

# Hubungan Nilai VO2Max dengan Aktivitas Fisik, Frekuensi Asupan Gizi Makro, Konsumsi Sumber Kafein, Kualitas Tidur, COVID-19 dan Faktor Lainnya pada Siswa SMAN 7 Mataram Tahun 2022 = Correlation between VO2Max with Physical Activity, Frequency of Macronutrient Intake, Caffeine Source Consumption, Sleep Quality, COVID-19 and Other Factors at SMAN 7 Mataram in 2022

Lola Annisya, author

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## Abstrak

Kebugaran merupakan kemampuan seseorang untuk melakukan aktivitas fisik sehari-hari tanpa merasakan kelelahan yang berlebihan. Kebugaran dapat dinilai dari Nilai VO2max yaitu tingkat maksimum dimana oksigen dapat dimanfaatkan oleh tubuh selama aktivitas maksimal. Tujuan dari penelitian ini adalah mengetahui beberapa faktor yang berhubungan dengan nilai VO2max (kebugaran) yang diukur menggunakan Queen's College Step Test. Desain studi penelitian ini adalah cross sectional yang dilakukan pada 156 siswa laki-laki kelas X, XI, dan XII di SMAN 7 Mataram. Variabel dependen dari penelitian ini yaitu nilai VO2max dan variabel independen terdiri dari status gizi (IMT), aktivitas fisik, frekuensi asupan gizi makro, konsumsi sumber kafein, kualitas tidur, tingkat stress, perilaku merokok, dan COVID-19. Status kebugaran didapatkan melalui klasifikasi nilai VO2max yang selanjutnya dibagi menjadi kategori tidak bugar dan bugar, status gizi diukur menggunakan antropometri, aktivitas fisik diukur menggunakan International Physical Activity Questionnaire (IPAQ), frekuensi asupan gizi makro diukur menggunakan Food Frequency Questionnaire (FFQ), konsumsi sumber kafein diukur menggunakan kuesioner, kualitas tidur diukur menggunakan Pittsburg Sleep Quality Index (PSQI), tingkat stres diukur menggunakan Perceived Stress Scale (PSS), dan perilaku merokok serta COVID-19 diukur menggunakan kuesioner. Hasil penelitian menunjukkan bahwa terdapat 34,6% siswa yang tidak bugar. Hasil analisis menunjukkan terdapat hubungan yang signifikan antara kebugaran berdasarkan nilai VO2max dengan IMT ( $p$ -value = 0,012), dan perilaku merokok ( $p$ -value = 0,037). Peneliti menyarankan agar siswa tetap mempertahankan kebugaran dengan meningkatkan aktivitas fisik terutama untuk menjaga kesehatan selama pandemi.

.....Physical fitness is a person's ability to carry out daily physical activities without feeling fatigue. Physical fitness can be assessed from the VO2max value, which is the maximum level of oxygen can be utilized by the body during maximum activity. The purpose of this study was to determine several factors related to the value of VO2max (fitness) which was measured using the Queen's College Step Test. The study design of this research was cross sectional which was conducted on 156 male students in grades X, XI, and XII of SMAN 7 Mataram. The dependent variable of this study is VO2max value and the independent variables consist of nutritional status (BMI), physical activity, frequency of macronutrient intake, caffeine source consumption, sleep quality, stress level, smoking behavior, and COVID-19. The status was obtained through the classification of VO2max values which were further categorized into unfit and fit categories, nutritional status measured using anthropometry, physical activity measured using the International Physical Activity Questionnaire (IPAQ), frequency of macronutrient intake measured using the Food Frequency Questionnaire (FFQ), caffeine source consumption. measured using a questionnaire, sleep quality using the Pittsburg Sleep Quality Index (PSQI), stress levels measured using the Perceived Stress Scale (PSS), and

smoking and COVID-19 behavior measured using a questionnaire. The results showed that there were 34.6% of students who were not fit. The results of the analysis showed that there was a significant relationship between fitness based on VO<sub>2</sub>max value and BMI (p-value = 0.012), and smoking behavior (p-value = 0.037). Researchers suggest that they maintain fitness by increasing physical activity, especially to maintain health during the pandemic.