

ABSTRACT

RELATIONSHIP BETWEEN OBESITY AND PEAK EXPIRATORY FLOW RATE IN MEDICAL STUDENTS, UNIVERSITY OF LAMPUNG

By

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Background : Obesity alters ventilation and perfusion ratios by affecting lung capacity and respiratory function. In 2018, the prevalence of obesity in Indonesia rose by 47.3%, while in 2019, it rose by 18.3% in Bandar Lampung. The objective of research conducted at the Faculty of Medicine, University of Lampung, was to establish a correlation between obesity and peak expiratory flow rate (PEFR) among students. This investigation sought to generate novel knowledge and laid the groundwork for health interventions particularly within campus settings.

Methods : This study was conducted from November to December 2023 utilizing an analytical survey design with a cross-sectional model. The method of sampling was cluster random sampling. A total of 106 students comprised the research sample, 53 of whom were obese and 53 of whom were not obese. This study incorporated a physical examination that included body mass index (BMI) calculations and measurements of height, weight, and peak expiratory flow rate (PEFR). Kolmogorov-Smirnov was utilized for the bivariate analysis.

Results : Based on the findings of this research, the age distribution of individuals affected by obesity was predominately between 18 and 21 years. Furthermore, in terms of gender, a greater proportion of those affected were female than male, and a greater number of them were classified as having central obesity. In contrast, the yellow zone comprised the majority of the peak expiratory flow rate distribution, comprising 67 individuals (63.2% of the overall respondents). The bivariate analysis yielded inconclusive findings regarding the relationship between obesity and the PEFR ($p=0.302$), but a significant association was observed between central obesity and the PEFR ($p=0.017$).

Conclusion : Among University of Lampung medical students, there was a correlation between central obesity and PEFR but no association between obesity and PEFR.

Keywords : Obesity, Central Obesity, Peak Expiratory Flow Rate

ABSTRAK

HUBUNGAN OBESITAS DENGAN NILAI ARUS PUNCAK EKSPIRASI PADA MAHASISWA FAKULTAS KEDOKTERAN UNIVERSITAS LAMPUNG

Oleh

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Latar Belakang: Obesitas mampu memengaruhi volume paru-paru dan fungsi pernapasan, yang memicu perubahan rasio ventilasi dan perfusi. Prevalensi obesitas di Indonesia, meningkat 47,3% pada tahun 2018 dan di Bandar Lampung meningkat 18,3% tahun 2019. Studi di Fakultas Kedokteran Universitas Lampung bertujuan untuk memahami hubungan obesitas dengan nilai arus puncak ekspirasi (APE) pada mahasiswa, memberikan wawasan baru dan dasar untuk intervensi kesehatan di lingkungan kampus.

Metode : Penelitian ini menggunakan metode survei analitik dengan model *cross sectional* yang dilakukan pada bulan November hingga Desember 2023. Pengambilan sampel menggunakan teknik *cluster random sampling*. Sampel penelitian sebesar 106 mahasiswa, terdiri dari 53 orang obesitas dan 53 orang tidak obesitas. Penelitian ini dilaksanakan dengan pemeriksaan fisik berupa, tinggi badan, berat badan dan nilai arus puncak ekspirasi (APE) serta perhitungan indeks massa tubuh (IMT). Analisis bivariat menggunakan *kolmogorov-smirnov*.

Hasil : Hasil penelitian ini didapatkan distribusi penderita obesitas berdasarkan usia terbanyak berusia 18 tahun dan 21 tahun, berdasarkan jenis kelamin lebih banyak ditemukan pada perempuan daripada laki-laki dan berdasarkan obesitas sentral lebih banyak yang termasuk obesitas sentral. Sedangkan distribusi nilai arus puncak ekspirasi paling banyak terdapat pada zona kuning berjumlah 67 orang (63,2 % dari total responden). Hasil dari analisis bivariat didapatkan tidak ada hubungan obesitas dengan nilai APE ($p=0,302$), sedangkan terdapat hubungan obesitas sentral dengan nilai APE ($p= 0,017$).

Simpulan: Tidak terdapat hubungan antara obesitas dengan nilai APE dan terdapat hubungan antara obesitas sentral dengan nilai APE pada mahasiswa Program Studi Pendidikan Dokter Universitas Lampung

Kata Kunci : Obesitas, Obesitas Sentral, Nilai Arus Puncak Ekspirasi