

# DIFFERENCES IN TOTAL SERUM PROTEIN LEVELS IN CHRONIC KIDNEY FAILURE PATIENTS USING FULL AND HALF PRESCRIPTION VOLUME

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## ABSTRACT

**Background:** Total protein examination is an important parameter in clinical chemistry to assess liver and kidney function. In patients with chronic kidney disease (CKD), total protein levels can change due to metabolic disorders. The biuret method is used because it is simple and accurate. The use of a half-recipe is applied for efficiency, so its accuracy needs to be evaluated in pathological samples.

**Objective:** To determine the difference in total serum protein levels in patients with chronic kidney failure using the full and half-prescription volumes.

**Methods:** This study used a pre-experimental design with a static group comparison. Forty remaining serum samples were divided into two treatment groups: those using the full and half-prescription volumes. Data were analyzed statistically using the data normality test and the non-parametric Wilcoxon test.

**Results:** The descriptive results of the study showed that the average for the full volume examination was 6.57 g/dL and the half prescription was 6.17 g/dL with a difference of 0.4 g/dL. Statistically, this study showed a difference, but clinically there was no significant difference because the percentage of the mean difference was 6.1%, still within the tolerance limit of  $\pm 8\%$  so it can still be used.

**Conclusion:** There was a statistical difference in total serum protein levels, but this did not cause any changes in the clinical interpretation of the results on total protein levels.

**Keywords:** Total Protein in Renal Failure Patients, Biuret, Full and Half Prescription Volume

# PERBEDAAN KADAR PROTEIN TOTAL SERUM PADA PASIEN GAGAL GINJAL KRONIK MENGGUNAKAN VOLUME PENUH DAN SETENGAH RESEP

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## ABSTRAK

**Latar Belakang:** Pemeriksaan protein total adalah parameter penting dalam kimia klinik untuk menilai fungsi hati dan ginjal. Pada pasien gagal ginjal kronik (CKD), kadar protein total dapat mengalami perubahan akibat gangguan metabolisme. Metode biuret digunakan karena sederhana dan akurat. Penggunaan setengah resep diterapkan untuk efisiensi, sehingga perlu dievaluasi akurasinya pada sampel patologis.

**Tujuan:** Untuk mengetahui perbedaan kadar protein total serum pada pasien gagal ginjal kronik menggunakan volume penuh dan setengah resep.

**Metode:** Penelitian ini menggunakan *Pre-Eksperimental Design* dengan desain penelitian *Statis Group Comparison*. Sampel serum sisa sebanyak 40 dibagi menjadi 2 kelompok perlakuan, yaitu pemeriksaan menggunakan volume penuh dan setengah resep. Data dianalisis secara statistik dengan uji normalitas data dan uji non-parametrik (*Wilcoxon*).

**Hasil:** Hasil penelitian secara deskriptif menunjukkan bahwa rerata pada pemeriksaan volume penuh sebesar 6,57 g/dL dan setengah resep sebesar 6,17 g/dL dengan selisih 0,4 g/dL. Terdapat perbedaan secara statistik, namun tidak bermakna secara klinis karena presentase mean difference sebesar 6,1%, masih berada dalam batas toleransi  $\pm 8\%$  sehingga masih dapat digunakan.

**Kesimpulan:** Ada perbedaan kadar protein total serum secara statistik, namun tidak menyebabkan perubahan interpretasi hasil secara klinis pada protein total.

**Kata Kunci:** Protein Total Pasien Gagal Ginjal, Biuret, Volume Penuh dan Setengah Resep