

## ABSTRAK

**Latar Belakang:** Hemoglobin (Hb) merupakan protein penting dalam eritrosit yang berperan mengangkut oksigen dari paru-paru ke seluruh jaringan tubuh. Kadar hemoglobin dapat dipengaruhi oleh berbagai faktor, termasuk aktivitas fisik dan intensitas olahraga. Aktivitas fisik yang berlebihan maupun kurang dapat menyebabkan perubahan kadar hemoglobin karena adanya penyesuaian tubuh terhadap kebutuhan oksigen. Mahasiswa kedokteran memiliki jadwal akademik yang padat sehingga pola aktivitas fisik mereka bervariasi, yang dapat berdampak pada status hemoglobin. Oleh karena itu, penting untuk mengetahui hubungan antara kadar hemoglobin dengan intensitas olahraga pada mahasiswa kedokteran Universitas Pasundan tahun 2025.

**Metode:** Penelitian ini menggunakan desain analitik observasional dengan pendekatan cross-sectional. Sebanyak 112 mahasiswa dijadikan sampel penelitian melalui teknik purposive sampling. Data diperoleh dari kuesioner intensitas olahraga dan pemeriksaan kadar hemoglobin menggunakan alat EasyTouch® GCHb. Analisis data dilakukan secara univariat dan bivariat dengan uji Chi-Square untuk menilai hubungan antara kadar hemoglobin dan intensitas olahraga.

**Hasil:** Mayoritas responden memiliki kadar hemoglobin normal (62,5% perempuan dan 42,9% laki-laki) serta intensitas olahraga sedang (91,1% perempuan dan 82,1% laki-laki). Hasil uji bivariat menunjukkan nilai p-value 0,264 pada perempuan dan 0,505 pada laki-laki ( $p > 0,05$ ), yang berarti tidak terdapat hubungan signifikan antara kadar hemoglobin dan intensitas olahraga.

**Kesimpulan:** Kadar hemoglobin mahasiswa tidak dipengaruhi secara signifikan oleh intensitas olahraga. Faktor lain seperti asupan gizi, status hidrasi, stres, kualitas tidur, fungsi organ tubuh diduga turut berperan dalam memengaruhi kadar hemoglobin.

**Kata kunci:** Hemoglobin, intensitas olahraga, mahasiswa kedokteran, aktivitas fisik.

## ABSTRACT

**Background:** Hemoglobin (Hb) is an essential protein in erythrocytes that functions to transport oxygen from the lungs to body tissues. Hemoglobin levels can be influenced by several factors, including physical activity and exercise intensity. Both excessive and insufficient physical activity may cause changes in hemoglobin levels as the body adapts to oxygen demands. Medical students often have busy academic schedules that lead to varying levels of physical activity, potentially affecting their hemoglobin status. Therefore, it's important to determine the relationship between hemoglobin levels and exercise intensity among medical students at the Faculty of Medicine, Pasundan University in 2025.

**Methods:** This research employed an analytical observational design with a cross-sectional approach. A total of 112 medical students were selected using purposive sampling. Data were collected through an exercise intensity questionnaire and hemoglobin measurement using the EasyTouch® GCHb device. Data analysis was performed using univariate and bivariate methods, with the Chi-Square test applied to assess the relationship between hemoglobin levels and exercise intensity.

**Results:** The majority of respondents had normal hemoglobin levels (62.5% of females and 42.9% of males) and moderate exercise intensity (91.1% of females and 82.1% of males). Bivariate analysis revealed p-values of 0,264 for females and 0,505 for males ( $p>0.05$ ) indicating no significant relationship between hemoglobin levels and exercise intensity.

**Conclusion:** Hemoglobin levels among students were not significantly affected by exercise intensity. Other factors, such as nutritional intake, hydration status, stress, sleep quality, organ function, are likely to influence hemoglobin levels.

**Keywords:** Hemoglobin, exercise intensity, medical students, physical activity.