

# HUBUNGAN KADAR HORMON TESTOSTERON DENGAN MASSA OTOT PADA MAHASISWA FAKULTAS KEDOKTERAN UNIVERSITAS JENDERAL SOEDIRMAN

## ABSTRAK

**Latar Belakang :** Testosteron merupakan salah satu hormon yang memiliki peranan penting pada pria. Testosteron berfungsi dalam mengatur diferensiasi jenis kelamin, spermatogenesis, kesuburan, dan menimbulkan karakteristik jenis kelamin sekunder pria. Penurunan kadar hormon testosteron pada tubuh dapat menimbulkan gangguan pada tubuh yang salah satunya bermanifestasi klinis dengan penurunan massa otot tubuh.

**Tujuan :** Penelitian ini bertujuan untuk mengetahui hubungan antara kadar hormon testosteron dengan massa otot pada mahasiswa Fakultas Kedokteran Universitas Jenderal Soedirman.

**Metode :** Metode yang digunakan dalam penelitian ini adalah *cross sectional*. Subjek penelitian berjumlah 19 orang mahasiswa yang dikumpulkan dengan metode *consecutive sampling* sesuai kriteria inklusi dan eksklusi. Pengukuran massa otot menggunakan metode *Bioelectrical Impedance Analysis (BIA)* dan pengukuran kadar hormon testosteron total menggunakan metode *Enzyme Linked Immunosorbent assay (ELISA) direct*.

**Hasil :** Hasil pengukuran kadar hormon testosteron didapatkan rerata  $413,5 \pm 79,8$  ng/dL dan massa otot didapatkan rerata  $50,5 \pm 5,95$  kg. Hasil uji korelasi *Pearson* antara kadar hormon testosteron dengan massa otot diperoleh nilai  $p=0,19$ . Hal ini menunjukkan tidak terdapat hubungan yang bermakna antara kadar hormon testosteron dengan massa otot pada mahasiswa Fakultas Kedokteran Universitas Jenderal Soedirman ( $p>0,05$ ).

**Kesimpulan :** Tidak terdapat hubungan antara kadar hormon testosteron dengan massa otot pada mahasiswa Fakultas Kedokteran Universitas Jenderal Soedirman.

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Kata Kunci : Massa Otot, Remaja, Testosteron.

# CORRELATION TESTOSTERONE LEVELS AND MUSCLE MASS AT COLLEGE STUDENT IN JENDERAL SOEDIRMAN UNIVERSITY

## ABSTRACT

**Background :** Testosterone is one of hormone has an important role in men. Testosterone has function in regulating the differentiation of the sexes, spermatogenesis, fertility, and cause male secondary sex characteristics. Decreased levels of the hormone testosterone in the body can cause interference with the body, one of which manifests clinically with a decrease in body muscle mass.

**Objective :** This study aims to determine the relationship between testosterone levels with muscle mass in college students of the Faculty of Medicine University of Jenderal Soedirman.

**Metode :** The method used in this study is cross sectional. The research subjects were 19 students college who were collected by consecutive sampling method according to the inclusion and exclusion criteria. Measurement of muscle mass using the Bioelectrical Impedance Analysis (BIA) method and measurement of total testosterone levels using the direct Enzyme Linked Immunosorbent assay (ELISA).

**Result :** The measurement results of testosterone levels obtained average  $413.5 \pm 79.8$  ng/dL and muscle mass obtained average of  $50.5 \pm 5.95$  kg. Pearson correlation test results between testosterone levels with muscle mass obtained p value = 0.19. This shows that no correlation between testosterone levels with muscle mass in college students at the Faculty of Medicine Jenderal Soedirman University ( $p > 0.05$ ).

**Conclusion :** There is no correlation between testosterone levels with muscle mass in the college students at the Faculty of Medicine University of Jenderal Soedirman.

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Keywords: Adolescent, Muscle Mass, Testosterone.