86 - CORRELATION BETWEEN THE INDICATORS BMI, WHR AND LEVEL OF PHYSICAL ACTIVITY WITH CORONARY RISK IN INTERSTATE BUS DRIVERS OF A COMPANY OF ROAD TRANSPORT RONDÔNIA

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1-INTRODUCTION

According to Matsudo (2006), there are several reviews of the association between physical inactivity and cardiovascular disease risk. Meta-analyzes have shown a doubling of risk of cardiovascular disease in individuals compared with inactive assets. In studies that have evaluated the occupational physical activity, inactivity (or inactivity) is associated with 90% increased relative risk of death from cardiovascular disease. Some of the mechanisms involved in the control of cardiovascular disease presented by the scientific studies include effects on arteriosclerosis, thrombosis, blood pressure, ischemia, arrhythmia and lipid profile.

The body mass index can be used both to diagnose overweight and obesity and to diagnose chronic energy deficiency. The WHR (Waist-Hip Ratio) is a simple and practical index for determining the distribution of abdominal fat and a strong predictor of premature death from cardiovascular diseases and can be used as an index of the level of adiposity, but not independently of the concentrations of cholesterol and pressure. (PITANGA, 2008).

According Sena et al. (2008), we note that some professional present activities related to sedentary lifestyle characteristics, and other undesirable quality of life habits. Given the above by the authors was sought with this study, to obtain hard data on the actual situation of BMI, WHR, Levels of Physical Activity and Coronary Risk in public bus drivers, assisting in the dissemination and analysis of markers of health population of the State of Rondônia.

2-MATERIALS AND METHODS

The sample was a convenience part 106 drivers were male, mean age 38.3 ± 8.5 years. The study was submitted to the Ethics Committee (CEP) of the Faculty of Biomedical Sciences Cacoal - FACIMED, meeting the "Standards for Conducting Research on Human Beings" as, Resolution no. 196/96 of the National Health Council of 10/10/96 (BRAZIL, 1996).

Nutritional status was assessed by BMI, and then the classification as follows: underweight (BMI <18.5 kg / m2), normal (BMI between 18.5 and 24.9 kg / m2), overweight (BMI between 25 and 29.9 kg / m2) and obesity (BMI ≥ 30 kg / m2) (WHO, 1995).

To determine the level of physical activity the International Physical Activity Questionnaire (IPAQ) was used in the short version.

The collected data were tabulated by BioStat 5.0 software through a correlational comparative statistics which were calculated mean, standard deviation and percentage. For variables the Pearson correlation was used.

3-RESULTS AND DISCUSSION

Table 1 shows the mean and standard deviation (SD) of the general age at which he presented in (38.3 ± 8.5 years) and that drivers had a mean BMI (26.1 ± 3,9kg / m2) with Profile for overweight, similar to the study by Oliveira and Viegas (2006) with interstate bus drivers of a company in the Federal District, with an average BMI (26.8 ± 3.5 kg / m2).

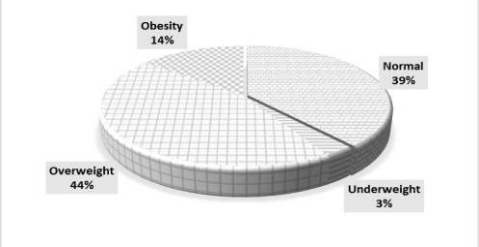
Table 1 - Sampling Age, BMI and WHR with sample, Median, Arithmetic Mean and Standard Deviation.

	AGE	BMI	WHR
Specimen	106	106	106
Minimum	23	17.7	0,68
Maximum	60	40.41	1,07
median	37	26,05	0,94
Arithmetic Mean	38,3	26,12	0,93
Standard Deviation	8,5	3,96	0,07

Source: author (2011)

Shown in the graph 1, the total number of drivers, 44.3% were overweight and 14.1% obese. Study by Faria et al. (2007), with the bus drivers of the bus transportation company Palhoça-SC, 67.3% of the sample had overweight / obesity. As compared to the average WHR was (0.93 ± 0.07) evaluated in high-risk level, in Graph 2, the total drivers, 29.2% were at high risk and 21.7% very high risk. Similarly it was found in the study by Molina et al. (2008), in the Holy Spirit with drivers (mean age 35.6 ± 8.1 years) and presenting WHR above 0.95 in 26.3% subjects.

Graphic 1 - BMI of respondents.

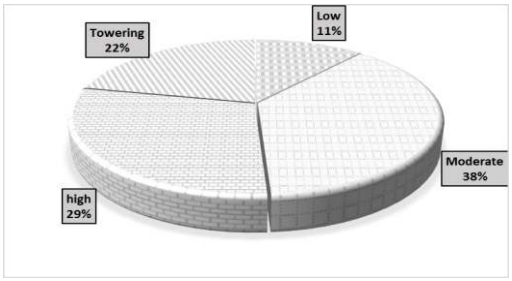


Source: author (2011)

Graph 2, also shows that 88.6% of drivers are in a very high moderate risk. The health consequences associated with these factors range from debilitating conditions that affect quality of life, such as osteoarthritis, respiratory problems and others to serious conditions such as heart disease, diabetes mellitus type 2 and certain types of cancer (WHO, 2004) .

These data contribute to the epidemic of chronic diseases such as obesity, diabetes mellitus (DM) and hypertension, conditions which, in turn, often concomitant with lipid abnormalities, hypercoagulability and increased risk of cardiovascular disease (Pozzan et al. 2004).

Graph 2 - WHR of respondents



Source: author (2011)

Investigating the correlation between BMI and WHR, BMI and WHR with IPAQ IPAQ by applying the Pearson equation, we obtained the results in Table 2, which shows no correlation to coronary risk factors among the variables BMI and WHR, with values of r = 0.391 and p = <0.0001; since the BMI and Physical Activity Level of respondents variables show positive correlation to develop coronary risk factors, where r = 0.1696 and p = 0.0820; WHR and Physical Activity Level, likewise, viewed the positive correlation tendency to develop coronary risk factors with r = 0.1015 and p = 0.3003.

Table 2 - Linear correlation to coronary risk in interstate bus drivers Firm Eucatur-RO factors.

	Colunas 1 e 2 (IMC x RCQ)	**Colunas 1 e 3 (IMC x N. ATIV. FIS.)**	**Colunas 2 e 3 (RCQ x N. ATIV. FIS)**
n (pares) =	106	106	106
r (Pearson) =	0.3901	0.1696	0.1015
IC 95% =	0.22 a 0.54	-0.02 a 0.35	-0.09 a 0.29
IC 99% =	0.16 a 0.58	-0.08 a 0.40	-0.15 a 0.34
R2 =	0.1521	0.0288	0.0103
t =	4.32	1.7554	1.0408
GL =	104	104	104
(p) =	< 0.0001	0.082	0.3003
Poder 0.05 =	0.9944	0.5372	0.2705
Poder 0.01 =	0.9681	0.2783	0.0948

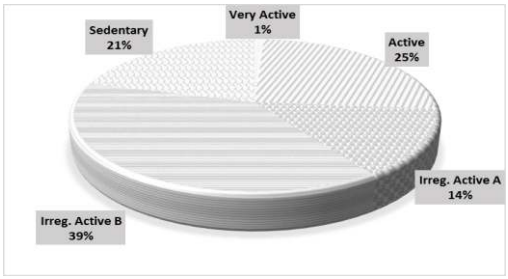
Source: author (2011)

Although being overweight is due to numerous factors, its main determinant is the imbalance between intake and energy expenditure, factors that are modulated by social characteristics and lifestyle. Many of the difficulties of establishing an association between these determinants also are due to the few population-based data on the measurement of dietary pattern and physical activity, either during leisure, either at work (MENDONÇA and ANJOS, 2004).

In this sense, the adoption of physical activity are an important mode of promotion and prevention of cardiovascular diseases (WHO 2000 cited Monteiro, 2000), whereas interfere in the association of heart disease by two mechanisms. In the first, intense physical activity acts directly producing changes in the heart, improving its pumping capacity and cardiovascular fitness. In the second, it acts indirectly, ie, the risk factors changing your body composition by lowering blood pressure and increasing high-density lipoprotein (HDL).

Regarding the percentage level of inactivity of drivers surveyed the pattern of physical activity (IPAQ) shown in Figure 3, 20.7% were sedentary, 38.6% are irregularly active B, 14.1% are irregularly active A, 25 4% active and less than 1% very active. Similarly, the study was found Faria et al. (2007), with bus drivers in Palhoça-SC, 56.4% were sedentary, 14.5% are illegally active B, 20.0% are illegally active A, 7.3% and 1.8% active too active . In available data on physical activity levels in our population, although incomplete, however, indicate that most people are not active enough to derive health benefits and a significant number are absolutely sedentary in their leisure around 60% (Nahas, 2003).

Figure 3. Percentage of Respondents Level Sedentary classified as: Very Active, Active, Insufficiently Active (Active Irregularly A and B), and sedentary.



Source: author (2011

So according to a study by Haskell (1998), concluded that the change from a sedentary lifestyle for a less active lifestyle, which means taking a simple walk at moderate intensity for thirty minutes, five days a week is a reduction of 50% in population mortality by Chronic Non-Communicable Diseases.

4-CONCLUSION

Based on the proposed objectives is concluded that the bus drivers did not show normal levels in your body composition and that there is a predisposition to cardiac risk by the studied variables, except BMI and WHR which show no correlation to coronary risk factors between the variables.

By correlating the body composition of drivers with levels of physical activity performed by these professionals can observe which in turn showed a poor nutritional profile, the result of a sedentary and insufficiently active profile, characteristic of his profession. Additionally, drivers investigated showed up suffering from overweight, abdominal obesity and cardiovascular risk as values above the normal range in anthropometric diagnosis. Because excess weight contributes significantly to the burden of chronic diseases and disabilities. These findings suggest that the active lifestyle category presents itself as an excellent protective factor for health maintenance and improvement of quality of life.

Therefore, it is recommended to help optimize health professionals with the same characteristics of those surveyed here, the authorities dealing with the public and community health, develop targeted health and quality of life of the professional actions whose professions have A Labour, hypokinetic and static character. Makes it necessary that further research be conducted in the area that may bring contributions to the category and further confirm the results obtained in the study.

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CORRELATION BETWEEN THE INDICATORS BMI, WHR AND LEVEL OF PHYSICAL ACTIVITY WITH CORONARY RISK IN INTERSTATE BUS DRIVERS OF A COMPANY OF ROAD TRANSPORT RONDÔNIA

ABSTRACT

Aiming to analyze and correlate with body composition, level of physical activity with the risk of coronary interstate bus drivers, the sample group consisted of 106 drivers (age 38.3 ± 8.5 years). The analytical plan and used the correlation BioEstat 5.0 by applying the Pearson equation. The results showed that drivers had a mean and standard deviation (SD) with a profile (BMI) for overweight (26.1 ± 3,9kg / m2), of these, 44.3% were overweight and 14.1% obese, and abdominal fat (WHR) in high-risk level (0.93 ± 0.07), although 29.2% were at high risk, very high risk 21.7% and 88.6% of motorists are at risk moderate to very high. Regarding the pattern of physical activity (IPAQ), 20.7% were sedentary, 38.6% are irregularly active B, 14.1% are irregularly active A, 25.4% active and less than 1% very active. The results also show no correlation to coronary risk factors between BMI and WHR variables, with values of r = 0.391 and p = <0.0001; since the BMI and Physical Activity Level subjects, variables shows a positive correlation to develop coronary risk factors, where r = 0.1696 and p = 0.0820; WHR and Physical Activity Level, likewise, viewed the positive correlation tendency to develop coronary risk factors with r = 0.1015 and p = 0.3003. In conclusion, we found that the bus drivers did not show normal levels in your body composition and that there is a predisposition to cardiac risk by the studied variables, except BMI and WHR which show no correlation to coronary risk factors among variables. Motorists investigated showed up suffering from overweight, abdominal obesity and cardiovascular risk as values above the normal range in anthropometric diagnosis.

KEYWORDS: Body Composition, physical activity, coronary risk.

CORRÉLATION ENTRE LES INDICATEURS DE L'IMC, WHR ET NIVEAU D'ACTIVITÉ PHYSIQUE À RISQUE CORONARIEN, CHEZ LES CONDUCTEURS INTER BUS D'UNE COMPAGNIE DE TRANSPORT ROUTIER RONDÔNIA

RÉSUMÉ

Visant à analyser et corréler avec la composition corporelle, le niveau d'activité physique avec le risque de chauffeurs de bus inter-coronaires, le groupe de l'échantillon se composait de 106 pilotes (âge 38,3 ± 8,5 années). Le plan analytique et utilisé la corrélation BioEstat 5.0 en appliquant l'équation Pearson. Les résultats ont montré que les conducteurs avaient une moyenne et écart-type (SD) avec un profil (IMC) pour le surpoids (26,1 ± 3,9kg / m2), de ceux-ci, 44,3% étaient en surpoids et

14,1% obèses, et la graisse abdominale (WHR) en niveau à haut risque (0,93 ± 0,07), bien que 29,2% étaient à risque élevé, risque très élevé de 21,7% et 88,6% des automobilistes sont à risque modérée à très élevée. En ce qui concerne la structure de l'activité physique (IPAQ), 20,7% étaient sédentaire, 38,6% sont irrégulièrement actif B, 14,1% sont irrégulièrement actif A, 25,4% d'agent actif et moins de 1% très actif. Les résultats montrent également aucune corrélation avec les facteurs de risque coronarien entre les variables IMC et WHR, avec des valeurs de r = 0,391 et p = <0,0001; puisque les sujets de l'IMC et niveau d'activité physique, les variables montre une corrélation positive à développer des facteurs de risque coronarien, où r = 0,1696 et p = 0,0820; WHR et de l'activité physique de niveau, de même, vu la tendance de corrélation positive à développer des facteurs de risque coronarien avec r = 0,1015 et p = 0,3003. En conclusion, nous avons constaté que les chauffeurs de bus ne montrent des niveaux normaux dans la composition de votre corps et qu'il n'y a une prédisposition au risque cardiaque par les variables étudiées, à l'exception de l'IMC et WHR qui ne présentent pas de corrélation à des facteurs de risque coronarien chez les variables. Les automobilistes étudiés ont montré par souffrir de surpoids, l'obésité abdominale et le risque cardiovasculaire comme des valeurs supérieures à la normale dans le diagnostic anthropométrique.

MOTS-CLÉS: composition corporelle, l'activité physique, le risque coronarien, les conducteurs de transport public.

CORRELACIÓN ENTRE EL ÍNDICE DE MASA CORPORAL INDICADORES, RHO Y NIVEL DE ACTIVIDAD FÍSICA CON RIESGO CORONARIO EN AUTOPISTA BUS CONDUCTORES DE UNA EMPRESA DE TRANSPORTE POR CARRETERA RONDÔNIA

RESUMEN

Con el objetivo de analizar y correlacionar con la composición corporal, nivel de actividad física con el riesgo de los conductores de autobuses interestatales coronarias, el grupo de muestra consistió de 106 conductores (edad 38,3 ± 8,5 años). El plan de análisis y se utiliza la correlación BioEstat 5,0 mediante la aplicación de la ecuación de Pearson. Los resultados mostraron que los conductores tenían una media y desviación estándar (SD) con un perfil (IMC) de exceso de peso (26,1 ± 3,9kg / m2), de éstos, el 44,3% tenía sobrepeso y 14,1% obesidad, y la grasa abdominal (RHO) en el nivel de alto riesgo (0,93 ± 0,07), aunque el 29,2% eran de alto riesgo, un riesgo muy alto de 21,7% y 88,6% de los automovilistas están en riesgo moderado a muy alto. En cuanto al patrón de actividad física (IPAQ), 20,7% eran sedentarios, el 38,6% son irregularmente activa B, 14,1% son irregularmente activa A, 25,4% activo y menos del 1% muy activo. Los resultados también muestran ninguna correlación con factores de riesgo coronario entre las variables IMC y la RCC, con valores de r = 0,391 y p = <0,0001; ya que los temas de IMC y Actividad Física Nivel, las variables muestran una correlación positiva para desarrollar factores de riesgo coronario, donde r = 0,1696 yp = 0,0820; RHO y Actividad Física Nivel, del mismo modo, considera la tendencia de correlación positiva a desarrollar factores de riesgo coronario con r = 0,1015 yp = 0,3003. En conclusión, hemos encontrado que los conductores de autobuses no mostraron niveles normales en la composición de su cuerpo y que hay una predisposición al riesgo cardíaco por las variables estudiadas, excepto el IMC y la RCC que no muestran correlación con factores de riesgo coronario entre variables. Los automovilistas investigados presentaron sufren de obesidad abdominal sobrepeso y el riesgo cardiovascular como valores por encima del rango normal en el diagnóstico antropométrico.

PALABRAS CLAVE: composición corporal, la actividad física, riesgo coronario, los conductores de transporte público.

CORRELAÇÃO ENTRE OS INDICADORES DO IMC, RCQ E NÍVEL DE ATIVIDADE FÍSICA COM RISCO CORONÁRIO EM MOTORISTAS INTERESTADUAL DE ÔNIBUS DE UMA EMPRESA DE TRANSPORTE RODOVIÁRIO DE RONDÔNIA

RESUMO

Objetivando analisar e correlacionar à composição corporal, nível de atividade física com o risco coronário de motoristas de ônibus interestadual, o grupo amostral foi constituído por 106 motoristas (idade 38,3±8,5 anos). O plano analítico e correlação utilizou o BioEstat 5.0 através da aplicação da equação de Pearson. Os resultados demonstraram que os motoristas apresentaram média e desvio padrão (DP) com um perfil (IMC) para o sobrepeso (26,1±3,9kg/m2), destes, 44,3% apresentavam sobrepeso e 14,1% obesidade, e a gordura abdominal (RCQ) em nível de alto risco (0,93±0,07), ainda 29,2% apresentavam alto risco, 21,7% risco muito alto e 88,6% dos motoristas encontram-se em risco moderado a muito alto. Em relação ao padrão de atividade física (IPAQ), 20,7% são sedentários, 38,6% são irregularmente ativos B, 14,1% são irregularmente ativos A, 25,4% ativos e menos de 1% muito ativo. Os resultados também mostram que não houve correlação a fatores de risco coronário entre as variáveis IMC e RCQ, com valores de r=0,391 e p=<0,0001; já as variáveis IMC e Nível de Atividade Física dos sujeitos, mostra correlação positiva a desenvolver os fatores de risco coronário, onde r=0,1696 e p= 0,0820; o RCQ e o Nível de Atividade Física, da mesma forma, visualizou tendência a correlação positiva de desenvolver os fatores de risco coronário com r=0,1015 e p=0,3003. Em conclusão, observou-se que os motoristas de ônibus não apresentaram índices normais em sua composição corporal e que existe predisposição a risco cardíaco mediante as variáveis estudadas, com exceção o IMC e RCQ onde mostram que não houve correlação a fatores de risco coronário entre as variáveis. Os motoristas investigados mostraram-se acometidos por sobrepeso, obesidade centralizada e risco cardiovascular, visto os valores acima dos padrões de normalidade no diagnóstico antropométrico.

PALAVRAS-CHAVE: Composição corporal, nível de atividade física, risco coronário.