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"The effects of aquatic exercise on functional capacity and health-related quality of life in hemodialysis patients"

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INTRODUCTION

Chronic kidney disease patients on hemodialysis (HD) show significantly diminished exercise capacity, tolerance, strength and endurance, compared to healthy individuals. Anaemia, cardiac dysfunction, muscle abnormalities, depression and sedentary life style affect negatively their functional capacity, as well as their reported quality of life. Low levels of physical activity levels in HD patients have been associated with increased risk of hospitalization and rates of morbidity.

It is well established by studies that exercise rehabilitation programs contribute positively to an improvement in the functional capacity, heart rate muscle atrophy and psychosocial status of HD patients. Aerobic and strength exercise programs have been applied to patients during HD or in rehabilitation centers.

AIM

The aim of this study was to evaluate the effect of a 4-month aquatic exercise program in functional capacity and quality of life in chronic kidney disease patients on hemodialysis.

METHOD

FIELD TESTS

- ✓ **Six Minute (6-Min) Walk test**
- ✓ **Sit to Stand test**
- ✓ **Sit and Reach test**
- ✓ **Handgrip test**
- ✓ **Timed Up and Go test**

QUALITY OF LIFE

- ✓ **SF-36 Questionnaire**

PATIENTS

27 hemodialysis patients

Group A (n=15) aquatic exercise program

Group B (n=12) Control group

RESULTS

	AT BASELINE	AFTER 4 MONTHS
6 minute walk test (m)		
Group A	558,8±127,5	625,6±128,1 [a]*
Group B	499,1±94,6	454,4±90,4*
Sit to stand test (s)		
Group A	17,6±5,2	15,2±5,4 [a]*
Group B	20,2±6,7	21,2±6,5
Handgrip test (kg)		
Group A	34,6±14,2	37,2±14,7*
Group B	34,3±9,6	32,3±9,9*
Sit and reach test (cm)		
Group A	4,7±9,1	-0,6±8,4 [a] *
Group B	8,1±12,1	11,3±12,7
Timed up and go test (sec)		
Group A	5,5±1,4	4,6±1,4 [a]*
Group B	6,1±1,7	6,6±2,5*
SF- 36	**At baseline**	**After 4 months**
Physical Component Scale		
Group A	45,5±6,6	49,9±6,6*
Group B	46,3±8,1	43,9±8,8
Mental Component Scale		
Group A	44,5±10,7	53,3±6,9 [a]*
Group B	41,9±10,2	39,0±10,4

Mean values (SD) [a]p<0.05 between groups A and B, *p<0.05 between baseline and final

CONCLUSION

The results of the present study demonstrated that an aquatic exercise program has favorable effects on functional capacity and health related quality of life in patients with chronic kidney disease on hemodialysis, indicating that exercise in water can be used effectively and safely as an alternative mode of exercise training in this special population. The current research comes to be added to the available literature that supports the clinical utility of exercise participation for HD patients.