111 - ASSOCIATION BETWEEN ARTERIAL PRESSURE, BMI AND SOME CHANGEABLE BIOCHEMISTS IN PUBLIC SERVERS OF THE FEDERAL UNIVERSITY OF PARANÁ - UFPR

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INTRODUCTION

The hypertension is the form of the most prevalent cardiovascular illness where the arterial tension meets high chronically above of the levels considered desirable for the age and size of a person. Individuals that assume this condition are with the high risk to contract some type of coronary (WANG et al, 2006).

The arterial hypertension is one of the main agaves to the health in Brazil together with the obesity, raises the doctor-social cost, mainly for its complications, as the brain-vascular illnesses, arterial coronary, and vascular of extremities, beyond the cardiac insufficiency and of the chronic renal insufficiency (SBH, 2004).

They are esteem that in the whole world a billion of hypertensions individuals exists approximately, and in the United States the illness affects fifty million of people (CHOBANIAN et al., 2003). In Brazil, they do not exist consistent given on the prevalence of the arterial hypertension, being esteem values between 15% and 47,8% between the men, and 15% and 41.1% between the women (DUNCAN et. al. 1993; MARTINS et. al. 1997).

However, evidence suggests that the hypertension can share a similar physiopathology with the cardiovascular illnesses. However, dislipidemia, understanding this for riots in the levels of circulating lipids, is a predictor of cardiovascular illnesses and can predict the hypertension incidence. (HALPERIN et al. 2006).

The goal of this research was to associate the increase of the arterial tension and the excess of fat with some changeable biochemists, such as total cholesterol, triglycerides and glicemy in public servers of the federal university of Paraná - UFPR.

MATERIALS AND METHODS

Were carried through an experimental research that counted on public servers, where we can find technician-administrative and the faculty of the Federal University of Paraná - UFPR in tracking examination, still in progress.

The sample was formed aleatorily through the intervention of the Reitory of the Human Recourses and Students Subjects - PRHAE that the structure for the collection of the data made possible. 313 citizens of the feminine sex had been part of the study until then.

How much the referring information to the pointer of the corporal fat, appealed the index to it of corporal mass [IMC = weight (kg) /stature (m) ²], following the recommendations and classifications in accordance with the American College of Sports Medicine (2006).

The corporal mass was gotten in a scale mechanics of the Welmy© mark, with capacity of 0 through150 kg, possessing divisions of 100g, and the stature was determined in estadiometer of the proper scale with precision of 0,5 cm, in accordance with the described procedures for Gordon, Chumlea and Roche (1988).

For the survey of the referring information to you analyze biochemists was appealed to the seric levels of total cholesterol (CT), triglycerides (TG) and glicemy to them, used the monitor Accutrend® GCT, special lanceted and lancets Accu-Chek Softclix® Pro, following the recommendations of the manufacturer for the accomplishment of the tests.

The beginning of measurement for the determination of the glucose, cholesterol and triglycerides were through photometric of reflectance for sample of hair blood. The measurement bands if give between 20-600 mg/dl (1.1-33.3 mmol/l) for the glucose, 150-300 mg/dl (3.88-7.76 mmol/l) for cholesterol and 70-600 mg/dl (0.80-6.86 mmol/l) for triglycerides.

For the statistical treatment was used the program SPSS 13,0 for Windows. First the test of Shapiro-Wilk was evidenced normality applying. The descriptive statistics was made. To verify the existing correlation being two 0 variable was appealed to the coefficient of correlation of Pearson with simple a level of significance adopted of $p < 0,01$.

RESULTS AND QUARREL

The characteristics of the 313 public servers of the Federal University of the Paraná (44,81± 10,56 years; 67,03± 12,76 kg; 160 ± 0,7 cm) that is locate in Table 1. In table 2 it can be observed the possible correlations in the studied variable.

Table 1. Descriptive values - average and shunting line standard in the studied sample (n=313).

Variable	Minimum	Maximum	Mean	Standard Deviation
Age	18,46	68,99	44,81	10,56
Weight	44,00	120,20	67,03	12,76
Stature	1,38	1,79	160	0,7
BMI	17,96	45,38	26,05	5,23
Glicemy	62,00	418,00	102,26	41,56
Cholesterol	40,00	300,00	168,47	29,88
Triglycerids	70,00	600,00	159,77	116,55
SBP	90,00	170,00	117,12	16,11
DBP	60,00	110,00	74,86	11,21

SBP = systolic blood pressure (mm/Hg); DBP = diastolic blood pressure (mm/Hg); BMI = body mass index (kg/m^2)

Table 2. Linear correlation of Pearson in accordance with the studied variables (n=313)

Variable	Coefficient (r)
SBP X Glicemy	0,449*
SBP X Cholesterol	0,75
SBP X Triglycerides	0,198
DBP X Glicemy	0,62
DBP X Colesterol	0,60
DBP X Triglycerides	0,177
BMI X SBP	0,624*
BMI X DBP	0,613*
BMI X Glicemy	0,513*

*P < 0.01; SBP = systolic blood pressure (mm/Hg); DBP = diastolic blood pressure (mm/Hg); BMI = body mass index (kg/m^2)

In this study the control and prevention of the health in public servers are distinguished changeable of the big importance for such as cholesterol levels, seric triglycerides and glicemy, arterial pressure and BMI.

The high cholesterol level and serics triglycerides are one of the main modifiable factors of risk for coronary artery disease (SPARLING, 1999) Of this form, in the generality the sample if finds in the recommended standards of this variable stops with the health with regard to the colesterol (CT) and bordering how much to you prop up them of séricos triglycerides (TG) (SBC, 2001) Being thus, positive correlation between CT and TG with the excessively changeable ones was not verified.

In recent study Brunner et. al., (2006) had verified that high glucose levels in the blood can increase the risks of mortality for illnesses of the heart, being this main the responsible one for the reduction of the supervened one of diabetic patients, and the cause most frequent of mortality (PANZRAM, 1987).

In a generalized manner, in accordance with the Brazilian Society of Diabetes (2002), the sample is with props up high in moving the séricos glucose levels (102,26 mm/dl ± 41,56), being thus, occurred a positive correlation between the SBP and glicemy (p<0,01; r=0,449). These data suggest that some parcel of the sample can be inclined the diverse complications of the health to the measure that if raise the glucose levels in the blood.

You evidence suggest that the hypertension can share a similar physiopathology with the cardiovascular illnesses. However, dislipidemia, is a predictor fort of cardiovascular illnesses and can predict the hypertension incidence. Some authors had reported that the resistance to the insulin also could have a paper in genesis of the arterial hypertension associate to obesity (DEFRONZO et al., 1991; HALPERIN et al. 2006).

Being thus, literature tells that hiperinsulinemia it provokes increases of the activity of the likeable nervous system and the tubular reabsorption of sodium, mechanisms that contribute for the increase of arterial pressure (DEFRONZO et al., 1991; MOAN et al., 1995; REAVEN, 1996). On the other hand, the insulin is a vasodilatation hormone and induces increases of the sanguine flow for the skeleton musculature, a effect that seems to be mediated by nitric oxide and these effect are diminished in obsess citizens and hypertensions carriers of resistance to the insulin (BARON et al., 1995; STEINBERG et al., 1996).

Beyond this possible comprometiment of the vasodilatation, that could contribute still more for the rise of the arterial pressure, the decrease of the sanguine flow for the skeleton musculature could also determine a reduction in the peripheral glucose exploitation, aggravating the state of resistance to insulin (ZENG & QUON et al. 1996).

The present study it disclosed you prop up of to the level of arterial hypertension in 15,97% of the women. Being thus, the inferior band of frequency of arterial hypertension was inside of that one told in Brazilian literature (DUNCAN et. al. 1993; MARTINS et. al. 1997).

The analysis of the coefficient of correlation between SBP, DBP and BMI disclosed a positive correlation in the studied sample (p<0,01) enters such variable showing that how much bigger the index of bigger corporal mass the systolic and diastolic pressure. In this moving one, longitudinal study, Wang et. al. (2006) they had identified through linear models generalized the induced interaction between hypertension and cardiovascular illnesses for the weight excess.

The raised prevalence of excess weight in this sample, 50.8% (BMI 25 kg/m^2) of was in accordance with the told preoccupying indices in literature. Matos et al. (2004) they had observed a prevalence of 58% of individuals with BMI above of 25, and Jenei et al. (2002) they had found a 53,73% tax, being such association found for some authors who had studied in similar samples (CHOR, 1998; SHAPO, 2003; CONCEIÇÃO, 2006). In this moving one, in recent study Poirier et al., (2006) had shown the direct relation between BMI and metabolic shunting lines, such as cardiovascular illnesses, diabetes type 2, hypertension etc.

CONCLUSION

In the present study it was possible to conclude that the group of analyzed public servers had presented prevalence of overweight. The values of the séricos CT if had presented in the generality accepted for the health and the bordering TG. The amount of GL in the blood of the evaluated ones if showed above of the recommended one, if relating positively with the BMI (p<0,01). A positive correlation occurred between SBP and DBP in all the variable studied except the one with TG and CT. With the present study it was possible to conclude that the survey of the analyzed 0 variable was of great importance to track the condition of health of the public servers, thus demonstrating the profile of the health of the same ones. Being thus, it is suggested necessity of the adoption of educative, preventive and therapeutical measures in relation the cardiovascular illnesses in the studied group.

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diastolique (DBP). Pour le traitement statistique le programme SPSS 13.0 a été employé. L'essai de la normalité de Shapiro-Wilk a été appliqué. Des statistiques descriptives ont été employées et le coefficient de corrélation simple de Pearson (p<0,01) pour vérifier la corrélation existante entre la variable de l'étude. Une prédominance du poids excessif a été vérifiée. Les valeurs du CT seric ont été présentées en général et acceptées pour la santé et le TG encadrant. La quantité de GL dans le sang de évalué qui a été montré ci-dessus de la recommandée, si se reliant franchement avec le IMC (p<0,01). Une corrélation positive s'est produite entre SBP et DBP dans la variable entière étudiée excepté celle avec le TG et le CT. Avec la présente étude il était possible de conclure que l'aperçu de la variable analysée était de grande importance pour dépister l'état de la santé des serveurs publics, de ce fait démontrer le profil de la santé de la même.

Mots-clés : Pression artérielle, IMC et biochimistes variables.

ASOCIACIÓN ENTRE LA PRESIÓN ARTERIAL, IMC Y ALGUNOS CAMBIABLES BIOQUÍMICOS EN SERVIDORES PÚBLICOS DE LA UNIVERSIDAD FEDERAL DE PARANÁ - UFPR

EXTRACTO

La puntería del actual estudio era verificar y correlacionar cambiable que corresponden con el nivel de la salud en los servidores públicos de la universidad federal de Paraná - UFPR (años 44,81±; 67,03± 12.76 kilogramos; ± 160 0.7 centímetros). La muestra fue compuesta para 313 mujeres. El índice de la masa corporal fue verificado (IMC); glicemia (GL), triglicridos (TR) y colesterol total (CT) por las muestras capilares de la sangre; presión arterial sistólica (PAS) y presión arterial diastólica (PAD). Para el tratamiento estadístico el programa SPSS 13.0 fue utilizado. La prueba de la normalidad de Shapiro-Wilk fue aplicada. La estadística descriptiva fue utilizada y el coeficiente de correlación simple de Pearson (p<0,01) para verificar la correlación existente entre la variable del estudio. Un predominio del exceso de peso fue verificado. Los valores del CT sericos fueron presentados en general y aceptados para la salud y el TG que confinaba. La cantidad de GL en la sangre evaluadas que fue demostrada arriba de la haber recomendado, si se relaciona positivamente con el IMC (p<0,01). Una correlación positiva ocurrió entre PAS y el PAD en la variable entera estudiada excepto la que está con el TG y CT. Con el actual estudio era posible concluir que el examen de la variable analizada era de la gran importancia para seguir la condición de la salud de los servidores públicos, así demostrar el perfil e la salud las mismas.

Palabras Llaves: Presión arterial, IMC y bioquímicos variables.

ASSOCIAçãO ENTE PRESSãO ARTERIAL, IMC E ALGUMAS VARIáVEIS BIOQUíMICAS EM SERVIDORAS PúBLICAS DA UNIVERSIDADE FEDERAL DO PARANá - UFPR

RESUMO

O objetivo do presente estudo foi de verificar e correlacionar variáveis que correspondam com o nível de saúde em servidoras públicas da Universidade Federal do Paraná - UFPR (44,81± 10,56 anos; 67,03± 12,76 kg; 160 ± 0,7 cm). A amostra foi composta por 313 mulheres. Foi verificado o índice de massa corporal (IMC); glicemia (GL), triglicerídeos (TR) e colesterol total (CT) por amostra de sangue capilar; pressão arterial sistólica (PAS) e pressão arterial diastólica (PAD). Para o tratamento estatístico foi utilizado o programa SPSS 13.0 *for Windows*. Foi aplicado o teste de normalidade de *Shapiro-Wilk*. Utilizou-se estatística descritiva e o coeficiente de correlação simples de *Pearson* (p<0,01) para verificar a correlação existente ente as variáveis do estudo. Foi verificado uma prevalência de sobrepeso. Os valores do CT séricos se apresentaram no geral aceitos pela saúde e o TG limítrofes. A quantidade de GL no sangue das avaliadas se mostrou acima do recomendado, se relacionando positivamente com o IMC (p<0,01). Uma correlação positiva ocorreu entre a PAS e PAD em todas as variáveis estudados exceto a com o TG e CT. Com o presente estudo foi possível concluir que o levantamento das variáveis analisadas foi de grande importância para rastrear a condição de saúde das servidoras públicas, demonstrando assim o perfil da saúde das mesmas.

Palavras Chave: Pressão arterial, IMC e variáveis bioquímicas.

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ASSOCIATION BETWEEN ARTERIAL PRESSURE, BMI AND SOME CHANGEABLE BIOCHEMISTS IN PUBLIC SERVERS OF THE FEDERAL UNIVERSITY OF PARANÁ - UFPR

ABSTRACT

The aim of the present study was to verify and to correlate changeable that correspond with the health level in a public servers of the Federal University of Paraná - UFPR (44,81± years old; 67,03± 12,76 kg; 160 ± 0,7 cm). The sample was composed for 313 women. The body mass index was verified (IBMI); glicemy (GL), triglycerides (TR) and total cholesterol (CT) by capillary blood samples; systolic blood pressure (SBP) and diastolic blood pressure (DBP). For the statistical treatment program SPSS 13,0 was used. The test of normality of Shapiro-Wilk was applied. Descriptive statistics was used and the coefficient of simple correlation of Pearson ($p<0,01$) to verify the existing correlation between the variable of the study. A prevalence of overweight was verified. The values of the seric CT was presented in general and accepted for the health and the bordering TG. The amount of GL in the blood of the evaluated ones that was showed above of the recommended , if relating positively with the BMI ($p<0,01$). A positive correlation occurred between SBP and DBP in the entire variable studied except the one with TG and CT. With the present study it was possible to conclude that the survey of the analyzed variable was of great importance to track the condition of health of the public servers, thus demonstrating the profile of the health of the same ones.

Keywords: Arterial pressure, BMI and biochemists variable.

ASSOCIATION ENTRE LA PRESSION ARTÉRIELLE, LE IMC ET QUELQUES BIOCHIMISTES VARIABLES DANS DES SERVEURS PUBLICS DE L'UNIVERSITÉ FÉDÉRALE DE PARANÁ - UFPR

ABSTRAIT

Le but de la présente étude était vérifier et corréler variable que correspondent au niveau de santé dans les serveurs publics de l'université fédérale de Paraná - UFPR (années 44,81± ; 67,03± 12.76 kilogrammes ; ± 160 0.7 centimètres). L'échantillon s'est composé pour 313 femmes. L'index de la masse de corps a été vérifié (IMC) ; glicemy (GL), triglycérides (TR) et cholestérol total (CT) par les échantillons capillaires de sang ; tension artérielle systolique (SBP) et tension artérielle