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ANSWERS ACUTES AND SUBACUTES OF FREQUENCY CARDIAC, ARTERY PRESSURE AND PRODUCT DOUBLE IN RESISTANCE EXERCISE TO RESIST A WITH EMPHASIS IN REABILITATION CARDIAC: STUDY OF REIEW.

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ABSTRACT :

Physical exercise has beneficial effects on the body, a health promotion for the population has been recommended as a strategic way to improve life. Reach concentric failure in resistance exercise has been a best practice today in order to enhance adaptation and optimize training time. The objective was to analyze the literature studies that indicate a safety in acute and subacute responses of heart rate, blood pressure and double product in resistance training. We conclude here that the Physical exercise has a safety in acute and subacute responses of heart rate, blood pressure and double product.

Therefore it is suggested to carry out new studies especially in terms of investigating different physical exercises depending on the magnitude and duration of post-exercise hypotension; so that, health professionals, have more confidence in using it in the treatment of hypertensive patients.

KEYWORDS: *Physical exercises, heart rate, blood pressure and double product.*

RESUMO

O exercício físico apresenta efeitos benéficos ao organismo, uma promoção da saúde para a população vem sendo recomendada como uma forma estratégica para melhorar a vida. Atingir a falha concêntrica nos exercícios resistidos tem sido um procedimento recomendado atualmente, no intuito de potencializar adaptações e otimizar tempo de treinamento. O objetivo foi analisar na literatura os estudos que apontam uma segurança nas respostas agudas e subagudas da frequência cardíaca, pressão arterial e duplo produto em exercícios resistidos. Conclui-se aqui, que o exercício Físico

apresenta uma segurança nas respostas agudas e subagudas da frequência cardíaca, pressão arterial e duplo produto. Portanto sugere-se a realização de novos estudos especialmente em função de investigar diferentes exercícios físicos em função da magnitude e da duração da hipotensão pós-exercício; para que assim, os profissionais de saúde, tenham mais confiança em utilizá-lo no tratamento de pacientes hipertensos.

Palavras-Chave: Exercícios físicos, frequência cardíaca, pressão arterial e duplo produto.

INTRODUCE

The important of adaption program and of fulfillment of physical exercise for rehabilitation cardiovascular is necessary for that if we can minimize quantity a morbid and mortally how expensive sociable and economic motive disease cardiovascular. A practices constant and wile oriented or lifestyle more busy is means of protect against occurrence of disease cardiovascular reduce not only mortality cardiovascular. But too a mortality for enothes various disease (NOBRE, SANTOAS FONSECA, 2005).

The artery pressure high it seems possibility a physical activities delayed and regular (POLLOCK & WILMORE, 1993). An exercise appear be more useful in control of weightless hypertension, can to came for reduce significative between 6 and 8 weeks of aerobics conditionality (HANSON, 1994).

Dynamics exercise, no their mechanics obstruction of flux brood sanguine, in that to relative for development cardiac frequency (FORJAZ & TINUCCI, 2000). Or be during physical exercise observe a development artery systolic pressure and maintenance or reduce of systolic (FORJAZ, MATSUDAIRA, RODRIGUES, NUNES & NEGRÃO, 1998).

Various studies has to show relation direct between a cardiac frequency and risk of developed of disease cardiovasculares, or be will cardiac frequency in relax or less tachycardia during a physical exercise sub maximal introduce smaller probability develop heart disease (SECCARECIA & MENOTTI, 1992).

Became to put in perspective that a reduce of nervous nice activity and better of flux sanguine muscle that power causes reduce in species to revive of oxygen, and consequently, reduce cardiac insufficiency. In groups development in conductance in conductance vascular power to help to decidedly for better of capacity oxygen, muscle and capacity physical of patient cardiac insufficiency.

Campos et. al. (2009) affirms that practice regular physical exercise can to help for developed of capable aerobics and reduce of obesity corporal. When associate a food help in control of disease that hypertension, diabetes and obesity that are important identify for maintenance of life quality.

For show benefic physical exercise, ALVES et. al. (2005) affirm that better of physical in adults of midge will reduce in more 50% a mortality common for all causes.

Roberts (2002) say that utility of trainer of force with model respirator adequate can be benefic, specialty for people that need better your capacity for realize day work.

A of various examples of adaptation to physical exercise is an angioplasty what developed blood flux for muscle. But for cardiac muscle, a reduce of cardiac frequency and artery pressure (DIRETRIZES OF CARDIAC REABILITATION, 2005 APUD SILVA, MACHADO E RODRIGUES, 2008).

Studies show that trainer to resist is more secure is of big important for control of artery pressure (FEIGENBAUM ET. AL., 1999). A trainer to resist before of 1990 no is indicating for heart disease and hypertension (ACSM) today a very well chaise in cardiac reability.

A possible advantage of trainer before resist concentric will be more concentric recruitment of motors units and after, get force and too of hypertrophy (IZQUIERDO et. al., 2006; WILLARDSON, 2007).

But yet there various now far theme PETERSON et. al. (2005) showed that trainer error concentric will be a better model. Manner of trainer developed of power IZQUIERDO et.al. (2006) showed that a trainer yeta error concentric is more capable to promote acquisition of muscle resistance now far that a trainer error concentric is more capable a better of power.

Use of series has recommended a trainer resist with weight?

METHODOLOGY

The current study is featured as bibliography of exploratory mature. This type of pesquize search seeks to acquaint with some themes specify reach a construction of hypotheses. But, very flexible whatever for you're planning, talking a form of Bibliography, esquire (GIL, 2008). Revision esquire: This type of esquire is developed starting of material already elaborate for researches Colet information. About esquire previous in sources Bibliography.Such as Books, publications periodic and academic work.

SOURRES:

Next statue described sources that provide the answers adequate. The solution of problem propos. Resurfaced a literature search with databases SCIELO (SCIENTIFIC ELETRONIC: LIBRARY ONLINE), MEDLINE (MEDICAL LITERATURE ANALYSIS AND RETRIEVAL SYSTEM ONLINE), RBPLV (REVISTA BRASILEIRA DE PRESCRIÇÃO E FISIOLOGIA DO EXERCÍCIO) and so as specific websites theme in internet until the year 2015. Theywere used 28 articles available national with test complete.

To criterion of inclusion the Biographies that approached artery pressure, cardiac frequency and hypertension and they were exclude these that no attended the theme. The criterion of inclusion they were article published to 2015, that submit the theme of monograph in the or abstract.

DATA COLLECTION

A Collection following the premises:

a) Reading exploratory all the material selected (reading quickly that objective verify if the work consulted of interest to work).

b) Selective reading more depth of parts that really interesting.

c) Records f information extracted sources in instruments specify (author, method, results and conclusion).

ANALYSIS AND INTERPRETATION OF THE FACTS

I'm this stage it was realized a reading analytic with finality of order summary the information contained in sources of form that this does possible obtaining of answers to problem of esquire.

THEORITICAL FOUDATION

Acute answers and sub acute of cardiac, frequency artery pressure and double product resistance exercise.

There are in literature works that report that is occurring serious increase in the incidence blood pressure in relation a other disease and send this one of the biggest health problem (GANDARRILLAS E COLABORADORES, 2005)..

The people age in your life due circumstances historical economic in what living on occurrence of issue of health for the process of aging (GREMEAUX E COLABORADORES, 2012).

Of even mode that occur mutation in muscle skeletal, the cardiac muscle suffer adaptations

with resistance training are they the adaptations cardiovasculares chronicle and acute. The adaptation cardiovasculares chronicle promote reduction of cardiac frequency and artery pressure the execution of exercise with sub maximal loads low stress of cardiac muscle. The reductions in cardiac frequency in artery pressure or both result in decrease of double product (DP) and consequently this indicates work less of my cardio so much in rest as in exercise (FLECK E KRAEMER, 2006).

This series of resistance of resistance training performed to concentric voluntary failure with about 70% RM they are probably of duration and load enough to increase in blood pressure and in cardiac frequency, while on the other hand. The series performed with heavier or lighter they are insufficient in length or intensity so that there the factors contribute for the reaction of pressure (FLECK E KRAEMER, 2006).

I'm literature verificated very recommendations favorable to physical exercise individuates ACMS (AMERICAN COLLEGE OF SPORTS MEDICINE, 2002), and carriers of diseases cardiovasculares (PIKERING ET.AL., 2005) monitor the stress cardiovasculares allows to work with security for the execution of physical exercise program (FARINATTI, ASSIS, 2000); (POLITO, FARINATTI, 2003), (VELOSO ET. AL., 2003); (LEITE, FARINATTI, 2003).

Trimming perfect the effect hypotensive are studied several variable related to resistance training with physical exercise (POLITO E COLABORADORES, 2003), various muscular groups (MAIOR E COLABORADORES, 2007).

About resistance exercise (ER) directed a special groups with variety cardiovasculares FC, PA e DP should be monitored what for this levels no elevating in exceeds. It has observed is that for the practice of ER how bigger the voltage time generated in muscle, the quantity of muscle recruited the size of muscle mass involved and the proportion of. Mobilized load with intensity effort nest will be the hemodynamic answers (POLLOCK ET.AL., 2000; MIRANDA ET.AL., 2005).

Segurance of execution of exercise in answer of double product

In relation for system cardiovasculares, the researchers. It has been concerned in analyze and understand. The adaptation in aerobics training of the force about hemodynamic variety, FARINATTI E ASSIS (2000); LEITE E FARINATTI (2003).

Several studies show that artery pressure of individuals hypertensive and normotensive suffer alteration before and after the series of physical exercise (POLITO; FARINATTI, 2003; POLITO; FARINATTI, 2006), and suggest such that these alterations must be to related with the intensity and volume of training employee (MATOS ET.AL. 2013), and too with muscle mass involved (D.ASSUNÇÃO ET.AL. 2007).

Double product is considered an indicator of work of myocardium forward the training of oxygen during physical effort in relaxes (FARINATTI E ASSIS, 2000).

Farinatti; Assis (2000), show that the physical exercise less solicited cardiac that the aerobics activity. CAMARA; SANTOS; VELARDI (2010) observed this fact and finished the physical resistance exercise they can utilized with segurance in cardiac reability.

The sedentary life style associated with bad habit promotes big losses to health that developed diseases chronicle (ORSI E COLABORADORES 2008; SILVA E COLABORADORES 2011).

Lamote et.al. (2010), observe a development of cardiac frequency and of artery pressure a every series of physical exercise. Convey apparently no their difference between the answers of different intensity of physical exercise. These facts convey a supposition that developed of cardiac frequency and of artery pressure during the physical exercise. Can be just factored over their intensity and volume physical exercise.

Answers of training with physical exercise can be visualized thought of variety hemodynamic such that artery pressure and frequency cardiac and conduct depend of factors that an intensity and volume of physical exercise (GIELEN, SCHULER & ADAMS, 2010; MENDONÇA & FERNANDES, 2012).

Queiroz et.al.,(2013) speak that only section physical exercise can be reduce the artery pressure and in this name load of cardiac work, of other behalf the authors report that this cardiac frequency remains high after a section of physical exercise, increasing the cardiac work load.

The authors they show the intensity how action of variety along the routine in of training with eight be more efficient for lean mass and fortification of same and articulations (FONSECA ET.AL., 2014).

Interventions of multiple series provides hypertension in interval of 1 hour

The hypotension is defined by decrease of level blood pressure a values below of found in situation for physical exercise (RUIZ E COLABORADORES, 2011).

The lack of physical exercise and regular is meals bad they are associated a series of organic disturb among them a hypertension artery (BUDCHEN E COLABORADORES, 2013).

From according with Esteves e Colaboradores (2010), the effect hypo tensor of aerobics exercise signifique protection against events of myocardium, and is necessary that persist to reduce various hours after it.

Senito, Charkoudian e Halliwill (2002), report factors that we can step-in drop artery pressure after physical exercise what potentiality the importance of others studies to identify the condition that potentiality this answers person normotensive hypertensive.

Studs had evidence effect benefic of physical exercise (FERREIRA E COLABORADORES, 2011; RODRIGUES E COLABORADORES, 2011; VIECILI E COLABORADORES, 2009; MENDES E BARATA, 2008; RODRIGUEZ E COLABORADORES, 2008; CUNHA E COLABORADORES, 2006; WHELTON E COLABORADORES, 2002; FORJAZ E COLABORADORES, 1998) resistance training/Power (OLIVEIRA E COLABORADORES, 2011; FILHO E COLABORADORES, 2010; MAIOR E COLABORADORES, 2007; MEDIANO E COLABORADORES, 2005; KELLEY E KELLEY, 2000; POLITO E COLABORADORES, 2003) about and hypotension and levels of artery. PONTES JUNIOR E COLABORADORES (2010) report that hytension can be for 24 hours after exercise.

Locks et.al. (2012) finished that physical exercise resistance associate to aerobics create effect hypo tensor as in artery pressure systolic how in diastolic starting of week forth of physical exercise.

Guimarães and Colaboradores (2010), report that the physical exercise regular is and favorable to control of artery hypertension. DUJIC et.al. (2006); LIU et. al. (2012) indicates that the bigger values hypotension will be associate and values of artery pressure size in relax.

Cardiac Rehabilitation and resistance trainer

The Bodybuilder it is where determine training towards the goals, can be resistance that it is won, can be this resistance instruments bars free, halters, washers and own body weight (Azevedo e Colaboradores, 2012).

Prevention measures of artery hypertension represent a challenge for the professionals of the area of health. The prevention and self detecting are forms and should can part priority of health professionals (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2010).

The cardiac rehabilitation (RC) is a complex intervention plans that can it involves several therapies as nutritional counseling, psychological monitoring, orientation as to the risk factor's and the administering drugs. Yet, majority of success of PRC is due the therapy based in physical exercise this

being the strategy central this programs (PALMER-MCLEAN, 2003; MENEGHELO, 2007).

The literature and clinical practice has demonstrated that: a session of physical exercise promotes reduction of blood pressure (KAUFMAN E COLABORADORES, 1987; PESCATELLO E COLABORADORES, 1991; RUECKET E COLABORADORES, 1996; HAILLWILL, 2001; HALLWILLW E COLABORADORES, 2000; CASONATTO E POLITTO, 2009; PONTES E COLABORADORES, 2008).

The physical exercises have the principal intervention of cardiovasculares diseases (EACPR, 2010; QUEIROZ, KANEGUSUKU E FORJAZ, 2010).

Various scientific articles have shown the physical exercise of high intensity cardiac reability this being that this can be greater benefits to the reduction of cardiovasculares diseases and mortality (HASKELL E COLABORADORES, 2007; NYBO, 2010; SWAIN E FRANKLIN, 2006; SCHJERVE E COLABORADORES, 2008; TJONNA E COLABORADORES, 2008; TJONNA E COLABORADORES, 2009).

DISCUSSION

In elevated show be for various studies, that has much attention phenomenon of hypotension after exercise. BRUM et al., (2004) characterize-if with reduce of artery pressure during the period of recuperation of activities realize, do with that the values blood pressure observed after physical exercise stay inferior low those measure before physical exercise.

The form well accept for treatment artery hypertension is primary prevention (KOHLMANN JUNIOR et.al., 1999) with execution of physical exercise that in literature, diminished, the level, blood pressure of relax in hypertension (POLIO E FARINATTI, 2003), your tendency of utilize physical agent in these the physical exercise aerobics (MONTEIRO e SOBRAL FILHO, 2004). And corporals and prince pall, in system cardiovasculares with intention of support the cellular homeostasis (BRANDÃO et.al. 2002).

The physical exercise cams be to used for various professionals of health what a means effect for control of artery hypertension (LIMA, 2011). One only session of physical exercise is capable of promote a reduce of levels blood pressure after physical exercise, in relation for values in relax, the denominate hypotension after exercise (HPE), and that can endure for 22 hours after a session.

Locks et.al., (2012) in a study similar contused that the resistance exercise create the effect hypo tensor as in PAS how in PAD starting of fourth week of training and this reduce if kept yet after ofcessation of exercise in twelfth week, say to Souto Maior and Colaboradores (2007), that reported that the accumulation of metabolic muscle they are caused with physical exercise because introduced relevance in artery vasodilatation diminish peripheral, vascular a resistance.

The hypotension is a of principal interventions no drug in treatment of artery pressure; CANADIAN HYPERTENSION EDUCATION PROGRAM, (2010); PASCATELLO E COLABORADORES, (2004), then how bigger the magnitude and duration of hypertension better effect of physical exercise about the person (MACDONALD, 2002; MEDIANO e COLABORADORES, 2005).

Possible physical is yet the concentric failure (with greater number of repetitions) introduced a stress tension and metabolic and conciliate greater hypertension. When compared for physical exercise of left resistance of greater intensify, since these link moor hypertension principally in physical exercise against resistance for tom of 40 a 70% of 1RM (ANUNCIAÇÃO E POLITO, 2011; POLITO E FARINATTI, 2006).

I'm relation to product double there was difference when the values e after physical exercise. Fact it was expected, and that if have informed in classical literature physiology exercises that bath cardiac frequency the artery pressure increase during any tips of efforts characteristics.

CONCLUSION

Finish concludes here, that the exercises introduce a segurance in answers acute and sub acute of cardiac frequency, artery pressure and product double.

Starting this revision of literature, need if of a study experimental to discover or test others hypotheses. The hypotheses present they were confirmed, they being:

• The execution of multiple series until the fatigue spontaneous is secured, because no transmute the limit of segurance cardiovascular mentioned in literature (30.000);

• The physical exercise regular contributes to diminish of artery pressure in relax;

• The execution of multiple series until spontaneous fatigue came benefits for health so much after physical exercise and chronically continuity of even.

I'm literature searched reinforces it the conceit of that the resistance physical exercise although of small number of studies published in the last five years, showed positive results, decreasing significantly the artery pressure prim apply of hypertensive patients.

There for suggest it the realization physical exercise different as a function of magnitude and duration of hypotension after exercise, for that so the health professionals, have more confidence in using it in treatment of hypertensive patient.

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