# BODY COMPOSITION, MUSCLE STRENGTH AND FITNESS FOR PERITONEAL DIALYSIS PATIENTS WITH CHRONIC RENAL FAILURE

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## Introduction

It is common for patients with chronic renal failure (CRF) to have frequent complaints of low aerobic capacity, muscle weakness and chronic fatigue. The present body of evidence indicates that patient outcome is compromised if total Kt/V is below 1.7 (Lo, 2003; Yao et al., 2001). An adequacy of weekly peritoneal creatinine clearance (CCr) above 60 L/1.73 m2 is also suggested (Paniagua et al., 2002). The purpose of this study was to characterize body composition and muscle strength in Dialysis Peritoneal patients (DP) in both genders. We also pretend to analyze the values of these variables considering the cut-offs created for adequacy variables.

## Methods

The study involved 34 patients with DP, 21 men (age: 52.10 ± 11.11 years old) and 13 female (age: 40.92 ± 14.28). Body composition was assessed by bioimpedance (TANITA TBF 300) and by dual-energy X-ray absorptiometry (DEXA Hologic QR). Muscle strength was measured with Isokinetic Dynamometer (Biodex). We measured spontaneous physical activity with an accelerometer (Actigraph GT1M Actilife-2009) for 7 days. The amount of dialysis was given by Kt/V and Clearance of Creatinine (CCr). Cut-offs for Kt/V (1,7) and for CCr (60L/SEM. /1,73$m^2$) were consider in our study.

## Results

Males showed higher values on Body Mass Index (BMI), Lean Mass (LM), and Bone Mineral Density (BMD) and lower values on Fat Mass (FM) as in the general population. The analysis of dialysis peritoneal adequacy with the other variables shows a higher values on BMD, FFM, and isokinetic strength on elbow extension movement with KT/V values under 1,7.

## Discussion

Ours results did not differ about the usually gender differences on the BMI, FFM, BMD and FM. The significant differences between groups lower and upper the cut-off value for Kt/V on body composition and strength, contradict previous studies that refer that inclusive survival was significantly lower in patients with a Kt/V of <1.7 (Lo, 2003; Yao et al., 2001). These results could be influenced by the fact that our sample included more male than female subjects (mean ± SD of man and women Kt/V were respectively 1,7 ± 0,5 and 2,04 ± 0,7). Even the current knowledge suggest that the values of Kt/V should be higher than 1.7, we recommend that others variables as body composition and strength should be used as adequacy for DP patients once these variables are common related with better level of health.

## References

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