berkriteria Sedang dan 0% berkriteria Buruk. Dengan VO_2 maks rata-rata = 44.26 mlO₂/kgBB/menit (Sedang). Tes *treadmill* metode Bruce dan Queen's College berhubungan dengan persamaan garis regresi linier sederhana Bruce = 20.347+0.781 Queen's College **, dengan koefisien korelasi "r" = 0.448** (p = 0.002), (hubungan Sedang).

Kesimpulan: Tingkat kebugaran 40 orang mahasiswa UKM yang diukur dengan tes *treadmill* metode Bruce didapatkan VO_2 maks dengan rata-rata 54.92 mlO₂/kgBB/menit (Baik). Pada tes bangku metode Queen's College didapatkan VO_2 maks dengan rata-rata 44.26 mlO₂/kgBB/menit (Baik). Tes *treadmill* metode Bruce dan tes bangku Queen's College mempunyai bentuk hubungan berupa garis regresi linier sederhana, dengan kekuatan hubungan Sedang .

Kata kunci: Kebugaran, *treadmill*, Bruce, tes bangku, Queen's College.

ABSTRACT
RELATIONSHIP BETWEEN PHYSICAL FITNESS MEASURED BY
BRUCE TREADMILL TEST AND QUEEN'S COLLEGE STEP TEST

Rina Napitupulu, 2010.

Tutor : Dr. Iwan Budiman, dr., MS, MM, MKes, AIF

Backgrounds: Physical fitness can be measured by Bruce treadmill test and Queen's College step test. . The result of VO_2 max which is measured by treadmill test is 5-15 % higher than result in step test or ergocycle test.

Objectives : The study was to know correlation between Bruce treadmill test and Queen's College step test.

Research Methods: The subject of this study consisted of 40 male students of Maranatha Christian University, age between 18-25 years old, and minimal height 165 cm. Research design used analytic survey. Physical fitness level measured by Bruce treadmill test and Queen's College step test.

Results: On Bruce treadmill method test resulted 95% showed Good criterion, 5% showed Moderate criterion, and 0% showed Bad criterion. By average, the students showed VO_2 max = 54.92 mlO₂/kgweight/minute (Good). Furthermore, in Queen's College step test, the resulted in 72.5% students showed Good criterion, 27.5% showed Moderate criterion, and 0% showed Bad criterion. By average, the students showed VO_2 max= 44.26 mlO₂/kgweight/minute (Good). Bruce treadmill method test and Queen's College step test have correlation as according to equation of simple linier regression line which is Bruce = $20.347 + 0.781$ Queen's College ** with correlation coefficient " r " = 0.448 Moderate**(p=0.002).

Conclusion: The physical fitness level of 40 students of Maranatha Christian University which is tested with Bruce treadmill test can be seen that the average of VO_2 max are 54.92 mlO₂/kgBB/menit. Moreover Queen's College step test resulted in average of VO_2 max are 44.62 mlO₂/kgweight/menit. Therefore, Bruce treadmill test and Queen's College step test are linked to a simple linier regression line with Moderate correlation.

Key word: Physical fitness, treadmill, Bruce, step test, Queen's College.

DAFTAR ISI

	Halaman
JUDUL	
LEMBAR PERSETUJUAN..	ii
SURAT PERNYATAAN.....	iii
ABSTRAK.....	iv
ABSTRACT... ..	v
KATA PENGANTAR.....	vi
DAFTAR ISI.....	viii
DAFTAR TABEL.....	x
DAFTAR GRAFIK... ..	xi
DAFTAR DIAGRAM.....	xii
DAFTAR LAMPIRAN.....	xiii
BAB I PENDAHULUAN	
1.1 Latar Belakang.....	1
1.2 Identifikasi Masalah.....	2
1.3 Tujuan.....	2
1.4 Manfaat Penelitian.....	2
1.5 Kerangka Penelitian dan Hipotesis Penelitian.....	3
1.6 Metode Penelitian	3
1.7 Lokasi dan Waktu	3
BAB II TINJAUAN PUSTAKA	
2.1 Kebugaran Jasmani.....	4
2.2 Komponen Kebugaran.....	4
2.2.1 Jantung.. ..	4
2.2.2 Paru-Paru.....	6
2.2.3 Otot.....	8
2.3 VO ₂ Maks.....	10
2.4 Tes-Tes Kebugaran.....	11
2.5 Pengukuran Kebugaran dengan Tes <i>Treadmill</i> Metode Bruce.....	12
2.6 Pengukuran Kebugaran dengan Tes Bangku Queen's College.....	12
BAB III BAHAN DAN METODE PENELITIAN	
3.1 Subjek Penelitian	13
3.2 Alat-Alat yang Digunakan.....	13
3.3 Metode Penelitian	14
3.3.1 Desain Penelitian.....	14
3.3.2 Variabel Penelitian.....	14
3.3.3 Definisi Operasional Variabel Penelitian.....	14
3.3.4 Ukuran Sampel.....	15
3.3.5 Prosedur Penelitian	15
3.4 Analisis Data.....	17

BAB IV HASIL, PEMBAHASAN, DAN PENGUJIAN HOPOTESIS	
4.1 Hasil dan Pembahasan.....	19
4.2 Pengujian Hipotesis.....	26
BAB V KESIMPULAN DAN SARAN	
5.1 Kesimpulan.....	28
5.2 Saran.....	29
DAFTAR PUSTAKA.....	30
LAMPIRAN.....	31
RIWAYAT HIDUP.....	37

DAFTAR TABEL

Tabel 4.1 Hasil Penelitian Tes <i>Treadmill</i> Metode Bruce.....	19
Tabel 4.2 Hasil Penelitian Tes Bangku Queen's College.....	21
Tabel 4.3 Hasil Tes <i>Treadmill</i> Metode Bruce dan Tes Bangku Queen's College pada Individu yang Sama.....	23

DAFTAR GRAFIK

Grafik 4.1 Hubungan Antara Tes <i>Treadmill</i> Metode Bruce dengan Tes Bangku Queen's College.....	25
--	----

DAFTAR DIAGRAM

Diagram 4.1 Hasil Tes <i>Treadmill</i> Metode Bruce.....	20
Diagram 4.2 Hasil Tes Bangku Queen's College.....	22
Diagram 4.3 Hasil Tes <i>Treadmill</i> Metode Bruce dan Tes Bangku Queen's College.....	24

DAFTAR LAMPIRAN

Lampiran 1 Surat Persetujuan.....	31
Lampiran 2 Output Hasil Pengujian Statistik.....	32
Lampiran 3 Formulir Bruce.....	33
Lampiran 4 Formulir Queen's College.....	34
Lampiran 5 Tabel VO ₂ Maks.....	35
Lampiran 6 Dokumentasi.....	36