

## ABSTRAK

**Latar Belakang** : Kesalahan pra analitik memberikan kontribusi paling besar, salah satunya adalah hemolisis. Sampel darah yang hemolisis ketika dianalisis di laboratorium medis dapat mengganggu prosedur pengukuran yang mengarah pada hasil yang salah dan mungkin tidak mencerminkan kondisi klinis pasien yang sesungguhnya. Hemolisis mempengaruhi hasil pemeriksaan kimia darah salah satunya kadar kalium.

**Tujuan Penelitian** : Untuk mengetahui pengaruh hemoglobin dalam serum hemolisis, kadar hemoglobin yang dapat mempengaruhi pemeriksaan dan persentase selisih rerata kadar kalium metode kolorimetri.

**Metode Penelitian** : Jenis penelitian yang digunakan *true experiment*, dengan rancangan *post test only control grup design*. Pengambilan 9 sampel secara acak sederhana dari mahasiswa regular analis kesehatan tingkat 4. Sampel kemudian dibagi menjadi 6 kelompok, 1 sebagai kontrol (tanpa penambahan hemolisis) dan 5 sebagai kelompok dengan penambahan hemolisis yaitu 57,6 mg/dL, 96 mg/dL, 182,4 mg/dL, 297,6 mg/dL dan 460,8 mg/dL. Data kemudian dianalisis dengan uji *One-Way ANOVA* menggunakan SPSS 16.0 *for windows*.

**Hasil Penelitian** : Hasil penelitian menunjukkan adanya peningkatan rerata kadar kalium yg mengandung kadar hemoglobin 0 mg/dL, 57,6 mg/dL, 96 mg/dL, 182,4 mg/dL, 297,6 mg/dL dan 460,8 mg/dL. Hasil analisis statistik menggunakan *One-One Way ANOVA* menunjukkan  $p(0,000) < 0,05$  yang berarti ada pengaruh hemoglobin dalam serum hemolisis terhadap hasil pemeriksaan kadar kalium. Serum hemolisis dengan kadar hemoglobin 57,6 mg/dL sudah berpengaruh terhadap hasil pemeriksaan kadar kalium metode kolorimetri.

**Kesimpulan** : Ada pengaruh hemoglobin dalam serum hemolisis terhadap hasil pemeriksaan kadar kalium. Kadar hemoglobin dalam serum mulai 57,6 mg/dL sudah mempengaruhi terhadap hasil pemeriksaan kadar kalium metode kolorimetri.

**Kata Kunci** : serum, hemolisis, hemoglobin, kadar kalium, kolorimetri.

## ABSTRACT

**Background:** Pre analytic errors make the biggest contribution, one of which is hemolysis. Hemolytic blood samples when analyzed in a medical laboratory can interfere with assessment procedures that lead to incorrect results and may not reflect the actual clinical condition of the patient. Hemolysis affects the results of blood chemistry tests, one of which is potassium levels.

**Research Objective:** To determine the effect of serum hemoglobin levels in hemolysis serum, hemoglobin levels that can give effect on the examination and the difference percentage well blended levels on potassium levels by the colorimetric method

**Research Method:** This research was a true experiment study, using a post test only control group research design. Nine samples were randomly selected from a population of 4<sup>th</sup> grade regular college students of medical laboratory technology. The samples were divided into 6 groups, 1 as a control (without the addition of hemolysate) and 5 as a group with the addition of hemolysate namely 57.6 mg/dL, 96 mg/dL, 182.4 mg/dL, 297.6 mg/dL and 460.8 mg/dL. The data were then analyzed by One-Way ANOVA test using SPSS 16.0 for windows.

**Research Results:** The results of this study showed that there are increment of the average in potassium levels with hemoglobin levels 0 mg/dL, 57.6 mg/dL, 96 mg/dL, 182.4 mg/dL, 297.6 mg/dL and 460.8 mg/dL. Statistical analysis using One Way ANOVA show  $p(0,000) < 0.05$  which mean there was an influence of hemoglobin in hemolysis serum on the results of the examination on potassium levels. Hemolysis serum with a hemoglobin level of 57.6 mg/dL has influenced the results of levels by the colorimetric method.

**Conclusion:** There was an influence of serum hemoglobin levels on the results of potassium levels. Hemoglobin levels in hemolysis serum starting at 57.6 mg/dL have influenced the results of the examination of potassium levels by the colorimetric method.

**Keywords:** serum, hemolysis, hemoglobin, potassium levels, colorimetry.