Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and Its Surgery

Doctoral Degree

2010

Author	**:**	**Amira Mohamed Abd El Aziz Mohamed Afify.**
Title	**:**	**Effect of training program on heart rate variability and left ventricular function after coronary angioplasty.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Zeinab Mohamed Helmy.**
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Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	

Cardiac autonomic dysfunction is associated with risk of restenosis and cardiovascular mortality in patients after percutaneous transluminal coronary angioplasty (PTCA). Analysis of heart rate variability (HRV) is an important, widely used method for assessing cardiac autonomic regulation and also examine of left ventricular function and morphology. The purpose of this study was to investigate whether the exercise training could induce change on heart rate variability in patient after percutaneous transluminal coronary angioplasty and to examine if the exercise training induces changes in heart function and morphology including Left ventricular dimension and Ejection fraction. Fifty patients, who performed percutaneous transluminal coronary angioplasty, were assigned to two groups equal in number. Group (1) experimental group including 25 patients participated in a supervised training program for 8 weeks. Group (2) control group including 25 patients undergo usual care. Main outcome parameters were HRV parameters, and left ventricular dimensions and ejection fraction. Evaluations were carried out pre and post experimentally using 24 hours ECG, and echocardiography. Results showed that the parasympathetically modulated HRV of the patients in the exercise group increased significantly compared with the HRV of patients in the control group. Also results showed that exercise training increases ejection fraction and improve left ventricular function significantly in experimental group compared to control group. It had been concluded that Exercise training could increase autonomic modulation of cardiac function in patients after they have undergone successful PTCA. It is also suggested that analysis of HRV can be carried out to assess the effect of exercise training on cardiac autonomic dysfunction in patients after coronary angioplasty.

Key words	**1.**	**Exercise training.**
	2.	**Heart rate variability.**
	3.	**percutaneous transluminal coronary angioplasty.**
	4.	**ejection fraction.**
	5.	**left ventricular dimension.**
	6.	**coronary angioplasty.**
Arabic Title Page	**:**	**تأثير برنامج التدريب على تباين معدل نبضات القلب ووظائف البطين الأيسر بعد قسطرة الشرايين التاجية.**
Library register number	**:**	**2123-2124.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR CADIOPULMONARY DISORDER AND GERIATRICS AND ITS SURGERY

PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Ashraf Abdel Maksud Mahrus Elmarakby.**
Title	**:**	**Effect of Diaphragmatic Training on Maximal Inspiratory Pressure and Pulmonary Gas Exchange After Coronary Revascularization.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Azza Fekry.**
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Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	
The aim of this study was to determine the effect of diaphragmatic training on maximal inspiratory pressure and pulmonary gas exchange for patients undergoing coronary revascularization. Thirty three patients were randomly divided into 16 patients in control group and 17 patients in study group. Control group received usual physical therapy care and study group received inspiratory muscle training and the usual physical therapy care during the preoperative and postoperative periods. Maximal inspiratory pressure, alveolar-arterial gradient, oxygen saturation were measured in both groups. Measurements revealed improvement in maximal inspiratory pressure, decrease in alveolar-arterial gradient in the study group which meant improvement in the diaphragmatic muscle strength and pulmonary gas exchange.		
Key words	**1.**	**Diaphragmatic training.**
	2.	**Maximal inspiratory pressure.**
	3.	**pulmonary gas exchange.**
	4.	**oxygen saturation coronary revascularization.**
	5.	**Coronary Revascularization.**
Arabic Title Page	**:**	**أثر تدريب الحجاب الحاجز علي ضغط الشهيق الأقصي وتبادل الغازات الرئوي بعد تغيير الشريان التاجي.**
Library register number	**:**	**2203-2204.**

Author	**:**	**Faten Aly Hamza.**
Title	**:**	**Effect of Treadmill Exercise on Nitric Oxide in Hypertensive Women.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Azza Fekery Ismail.**
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Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	

Back ground: Shear stress on endothelial cells is a potent stimulus for Nitric oxide (NO) production, (NO) exerts important vasodilator. Exercise was associated with a significant reduction in mean systolic and diastolic blood pressure. Purpose of study: to show the effect of moderate exercises on nitric oxides in hypertensive women Methods: Thirty female were selected for study with post menopausal hypertension, one year at least of menopause. Their ages ranged 50-65years and were divided into two equal groups (GI) received the training program with medication. (GII) received the medication only. The level of nitric oxides was measured in blood before and after moderate intensity (75%) of maximum heart rate for 30 min, 3days per week for 3 months. Results :In study group the level of nitric oxides increased from 24.33±1.98 to 31.46 ± 2.5 (µmo/L) by 23% , systolic blood pressure decreased from149.3±7.9) to 127.00 ± 10.1(mmHg) by 23%, Diastolic blood pressure decreased from 94.66±5.16 to 87.00 ± 5.78 (mmHg)by 9%& Body mass index was decreased from 35.5±5.95 to 33.57±5.1 (kg/m2) by8% while in the control group the level of nitric oxides increased from 23.53±1.35 to25.8±2.04 (µmo/L) by 9%, Systolic blood pressure decreased from 152.66±7.98 to 146.00 ± 8.7 (mmHg) by 4%; Diastolic blood pressure decreased from 95.33±5.16 to 94.00±5.07(mmHg) by 3%.Conclusion: It was concluded that exercises performed with moderate intensity for three months was of certain benefit to increase the level of nitric oxide and decrease the level of mild hypertension only in hypertensive women

Key words	**1.**	**Nitric oxide.**
	2.	**Treadmill.**
	3.	**Mild hypertension.**
	4.	**Hypertensive Women.**
Arabic Title Page	**:**	**تأثير تمرين السير الكهربائي على أكسيد النيتريك في ارتفاع ضغط دم السيدات.**
Library register number	**:**	**2221-2222.**

Author	**:**	**Mariam El-Sayed Mohamed Abd Al-Aal.**
Title	**:**	**Effect of Treadmill Walking Exercise on Electrophysiological Parameters (P300) Of Cognitive Function among Elderly.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Nagwa M. Badr.**
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Year	**:**	**2010.**
Abstract	**:**	
Background: Aging is associated with considerable decline in cognitive performance; Physical exercise might be effective in slowing the rate or even reversing the cognitive decline. Objective: to investigate the effect of treadmill walking exercise on the Electrophysiological parameters (P300) of cognitive function in elderly. Subjects and methods: Forty elderly subjects were participated in the study, their age ranged from 60 to 70 years. They were randomly divided into two equal groups. The Study group comprised of 20 subjects who received treadmill walking exercise three times per week for two months while the control group received no training. Results: there was a significant decrease in wave latency and significant increase amplitude in the Study group as compared to the control group. Conclusion: it can be concluded that treadmill walking exercise improves cognitive abilities and memory processing in elderly subjects.		
Key words	**1.**	**Aging brain.**
	2.	**Cognition.**
	3.	**Aerobic exercise.**
	4.	**Electrophysiological parameters (P300).**
	5.	**Treadmill Walking.**
	6.	**Electrophysiological Parameters (P300).**
	7.	**Elderly.**
Arabic Title Page	**:**	**تأثير تمرينات المشى بأستخدام جهاز المشى الكهربائى على القياسات الكهروفسيولوجية (الموجة ب 300) لوظيفة الأدراك لكبار السن.**
Library register number	**:**	**2113-2114.**

Author	**:**	**Rehab Farrag Mohammed Ali.**
Title	**:**	**Noninvasive Continuous Positive Airway Pressure Versus Bi-level Positive Airway Pressure in Treatment of Acute Cardiogenic Pulmonary Edema.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Zeinab Mohamed Helmy.**
	2.	**Bassem Sobhi S. Ibrahim.**
Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	

This study was designed to compare the effect of continuous positive airway pressure (CPAP),Bi-level positive airway pressure (Bi-PAP),and conventional O_2 therapy on blood gases (PaO_2, $PaCO_2$, SaO_2, HCO_3, and pH), as well as hemodynamic variables (HR, RR, SBP, and DBP) in-patients with acute cardiogenic pulmonary edema (ACPE). Sixty patients (33females and 27 males) were recruited from emergency department at National Heart Institute, and enrolled in this study. Their age ranged from (50 to 65 years) with mean values of (57.33±6.37years). The blood gases (PaO_2, $PaCO_2$, SaO_2, HCO_3, and pH), and hemodynamic variables (HR, RR, SBP, and DBP) had been measured at baseline (Pre), immediately after (Post I), and after 30 minutes (Post II) of therapy, using Acid–Base Analyzer device, and ECG monitor respectively. The results of this study revealed significant reduction of hemodynamic, and $PaCO_2$, and significant increase in PaO_2, and SaO_2, immediately after application of CPAP and Bi-PAP compared to O_2 therapy. The results revealed non-significant differences (P> 0.5) in PaO_2, $PaCO_2$, SaO_2, SBP, and DBP, while HR and RR reduced significantly immediately after, while there were significant increase in PaO_2,SaO_2 and significant reduction in RR, and HR for Bi-PAP compared to CPAP after 30 minutes of their application. Conclusion; both CPAP and Bi-PAP are safe for patients with ACPE, and if both are available the Bi-PAP is confirmed due to faster and continuous relieving the symptoms and signs and findings of blood gases and hemodynamic variables.

Key words	**1.**	**Continuous positive airway pressure.**
	2.	**Bi-level positive airway pressure.**
	3.	**acute cardiogenic pulmonary edema.**
	4.	**Noninvasive Continuous Positive Airway.**
	5.	**Airway Pressure.**
	6.	**Bi-level Positive Airway Pressure.**
	7.	**Pulmonary Edema.**
Arabic Title Page	**:**	**ضغط التنفس الإيجابي المستمر الغير تداخلي مقابل ضغط التنفس المزدوج الإيجابي فى معالجة الارتشاح الرئوي القلبي الحاد.**
Library register number	**:**	**2217-2218.**

Author	**:**	**Samah Alsaid Ahmed Moawd.**
Title	**:**	**Effect Of Vibration Exercise versus Resistive Training on Glycemic Control In Type 2 Diabetic Females.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Zeinab Mohammed Helmy.**
	2.	**Ebrahim Nagieb Al Ebrashy.**
Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	

The aim of this study to investigate and compare the effect of vibration exercise versus resistance training on long term glycemic control in type 2 diabetic females . Forty type 2 diabetic women, their age from (45 – 60) years and BMI from (30-35) Kg/ m2. They were assigned into two equal groups A and B. Each of them consisted of 20 participants; Group A enrolled into vibration exercise program, and Group B enrolled into strength training program. The study lasted for 2 months at a frequency of 3 sessions per week. Evaluation included, body weight, body mass index, blood pressure and blood glucose level (Fasting , 2hr post prandial).The results showed a non statistically significant reduction in body weight and BMI but a significant reduction in systolic and diastolic blood pressure, and fasting and 2hr post prandial blood glucose in both groups. The results of this study testify that both vibration exercise and resistive training have comparable effect on long term glycemic control in type 2 diabetic females. Theses findings suggest that vibration exercise may be an effective and low time consuming tool to enhance glycemic control in type 2 diabetes patients.

Key words	**1.**	**Diabetes.**
	2.	**Vibration exercise.**
	3.	**Strength training.**
	4.	**Glycemic control.**
	5.	**Resistive Training.**
	6.	**Type 2 Diabetic Females.**
Arabic Title Page	**:**	**تأثير التمارين الاهتزازية ضد تمارين المقاومة علي ضبط السكر في الإناث مرضى السكري (النوع الثاني).**
Library register number	**:**	**2159-2160.**

Author	**:**	**Shaimaa El Gharib Ali.**
Title	**:**	**Efficacy of backpack and front pack on myoelectrical activity of trunk muscles and energy expenditure in normal subjects.**
Dept.	**:**	**Physical Therapy Department for Cardiopulmonary Disorder and Geriatrics and its Surgery.**
Supervisors	**1.**	**Mohamed Hussien El-Gendy.**
	2.	**Aliaa Attia Mohamed Diab.**
	3.	**Abeer Ahmed Abd El Hamid.**
Degree	**:**	**Doctoral.**
Year	**:**	**2010.**
Abstract	**:**	

Background: Load placement is an important factor in the efficiency of load carriage. Two types of packs have aroused special interest, backpack and front pack. The backpack is one of several forms of manual load carriage that provides versatility and is often used by school children. There is a change in kinematics when the placement of the load was altered. The purpose: of this study was to investigate the efficacy of backpack and front pack on integrated electromyographic activity of trunk muscles and energy expenditure. Design and Subjects: A pretest-post test (2×2) design was used in this study. Forty healthy subjects (17 female and 23 male) with mean age (12.78±1.6) years old participated in this study. They were assigned into two groups of equal sizes (group I and group II). Subjects in group I, n=20 (8 female, 12 male). Subjects in group II, n=20 (9 female, 11 male):- Subjects in group I was assessed without a load and carrying a load (15% of body weight) in a front pack while Subjects in group II was assessed without a load and carrying the same load in a backpack. Methods: They were required to the cardiopulmonary laboratory for testing on two separate occasions, with 48 h between each visit. All children were assessed before and while carrying the pack on ergospirometry system, then motion analysis laboratory where integrated electromyographic activity of rectus abdominis and erector spinae were measured. Paired t-test was used to distinguish between the two groups before and while carrying the packs in each group separately. Unpaired t-test was used to further distinguish between both types of packs. Results: The results revealed that both front pack and backpack significantly increased minute ventilation and ventilatory anaerobic threshold and consequently energy consumption. Comparing both groups, this increase was non significant in energy consumption but significant in minute ventilation and ventilatory anaerobic threshold. Front pack produced an increase in integrated electromyographic activity of back muscles and a decrease in integrated electromyographic activity of abdominal muscles. Backpack produced a decrease in integrated electromyographic activity of back muscles and an increase in integrated electromyographic activity of abdominal muscles. Conclusion: The finding revealed that both types of packs increased the energy expenditure. The electromyographic activity of back muscles when carrying a front pack is higher than while carrying a backpack, this is opposite to the backpack. So the backpack has the advantage over the front pack in terms of energy expenditure and myoelectrical activity.

Key words	**1.**	**Backpack.**
	2.	**energy expenditure.**
	3.	**electrical activity.**
	4.	**front pack.**
	5.	**myoelectrical activity.**
	6.	**trunk muscles.**
Arabic Title Page	**:**	**تأثير الشنطة الخلفية والأمامية على النشاط العضلى الكهربائى لعضلات الجذع ومعدل بذل الطاقة فى الأشخاص الطبيعيين.**
Library register number	**:**	**2329-2330.**