

ABSTRAK

PERBANDINGAN PERUBAHAN ERITROSIT, HEMOGLOBIN, DAN HEMATOKRIT KUDA PACU DAN *DRESSAGE* SEBELUM DAN SETELAH LATIHAN SELAMA 30 MENIT

Advent Umbu Siwa Djorumana
NIM. 21/482297/KH/11006

Latihan dapat memengaruhi profil hematologi kuda melalui berbagai mekanisme fisiologis yang bertujuan meningkatkan kapasitas transpor oksigen selama latihan. Eritrogram merupakan parameter penting untuk mengevaluasi respons fisiologis kuda terhadap latihan. Penelitian ini bertujuan untuk mengetahui pengaruh latihan terhadap parameter eritrogram pada kuda *dressage* dan kuda pacu. Penelitian dilakukan pada kuda *dressage* dan kuda pacu dari berbagai *stable* di Yogyakarta. Sampel darah diambil dari masing-masing sepuluh kuda *mixed breed dressage* dan pacu sebelum dan setelah latihan selama 30 menit. Pemeriksaan hematologi dilakukan menggunakan *hematology analyzer Mindray BC-5000*. Parameter yang diamati meliputi jumlah eritrosit, kadar hemoglobin, dan nilai hematokrit. Data dianalisis menggunakan uji normalitas Shapiro-Wilk dan dilanjutkan dengan uji *paired t-test* untuk membandingkan nilai sebelum dan setelah latihan. Hasil penelitian menunjukkan bahwa latihan meningkatkan seluruh parameter eritrogram pada kedua kelompok kuda. Pada kelompok *dressage*, jumlah eritrosit meningkat sebesar 6,53%, kadar hemoglobin meningkat sebesar 5,92%, dan hematokrit meningkat sebesar 5,32%. Pada kelompok pacu, jumlah eritrosit meningkat sebesar 4,60%, kadar hemoglobin meningkat sebesar 5,45%, dan hematokrit meningkat sebesar 5,14%. Peningkatan parameter eritrogram pada kelompok *dressage* menunjukkan perbedaan yang signifikan ($p < 0,05$), sedangkan pada kelompok pacu peningkatan yang terjadi tidak menunjukkan perbedaan yang signifikan ($p > 0,05$). Berdasarkan hasil penelitian dapat disimpulkan bahwa latihan selama 30 menit meningkatkan jumlah eritrosit, kadar hemoglobin, dan nilai hematokrit pada kuda *dressage* maupun kuda pacu. Respons eritrogram yang lebih nyata pada kelompok *dressage* menunjukkan adanya perbedaan respons fisiologis terhadap latihan antara kedua cabang olahraga berkuda.

Kata kunci: eritrosit, hemoglobin, hematokrit, kuda *dressage*, kuda pacu

ABSTRACT

COMPARISON OF ERYTHROCYTE, HEMOGLOBIN, AND HEMATOCRIT RESPONSES IN RACING AND DRESSAGE HORSES BEFORE AND AFTER 30 MINUTES OF EXERCISE

Advent Umbu Siwa Djorumana
NIM. 21/482297/KH/11006

Physical activity can affect the hematological profile of horses through various physiological mechanisms aimed at increasing oxygen transport capacity during exercise. The erythrogram is an important parameter for evaluating the physiological response of horses to physical activity. This study aimed to determine the effect of physical activity on erythrogram parameters in *dressage* and racing horses. The study was conducted on *dressage* and racing horses maintained at few stables across Yogyakarta City. Blood samples were collected from ten horses of each *dressage* and racing category before and after 30 minutes of physical activity. Hematological examinations were performed using a Mindray BC-5000 hematology analyzer. The observed parameters included red blood cell count, hemoglobin concentration, and hematocrit value. Data were analyzed using the Shapiro–Wilk normality test followed by paired t-tests to compare pre- and post-exercise values. The results showed that physical activity increased all erythrogram parameters in both groups. In the *dressage* horses, RBC, HGB, and HCT increased by 6.53%, 5.92%, and 5.32%, respectively. In the racing horses, RBC, HGB, and HCT increased by 4.60%, 5.45%, and 5.14%, respectively. The increases observed in the *dressage* group were statistically significant ($p < 0.05$), whereas the increases in the racing group were not statistically significant ($p > 0.05$). In conclusion, 30 minutes of physical activity increased red blood cell count, hemoglobin concentration, and hematocrit value in both *dressage* and racing horses. The more pronounced erythrogram response observed in the *dressage* group suggests differences in physiological responses to physical activity between the two equestrian disciplines.

Keywords: *dressage* horse, erythrocyte, hemoglobin, hematocrit, racing horse