### THE EFFECT OF INTRADIALYTIC AEROBIC TRAINING ON PHYSICAL PERFORMANCE AND QUALITY OF LIFE AMONGHEMODIALYSIS PATIENTS

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## INTRODUCTION

Chronic kidney disease (CKD) and end stage renal disease (ESRD) are worldwide public health problems. The prevalence of CKD (stages 1-5) in the general United States adult population was 14.8% in 2013-2016, CKD and ESRD patients have increased risk of functional impairment, regardless of their age, gender, associated comorbidities, and cardiovascular events. This high level of functional limitations in patients with CKD and ESRD is not necessarily improved by dialysis. Rehabilitation principles need to be integrated into the routine management of patients. Rehabilitation of CKD and ESRD patients involves many aspects as psychological, nutritional, and exercise training. Various exercise programs, such as aerobic exercise, resistance exercise, combined aerobic and resistance exercise, and passive exercise including electrical stimulation have been developed for hemodialysis patients.

AIM OF THE WORK The aim of the current study was to assess the effect of intradialytic aerobic training on physical performance and quality of life in patients maintained on haemodialysis therapy

# PATIENTS

The study included thirty patients on maintenance hemodialysis therapy for more than three months in Alexandria University Hospitals. Patients were divided into two groups:

Group (A): Fifteen patients performed exercise during hemodialysis session.

Group (B): Fifteen patients were not assigned to any exercise program (as a control group).

Mentally or physically unfit patients, patients with overt ischemic heart disease or cardiac decompensation, severe anaemic patients (Hb  $\leq 8$ g/dl), patients with advanced chronic kidney disease-mineral and bone disorder (CKD-MBD), patients with advanced lower limbs joints disease or amputation of lower limb were excluded.

## **METHO**

Experimental study with pre and post assessment after 8 weeks of an berobic training program.

- All patients were subjected to the following:
- •Detailed history taking.
- •Complete clinical examination.
- •Routine laboratory investigations: Complete blood picture, serum urea, creatinine, serum calcium and phosphorus.
- •Six-minute walk test: the distance walked over a span of six minutes will be measured.
- •KDQOL-SF<sup>™</sup>, version 1.3, Arabic version to assess health status • and quality of life.
- •Exercise training program for eight weeks including the following: Group (A): performed aerobic exercise during haemodialysis session using a pedal 3 times per week for eight weeks. Group (B): were not assigned to any exercise program.
- Outcome measures: the following were measured after the training program in group (A) and after eight weeks in group (B). Six-minute walk test. KDQOL-SF<sup>™</sup>, version 1.3, Arabic version.

6-minute walk test	Group A (n = 12)	Group B (n = 15)	Test Sig
Pre			
Mean $\pm$ SD.	$263.75 \pm 87.0$	$241.0\pm65.85$	t=0.7
Median (Min. – Max.)	280.0 (80.0 - 415.0)	225.0 (120.0 - 360.0)	
Post			
Mean $\pm$ SD.	$286.67 \pm 94.88$	$239.0 \pm 65.17$	t=1.5
Median (Min. – Max.)	312.50 (75.0 - 425.0)	230.0 (120.0 - 355.0)	
Percent change			
Mean $\pm$ SD.	$8.19\pm8.44$	$-0.74 \pm 2.87$	U=33.
Median (Min. – Max.)	7.37 (-6.25 – 20.34)	-1.39 (-5.77 – 2.99)	
<b>p</b> <sub>1</sub>	0.004*	0.994	

