

EFFECTIVENESS OF AN INTRADIALYSIS COMBINED TRAINING PROGRAM ON THE FUNCTIONAL CAPACITY OF HEMODIALYZED PATIENTS.



Abstract Category: CKD. Rehabilitation

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Introduction

Currently, latinamerican health systems include only medical benefits for hemodialized patients, without considering benefits that improve functional capacity; there are only isolated initiatives for this purpose. It is proven that workouts which combine aerobic and muscular endurance exercises improve the functional capacity of these patients, but it's still not proven that the addition of ventilatory work can improve the functional capacity even more.

Objectives

The aim of the study is to determine the effectiveness of a combined training program on the functional capacity of hemodialized patients.

Methods

Experimental study in hemodialized patients of the Dialysis Unit of Valdivia's Central Hospital (n = 11). The experimental group (n = 6) underwent an aerobic, muscular and ventilatory combined training program; The control group (n = 5) only aerobic and muscular combined training program, both groups worked during 8 weeks. Initial and final values of the 6-minute walk test, Spirometry and MIP test were obtained. This study was approved by the Ethics Committee of the Valdivia's Health Service and funded by the Research and Development Division of Universidad Austral de Chile. The statistical analysis was performed with SPSS version 20.0, assuming a significance of $p \leq 0.05$.

Training program

8 weeks (3 times/week) - 1st 2 hours of HD

	Inspiratory Muscle Endurance	Lower Limb Strength
Aerobic Work 25-30 min Cycloergometer	40% MIP Threshold valve	10-15 min Knee extension 90°-0° Free weights

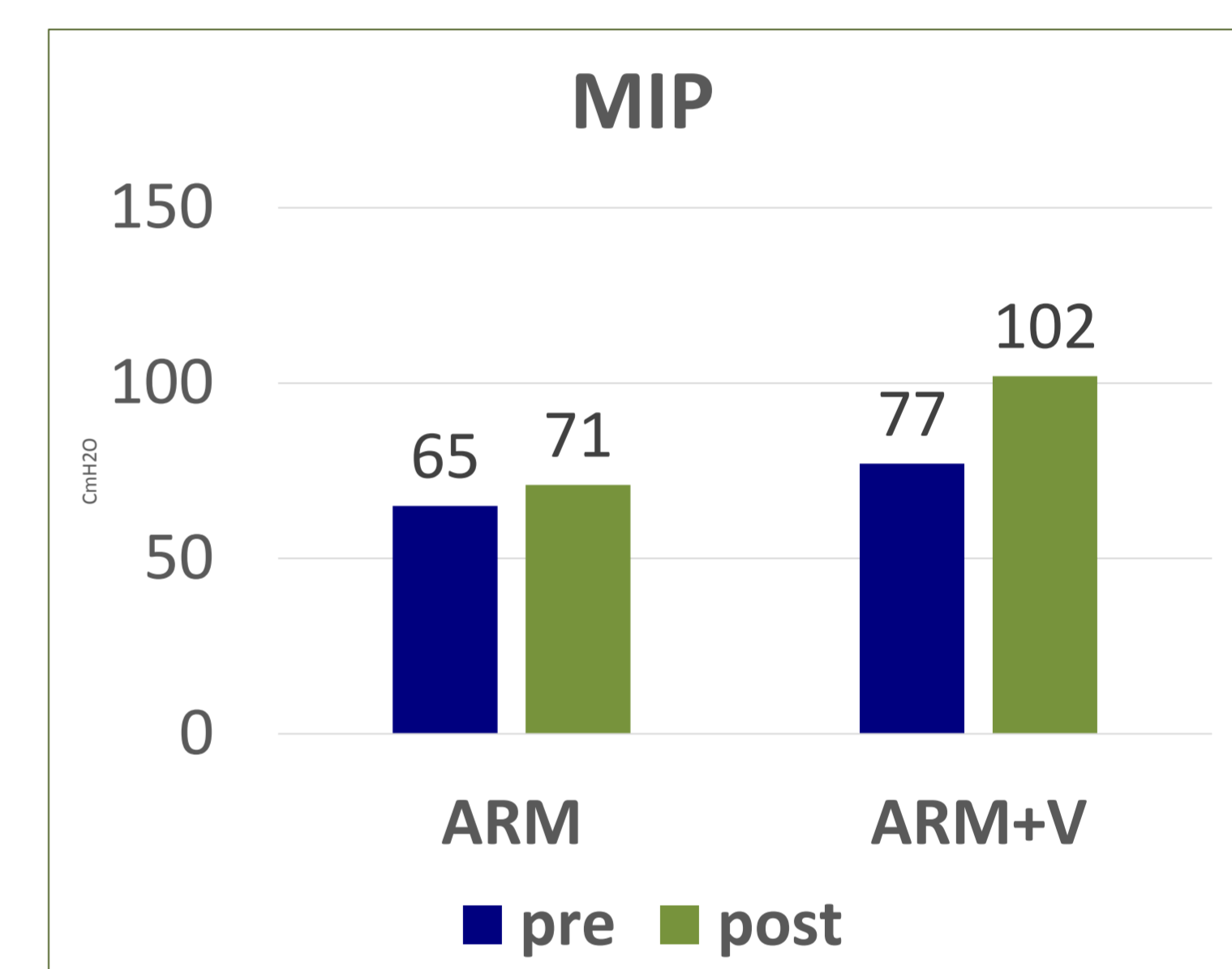
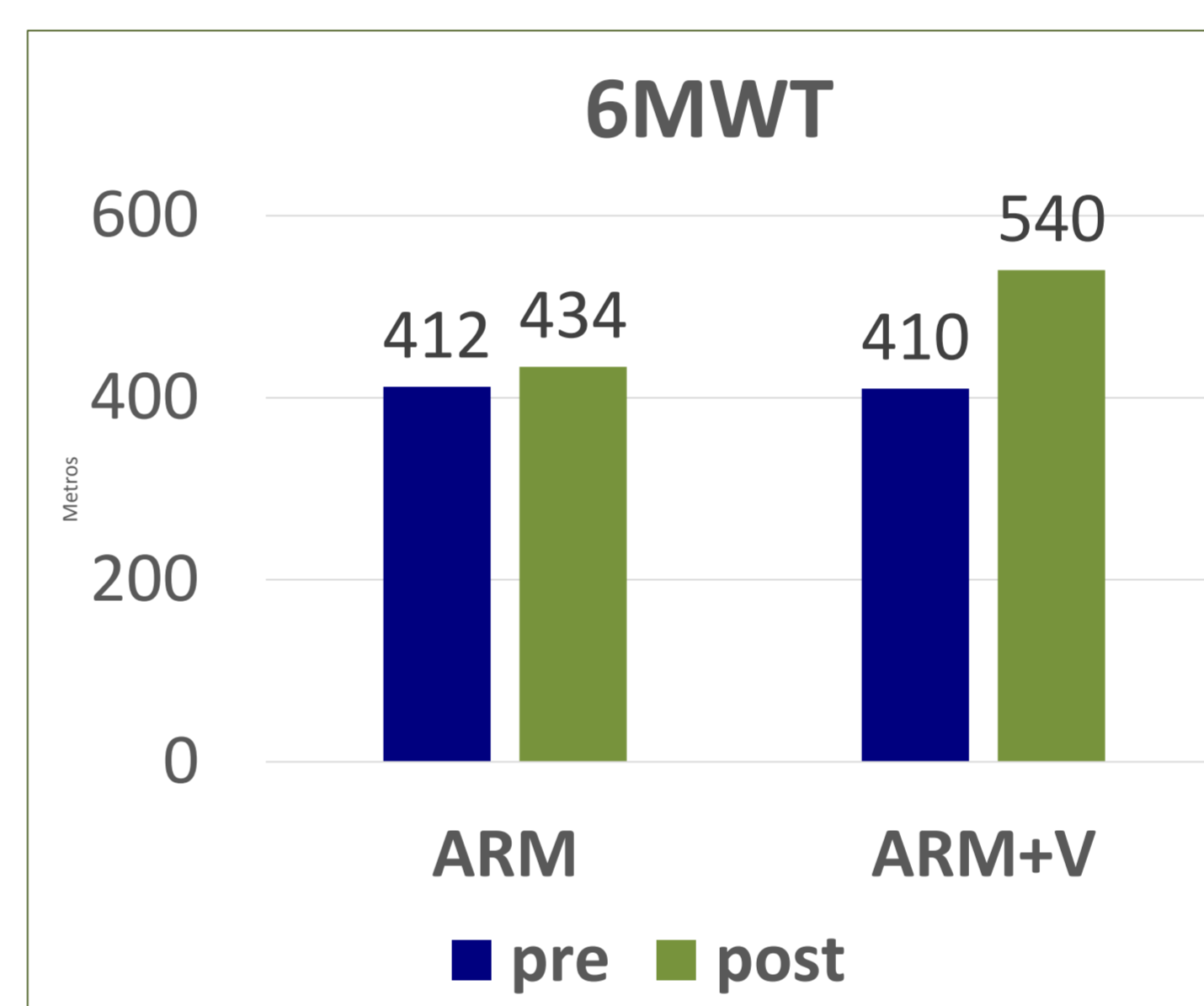


Results

There were significant changes ($p \leq 0.05$) between the means of final and initial results in the pre and post intervention of the 6 minute walk test yield, both in the control ($p = 0.02$) and experimental ($p = 0.03$) groups. However, the latter achieved significantly higher deltas ($p = 0.02$) with respect to the pre and post intervention distance meters. In the pre and post test MIP measure, it was observed that in both groups the evolution deltas were statistically significant ($p \leq 0.05$), although the difference in cmsH₂O obtained from the experimental group were significantly ($p = 0.01$) higher than those of control

	Pre-Intervention	Post-Intervention	p*	Delta control- delta experimental**
ARM (n=5)	412,6 ± 143,94	434 ± 182,29	0,022	0,024
ARM+V(n=6)	410,5 ± 66,41	540,66 ± 95,90	0,027	

	Pre-Intervention	Post-Intervention	p*	Delta control- delta experimental**
ARM (n=5)	65 ± 22,36	71 ± 20,54	0,002	
ARM +V(n=6)	77,5 ± 12,9	102,5 ± 11,02	0,001	0,001



Conclusions

The 8-week intradialysis combined training modality of aerobic exercise, lower limb strength, and inspiratory muscle endurance, demonstrated to generate greater changes in the functional capacity of the hemodialized patients, than the control group.

The addition of inspiratory muscle resistance work contributes then to improve exercise tolerance and functional capacity of hemodialized patients.

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