

# LOWER INCIDENCE OF HOSPITAL ADMISSIONS IN BIOIMPEDANCE-GUIDED FLUID MANAGEMENT IN MAINTENANCE HEMODIALYSIS PATIENTS - RESULTS OF A RANDOMIZED CONTROLLED TRIAL

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## RESUMO

**Background** Hemodialysis (HD) is life-sustaining in kidney failure. However, proper body fluids regulation depends on an accurate dry weight (DW) estimation. This open label, parallel groups, randomized controlled trial aims to compare spectroscopy bioimpedance (BIS)-guided DW estimation with clinical evaluation alone. **Methods** Maintenance HD patients over 18 years of age were randomized to monthly clinical evaluation (CE) alone or added to BIS-guided DW estimation twice a year. The randomization was performed by means of a table of random numbers. Follow-up lasted up to two years. The primary outcome was the survival time, and the secondary outcomes were rate of hospital admissions, systolic and diastolic blood pressure (BP) change and the number of prescribed antihypertensive drugs. **Results** One hundred and ten patients were randomized, with a mean age of 57.5 years, 64 (58%) males, 52 for the CE group and 58 for the BIS group. There was no difference between the groups at baseline. The survival time was not significantly different between the groups (log-rank test  $p=0.07$ ). There was also no difference between the groups in systolic or diastolic BP change or in the number of antihypertensive drugs in use. The incidence rate of hospital admissions was 3.1 and 2.1 per person-year in the CE and BIS groups, respectively, with a time-adjusted incidence rate ratio of 1.48 (95% CI 1.20-1.82,  $p=0.0001$ ) and attributable fraction of risk among the exposed of 0.32 (95% CI 0.17-0.45). **Conclusion** The inclusion of the DW estimation BIS-guided twice a year did not present a detectable impact on survival or BP control among HD patients, but significantly reduced the incidence rate of hospital admissions. **ClinicalTrials.gov Identifier: NCT05272800**

**PALAVRAS-CHAVE:** self-medication, pregnancy, epidemiology

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