78 - EFFECTS OF 8 WEEKS OF RESISTED TRAINING ASSOCIATEd TO THE PHARMACOLOGICAL TREATMENT ABOUT THE RISK FACTORS OF THE ARTERIAL HYPERTENSION IN SENIOR.

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INTRODUCTION:

The chronic elevations of the pressure values are considered systemic arterial hypertension (Lolio, 1990). the arterial hypertension is becoming a progressively one of the most serious problems of public health, reaching adults, especially the elder ones. It is considered that in Brazil approximately 30% of the general population who are over 40 years old can have the high blood pressure. For people with more than 60 years, it is spoken in 65% with hypertension (V Brazilian Guideline of Arterial Hypertension, 2006). It is Considered that there are 600 million people with hypertension in the world, 7,1 million people die by causes of arterial hypertension which is equal to 13% of the total of deaths (Pan-American Organization of Health, 2003).

The arterial hypertension generates for Ministry of Health an investment of 475 million Real a year in internments (Pan-American Organization of Health (?)). in spite of the progresses in the prevention, in the diagnosis, in the treatment and in the control, this is still an important problem of public health to be solved (V Brazilian Guideline of Arterial Hypertension, 2006).

OBJECTIVE:

To verify the benefits of a resisted training program associated to the pharmacological treatment in senior with hypertension of the program "Feli(z)Idade."

METHODOLOGY:

PLACE, PERIOD AND TYPE OF STUDY:

The study was carried out at the academy-school of University of Biomedical Sciences of Cacoal (FACIMED), in the period of July to September of 2007. Being the study of experimental descriptive character, for the quantitative method, being used the convenience technique for the selection of the sample (MARCONI, 2002).

SELECTION OF THE STUDIED POPULATION:

The studied population was selected among the volunteers that participated in the project of extension entitled FACIMED FELI(Z)IDADE. 21 seniors with hypertension were selected with age group from 60 to 69 years of both sexes, being 4 men and 17 women registered in the project, all the volunteers made administration of pharmaceutic drugs for hypertension. The participants were submitted to the physical training (muscular activity). The exclusions happened for the diabetics with hypertension, the ones that didn't make use of pharmaceutic drugs and the ones that were in a different range of age.

PROTOCOLS:

It was applied the lifestyle questionnaire and anamnesis, adapted by Matsudo (2000), Ministry of Health (2001) and Sturmer et al (2006). Concerning to the identification risk factors associated to the studied group, it was collected data of cutaneous pleats (GUEDES & GUEDES, 1998) with the compass CESCORF® with 0,1mm sensibility, the Index of Corporal Mass (IMC) it was calculated through the relationship of the corporal weight (kg) with height to the square (BRAY & GRAY 1988) using the mechanical scale Welmy® with capacity for 150 kg divisions of 100g with ruler anthropometric and the waist circumference (CC), the used material was a ribbon flexible anthropometric of 150 cm in fiberglass, Brand GULIK (CALLAWAY et al., 1988).

Later, the group was submitted to the test of maximum repetitions in machines with cable, all of the brand RIGHETTO® model “High on fitness” and it consisted of 3 series with intervals of 15 repetitions with constant load with interval of one minute among series, and to every 8 sessions they were submitted to the after-test, they trained big and small muscular groups so much for superior and inferior members with intensity of 60% of the load of maximum repetition for eight weeks, where it was verified blood pressure pre and after physical training according to the criteria of the III Brazilian Consensus of Arterial Hypertension (1998), with the sphygmomanometer aneroid and stethoscope of brandMissouri®, twice a week totaling sixteen sessions.

STATISTICAL ANALYSIS:

The results were presented by average with standard deviation. The test t of Studant, and wilcoxon test for two samples related with significância of $p < 0,05$. The data were analyzed by the laboratory of epidemiology of FACIMED (FACIEPI)

RESULTS:

In the analysis of the data of general characteristics of the studied population the average age was of 64,14 ± 2,59. as for the sex 81,1% it corresponds to the female sex and 19% to the male sex. Concerning to the marital status 38,1% are married, 42,9% are widowers and 4,8% maintain another relationship type. For the education, 57,1% attended the school for 4 years, 5% attended for 8 years, 9,5% completed the high school and 23,8% are illiterate. As risk factors associated was verified that 71,4% never smoked and 95,5% don't make weekly alcoholic ingestion. As the macronutrients 100% consume milk and masses and 85,7% consume fries and 14,3 don't consume any food type in fry form. Considering the factor stresses 52,4% is displeased frequently, 57,1% feel his/her life is empty and 57,1% feels like crying frequently.

As for the pharmacological treatment 34,2% make administration of diuretic daily and 26,3% use inhibitors of the converting enzyme of the angiotensina II, 7,9% take Beta-blocking, 15,8% ingest receivers of the angiotensina II inhibitors and 15,8% take other types of medicines.

In the analysis of IMC, CC the masculine group presented reduction of the pre values and after-training. Already in the indexes of corporal fat they were 3 female pleats and 3 male pleats in common being a pleat suprailiac, the average female pre was 30,22 ±9,14 and after 32,8 ±8,92, for men pre 25,1± 9,96 and after 17,1 ± 7,2.

In relation to the systolic blood pressure in the 1st week the average physical pre-training was of 134,3 mmHg and physical after-training of 144 mmHg, already in the 8th week of training the average physical pre-training was 126,5 mmHg and

physical after-training 121,7 mmHg, (p = 0,027; Figure 1). As for to ADP in the 1st week the average physical pre-training was of 83,9 mmHg and physical after-training of 90,7 mmHg, already in the 8th week of the average physical pre-training it was 81,9 mmHg and physical after-training 79 mmHg (Figure 2).

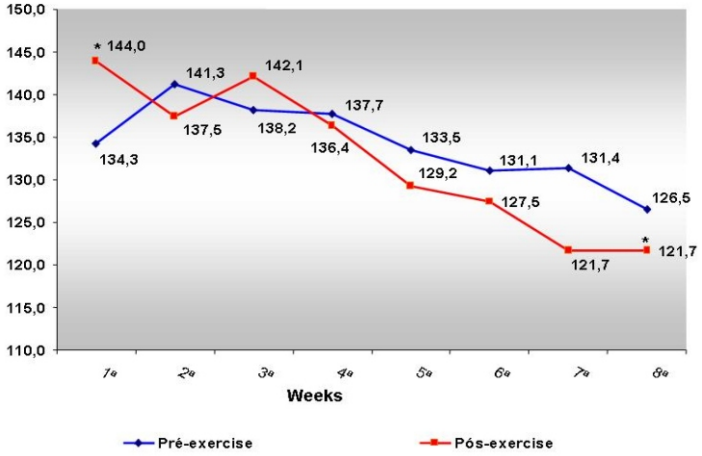

Figure 1: Comportament of PAS pré e pós-physical exercise during 08 weeks.

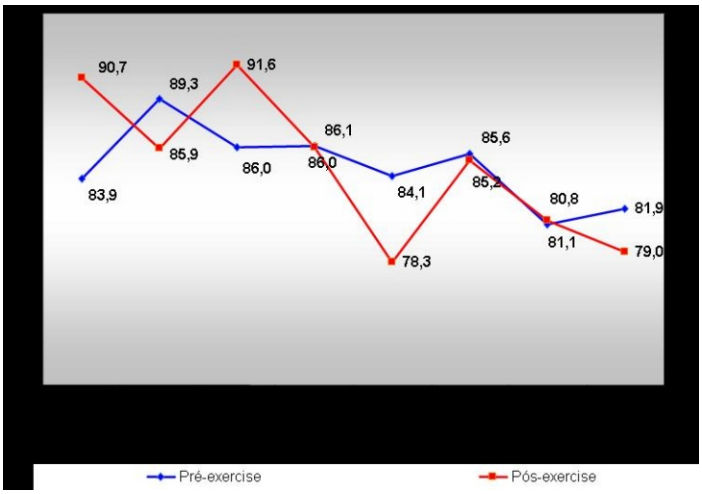

Figure 2: Comportament of PAS pré e pós-physical exercise during 08 weeks.

DISCUSSION:

Our results demonstrated that the study population has low education level, low use of drunk alcoholic and they are active. However, bad quality on eating habits, because the predominance is of fats and fries, what can justify the excess of adiposity in the group, mainly in the feminine sex. In relation to the factors of changing risk of the arterial hypertension, 76,2% of the analyzed individuals are obese and 61,9% presented CC very increased. The resisted training didn't influence in the metabolism of the fat, because he/she didn't have alterations of IMC, fat percentage and of CC. This situation can be explained due to the resisted exercise to be predominantly anaerobic. While, the largest benefit observed by the training, happened in the PAS demonstrating that the resisted exercise can have influences sharp hipontesora in senior with hypertension.

In the study of ZAITUNE (2006) it was told in the research with senior with hypertensions that the largest education level has the smallest risk development of arterial hypertension in relation to the smallest level. This study is similar to our discoveries, because, more of the half of the sample it is illiterate or it studied even to 4th grade of the elementary school.

MORENO et al (2005) they told that 08 weeks of resisted training it didn't alter the lipidic profile of seniors men and women. The same was observed by Santos et al (2002) that studied the effect of 10 weeks of training with weights and they concluded that it doesn't present influence in the corporal composition in an isolated way.

Hans et al (1995) apud Sheep et al (2003) affirmed in their research that men and women with excess of abdominal adiposity have the risk of cardiovascular development of diseases increased.

MONTEIRO (2004) concluded in his research that the benefits of the physical exercise should be taken advantage in the begining of the physical training, so that it happens a reduction in the doses of medicines of the patients with hypertension.

ZIOGAS and HARRIS (1997) apud THOMPSON (2004) accomplished a research of training of force with patient with hypertension during five to eight weeks and they verified the reduction from 16 to 42 mmHg for systolic blood pressure and 2 to 24 mmHg for blood pressure diastólica. Laterza et al (2007) described that the hypertension mechanisms in individuals with hypertension are current of autonomous adjustments and hemodynamic, and those effects are observed with larger influence by the aerobic exercises. In this sense, those results strengthen our results in relation to PAS and it differs for to ADP. However, they should be researched with larger intensity the Physiological effects of the training resisted on the blood pressure.

For OIGMAN (1996) the diuretic present great advantages for they are administered once a day in comparison to the other medicines for hypertension, because very rarely the patient develops tolerance to the treatment, in our data of course the largest ingestion of medicines is of diuretic. While, ALDIGIER et al (1993) apud CAREER (2003) observed the inhibition effect of the converting enzyme of the angiotensina II (captopril) on the levels of the angiotensina plasmatic after-exercise and they noticed that his/her effect disappears, what can justify the non-importance of ADP in our research.

CONCLUSION:

It is ended that there are evidences of physiologic benefits, sharp hypotension, with the intervention of the resisted training and the pharmacological treatment in senior with hypertension.

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EFFECTS OF 8 WEEKS OF RESISTED TRAINING ASSOCIATEd TO THE PHARMACOLOGICAL TREATMENT ABOUT THE RISK FACTORS OF THE ARTERIAL HYPERTENSION IN SENIOR.

ABSTRACT

OBJECTIVE: To verify the benefits of a program of resisted training associated to the pharmacological treatment in senior with arterial hipertension of the program "Feli(z)Idade". METHOD: 21 were researched senior of both sexes being 17 women and 4 men that attended the institutional project FELI(Z)IDADE promoted by University of Biomedical Sciences of Cacoal (FACIMED) with average of age 64,14 ± 2,59. The research was of experimental descriptive character, through the quantitative method, being used the convenience technique for the selection of the sample. The data were collected by adapted questionnaires and validated, IMC, percentile of fat and waist circumference and test of maximum repetitions. The tabulation was done by an average with standard deviation with test t of Studant, and wilcoxon test for two samples related with significance of p <0,05. The data were analyzed by the laboratory of epidemiology of FACIMED (FACIEPI). RESULTS: 57,1% attend the school for four years, 71,4% never smoked and 95,5% don't make weekly alcoholic ingestion, 85,7% consume fries, 34,2% ingest diuretic daily, 57,1% feel therir life is empty. IMC female pre 30,04±6,09 after31,2±5,27 for men IMC pre 27,1±4,11 after 23,9±2,9 in relation to the systolic blood pressure in the 1st week the average physical pre-training was of 134,3 mmHg and after-training of 144 mmHg, already in the 8th week of training the average pre-training was 126,5 mmHg and after-training 121,7 mmHg, and the blood pressure diastolic 1st week the average pre-training was of 83,9 mmHg and after-training of 90,7 mmHg, already in the 8th week of the average pre-training it was 81,9 mmHg and after-training 79 mmHg. CONCLUSION: It was possible to conclude that there are evidences of physiologic benefits, sharp hypotension, with the intervention of the resisted training and the pharmacological treatment in the studied seniors with hipertension.

KEY-WORDS: Senior, Resisted Exercise and arterial Hypertension.

EFFETS DE 8 SEMAINES DU ENTRAÎNEMENT RÉSISTÉE ASSOCIÉ AU TRAITEMENT PHARMACOLOGIQUE SUR LES FACTEURS DU RISQUE DE LA HIPERTENSION ARTÉRIELLE CHEZ LES PERSONNES ÂGÉES

RÉSUMÉ:

OBJECTIF: Vérifier les bénéfices d'un programme de entraînement résistée associé au traitement pharmacologique chez les personnes âgées hypertendu du programme « hereuxÂgé ». MÉTHODE : 21 personnes âgées des tous les deux sexes ont été cherchés, totalisent 17 femmes et 4 hommes qui ont fréquenté le projet institutionnel HEREUXÂGÉ promu par la Faculté de Sciences Biomédicales de Cacoal (FACIMED) avec un âge moyen de 64.14 ± 2.59. La recherche a été de caractère descriptif expérimental, par la méthode quantitative, utilisent la technique d'utilité pour la sélection de l'échantillon. Les données ont été

recueillies par des questionnaires adaptés et validés, IMC, pourcentage de graisse et circonférence de taille et essai de répétitions maximale. Le rapport s'est donnée par moyenne avec le détournement étalon avec le test t de Student, et le test du wilcoxon pour deux échantillons rapportés avec L'importance de p<0,05 Les données ont été analysées par le laboratoire d'épidémiologie de FACIMED (FACIEPI). RÉSULTATS: 57.1% des personnes ont frequenté l'école par quatre ans, 71.4% des personnes ont jamais fumé et 95.5 % des personnes ne font pas de l'ingestion d'alcool hebdomadaire, 85.7% des personnes consomment des fritures, 34.2% des personnes consomment des diurétiques quotidiennement, 57.1% des personnes sentent leur vie vide. La IMC féminine était avant 30,04±6,09 ensuite 31,2±5,27 pour hommes IMC avant 27,1±4,11 ensuite 23,9±2,9 Par rapport à la pression artérielle systolique dans la première semaine la moyenne avant l'entraînement physique était de 134.3 mmHg et ensuite l'entraînement de 144 mmHg, mais dans la huitième semaine de l'entraînement la moyenne avant l'entraînement était 126.5 mmHg et ensuite l'entraînement 121.7 mmHg, et la pression artérielle diastolique dans la première semaine la moyenne avant l'entraînement était de 83.9 mmHg et ensuite l'entraînement était de 90.7 mmHg, mais dans la huitième semaine de la moyenne avant l'entraînement était 81,9 mmHg e ensuite l'entraînement 79 mmHg. CONCLUSION : On conclut qu'il y a des évidences de bénéfices physiologiques, de la hipotension aiguë, avec l'intervention de l'entraînement résistée et du traitement pharmacologique chez les âgées hipertendues étudiés.

MOTS CLÉS : Personnes âgées, Exercice Résisté et Hipertension artérielle.

EFECTOS DE 8 SEMANAS DE ENTRENAMIENTO RESISTIDO ASOCIADO AL TRATAMENTO FARMACOLÓGICO SOBRE LOS FACTORES DE RIESGO DE LA HIPERTENSIÓN EM PERSONAS ANCIANAS.

RESUMEN

OBJETIVO: Verificar los benefícios de un programa de entrenamiento resistido asociado al tratamiento farmacológico em personas ancianas hipertensas del programa “Feliz edad”.

METODO: Fueron pesquisados 21 ancianos de ambos os sexos siendo 17 mujeres y 4 hombres que frecuentaron el proyecto institucional FELIZ EDAD promovido por la Facultad de Ciencias Biomédicas de Cacoal (FACIMED) con una media de edad 64.14 ± 2.59. La pesquisa fue de carácter descrito experimental, por el método cuantitativo, siendo utilizado la técnica de conveniência para la selección de la muestra. Los datos fueron colectados por cuestionarios adaptados y validades, IMC, porcentual de gordura y circunferencia de cintura y test de repepeticiones máximas. La tabulación se dió por media con desvio padrón, con test de Student, y test de Wilcoxon, para dos muestras relacionadas con significancia de p<0,05. Los datos fueron analizados por el laboratorio de epidemiología de la FACIMED (FACIEPI).

RESULTADOS: 57,1% frecuentaron la escuela por cuetro añnos, 71,4% nunca fumó y 95,5% no hacen ingestión alcohólica semanal, 85,7% consumen frituras, 34,2% ingieren diuréticos diariamente, 57,1% siente su vida vacía. El IMC femenino pre 30,04±6,09 pos 31,2±5,27 para hombres IMC pre 27,1±4,11, pos 23,9±2,9. En relación a la présion arterial sistólica en la primera semana la media pre entrenamiento físico fue de 134,3 mmHg y pos entrenamiento de 144 mmHg, ya en la octava semana de entrenamiento la media pre entrenamiento fue 126,5 mmHg e pos entrenamiento 121,7 mmHg, y la presión arterial diastólica en la primera semana la media pre entrenamiento fue de 83,9 mmHg e pos entrenamiento de 90,7 mmHg, ya en la octava semana de la media pre entrenamiento fue 81,9 mmHg e pos entrenamiento 79 mmHg. CONCLUSIÖN: Se concluye que hay evidencias de beneficios fisiológicos, hipotensión aguda, con la intervención del entrenamiento resistido y el tratamiento farmacológico en los ancianos hipertensos estudiados

PALABRAS LLAVES: ancianos, ejercicio resistido e hipertensión arterial

EFEITOS DE 8 SEMANAS DE TREINAMENTO RESISTIDO ASSOCIADO AO TRATAMENTO FARMACOLÓGICO SOBRE OS FATORES DE RISCO DA HIPERTENSÃO ARTERIAL EM IDOSOS.

RESUMO

OBJETIVO: Verificar os benefícios de um programa de treinamento resistido associado ao tratamento farmacológico em idosos hipertensos do programa “Feli(z)Idade”. METODO: Foram pesquisados 21 idosos de ambos os sexos sendo 17 mulheres e 4 homens que freqüentaram o projeto institucional FELI(Z)IDADE promovido pela Faculdade de Ciências Biomédicas de Cacoal (FACIMED) com média de idade 64,14 ± 2,59. A pesquisa foi de caráter descritivo experimental, pelo método quantitativo, sendo utilizado a técnica de conveniência para a seleção da amostra. Os dados foram coletados por questionários adaptados e validados, IMC, percentual de gordura e circunferência de cintura e teste de repetições máximas. A tabulação deu-se por média com desvio padrão com teste t de Studant, e teste de wilcoxon para duas amostras relacionadas com significância de p<0,05. Os dados foram analisados pelo laboratório de epidemiologia da FACIMED (FACIEPI). RESULTADOS: 57,1% freqüentaram a escola por quatro anos, 71,4% nunca fumou e 95,5% não fazem ingestão alcoólica semanal, 85,7% consomem frituras, 34,2% ingerem diuréticos diariamente, 57,1% sente sua vida vazia. O IMC feminino pré 30,04±6,09 pós 31,2±5,27 para homens IMC pré 27,1±4,11 pós 23,9±2,9 Em relação à pressão arterial sistólica na 1ª semana a média pré-treinamento físico foi de 134,3 mmHg e pós-treinamento de 144 mmHg, já na 8º semana de treinamento a média pré-treinamento foi 126,5 mmHg e pós-treinamento 121,7 mmHg, (p= 0,027) e a pressão arterial diastólica 1ª semana a média pré-treinamento foi de 83,9 mmHg e pós-treinamento de 90,7 mmHg, já na 8º semana de a média pré-treinamento foi 81,9 mmHg e pós-treinamento 79 mmHg. CONCLUSÃO: Conclui-se que há evidências de benefícios fisiológicos, hipotensão aguda, com a intervenção do treinamento resistido e o tratamento farmacológico nos idosos hipertensos estudados.

PALAVRAS-CHAVES: Idosos, Exercício Resistido e Hipertensão arterial.