

HUBUNGAN *WAIST TO HEIGHT RATIO* DAN *BASAL METABOLIC RATE* TERHADAP TEKANAN DARAH MAHASISWA FK UPNVJ

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Abstrak

Peningkatan prevalensi hipertensi pada usia muda menjadikannya isu kesehatan masyarakat yang krusial, sedangkan rendahnya tingkat diagnosis menyebabkan hipertensi sering tidak teridentifikasi. Obesitas sentral dan gangguan metabolik merupakan determinan penting tekanan darah, sehingga distribusi lemak tubuh dan metabolisme basal merupakan prediktor tekanan darah yang relevan. Penelitian ini bertujuan menganalisis korelasi antara waist-to-height ratio (WHtR) dan basal metabolic rate (BMR) terhadap tekanan darah pada mahasiswa kedokteran, menggunakan desain analitik observasional secara potong lintang, melibatkan 46 mahasiswa. Pengukuran antropometri, analisis bioimpedansi, serta pengukuran tekanan darah digunakan untuk menilai ketiga variabel di atas, kemudian data penelitian dianalisis menggunakan uji korelasi Spearman. Hasil penelitian menunjukkan sebagian besar responden berada pada kategori WHtR tidak berisiko (73,9%), dengan rerata tekanan darah sistolik 112,74 mmHg dan diastolik 75,28 mmHg. WHtR memiliki korelasi positif yang signifikan dengan tekanan darah sistolik ($r = 0,722$; $p < 0,001$) dan diastolik ($r = 0,544$; $p < 0,001$). BMR menunjukkan korelasi lemah namun signifikan dengan tekanan darah sistolik ($r = 0,298$; $p = 0,044$), tetapi tidak berkorelasi dengan tekanan darah diastolik ($p = 0,190$). Dari temuan ini, disimpulkan bahwa WHtR merupakan prediktor sensitif untuk mendeteksi risiko hipertensi pada dewasa muda.

Kata kunci : *basal metabolic rate; mahasiswa kedokteran; obesitas sentral; tekanan darah; waist-to-height ratio*

**ASSOCIATION OF WAIST-TO-HEIGHT RATIO AND BASAL
METABOLIC RATE WITH BLOOD PRESSURE AMONG UPNVJ
MEDICAL STUDENTS**

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Abstract

The rising prevalence of hypertension at a young age makes it a crucial public health issue, while low rates of diagnosis cause hypertension to often go unidentified. Central obesity and metabolic disorders are important determinants of blood pressure, so body fat distribution and basal metabolism are relevant predictors of blood pressure. This study aims to analyze the correlation between waist-to-height ratio (WHtR) and basal metabolic rate (BMR) to blood pressure in medical students, using an observational analytical design in cross-section, involving 46 students. Anthropometric measurements, bioimpedance analysis, and blood pressure measurements were used to assess the three variables above, then the research data were analyzed using the Spearman correlation test. The results showed that most of the respondents were in the non-risk WHtR category (73.9%), with an average systolic blood pressure of 112.74 mmHg and diastolic 75.28 mmHg. WHtR had a significant positive correlation with systolic ($r = 0.722$; $p < 0.001$) and diastolic ($r = 0.544$; $p < 0.001$) blood pressure. BMR showed a weak but significant correlation with systolic blood pressure ($r = 0.298$; $p = 0.044$), but did not correlate with diastolic blood pressure ($p = 0.190$). From these findings, it is concluded that WHtR is a sensitive predictor for detecting the risk of hypertension in young adults.

Keywords: basal metabolic rate; medical students; central obesity; blood pressure; waist-to-height ratio