

The Effect Of Special Exercises To Rehabilitate And Develop Some Functional Variables

Ali Ayad Hameed

University of Diyala College of Basic Education, Department of Physical Education and Sports Sciences

Email: Basicspor4te@uodiyala.edu.iq

Abstract: *Chronic Stable angina is one of the most important diseases of the coronary arteries that are in the form of a stable incomplete blockage in blood flow through one or more coronary arteries due to atherosclerotic plaque and it negatively affects human health and its adaptation to life and its requirements. For the purpose of adapting to these requirements for patients with angina The chest must be prepared specific rehabilitation programs that take into account the specificity of each case of stable angina. Which contribute greatly to strengthening the cardiovascular muscle and related blood vessels, reducing the number of heartbeats, the normal restoration of the work of the heart muscle and adapting to functional shortcomings resulting from narrowing of the arteries of the heart and to resist the frequent clinical appearance of crises of angina pectoris*

The study aimed to:

- Knowing the effect of rehabilitative exercises on some functional variables*
- Know the differences between the two groups after applying the rehabilitative exercises.*

The researcher used the experimental approach as it is the appropriate approach to solve the research problem. The research sample was chosen in an intentional way and they are suffering from simple stable angina-I who do not need to perform a catheter operation and the sample was chosen after the accurate diagnosis by the specialist doctors by accurate description of the case That the patient suffers in addition to the stress test (the individual's ability to walk on the moving device) and to reach a result that the patient suffers from stable angina (CSA-I), and the total number of sample individuals (12) was infected and they were divided into two groups in a random manner and by (6) Injured in each group. The researcher conducted the pre-test (measuring chemical variables, stress test) from the date of 2/18/2019, Thursday to the date of 2/25/2019, Thursday also within the official working hours, after which the vocabulary of the qualifying curriculum was applied during (36) rehabilitative units, after which the researcher conducted the test Al-Baadi on 20/5/2019, Thursday, 25/5/2019, Tuesday, within the official working hours as well. To deal with raw grades in a simple way in order to explain them, the researcher used the statistical bag.

In light of the foregoing, the researcher reached several conclusions and recommendations that he will address.

Key words : *Rehabilitative exercises , functional variables .*

INTRODUCTION

The heart has a muscle that is active with training, movement, and lethargy at rest and laziness. Therefore, lack of activity and idle lifestyle is one of the most important risk factors

(causes) for coronary arterial disease. Stable angina is one of the most important coronary artery diseases that are in the form of fixed incomplete obstruction. In blood flow through one or more coronary arteries due to sclerosis, this leads to narrowing of the diameter of the coronary artery, which limits the amount of blood that carries oxygen and nutrients to the muscle Myocardial.

Angina Pectoris and its pain and complications negatively affect human health and its adaptation to life and its requirements. Many patients believe that drug therapy is the only way to recover from heart disease, especially simple stable angina (CSA-1). Chronic Stable angina. This is one of the common misconceptions that a patient with a heart loses his ability to work at work and is obliged to refrain from Movement or reduces them, but many specialists reject these ideas. Modern medicine has indicated that the heart muscle is under the influence of rehabilitative exercises that take into account the individual's age and his level of physical preparation, improve their efficiency and gain a great ability to endure. Drug therapy is not sufficient alone for the purpose of recovery or Control of the incidence of angina stable, the injured needs physical therapy as a supportive treatment. It is noted that heart patients often develop clear depression or fear in the course of their treatment and thus their disease condition worsens and it is difficult for them to overcome the disease using treatment only, but physical therapy (exercise) often leads to increasing the patient's self-confidence and overcoming the disease and giving him a certain opportunity And confident to expand his knowledge and culture about his health and thus deal with the disease properly and fruitfully. "The movement can be dispensed with all the means of treatment in the world, but there is no single drug that can replace the movement,1" Teso said.

I conducted many experiments and research on the life without physical activity and the effect of lack of movement on the human and all these studies proved the negative effect of lack of movement on the safety and health of the human.

The fact that rehabilitative exercises are one of the appropriate programs to affect all internal organs, especially the work of the heart. The heart muscle after physical training grows and its tissues are strengthened and this helps to increase the cardiac out put cop and push the appropriate amount of blood loaded with oxygen and nutrients for the heart and body muscle in addition to To reduce the heartbeat compared to the achieved effort, and thus the amount of blood bursting through the affected coronary artery will increase to lead to the adaptation of that artery. And prepare the victim psychologically to cope with the injury.

Research problem:

The amount of blood in the state of rest may be sufficient for the heart muscle for people with angina, but it is not sufficient in the case of making an effort, as the narrowing of the coronary artery does not allow to increase the amount of oxygenated blood that reaches the heart muscle, myocardial, so that the heart can work efficiently and as a result Therefore, the researcher considered the use of exercises to rehabilitate the cardiomyopathy, which contribute a great role in reducing improvement of heart health and the natural restoration of his muscle work and adapting to functional shortcomings resulting from narrowing of the arteries and to resist repeated clinical emergence of crises of angina pectoris and the consequent impact on the psychological state of the injured This is confirmed by the sources * and specialists ** in this field, so the researcher sees going into this topic which lacks scientific research, especially in the field of rehabilitation and preparation of special programs for each case, especially since this injury is gaining great importance for the many injured, especially for those who exceeded the fourth decade of life as a result of life The current trend, which is dominated by lethargy, laziness, improper nutrition, and reliance on modern technology, hoping that Be a modest scientific contribution to serve patients with heart disease.

Research objectives:

- Preparing rehabilitation exercises for people with simple stable angina.
- Knowing the effect of rehabilitative exercises on some functional variables (sugar, nitrogen residues, body fat percentage, stress time, oxygen volume consumed for the MET body and the maximum percentage of ST wave deviation, the maximum number of heartbeats and blood pressure at rest, and the maximum pulse beat at the higher pressure Maximum RPP.max) in people with stable angina.
- Know the differences between the two groups (experimental, control) after applying the rehabilitative exercises.

Research hypothesis:

- There were statistically significant differences between the results of the pre and post tests in each group with the functional variables under discussion.
- There are statistically significant differences between the results of the post-test tests for the two groups (experimental and control) in the functional variables under consideration.

RESEARCH METHODOLOGY

It is the nature of the problem presented that determines the nature of the curriculum used, so the researcher used the experimental approach to design (equal groups).

Research community and samples

The community was chosen by the intentional method, and they are afflicted with simple angina-I who do not need a catheterization procedure, and the sample was chosen after the accurate diagnosis by the specialist doctors by the patient after an accurate clinical description of the condition he suffers in addition to the stress test (The ability of the individual to walk on the mobile belt device) and to reach the result that the patient suffers from stable angina (CSA-I) and after that the idea is presented to the injured to perform physiotherapy assistant for drug therapy and a number of patients were excluded for not cooperating with the researcher, and the total number of individuals The sample (12) injured from the parent community of (36 injured), and they were divided into two groups in a random manner, by (6) injured in each group, and homogeneity and equivalence of the two groups were conducted in the variables related to the research.

Research Tools

To provide a set of devices and tools necessary for the purpose of using them to solve the problem, whatever those tools, and to make sure that these tools are suitable for research to achieve hypotheses. In fact, the researcher used the devices, tools and means that helped the researcher to conduct his research, as follows:

- medical Cotten
- Sterile materials
- Medical injection
- Japanese-made Stethoscope.
- A device for measuring the pulse rate (carpal) of German origin, count (2).
- Centrifuge Blood Separator
- Spectrophotometer
- Tread mill conveyor, in addition to computer-related connections.
- Chemicals (kits) to detect chemical variables.

The Testes

Measured variables:

BLOOD GLUCOSE, BLOOD UREA, TRIGLYCERIDES, HDL, LDL, VLDL, Cholesterol.

Applied Test

Qualification curriculum ,rehabilitative exercises:

The correct choice and severe codification of the rehabilitation exercises is an effective means for rehabilitation and adaptation of various cardiovascular diseases, including dangerous diseases, including the rehabilitation exercises are one of the best means to raise the efficiency of the work of the organs, which helps the patient to return to the normal state and must follow the rules that ensure The desired benefit from rehabilitative exercises. Excess training dose becomes a health hazard and may cause special injuries to the most important body and heart systems. When it is ineffective, it does not occur the appropriate physiological change. The intensity ranged from 50% to 75%. Among the rules that must be observed when performing the rehabilitative exercises:

- Perform all movement exercises and conditions calmly and smoothly, and not resort to excessive systolic movements or fast timing.
- The performance is accompanied by relying on the concave or edge of a table when performing the exercises of bending the knees in full.
- The number of repetitions of each exercise must be graduated.
- Not to hold the breath during performing the rehabilitative exercises, and breathing is from the nose.
- Giving a positive rest period for a period of (30-40t) after performing the exercises and the rest will be by walking with a deep breathing action.
- The practice of rehabilitating exercises often begins by actually walking or performing imaginative movements from the sitting position and must be given utmost importance to walking movements because it stimulates blood circulation and breathing as it creates the central nervous system and when the elderly patient is exposed to fatigue when performing rapid walking movements then it is preferable to turn walking Fast to slow for a period of (30-40t.)
- The pulse is measured before and after the rehabilitative exercises and reduces the number of rehabilitative exercises and the number of repetitions of each exercise if we notice that there is an increase in the pulse rate by about (15-20) beats from the normal range.
- A follow-up and observation of the patient's state of health during the practice of rehabilitative exercises so that if some manifestations of stress or an abnormal sensation in the heart region such as (the appearance of suffocation or palpitations and pain in the chest area) are discontinued, he ceases to perform these exercises and the supervisor intervenes.
- Taking into account the sequence in performing the rehabilitation exercises, from easy to difficult.

RESULTS AND DISCUSSED

View and discuss search results:

Table (1) shows the arithmetic mean, the difference between the arithmetic mean, and the calculated value (T) between the pre and post tests of the experimental group and the effect size in the chemical variables.						
Variables	A Pre	A Post	A Diff	Calculated value of T	Significance level	Significance
BLOOD GLUCOSE	4.771	4.874	0.178	0.455	0.721	NonSign
BLOOD UREA	5.321	5.118	0.22	0.211	0.373	

TRIGLYCERIDES	1.547	1.845	1.748-	1.113	0.317	
HDL	1.09	1.325	0.323-	3.2	0.014	Sign
LDL	2.321	2.214	0.254	3.214	0.025	
VLDL	0.258	0.145	0.214	1.547	0.187	NonSign
Cholesterol	4.589	4.587	0.025	2.47	0.041	Sign

There is a significant difference between the pre and post measurement of the experimental group in the variables (HDL, LDL and cholesterol) and in favor of the post test. The researcher attributes the reason for this that this group practiced rehabilitative exercises that raise the percentage of high density lipoprotein (HDL)) This variable removes cholesterol from the arterial walls and transports it to the liver for metabolism. At the same time, there is a low percentage of non-benign fats (LDL), which is believed to store cholesterol in the arterial walls, and many studies have provided () () facts that practice physical activities increase Of the (HDL) level, that is, the trainees are distinguished by an increase in the level of HDL from (20% -30%) compared to the non-trainees, as well as a decrease (LDL). The results of the current study agree to raise the concentration of HDL with (Ahmad, who indicated that aerobic exercise (30 minutes walking) for a period of (30 days) that raised the level of (HDL), and with a study (1) where the researchers gave low or medium intensity aerobic exercises (36 individuals) with a age of (35 - 76) years divided into two groups (19) A person is a control group and (17) a person is a group Experimental They trained (16) weeks by (3) training units per week and at the end of the training, the level of HDL increased by 10% in 10 patients and also with (Kokkinos who indicated that aerobic training leads to a significant increase in the level of (HDL – C) and I also agreed with the study (2) that indicates that training (8) weeks by (3) units per week and used a gradient system to increase the number of calories consumed (diet-athletic program) has contributed to reducing the concentration of fatty protein a few Density (LDL) and raising the level of high-density lipoprotein (HDL), i.e. lower risk of heart disease and atherosclerosis, and also agreed with the total cholesterol variable with a decrease in its percentage for this group (diet-athletic program). As the use of regular physical rehabilitation exercises based on scientific foundations led to a decrease in the total cholesterol level because it works to increase the caloric exchange for the general daily rate to meet the requirements of that activity that relies on cholesterol in the metabolism process and this is confirmed by (3) that physical training will have A positive effect on cholesterol representation and increases benign fats. This study is consistent with what the researcher (Barnard) indicated, which indicated that the nutritional determination for a period of (3) weeks led to a reduction in the concentration of blood cholesterol by (- 23%), and the effect size of (HDL) It is 0.84 and for LDL it is 0.82 and for cholesterol is 0.77 and they are within the large level of impact size, that is, the effect of exercises on these variables was significant and also agreed with the study of (4), as this study recorded a significant decrease in relation to the total cholesterol variable when using structured and built-in physical exercises On scientific grounds that increase caloric exchange. As for the rest of the variables (blood sugar, urea, triglycerine and very low-density lipoprotein (VLDL)), no significant indication was found. However, the effect size was found. This means that there was an improvement in the affected person in these variables, but the small number of sample members and the severity used were not eligible to show significant differences. Between the pre and post measurements, this study in the blood sugar variable did not agree with the (fractional) study that indicated that the diet program led to a reduction in the concentration of blood glucose, but it was not significant and the decrease in morale was reinforced in the food-sports group and the current study agreed in a triple variable Calcine with the study (5), which there was no significant difference between the pre and post measurements, and quoting from Al-Bitar after three decades of continuous

research, it did not indicate a positive relationship between the three-variable calcine and coronary artery disease.

Table (2) shows the arithmetic mean, the difference between the arithmetic mean, and the calculated value (T) between the pre and post tests of the Control group and the effect size in the chemical variables.

Variables	A Pre	A Post	A Diff	Calculated value of T	Significance level	Significance
BLOOD GLUCOSE	4.871	5.844	0.078	0.255	0.791	NonSign
BLOOD UREA	5.351	4.218	0.282	0.288	0.493	
TRIGLYCERIDES	1.447	1.245	0.745	1.013	0.517	
HDL	1.091	1.125	0.823-	0.587	0.014	Sign
LDL	3.321	1.214	0.254-	0.214	0.825	
VLDL	0.058	0.445	0.114	2.547	0.087	NonSign
Cholesterol	0.089	2.587	0.023	2.87	0.081	Sign

Through the above, it was found that all the relevant chemical variables did not achieve any significant significance between the pre and post measurements of the control group and that the absence of an indication does not mean that there is no real effect so the researcher used statistical law the size of the effect to know the effect behind this result, as the variables (fatty protein) were Very low-density VLDL, and cholesterol) fall within the level of the large effect of the two variables urea level in the blood and trichlorin, and the rest of the variables (sugar, high-density lipoprotein HDL, and low-density lipoprotein LDL) were within the level of the small effect, and the researcher attributes the reason for the absence of any difference The moral of this group is that they lead an inactive life as we mentioned that the patient with a heart must have bedding and reduce movement (common mistake) which is one of the main factors of the injury and this is confirmed by the (5) Foundation for Medical Research and Medical Education, as the lack of activity and lifestyle is lazy smoking and grease High blood pressure and the family history of coronary artery disease and diabetes are the risk factors for coronary artery disease. This study agreed in the absence of significant differences between the pre and post measurements of the control group in the variables (cholesterol, triple-calcine, HDL, and low-density lipoprotein LDL) with the study (7) and also (8) study that divided the sample into Three groups are also control and two experimental groups (the first subject to the diet program only and the second to the diet program in addition to sports) and even the variable blood sugar in relation to the second study there was no change (that is, there is no difference) this strengthens what the researcher reached to laziness and lack of movement and eating (Dormant life) does not lead to significant changes in chemical variables due to the lack of change in their lifestyle towards exercising, which prevents heart attacks and helps the patient feel comfortable somewhat.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Through the above presented results and the researcher's analysis and discussion of these results, he reached the following conclusions:

- Chemotherapy alone is not sufficient to produce positive physiological changes in the coronary arteries and the heart muscle. The exercises used in the study were supportive and complementary to the drug.
- Exercise increases high-density lipoprotein (HDL) and lowers low-density lipoprotein (LDL) and lowers total cholesterol by increasing caloric exchange.

- Exercise works as a Beta Blocker, which reduces the maximum heart rate and reduces the maximum blood pressure, thus changing the multiplier RPP.
- A positive balance occurred between the need and consumption of oxygen for the heart muscle RPP and the body's consumption of MET oxygen, which led to delayed feeling of pain (exercise) during the performance of stress and thus the ability of the heart muscle to increase work

Recommendations

Through what has been concluded, the researcher recommends the following recommendations:

- 1. Adoption of the exercises used in the study to rehabilitate those with stable angina because it contributed to the improvement of functional variables and thus the development of health status.
- 2. The necessity of conducting a study on women with stable angina to present scientific facts about the possibility of causing physiological changes when training women, taking into consideration the formation of exercises in a manner appropriate to their situation.
- The necessity of cooperation of physical and cardiac education specialists to develop treatment programs for cardiac patients..

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