

ABSTRAK

Hiperglikemia biasa diartikan dengan kadar glukosa darah dalam tubuh berlebih. Salah satu parameter kualitas pelayanan laboratorium yakni penanggulangan beberapa faktor kesalahan yang dikategorikan menjadi tiga, yaitu kesalahan pada proses pra analitik, analitik, dan pasca analitik. Pemeriksaan glukosa darah yang biasanya dilakukan yakni glukosa darah puasa. Spesimen yang paling sering digunakan untuk melakukan pemeriksaan glukosa darah adalah spesimen serum dan plasma EDTA. Masih sering dilakukannya penundaan pemeriksaan di laboratorium karena alasan tertentu misalnya kerusakan alat, pemeriksaan susulan, mengefisienkan pemakaian reagen, dan tidak semua laboratorium menyediakan zat penghambat glikolisis karena tanggal kadaluarsanya yang cepat. Penelitian ini bertujuan untuk mengetahui perbandingan hasil pemeriksaan kadar glukosa darah puasa menggunakan serum dan plasma EDTA yang segera diperiksa dan ditunda 4 jam pada pasien hiperglikemia dan non hiperglikemia. Jenis penelitian ini adalah penelitian analitik dengan pendekatan *cross sectional* dengan rancangan *Post-test and Control Group Design*. Penelitian ini dilakukan pada bulan April-Mei 2021 di RSUD Haji Surabaya. Hasil penelitian menunjukkan rata-rata kadar glukosa darah puasa sampel serum yang segera diperiksa dan ditunda 4 jam pada pasien hiperglikemia adalah 257,2 mg/dL dan 252,93 mg/dL, pada pasien non hiperglikemia 125,67 mg/dL dan 121,73 mg/dL. Rata-rata kadar glukosa darah puasa sampel plasma EDTA yang segera diperiksa dan ditunda 4 jam pada pasien hiperglikemia adalah 255,07 mg/dL dan 246,53 mg/dL, pada pasien non hiperglikemia 124,47 dan 116,4 mg/dL. Hasil uji statistik pada pemeriksaan kadar glukosa darah puasa sampel serum dan plasma EDTA yang segera diperiksa dan ditunda 4 jam pada pasien hiperglikemia dan non hiperglikemia menunjukkan ada perbedaan (nilai Greenhouse-Geisser = 0,000 < 0,05).

Kata kunci: Glukosa Darah Puasa, Serum, Plasma EDTA, Hiperglikemia

ABSTRACT

Hyperglycemia is usually defined as excess blood glucose levels in the body. One of the parameters of laboratory service quality is the prevention of several error factors which are categorized into three, namely errors in the pre-analytical, analytical, and post-analytic processes. The usual test is fasting blood glucose. The most frequently used specimens for blood glucose testing are serum and EDTA plasma specimens. There are still frequent delays in laboratory examinations due to certain reasons such as equipment failure, follow-up examinations, efficient use of reagents, and not all laboratories provide glycolysis inhibitors due to their fast expiration dates. This study aims to compare the results of the examination of fasting blood glucose levels using serum and EDTA plasma which was immediately examined and delayed for 4 hours in hyperglycemic and non-hyperglycemic patients. This type of research is analytic research with cross sectional approach with Post-test and Control Group Design. This research was conducted in April-May 2021 at RSU Haji Surabaya. The results showed that the average fasting blood glucose levels in serum samples that were immediately checked and delayed 4 hours in hyperglycemic patients were 257.2 mg/dL and 252.93 mg/dL, in non-hyperglycemic patients 125.67 mg/dL and 121.73 mg/dL. The average fasting blood glucose levels of EDTA plasma samples that were immediately checked and delayed 4 hours in hyperglycemic patients were 255.07 mg/dL and 246.53 mg/dL, in non-hyperglycemic patients 124.47 and 116.4 mg/dL. The results of statistical tests on fasting blood glucose levels in serum and EDTA plasma samples which were immediately checked and delayed for 4 hours in hyperglycemic and non-hyperglycemic patients showed a difference (Greenhouse-Geisser value = 0.000 <0.05).

Keywords: *Fasting Blood Glucose, Serum, EDTA Plasma, Hyperglycemia*