

## ABSTRAK

**Latar Belakang:** *Lactate dehydrogenase* (LDH) merupakan enzim penting dalam pemeriksaan kimia klinik yang hasilnya dapat dipengaruhi faktor pra analitik, khususnya hemolisis dan jenis sampel darah yang digunakan. Kesalahan pada tahap pra analitik dapat mempengaruhi akurasi hasil pemeriksaan laboratorium, sehingga penting untuk mengetahui pengaruh jenis sampel terhadap kadar LDH.

**Tujuan:** Mengetahui perbedaan kadar LDH yang diperiksa menggunakan plasma EDTA, plasma heparin dan serum.

**Metode:** Penelitian ini merupakan penelitian observasional analitik dengan desain potong lintang (*cross sectional*) yang melibatkan 30 sampel yang didapatkan dari mahasiswa semester IV jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Yogyakarta. Pemeriksaan kadar LDH dilakukan dengan metode fotometrik menggunakan alat kimia analyzer, dan data dianalisis secara statistik menggunakan uji *One Way Anova*.

**Hasil:** Rata – rata kadar LDH pada plasma EDTA sebesar 241,23 U/L, plasma heparin sebesar 250,23 U/L dan serum sebesar 245,57 U/L. Hasil uji statistik menunjukkan tidak terdapat perbedaan yang signifikan di antara ketiga jenis sampel ( $p = 0,732$ ).

**Kesimpulan:** Tidak terdapat perbedaan kadar LDH yang signifikan secara statistik antara sampel plasma EDTA, plasma heparin, dan serum. Ketiga jenis sampel dapat digunakan untuk pemeriksaan kadar LDH apabila penanganannya dilakukan dengan benar.

**Kata kunci:** *Lactate dehydrogenase* (LDH), plasma EDTA, plasma heparin, serum.

## ABSTRACT

**Background:** *Lactate Dehydrogenase* (LDH) is an important enzyme in clinical chemistry whose measurement can be affected by pre-analytical factors, particularly hemolysis and the type of blood sample used. Errors in the pre-analytical phase can influence the accuracy of laboratory results, making it essential to determine the effect of sample type on LDH levels.

**Objective:** To compare LDH levels measured using EDTA plasma, heparin plasma, and serum samples.

**Method:** This was an observational analytic study with a cross-sectional design involving 30 venous blood samples taken from fourth-semester students of the Medical Laboratory Technology Department at Poltekkes Kemenkes Yogyakarta. LDH levels were measured using a photometric method on a clinical chemistry analyzer, and the results were statistically analyzed using One Way ANOVA.

**Result:** The average LDH level measured in EDTA plasma was 241.23 U/L, in heparin plasma was 250.23 U/L, and in serum was 245.57 U/L. Statistical analysis showed no significant difference among the three sample types ( $p = 0.732$ ).

**Conclusion:** There is no statistically significant difference in LDH levels measured using EDTA plasma, heparin plasma, and serum. All three sample types can be used for LDH testing if processed correctly.

**Keywords:** *Lactate Dehydrogenase* (LDH), EDTA plasma, heparin plasma, serum.