

Hubungan Status Gizi dan Aktivitas Fisik Dengan Tekanan Darah Pada Mahasiswa Pengguna *Electronic Nicotine Delivery System* (ENDS) di Universitas Diponegoro

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ABSTRAK

Latar Belakang: Perkembangan tren rokok elektrik atau *Electronic Nicotine Delivery System* (ENDS) meningkat pesat, terutama di kalangan mahasiswa yang menganggapnya lebih aman dibandingkan rokok konvensional. Selain penggunaan rokok elektrik, faktor lain seperti status gizi dan aktivitas fisik diketahui turut memengaruhi tekanan darah. Mahasiswa sebagai kelompok usia muda yang aktif dan rentan terhadap pengaruh lingkungan dan gaya hidup memiliki kecenderungan untuk mengalami perubahan tekanan darah, terutama jika terpapar faktor risiko seperti obesitas dan kurangnya aktivitas fisik.

Tujuan: Menganalisis hubungan status gizi dan aktivitas fisik dengan tekanan darah pada mahasiswa pengguna ENDS di Universitas Diponegoro.

Metode : Penelitian *cross-sectional* pada 54 subjek mahasiswa pengguna ENDS dengan rentan usia 20-25 tahun di Universitas Diponegoro. Pengukuran tekanan darah menggunakan *sphygmomanometer* digital yang kemudian dihitung rerata untuk mendapatkan nilai tekanan darah *Mean Arterial Pressure* (MAP), status gizi diukur dengan menghitung Indeks Massa Tubuh (IMT), dan aktivitas fisik dengan kuesioner *International Physical Activity Questionnaire-Short Form* (IPAQ-SF). Data dianalisis menggunakan uji *Rank-Spearman* dan regresi linear berganda.

Hasil: Terdapat hubungan yang signifikan antara status gizi (IMT) dan tekanan darah MAP ($r = 0,472$; $p < 0,00$). Aktivitas fisik tidak memiliki hubungan yang signifikan dengan tekanan darah MAP ($p = 0,778$). Model regresi menunjukkan bahwa status gizi dan lama penggunaan menjelaskan 40% variasi tekanan darah MAP (Adjusted $R^2 = 0,40$).

Simpulan: Status gizi dan lama penggunaan rokok elektrik berhubungan dengan tekanan darah MAP.

Kata kunci : status gizi, aktivitas fisik, tekanan darah, *electronic nicotine delivery system*

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The Relationship Between Nutritional Status and Physical Activity with Blood Pressure Among Electronic Nicotine Delivery System (ENDS) Users in Diponegoro University Students

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ABSTRACT

Background : *The trend of using electronic cigarettes or Electronic Nicotine Delivery Systems (ENDS) has rapidly increased, especially among university students who perceive them as safer than conventional cigarettes. In addition to ENDS usage, other factors such as nutritional status and physical activity are also known to influence blood pressure. University students, as a young and active age group, are particularly vulnerable to environmental and lifestyle influences, making them prone to changes in blood pressure—especially when exposed to risk factors such as obesity and physical inactivity.*

Objective: *To analyze the relationship between nutritional status and physical activity with blood pressure among ENDS-using students at Diponegoro University.*

Methods : *A cross-sectional study was conducted on 54 university students aged 20–25 years who used ENDS at Diponegoro University. Blood pressure was measured using a digital sphygmomanometer, and the mean arterial pressure (MAP) was calculated. Nutritional status was assessed using the Body Mass Index (BMI), and physical activity was measured using the International Physical Activity Questionnaire-Short Form (IPAQ-SF). Data were analyzed using the Spearman Rank test and multiple linear regression.*

Results : *There was a significant correlation between nutritional status (BMI) and MAP ($r = 0.472$; $p < 0.00$). Physical activity was not significantly correlated with MAP ($p = 0.778$). The regression model showed that nutritional status and duration of ENDS use explained 40% of the variation in MAP (Adjusted $R^2 = 0.40$).*

Conclusion : *Nutritional status and duration of ENDS use are associated with MAP.*

Keywords : *nutritional status, physical activity, blood pressure, electronic nicotine delivery system*

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