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Dialysis patients variations in hand strength before and after dialysis treatment and mortality.

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Objectives : This study aims to examine the variations in handgrip strength (HGS) before and after dialysis treatment and explore its association with nutritional status and general physical well-being among patients undergoing maintenance hemodialysis for end-stage renal disease (ESRD) with diabetes.

Methods : 1. To study the relationship between changes in dry body weight and hand grip strength in people undergoing dialysis treatment 2. To investigate the relationship between hand grip strength and mortality for 2 years of parameters in dialysis

Results : Among the 183 participants, 56.3% (n=103) were male, with a mean age of 50.4 ± 17.6 years and an average HD duration of 4.8 ± 4.3 years. The mean body weight change was 1.94 kg (ranging from 0-4.2 kg), a significant indicator of overall body condition. A decrease in mean handgrip strength after dialysis treatment was observed in both sexes and was statistically significant. Those with substantial changes in body weight showed less variation in HGS before and after dialysis. For male participants with a body weight decrease of up to 5 kg, HGS increased from 22 kg to 28 kg, while those with a body weight decrease exceeding 5 kg experienced a decline in HGS from 48 to 28 kg. The mortality rate in the last 2 years is 19.6% and is negative correlated with hand grip strength. Additionally, a positive correlation was found between HGS and midarm circumference (Spearman's correlation coefficient, $r=0.126$, $p=0.001$), suggesting HGS as a potential indicator of nutritional status.

Conclusions : Monitoring handgrip strength before and after dialysis emerges as a valuable tool to assess patients' general health and nutritional status. 1. There is a weak inverse relationship between dry body weight and hand grip strength in people undergoing dialysis treatment. 2. Measuring hand grip strength is an indicator of nutritional status during dialysis treatment.