

**PENGARUH KADAR TESTOSTERONE SALIVA TERHADAP HEART
RATE RECOVERY PADA MAHASISWA FAKULTAS KEDOKTERAN
UNIVERSITAS JENDERAL SOEDIRMAN**

ABSTRAK

Latar belakang: Testosterone adalah hormon steroid yang diproduksi oleh sel *Leydig* melalui aksis HPT. Testosterone saliva adalah salah satu pengukuran noninvasif. Testosterone memiliki efek terhadap kesehatan jantung. Efek kardioprotektif tersebut berupa struktur dan otonom jantung. Status testosterone berbanding lurus dengan intensitas aktivitas fisik. *Heart rate recovery* (HRR) merupakan salah satu parameter kesehatan otonom jantung. **Tujuan:** Penelitian ini bertujuan untuk mengetahui pengaruh kadar testosterone saliva terhadap *heart rate recovery* pada mahasiswa FK Unsoed. **Metode:** Penelitian ini bersifat observasional dengan pendekatan studi potong lintang. Jumlah subjek dalam penelitian ini berjumlah 32 mahasiswa yang diambil dengan *consecutive sampling* dengan kriteria inklusi laki-laki berusia 18-25 tahun, menyetujui *informed consent*, IMT 18- 24,9 kg/m², dan tingkat aktivitas fisik rendah hingga sedang. Pengukuran kadar testosterone menggunakan kit *Salimetrics* ELISA. Pengukuran HRR menggunakan POLAR M400 *heart rate monitor*, metronom, dan bangku *step test*. Uji normalitas menggunakan *Saphiro-Wilk* dan analisis bivariat menggunakan uji parametrik korelatif *Pearson*. **Hasil:** Hasil pengukuran pada subjek didapatkan kadar testosterone saliva 12,34±3,65 pg/mL dan HRR 33,03±5,55. Hasil uji korelasi *Pearson* testosterone terhadap HRR didapatkan nilai $p = 0,883$ dan $r = 0,27$ berarti tidak terdapat korelasi bermakna pada testosterone saliva terhadap HRR. **Kesimpulan:** Kesimpulan penelitian ini tidak terdapat pengaruh antara kadar testosterone saliva terhadap HRR pada mahasiswa FK UNSOED.

Kata kunci: saraf otonom, *heart rate recovery*, testosterone

**THE EFFECT OF SALIVARY TESTOSTERONE LEVELS ON HEART
RATE RECOVERY ON STUDENTS OF FACULTY OF MEDICINE
JENDERAL SOEDIRMAN UNIVERSITY**

ABSTRACT

Introduction: Testosterone is a steroid hormone produced by Leydig cells through HPT axis. Salivary testosterone is one of noninvasive measurement level. Testosterone has effect on cardiac health. Its cardioprotective role consist of structural and autonomical function wellness. Testosterone status is horizontally correlated with physical activity intensity. Heart rate recovery is one parameter of autonomic cardiac health. **Objective:** This study aims to determine the effect of salivary testosterone level on HRR in FK Unsoed students. **Methods:** This study is observational with cross sectional approach. The number of subject participants were 32 students taken with consecutive sampling, with inclusion criteria consist of male aged 18-25 years, signed the informed consent, BMI 18-24,9 kg/m², with low to moderate physical activity intensity. Testosterone level was measured with Salimetrics ELISA kit. HRR was measured with POLAR M400 heart rate monitor, metronome, and step test chair. Normality test that used is Saphiro-Wilk and bivariate analyses was performed with parametric Pearson correlative. The results of measurement of salivary testosterone and HRR consequently is 12,34±3,65 pg/mL and 33,03±5,55 on subject participants. **Results:** The results of Pearson correlation test salivary testosterone on HRR show the value of $p = 0,883$ and $r = 0,27$ which means that there is no significant correlation between salivary testosterone levels and HRR. **Conclusions:** The conclusion of this study is there no effect between testosterone saliva levels and HRR on FK UNSOED students.

Keyword: autonomic nerve, heart rate recovery, testosterone