122 - PREVALENCE OF RISK FACTORS FOR CORONARY HEART DISEASE IN BODYBUILDING FROM NATAL – RN.

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INTRODUCTION

Cardiovascular diseases are major public health problem not only in Brazil but worldwide, since they are the leading cause of morbidity and mortality and represent the highest costs in medical care (RAMOS, 2006).

Cardiovascular disease is not a single disease. The term is a generic term for more than 20 different diseases of the heart and its vessels, and coronary heart disease or coronary artery disease, the main form of cardiovascular disease, the clinical situation in which there is narrowing of the caliber of the coronary arteries, causing a reduction in the flow blood to the heart muscle (NIEMAN, 1999).

Among the factors responsible for causing heart disease, the American College of Sports Medicine (ACSM, 2007) and World Health Organization (WHO, 2008) highlight the risk factors in the onset of atherosclerotic plaque: family history, cigarette smoking, high blood pressure, dyslipidemia, abnormal fasting glucose, obesity and sedentary lifestyle. Within each risk factor threshold values are established, and the ACSM (2007) elaborated on the basis of these values, a stratification of risk: low, moderate and high.

Some studies found an inverse relationship between the practice of regular physical activity and risk of acquiring cardiovascular disease (SUADICANI et al., 1992, SANDVIK et al., 1993). For example, Sandvik et al. (1993) found that the risk of early death from cardiovascular disease were significantly lower in those at high fitness level, compared to those with low level.

However, in a contradictory way to the knowledge that regular physical exercise acts in the primary prevention of coronary heart disease and other types of cardiovascular disease (RAMOS, 2006) some studies have verified the occurrence of cardiovascular disease in athletes (GRIMSMO et al. 2010; MUÑOS et al., 2009). These cardiovascular changes occur in athletes found, among other factors, the abuse of anabolic androgenic steroid (AAS), in order to improve their sports performance (HAUSMANN, 2005).

Some studies have observed the abuse of AAS in bodybuilders (BALDO-ENZI et al. 1990; KUIPERS et al. 1991; GLAZER, 1991).

Within this line of research have been significant changes in reported risk factors for coronary heart disease in athletes bodybuilders (COHEN et al. 1996; & ALLISON WRIGHT, 2004, BONNETT et al., 2008). These factors include whether the change in lipid profile, such as lowering cholesterol - HDL (protective factor for the development of atherosclerotic plaque), increased cholesterol - LDL (a risk factor for the development of atherosclerotic plaque) and changes in the concentration blood glucose.

Thus, this study aimed to verify the presence of risk factors for coronary heart disease in bodybuilder's athletes from the city of Natal - RN.

Additionally, we evaluated the prevalence of risk factors for coronary heart disease in bodybuilder's athletes from the city of Natal - RN, identified the risk of this population as low, moderate or high, and it was determined the association between age, training time and fat percentage with the risk classification of this population.

Given the above, there is a need to know the epidemiological prevalence of risk factors for coronary heart disease in bodybuilders, therefore contributing to the adoption of preventive measures in combating heart disease, but also to guide future studies on what conditions are associated with these risk factors.

METHODS

Population

The study population consisted of bodybuilders participants in the Bodybuilding Federation at city of Natal. We conducted a census of this population, accounting for fifty athletes.

Within the inclusion criteria were the athletes are in training for competition for at least a year and are male, as in the exclusion criteria, athletes could not have confirmed diagnosis of coronary artery disease.

Procedures

Determined these elements (n) study participants reported to them about the objectives of the study. The parties signed a consent form, and marked one morning to collect blood and to complete the questionnaire with respect to the necessary information. The study was reviewed and approved by the Ethics and Research University of Rio Grande do Norte (CEP - UNP) protocol 007/2010, CAAE - 0006.0.052.000-10.

Measuring instruments

The variables related to risk factors for coronary disease, as indicated by the ACSM (2007) and WHO (2008) were: family history, cigarette smoking, hypertension, dyslipidemia, altered glucose levels, obesity and sedentary lifestyle.

A measuring instrument for these variables was a standard questionnaire containing items that followed the guidelines of the institutions mentioned above, the thresholds for the identification of risk factors for coronary disease.

The questionnaire consisted, at first, basic data on age, gender, training time, but if had cardiovascular disease, pulmonary or metabolic known.

In item hypertension, was imposed on the strong recommendation of the American Heart Association and American College of Cardiology (ACC/AHA, 2006), to make two blood pressure measurements, and the second three minutes after the first measurement, considering the second measure blood pressure as the respondent.

The questionnaire was answered after a fasting period of 10 hours, because the risk factors dyslipidemia and altered glucose levels need to be checked on the condition (LIMA et al., 2001).

For the obesity factor was the respondent heavy (weight in kilograms) in INMETRO calibrated scale, but also their height was measured (height in meters) using a stadiometer, to calculate the Body Mass Index (BMI in kg/m2). However, it is

known that the BMI was created by mathematician / astronomer and statistician Adolphe Quetelet Lambert (1796 - 1874), and he did not have to determine levels of obesity, but was created for the purpose of statistical studies on the human population in anthropometric profiles in an attempt to group people in a "normal curve", as crafted by Gauss in 1809 (ARAUJO et al., 2000).

Thus, in the section obesity, we analyzed the relative body fat percentage of athletes using the protocol of seven skinfolds (chest, abdomen, thigh, triceps, subscapular, supra-iliac and axillary) for male athletes (JACKSON & POLLOCK, 1978). The measurements were made with skinfold caliper (adipometer) Slim Guide® with sensitivity ± 1 mm.

Therefore, to classify obesity as present or absent, the measure of relative body fat percentage of athletes prevailed in relation to BMI. The reference values were the percentage of fat according to Lohman et.al. (1997).

Following the survey respondent noted the presence or absence of signs or symptoms suggestive of cardiovascular disease listed by the ACSM (2007).

Thus, after having answered all items of the questionnaire, the athletes were classified into certain risk strata: low, moderate or high risk.

Statistical analysis

The variables family history, cigarette smoking, hypertension, dyslipidemia, altered glucose levels, obesity and sedentary lifestyle were analyzed using a univariate descriptive analysis using SPSS version 17.0 for Windows, thus determining the prevalence of each risk factor in bodybuilders.

We also perform a descriptive univariate analysis to determine the prevalence of bodybuilders in the strata of risk for coronary disease.

To determine whether there was an association between age, training time and percentage of fat with risk of developing coronary artery disease, we used a bivariate analysis using the Fisher exact test for a significance level of 5%. The magnitude of association between these factors to the stratum of risk of developing coronary artery disease was determined by the prevalence ratio (PR).

RESULTS

In this study there was a census of the population registered in the federation of bodybuilders, athletes and among the fifty contestants and registered in this institution, enrolled takes thirty-two athletes. Of these, six were considered to be losses, because these subjects dealt with, did not agree to participate in the study, being analyzed, therefore, twenty-six athletes. Table 1, one can observe the profile of subjects analyzed, using data described as mean, standard deviation, median and interquartile range.

Table 1: Descriptive analysis of the profile of bodybuilders

	Mean ± sd	Median	$Q_{25} – Q_{75}$
Age	30,19 ± 7,01	29	25,75 – 35,00
Training Time (years)	9,46 ± 5,13	10	5,00 – 14,25
Systolic blood pressure (mmHg)	138,85 ± 9,57	140	131,50 – 142,50
Diastolic blood pressure (mmHg)	86,92 ± 8,24	87	80,00 – 94,50
Total Cholesterol (mg / dl)	179,19 ±28,04	179,50	152,25 – 202,00
HDL cholesterol (mg / dl)	41,50 ±8,91	41	34,5 – 47,00
LDL cholesterol (mg / dl)	115,73 ±25,81	117	94,75 – 141,25
Ratio TC / C - HDL	4,45 ±1,10	4,15	3,47 – 5,33
Fasting plasma glucose (mg / dl)	89,65 ±18,26	86	80,00 – 91,75
Body Mass Index	27,51 ±3,12	27,25	24,83 – 29,80
Percent Fat	8,92 ±3,27	8,45	6,65 – 10,78
Waist circumference (cm)	83,58 ±7,72	82,50	79,00 – 89,25
Ratio Waist / hip	0,85 ±0,06	0,84	0,81 – 0,89

With respect to body mass index is interesting to note that these athletes this index does not reflect the level of overweight (BMI between 25,0 and 29,9) suggested by WHO (2008), because the fat percentage of athletes is low.

After the profile of athletes, follows in Table 2 the prevalence of risk factors for coronary heart disease.

Table 2: Prevalence of risk factors for coronary heart disease in bodybuilders.

	Sim		Não	
	n	%	n	%
Family Background	1	3,8	25	96,2
Smoke cigarettes	0	0	26	100
Hypertension	11	42,3	15	57,7
Dyslipidemia	21	80,8	5	19,2
It makes use of medication to reduce the levels of lipid	9	34,6	17	65,4
Altered glucose levels	4	15,4	22	84,6
Obesity	0	0	26	100
Sedentary lifestyle	0	0	26	100
* Presence of angina pain at rest	2	7,7	24	92,3
* Presence of palpitations or tachycardia at rest	1	3,8	25	96,2

* Signs or symptoms of cardiovascular disease which classify the individual with high risk.

Given these data found a high prevalence of athletes with dyslipidemia, this being the main aggravating risk factor that affects bodybuilders from the city of Natal.

After observing the prevalence of risk factors, it can be seen in Table 3 the classification of risk for these subjects

Table 3: Classification of risk for coronary heart disease in bodybuilders.

Classification of risk	n	%
Low risk	13	50
Moderate risk	10	38,5
High risk	3	11,5

Even with the presence of some individual risk factors in the study group, it is observed that a minority of athletes is the high risk of developing coronary artery disease. This high risk is due to the presence of signs or symptoms suggestive of cardiovascular disease listed in Table 2.

With the risk classification is determined, it can be seen in Table 4 the association between age, training time and percentage of fat with risk of developing coronary artery disease.

Table 4. Association between age, training time and percentage of fat with coronary risk.

		Moderate/High Risk		Low risk			
		n	%	n	%	*p	**RP
Age	Above 29 years	10	83,3	2	16,7	0,005	3,95
	Up to 29 years	3	21,4	11	78,6		
Training Time	Above 10 years	11	57,9	8	42,1	0,378	2,03
	Up to 10 years	2	28,6	5	71,4		
Percentage fat	Above 8,45	9	69,2	4	30,8	0,115	2,3
	Up to 8.45	4	30,8	9	69,2		

*Significance level.

** Ratio of prevalence.

It appears that among the three variables, only the variable age was significantly associated with risk of developing coronary artery disease, and the magnitude of each variable determined by the prevalence ratio (PR).

DISCUSSION

This study confirms the high prevalence of dyslipidemia which is found in bodybuilders (GLAZER, 1991). The prevalence of 80,8% of athletes with an altered lipid profile, in particular, owing to low values of C – HDL (protective factor for coronary artery disease), may be related to the use of anabolic androgenic steroid (AAS) because, according Cohen et al. (1996), the AAS work, especially in the depression of the C - HDL.

Because of this low-cholesterol – HDL, it is clear that these athletes were relatively young, have a ratio CT/C – HDL indicating substantial risk of developing coronary heart disease (SANTOS et al., 1994).

This high prevalence of dyslipidemia is worrisome because the causes of myocardial infarction and sudden death in bodybuilders has often been associated with coronary artery disease, due in part to the deleterious effects of anabolic steroids on lipoprotein levels (ADELMAN & FRENCHICK , 1992).

According to Hurley et al. (1984) may suggest that there is little or no relationship between the dose of anabolic inducing depression in HDL levels, and that the maximum levels or near the maximum depression of HDL result even therapeutic doses of oral steroids.

Thus, low HDL levels found in this study bodybuilders may be related, even with small doses that they are submitting.

As to levels of C – LDL is interesting to note that, on average, the values were not elevated, suggesting that it could mitigate the effects of low levels of HDL, however, has been argued that patients with low HDL may have a risk of coronary heart disease similar to those with high LDL (BARTER & RYE, 1996).

The risk factor that had the second highest prevalence was hypertension, present in 42,3% of the athletes.

The use of AAS has been associated with hypertension, especially due to retention of fluid that promotes these substances, an effect similar to salt intake, as well as the indiscriminate use of anabolic steroids is linked to ischemic heart disease, hypertrophic cardiomyopathy and sudden death (SULLIVAN et al., 1999).

Within the risk factor changes in fasting blood glucose, it was found that only 15,4% of the athletes were with this risk factor present. The low prevalence of this risk factor when compared with dyslipidemia may be due to the type of anabolic possibly ingested by athletes (CHEUNG et al., 1980).

Still analyzing the risk factors individually, it was noted in this study that the risk factor of obesity in this population of athletes should not be analyzed by BMI.

It was observed that overweight subjects in this study, indicated by BMI, was not compatible with the percentage of fat found, demonstrating that the measurement of relative body fat is the most appropriate way to establish the presence or absence of obesity in athletes bodybuilders, reinforcing thus the understanding that the BMI is not able to discriminate fat mass and lean mass.

A minority of athletes was assessed at high risk due to the presence of signs or symptoms suggestive of cardiovascular disease shown in Table 2. Within these signs or reported symptoms has been observed in another study (BONETTI et al., 2008), the presence of tachycardia at rest and echocardiographic changes in athletes bodybuilders who were due to abuse of AAS.

When we analyzed the association between age, training time and percentage of fat with risk of developing coronary artery disease (Table 4), showed that only age was significantly associated with risk.

This finding is interesting to note that according to the ACSM (2007) has information that individuals aged over 45 have moderate risk of developing coronary artery disease, however, noting the prevalence ratio (Table 4), bodybuilders this study are the following situation: individuals over 29 years of age are 3,95 times as classified by the presence of moderate/high risk than individuals with up to 29 years old.

CONCLUSION

Therefore, the results found in this study, the presence of some risk factors for coronary disease, among them the main ones were: dyslipidemia, hypertension and altered glucose levels.

In this study, we found a higher prevalence of risk factors dyslipidemia in bodybuilders, corroborating thus the results of previous studies.

Although most previous studies reporting the existence of a relationship between dyslipidemia, hypertension and altered glucose levels with the use of anabolic androgenic steroids, further studies are needed to assess the influence of AAS alone with these risk factors, therefore, a unbalanced nutrition, for example, could be another condition that is associated with these findings.

It was observed that half of the athletes were classified as low risk, therefore, the other half classified as moderate/high risk, making it necessary to adopt preventive measures to combat heart disease, especially in subjects over 29 years of age, which were 3,95 times as classified by the presence of moderate/high risk.

Within the limitations of this study, we observed that the sample was small for the variables analyzed, because the city

of Natal has few athletes bodybuilders. Therefore, further studies are needed using a similar methodology, with a larger sample and can therefore be a multicenter study a good alternative to confirm these findings and to make conclusions more relevant for this population of athletes.

REFERENCES

ALLISON, M.A., WRIGHT, C.M. **A comparison of HDL and LDL cholesterol for prevalent coronary calcification.** Int J Cardiol. v. 95, n. 1, p. 55-60, 2004.

ARAÚJO, C.G.S., RICARDO, D.R., ARAÚJO, D.S.M.S. **Índice de Massa Corporal: um questionamento científico baseado em evidências.** In: Anais do 23˚ Simpósio Internacional de Ciências do Esporte. São Paulo, 2000, p.85.

AMERICAN COLLEGE OF SPORTS MEDICINE. **Diretrizes do ACSM para os testes de esforço e sua prescrição.** 7 ed. Rio de Janeiro: Guanabara, 2007.

AMERICAN HEART ASSOCIATION / AMERICAN COLLEGE OF CARDIOLOGY GUIDELINE. AHA/ACC **Guidelines for Secondary Prevention for Patients with Coronary and Other Atherosclerotic Vascular Disease: 2006 Update.** Circulation. Journal of the American Heart Association, 2006.

BALDO – ENZI, G., FRANCO, G., GIOVANNI, Z. **Lipid and apolipoprotein modifications in body builder during and after slef administration of anabolic steroids.** Metabolism. v.39, p.203 – 8, 1990.

BARTER, P.J., RYE, K.A. **High density lipoproteins and coronary heart disease.** Atherosclerosis. v. 121, p. 1– 12, 1996.

BONETTI, A., TIRELLI, F., CATAPANO, A., DAZZI, D., DEI, C.A., SOLITO, F., et al. **Side effects of anabolic androgenic steroids abuse.** Int J Sports Med. v.29, n.8, p.679-87, 2008.

CHEUNG, M.C., ALBERS, J.J., WAHL, P.W., HAZZARD, W.R. **High density lipoproteins during hypolipidemic therapy. Atherosclerosis.** v.35, p.215-228, 1980.

COHEN, L.I., HARTFORD, C.G., ROGERS, G.G. **Lipoprotein (a) and cholesterol in body builders using anabolic androgenic steroids.** Med Sci Sports Exerc. v.28, n.2, p.176-9, 1996.

FRENCHICK, G.S., ADELMAN, S. **Myocardial infarction associated with anabolic steroid use in a previously health 37 year old weightlifter.** American Heart Journal: v.124, p.507 – 508, 1992.

GLAZER, G. **Atherogenic effects of Anabolic Steroids on Serum Lipid Levels. Arch Intern Med.** v.151, n.10, p.1925-33, 1991

GRIMSMO, J., GRUNDVOLD, I., MAEHLUM, S., ARNESEN, H. **High prevalence of atrial fibrillation in long-term endurance cross-country skiers: echocardiographic findings and possible predictors - a 28-30 years follow-up study.** Eur J Cardiovasc Prev Rehabil v.17, n.1, p.100-5, 2010.

HAUSMANN, R. **Long-Term Effects of Anabolic-Androgenic-Steroid Abuse. Forensic Pathology Reviews**. v.2, p.273-289, 2005.

HURLEY, B.F., SEALS, D.R., HAGBERG, J.M., GOLDBERG, A.C., OSTROVE, S.M., HOLLOSZY, J.O., et al. **High Density Lipoprotein Cholesterol in Bodybuilders and powerlifters.** JAMA. v.252, p.507 – 513, 1984.

JACKSON, A.S., POLLOCK, M.L. **Generalized equations for predicting body density of men. British Journal of Nutrition.** v.40, p.497 – 504, 1978.

KUIPERS, H., WIJNEN, J.A.G., HARTGEN, F., WILLEMS, S.M.M. **Influence of anabolic steroids on body composition, blood pressure, lipid profile and liver functions in body builder. I**nt. J. Sports Med. v.12, p.413 – 418, 1991.

LIMA, A.O., SOARES, J.B., GRECO, J.B., GALIZZI, J., CANÇADO, J.R. **Métodos de laboratório aplicados à clínica. Técnica e Interpretação.** Rio de janeiro: Guanabara. 8 ed. 2001.

LOHMAN, T.G., HOUTKOOPER, L., GOING, S. **Body fat measurement goes high-tech: Not all are created equal. ACSM's Health & Fitness Journal.** v.7, p. 30 – 35, 1997.

MUÑOZ, L., NORGAN, G., RAUSCHHUBER, M., ALLWEIN, D., POWELL, B.W., MITCHELL, D., et al. **An exploratory study of cardiac health in college athletes.** Appl Nurs Res. v.22, n.4, p.228-35, 2009.

NIEMAN, D.C. Exercício e Saúde. São Paulo: Manole. 1ed. 1999.

ORGANIZACIÓN MUNDIAL DE LA SALUD. **Prevencion de las enfermedades cardiovasculares. Guia de bolsillo para la estimacion y el manejo del riesgo cardiovascular.** Ginebra, 2008.

RAMOS, S.S. **Prevenção Primária da Coronariopatia pela Atividade Física. Revista da sociedade de Cardiologia do Rio Grande do Sul.** v.9, p. 01-04, 2006

SANDVIK, L., ERIKSSEN, E., THAULOW, G. **Physical fitness as a predictor of mortality among healthy, middle-aged Norwegian men.** N Engl J Med. v.328, p. 533-37, 1993.

SANTOS, J.E., DRESSLER, W.W., VITERI, F. **Fatores de Risco de Doença Arterial Coronariana e Suas Correlações com Variáveis Dietéticas e Sociais. Arquivos Brasileiro de Cardiologia**. v.6, n.5, p. 371-75, 1994.

SUADICANI, P., HEIN, H.O., GYNTELBERG, F. **Serum selenium concentration and risk of ischaemic heart disease in a prospective cohort study of 3000 males. Atherosclerosis.** v.96, n.1, p.33-42, 1992.

SULLIVAN, M.L., MARTINEZ, C.M., GALLAGHER, E.J. **Atrial fibrillation and anabolic steroids. Journal of Emergency Medicine.** v.17, n.5, p.851-7, 1999.

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PREVALENCE OF RISK FACTORS FOR CORONARY HEART DISEASE IN BODYBUILDING FROM NATAL – RN.

ABSTRACT

Cardiovascular diseases are major public health problem not only in Brazil but all over the world, affecting than sedentary individuals, athletes from different sports, especially those who use anabolic androgenic steroid. The objective of this study was to determine the prevalence of risk factors for coronary heart disease in athletes bodybuilders from city of Natal - RN. Additionally, we analyzed the risk of developing coronary disease population, and the association between age, training time and percentage of fat with risk for this disease. This study was observational and not experimental cross section, in which 26 subjects men bodybuilders were enrolled who were analyzed for the following: family history, cigarette smoking, hypertension, dyslipidemia, altered glucose levels, obesity and sedentary lifestyle. These variables were observed through a descriptive

univariate analysis, determining thus the prevalence of each risk factor, as well as the risk classification, and the association between variables were analyzed using Fisher's exact statistical test using the SPSS software for Windows® version 17.0. The most prevalent risk factors were: dyslipidemia (80,8%), hypertension (42,3%) and altered glucose levels (15,4%). Within the levels of risk classification, met: low risk (50%), moderate risk (38,5%), high risk (11,5%). Reported a significant association between age (over 29) and moderate/high risk (p=0,005; RP=3,95). Given the high prevalence of dyslipidemia and half the athletes are the moderate/high risk, we suggest the adoption of preventive measures in order to protect against the consequences of coronary artery disease in subjects over 29 years of age.

KEY WORDS: Blood Pressure. Cholesterol. Anabolic Steroid.

PREVALENCE DES FACTEURS DE RISQUE DE MALADIE CARDIAQUE CORONAIRE DANS LE CULTURISME VILLE DE NATAL - RN.

SOMMAIRE

Les maladies cardiovasculaires sont un grave problème de santé publique non seulement au Brésil mais partout dans le monde, touchant que les personnes sédentaires, les athlètes de différents sports, surtout ceux qui utilisent des stéroïdes anabolisants androgènes. L'objectif de cette étude était de déterminer la prévalence des facteurs de risque de maladie coronarienne chez les athlètes culturistes ville de Natal - RN. De plus, nous avons analysé le risque de développer une maladie coronarienne de la population, et l'association entre l'âge, le temps de formation et le pourcentage de graisse avec le risque pour cette maladie. Cette étude a été d'observation et d'expérimentation ne coupe transversale, dans laquelle 26 sujets ont été recrutés culturistes hommes qui ont été analysés pour les éléments suivants: mode de vie des antécédents familiaux, le tabagisme, hypertension, dyslipidémie, les niveaux de glucose altérée, l'obésité et sédentarité. Ces variables ont été observés à travers une analyse descriptive univariée, déterminant ainsi la prévalence de chaque facteur de risque, ainsi que la classification des risques, et l'association entre les variables ont été analysées en utilisant le test exact de Fisher statistiques à l'aide du logiciel SPSS pour Windows® version 17.0. Les facteurs de risque les plus fréquents ont été: la dyslipidémie (80,8%), hypertension (42,3%) et les niveaux de glucose altérée (15,4%). Dans les niveaux de classification des risques, a rencontré: risque faible (50%), risque modéré (38,5%), à haut risque (11,5%). Rapporté une association significative entre l'âge (plus de 29) et modérée / risque élevé (p=0,005; RP=3,95). Compte tenu de la forte prévalence de la dyslipidémie et la moitié des athlètes sont le risque modéré / élevé, nous suggérons l'adoption de mesures préventives afin de protéger contre les conséquences de la maladie coronarienne chez les sujets de plus de 29 ans.

MOTS CLÉS: Pression artérielle. Cholestérol. De stéroïdes anabolisants.

PREVALENCIA DE FACTORES DE RIESGO DE ENFERMEDAD CARDIACA CORONARIA EN EL CULTURISMO CIUDAD DE NATAL - RN.

RESUMEN

Las enfermedades cardiovasculares son un problema importante de salud pública no sólo en Brasil sino en todo el mundo, afectando a que los individuos sedentarios, atletas de diferentes deportes, especialmente aquellos que utilizan anabólicos esteroides androgénicos. El objetivo de este estudio fue determinar la prevalencia de factores de riesgo de enfermedad coronaria en atletas culturistas de la ciudad de Natal - RN. Además, se analizó el riesgo de desarrollar enfermedad coronaria de la población, y la asociación entre la edad, el tiempo de formación y porcentaje de grasa con el riesgo de esta enfermedad. Este estudio fue observacional y no experimental de corte transversal, en el que 26 sujetos fueron reclutados culturistas hombres que fueron analizadas por el siguiente: el estilo de vida los antecedentes familiares, tabaquismo, hipertensión, dislipidemia, alteración de los niveles de glucosa, la obesidad y el sedentarismo. Estas variables se observaron a través de un análisis univariado descriptivo, por lo tanto la determinación de la prevalencia de cada factor de riesgo, así como la clasificación de riesgo, y la asociación entre las variables se analizaron mediante el test exacto de Fisher estadísticos utilizando el software SPSS para Windows® versión 17.0. Los factores de riesgo más prevalentes fueron: la dislipidemia (80,8%), hipertensión (42,3%) y alteración de los niveles de glucosa (15,4%). Dentro de los niveles de clasificación de riesgo, se reunieron: bajo riesgo (50%), riesgo moderado (38,5%), de alto riesgo (11,5%). Reportó una asociación significativa entre la edad (mayores de 29) y moderado / alto riesgo (p=0,005, RP=3,95). Dada la alta prevalencia de la dislipidemia y la mitad de los atletas son los de riesgo moderado / alto, se sugiere la adopción de medidas preventivas con el fin de protegerse contra las consecuencias de la enfermedad arterial coronaria en sujetos mayores de 29 años de edad.

PALABRAS CLAVE: La presión arterial. Colesterol. Esteroides anabólicos.

PREVALÊNCIA DOS FATORES DE RISCO PARA CARDIOPATIA CORONARIANA EM FISICULTURISTAS DA CIDADE DO NATAL – RN.

RESUMO

As doenças cardiovasculares representam importante problema de saúde pública não só no Brasil, mas em todo o mundo, acometendo além dos indivíduos sedentários, atletas de diferentes esportes, especialmente, aqueles que fazem uso de esteróide anabólico androgênico. O objetivo deste estudo foi verificar a prevalência dos fatores de risco para cardiopatia coronariana em atletas fisiculturistas do município de Natal – RN. Adicionalmente, analisou-se o risco desta população em desenvolver coronariopatia, e se existe associação entre idade, tempo de treinamento e percentual de gordura com o risco para esta doença. Este estudo foi observacional ou não experimental de corte transversal, no qual foram arrolados 26 sujeitos homens fisiculturistas que foram analisados quanto aos seguintes aspectos: antecedentes familiares, fumo de cigarros, hipertensão arterial sistêmica, dislipidemia, glicemia alterada, obesidade e estilo de vida sedentário. Essas variáveis foram observadas através de uma análise descritiva univariada, determinando, portanto, a prevalência de cada fator de risco, assim como, a classificação do risco, e a associação entre as variáveis foram analisadas através do teste estatístico Exato de Fisher, utilizando o software SPSS para Windows® versão 17.0. Os fatores de risco mais prevalentes foram: dislipidemia (80,8%), hipertensão arterial sistêmica (42,3%) e glicemia alterada (15,4%). Dentro dos níveis de classificação do risco, encontrou-se: risco baixo (50%), risco moderado (38,5%), risco alto (11,5%). Relatou-se associação significativa entre idade (acima de 29 anos) e risco moderado/alto (p=0,005; RP=3,95). Diante da alta prevalência de dislipidemia e da metade dos atletas estarem com o risco moderado/alto, sugere-se a adoção de medidas preventivas visando à proteção contra as conseqüências da coronariopatia nos sujeitos acima de 29 anos de idade.

PALAVRAS-CHAVES: Pressão Sanguínea. Colesterol. Esteróide Anabolizante.