

ABSTRAK

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PENGARUH PENUNDAAN SENTRIFUGASI DAN SUHU PENYIMPANAN
SAMPEL DARAH TERHADAP KADAR GULA DARAH PADA PASIEN
DIABETES MELITUS TIPE 2

1x + 76 Halaman + 9 Tabel + 8 Lampiran

Penundaan sentrifugasi dan kondisi suhu penyimpanan sampel darah berpotensi memengaruhi hasil pemeriksaan glukosa darah karena proses glikolisis yang terus berlangsung. Akurasi pemeriksaan glukosa sangat bergantung pada penanganan sampel yang tepat. Tujuan penelitian guna mengetahui pengaruh penundaan sentrifugasi dan suhu penyimpanan terhadap kadar glukosa darah pasien Diabetes Melitus tipe 2.

Penelitian ini memakai pendekatan kuantitatif dengan desain eksperimen semu rancangan *pretest-posttest design*. Sampel terdiri dari 6 pasien yang masing-masing darahnya dibagi ke dalam 7 tabung perlakuan berdasarkan variasi waktu penundaan sentrifugasi (0 jam, 4 jam, 8 jam, dan 12 jam) dan suhu penyimpanan (18–24 °C dan 2–8 °C). Pemeriksaan kadar glukosa dilakukan memakai metode GOD-PAP alat Biobase BK-200. Data dianalisis memakai uji *One Way ANOVA* untuk melihat pengaruh perlakuan terhadap hasil pemeriksaan glukosa darah.

Hasil penelitian ialah kadar glukosa darah mengalami penurunan seiring lamanya waktu penundaan sentrifugasi, baik pada penyimpanan suhu ruang maupun suhu rendah. Penurunan kadar glukosa lebih besar pada penyimpanan suhu ruang dibanding suhu rendah. Kesimpulannya ialah bahwa semakin lama penundaan sentrifugasi, semakin menurun kadar glukosa darah. Oleh karena itu, pemeriksaan glukosa darah sebaiknya dilakukan segera atau sampel disimpan pada suhu rendah apabila terjadi penundaan guna menjaga keakuratan hasil pemeriksaan laboratorium.

Kata kunci: Glukosa darah, penundaan sentrifugasi, suhu penyimpanan

Daftar bacaan: 30 referensi

ABSTRACT

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THE EFFECT OF CENTRIFUGATION DELAY AND STORAGE TEMPERATURE OF BLOOD SAMPLES ON BLOOD GLUCOSE LEVELS IN TYPE 2 DIABETES MELLITUS PATIENTS

1x + 76 Pages + 9 Tables + 8 Appendices

The delay in centrifugation and the storage temperature of blood samples have the potential to influence the results of blood glucose measurements due to continuous glycolysis. The accuracy of glucose examination highly depends on proper sample handling to prevent a lower in glucose levels leading to misinterpretation of clinical results. This study aimed to determine the effect of centrifugation delay and storage temperature on blood glucose level in patients with Type 2 Diabetes Mellitus.

This research employs a quantitative approach with a quasi-experimental design using a pretest-posttest. The samples consisted of 6 patients whose blood was divided into 7 treatment tubes based on variations in centrifugation delay (0 hours, 4 hours, 8 hours, and 12 hours) and storage temperature (room temperature 18–24 °C and refrigerator temperature 2–8 °C). Glucose levels were measured using the GOD-PAP method with a Biobase BK-200 analyzer. Data were analyzed using One Way ANOVA statistical test.

The results show that blood glucose levels decreased with increasing delay in centrifugation at both room temperature and refrigerator temperature. A greater reduction in glucose levels occurred at room temperature compared to refrigerated storage. It can be concluded that the longer the centrifugation delay, the lower the blood glucose levels. Therefore, glucose examination should be performed immediately after sample collection or the sample should be stored at low temperatures to maintain the accuracy of laboratory test results.

Keywords: Blood glucose, centrifugation delay, storage temperature

References: 30 sources