

84 - LEVEL OF PHYSICAL ACTIVITY AND ABDOMINAL OBESITY IN MOTORISTS OF A ASSOCIATION OF PUBLIC CLEANING TRUCKS

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INTRODUCTION

Work occupies a very important place in the life of the human being, occupying a significant time of their lives and we can not dissociate the professional exercise from the quality of life of the individual, since it is the result of the interrelationship of factors that constitute the quotidian of the human being, highlighting the dimension of work with an important significance in the lives of many people (BUENO, 2004).

The truck drivers are an occupational population exposed to risk factors such as obesity, which can result from inadequate diet, long working hours, followed by these professionals and from their sedentary habits (MORENO et al., 2006).

Studies show sedentary drivers with increased abdominal circumference. (PIERIN, CAVAGIONI, 2008). They also observe a high prevalence of overweight and obesity, which are even higher than those of other national studies. This was repeated at the time of analysis of the abdominal circumference, which was also higher when compared to those observed in the southern region of Brazil. (PIERIN and CAVAGIONI, 2008).

The accumulation of fat in the trunk and abdomen region, called abdominal or central obesity (android), is more frequent in men and is associated with greater morbidity and mortality than body fat located in the peripheral region, especially in the thighs and buttocks (gynoids), which is more common in women (SILVA et al., 2002).

The body fat is not evenly distributed, so the deposition of body fat, particularly that located in the abdominal region, poses a greater risk to health than generalized fat (PITANGA; LESSA, 2005; OLINTO et al., 2006).

Body movement has always been present in human history, playing an important role in the evolution of the species. In an evolutionary perspective, the human being was prepared to move. (Owen N et al., 2010).

However, changes in work, especially after the Industrial Revolution, the rapid advance of technologies, accompanied by greater availability of food and less physical activity, stimulate individuals more and more to adopt everyday practices with little movement of the skeletal muscles. Thus, there is a tendency for them to sit longer thus contributing to the increasing prevalence of obesity in populations (PI - SUNYER, 1993).

According to data from the Brazilian Institute of Geography and Statistics (IBGE, 2010), sedentary lifestyle has become one of the main cardiovascular disease factors among Brazilians and reaches 80% of the population. Sedentary lifestyle affects both developed and developing countries, affecting approximately 57% of the European population.

More than 2 million deaths per year can be attributed to sedentarism, due to the appearance of non-transmissible chronic degenerative diseases such as cardiovascular problems, cancer and diabetes, hypertension that corresponded in 1998 to almost 60% of deaths (71, 7 million) in the world; which could reach 73% in 2020 if current trends are maintained. And 77% of these deaths occur in developing countries. (CENTERS FOR DISEASE CONTROL AND PREVENTION OF ATLANTA, 2000).

Due to the above and the absence of representative studies of the truck driver population in Teresina, we sought to fill this gap, so the present study was conducted with the objective of evaluating the association between the level of physical activity and abdominal obesity in drivers of an Association of Truckers of the Public Cleaning of the city of Teresina - PI.

METHODOLOGY

It was carried out in a cross-sectional quantitative study with the purpose of characterizing the profile of the level of physical activity and abdominal obesity in a professional category of drivers. The sample consisted of 20 drivers from an association of truck drivers of the city of Teresina-PI, following the ethical norms of the researches with the voluntary participation of the subjects, where they signed a free and informed consent term. Drivers with a physical disability, retired, outside the established age group, and those with at least 5 years' occupation were excluded from the survey.

To determine the level of physical activity, the International Physical Activity Questionnaire (IPAQ), already validated in a sample of the Brazilian population (MATSUDO et al, 2001) was used in the short version and classified into four categories: sedentary, insufficiently active, active and very active (MATSUDO et al, 2001).

Abdominal obesity was determined from the waist circumference (CC), which is the area with the highest concentration of subcutaneous and mainly visceral fat, which should be prioritized and measured in the health related body measurements. The CC was obtained at the point of the smallest perimeter located between the ribs and the iliac crest, when it is not possible to identify the region with the smallest perimeter, a measurement of 2 cm above the umbilical scar will be obtained. The reading is then performed at the end of a normal expiration. (PETROSKI, 2003). For the classification was used four categories: Desired, Unwanted, High and Very high, in the conversion table advocated by Lean., Et al, 1995.

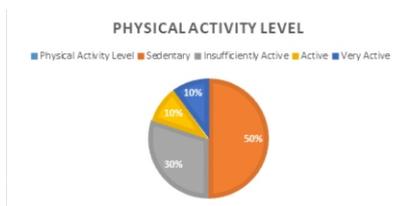
RESULTS AND DISCUSSIONS

For the development of this study 20 subjects were counted for the results, totaling 30% of the sample.

The results of the application of the questionnaire are presented here in 4 graphs with percentages of responses about the level of physical activity and the measurement of waist circumference presented by the respondents of this study.

Graph 1 of this study presents the indicators of the current level of physical activity of the group of subjects in this study.

GRAPH 1: PHYSICAL ACTIVITY LEVEL OF RESEARCH TRUCKERS



Source: Direct Search, 2017

Weller and Corey, 1998, refer to the long working hours of these professionals favor sedentarism. In addition, the energy expenditure of truck driving activity is low, with metabolic equivalents (MET1) ranging from one to three, considered light level.

Several studies with truck drivers have verified a high prevalence of individuals who do not practice regular physical activities, being found percentages of up to 90% of subjects with insufficient level of physical activity. (ANDRUSAITIS and COL, 2006)

Graph 2 presents the Waist Circumference of the Subjects of this study.

FIGURE 2: CIRCUMFERENCE OF WAIST BELT SEARCHED



Source: Direct Search, 2017

It is observed in the results that, together with the results of the high and very high risks, we have 45% of individuals in this situation and only 30% of this group presents a desired risk for abdominal fat.

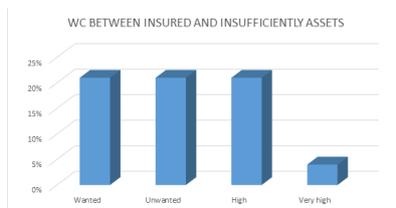
In a study with 107 BR-316 truck drivers Martins, Silva and Guedes 2009 found 51.40% of subjects with abdominal circumference above 102cm implying a much increased risk for cardiovascular diseases. In this same study, 89.72% were classified as sedentary.

In his studies Cavagioni 2006, he points out that due to irregular work schedules, the habits adopted mainly by the truck drivers contribute significantly to changes in the consumption of food. Meals of low nutritional value and high caloric content are common in their routine, where most drivers eat daily in this way.

Moreno 2006 reinforces this issue when it reveals that truck drivers constitute a population exposed to risk factors among them obesity, which may result from the inadequate diet followed by these professionals and their sedentary habits.

Graph 3 shows the Waist Circumference of the sedentary and insufficiently active subjects.

FIGURE 3: CIRCUMFERENCE OF THE BELT OF SEDENTARIES AND INSUFICIENTLY ACTIVE



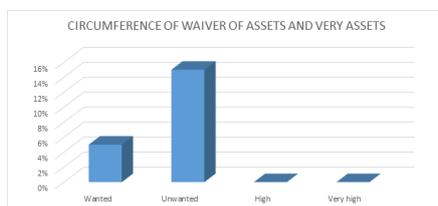
It was observed in this study that 30% presented high and very high waist circumference results. Similar values were found in the study by Cavagioni et al 2008, conducted with 258 drivers in which 31% presented increased risk using the Waist Circumference measurement.

In a study carried out with a sample of 258 drivers traveling on Highway BR-116 (highway of death), in the São Paulo section of Regis Bittencourt, 74% of the drivers were sedentary and 58.5% had increased abdominal circumference (PIERIN, CAVAGIONI, 2008).

The same study also observed a high prevalence of overweight and obesity, findings even higher than those of other national studies. This fact was repeated when the abdominal circumference was analyzed, which was also higher when compared to those observed in the southern region of Brazil (PIERIN and CAVAGIONI, 2008).

Graph 4 presents the Waist Circumference of the active and very active subjects of this study.

FIGURE 4: CIRCUMFERENCE OF WAIVER OF ASSETSAND VERY ASSETS



Source: Direct Search, 2017

The results presented by individuals with a history of physical activity practitioners presented 5% of the desired risk and only 15% of undesired risk, and did not appear subjects in the category of high and very high risk.

In the science of sedentary behavior, the term physiology of inactivity was first proposed by Hamilton (2004), with the purpose of describing the investigations that aim to substantiate the biological plausibility about the causal role of the sedentary behavior in the development of metabolic disorders. This concept suggests that physiological responses to muscle inactivity may cause negative effects on important cellular and molecular processes of disease-related proteins and are different from those triggered by physical exercise. (HAMILTON MT, HAMILTON DG, ZDERIC TW, 2004).

FINAL CONSIDERATIONS

In the present study, the prevalence of increased waist circumference and the high number of sedentary drivers is confirming the profession of motorists at risk for their own health.

The tendency of obesity with the increase of the abdominal fat is the main factor of cardiac risk.

More attention is needed from the chair of the association regarding the importance of acting in the prevention, promotion and recovery of the health of this class, seeking to focus on the need for systematic practice of physical activity and to be guided regarding the change of lifestyle.

REFERENCES

- ANDRUSAITIS, S. F. E.; OLIVEIRA, R. P.; BARROS FILHO, T. E. P. Estudo da prevalência e fatores de risco da lombalgia em caminhoneiros do estado de São Paulo. *Clinics*, São Paulo, v. 61, n. 6, p. 503-510, 2006.
- BUENO, R. N. Qualidade de vida dos cirurgiões-dentistas da rede pública dos municípios da AMFRI. [dissertação] Florianópolis: Mestrado em engenharia de produção da Universidade Federal de Santa Catarina, 2004.
- CENTER DISEASE OF PREVENTION AND CONTROL. Promoting physical activity: a best buy in publichealth. health. 2000.
- CAVAGIONI, L. C. Perfil dos riscos cardiovasculares em motoristas profissionais de transporte de cargas da Rodovia BR-116 no trecho Paulista-Régis Bittencourt. 2006. Tese (Mestrado em Enfermagem na Saúde do Adulto) - Escola de Enfermagem da Universidade de São Paulo, São Paulo, 2006.
- CAVAGIONI Luciane C.; BENSENÖR Isabela M.; HALPERN Alfredo.; PIERIN Ângela M.G. Síndrome metabólica em motoristas profissionais de transporte de cargas da rodovia BR – 116 no trecho Paulista – Régis Bittencourt. *Arq. Bras Endocrinol Metab.*, São Paulo, v. 52, n. 6, p. 1015-23, 2008.
- HAMILTON MT, HAMILTON DG, ZDERIC TW. Exercise physiology versus inactivity physiology: an essential concept for understanding lipoprotein lipase regulation. *Exerc Sport Sci Rev.* 2004 Oct;32(4):161-6.
- Instituto Brasileiro de Geografia e Estatística. Síntese de Indicadores Sociais: uma análise das condições de vida da população brasileira. Rio de Janeiro: IBGE; 2010. (Informação Demográfica e Socioeconômica, 27).
- LEAN, M. E.; HANS, T. S.; VAN LEER E. M.; SEIDELL J. C.. Waist circumference in the identification of cardiovascular risk factors: prevalence study in a random sample. *BMJ (Clin. Res. Ed)* 1995; 311: 1401-5.
- MATSUDO S, ARAÚJO T, MATSUDO V, ANDRADE, ANDRADE E, OLIVEIRAL, BRAGGION G. estudo de validade e reprodutibilidade no Brasil. *Revista Atividade Física & Saúde* 6(2):5-18, 2001.
- MORENO CR, LOUZADA FM, TEIXEIRALR, BORGES F, LORENZI- FILHO G. Short sleep is associated with obesity among truck drivers *Chronobiol Int.* 2006;23(6):1295-1303.
- OLINTO MTA, NÁCUL LC, DIAS-DA-COSTA JS, GIGANTE DP, MENEZES AMB, MACEDO S. Níveis de intervenção para obesidade abdominal: prevalência e fatores associados. *Cad Saúde Pública = Rep Public Health.* 2006;22(6):1207-15
- OWEN N, SPARLING PB, HEALY GN, et al. Sedentary behavior: emerging evidence for a new health risk. *Mayo Clin Proc.* 2010 Dec;85(12):1138-41.
- PI-SUNYER F. Medical hazards of obesity. *Ann Intern Med* 1993;119:655-60.
- PETROSKI, Edio Luis. Antropometria: técnicas e padronizações. 2 ed. Revista Ampliad – Porto Alegre. 2003
- VUORI IM. Health benefits of physical activity with special reference to interaction with diet. *Public Health Nutrition*, 4(2B): 517-528, 2001.

LEVEL OF PHYSICAL ACTIVITY AND ABDOMINAL OBESITY IN MOTORISTS OF A ASSOCIATION OF PUBLIC CLEANING TRUCKS

This study evaluated the association between the level of physical activity and abdominal obesity in a drivers truck drivers Association of Public Cleansing the city of Teresina – PI. The present study was composed of 20 drivers Truckers Association of public cleaning of Teresina-PI. The results of the IPAQ 50% pointed: Sedentary; 30% of Active Inadequately; 10% of assets and 10% very active. The hip circumference waist 30% of desired; 25% of unwanted; 40% of high and 5% too high. Among the sedentary had 30% with high cardiac risk and between this percentage asset disappears. In the present study, the prevalence of increased waist circumference and the high number of drivers with profile of sedentariness is confirming labor activity of truck drivers be of risk to health.

Keywords: Physical Activity, Obesity, Sedentary Lifestyle, Drivers.

NIVEAU D'ACTIVITÉ PHYSIQUE ET OBÉSITÉ ABDOMINALE CHEZ LES AUTOMOBILISTES D'UNE ASSOCIATION DE CAMIONS DE NETTOYAGE PUBLIC

Cette étude a évalué l'association entre le niveau d'activité physique et l'obésité abdominale chez un chauffeurs de camions Association de nettoyage public de la ville de Teresina - PI. La présente étude était composée de 20 conducteurs Truckers Association de nettoyage public de Teresina-PI. Les résultats de l'IPAQ 50% pointés: Sédentaire; 30% d'Active Inadéquatement; 10% des actifs et 10% très actifs. La circonférence de la hanche est de 30% de la taille désirée; 25% des indésirables; 40% de haut et 5% de trop élevé. Parmi les sédentaires avaient 30% avec un risque cardiaque élevé et entre ce pourcentage d'actifs disparaît. Dans la présente étude, la prévalence d'un tour de taille accru et le nombre élevé de conducteurs ayant un profil de sédentarité confirment que l'activité professionnelle des camionneurs présente un risque pour la santé. Mots clés: Activité physique, obésité, mode de vie sédentaire, conducteurs.

NIVEL DE ACTIVIDAD FÍSICA Y OBESIDAD ABDOMINAL EN MOTORISTAS DE UNA ASOCIACIÓN DE CAMIONES DE LIMPIEZA PÚBLICA

Este estudio evaluó la asociación entre el nivel de actividad física y la obesidad abdominal en una Asociación de

conductores de camiones de conductores de la ciudad de Teresina - PI. El presente estudio estuvo compuesto por 20 conductores Truckers Association de limpieza pública de Teresina-PI. Los resultados del IPAQ 50% señalados: sedentarios; 30% de Active Inadecuadamente; 10% de los activos y 10% muy activo. La cintura circunferencial de la cadera 30% del deseado; 25% de no deseado; 40% de alto y 5% demasiado alto. Entre los sedentarios tenía 30% con alto riesgo cardíaco y entre este porcentaje el activo desaparece. En el presente estudio, la prevalencia del aumento de la circunferencia de la cintura y el alto número de conductores con perfil de sedentarismo confirma que la actividad laboral de los conductores de camiones es riesgosa para la salud.

Palabras clave: actividad física, obesidad, estilo de vida sedentario, conductores.

NÍVEL DE ATIVIDADE FÍSICA E OBESIDADE ABDOMINAL EM MOTORISTAS DE UMA ASSOCIAÇÃO DE CAMINHONEIROS DA LIMPEZA PÚBLICA

Este estudo avaliou a associação entre o Nível de Atividade Física e a Obesidade Abdominal em motoristas de uma Associação de Caminhoneiros da Limpeza Pública da cidade de Teresina – PI. O presente estudo foi composto de 20 motoristas de uma associação de caminhoneiros da limpeza pública de Teresina-PI. Os resultados do IPAQ apontaram: 50% de Sedentários; 30% de Insuficientemente Ativos; 10% de Ativos e 10% de Muito ativos. A circunferência da cintura apresentou 30% de desejados; 25% de indesejado; 40% de alto e 5% de muito alto. Entre os sedentários tivemos 30% com risco cardíaco alto e entre ativos este percentual desaparece. No presente estudo, a prevalência de aumento da circunferência abdominal e o elevado número de motoristas com perfil de sedentarismo é que confirmam a atividade laboral dos motoristas de caminhão ser de risco para a sua própria saúde.

PALAVRAS CHAVES: Atividades Física, Obesidade, Sedentarismo, Motoristas.