111 - PHYSICAL ACTIVITY AND STRESS LEVELS OF PROFESSORS AND STAFF AT ULBRA-CANOAS, RS

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INTRODUCTION

Modern society has experienced profound and fast changes, as a result of various factors, including scientific advances, that multiply information, spreading knowledge and influencing political, economic and social systems, present and future, generating, as a consequence, new life habits.

Such transformations, associated with people's eating habits, have produced hypokinetic disorders characterized by sedentarism, one of the major risk factors affecting the Brazilian population, in association with chronic-degenerative diseases such as cardiovascular conditions, arterial hypertension, coronary cardiopathy, obesity and type 2 diabetes mellitus (GUEDES; GUEDES, 1995).

Sedentarism combined with a diet rich in saturated fats and poor in vegetable fibers engender bad habits, many of which are originated in childhood. When considering the results of researches about sedentarism found in literature, it can be noted that, as mentioned by Matsudo et al. (2001), in the area known as ABC Paulista (metropolitan region of São Paulo), in the year 2000, 57.1% of men and 31.9% of women between 15 and 59 years old can be considered sedentary.

While sedentarism and obesity pose a risk to a person's health, epidemiological studies have confirmed that an active lifestyle is connected to a longer life span, as well as to a healthier life. Thus, Tales et al. (1996) state that an increased engagement in physical activity practice by the population decisively contributes to a better public health, reducing the cost of medical treatment and hospital expenses.

Considering health as an active and permanent process that needs to be constantly acquired and maintained, aimed at a state of total physical, mental and social well-being, physical activity and exercises are means that can be used to promote it.

Physical activity or exercises are not medicines, but bodily practices characterized by the maintenance of the organic systems' high level of operation. According to Pellegrinotti (1998), studies on the influence of physical activity that involve physiological parameters as well as evidences of preservation and recovery in different organic systems are publicized in distinct scientific periodicals and show the influence of physical activity on the human organism.

Moderate physical exercises, according to Carvalho et al. (1996), reduce cardiovascular problems. Hence, the stimulus-response relation between the physical activity level and its protective effect is a very strong one, where the risk of contracting a disease diminishes to the extent that physical activity increases. Low intensity physical activities, such as walking, climbing stairs, sweeping, cycling, dancing, among other daily routines, can improve health.

Considering what was mentioned above, there is evidence that physical activity or exercise can bring about a more active lifestyle in the population, what would certainly improve their health standards. Such statements demonstrate that people ought to be made aware that by changing their habits they can improve their quality of life.

With reference to the daily tasks of university teaching staff, without dismissing those of school teachers, these have been quite stressing. Mood changes affecting the teacher-student relationship, overload of tasks like reading and correcting works, participation in commissions and ad-hoc consultancies, institutional pressure to publish research, pressures related to students progress and training, the need to learn new technological resources and the submission to the norms established by government organs such as CNPq, CAPES, MEC, among others, are some of the pressures to which professors are routinely submitted, increasing their likelihood to endure stressful situations.

Considering that the involvement of the teaching staff with their teaching tasks is quite significant, what makes it difficult for them to engage in physical activities as a way of achieving a health condition that will contribute to their work and quality of life, the present study was undertaken with the aim of determining stress and physical activity levels, according to sex and age, of professors and staff working in college courses at the Universidade Luterana do Brasil, Canoas Campus, Rio Grande do Sul state, in the year 2005.

MATERIALS AND METHODS

The present descriptive investigation with an accidentally selected sample comprised of 74 professors and staff actively working in college courses at the Universidade Luterana do Brasil in 2005. The instruments were applied by the researches and by a grant student from the Ulbra Scientific Initiation program (Canoas, RS) to professors and staff who were working on the scheduled days and were available to it voluntarily. Data collection was made on weekdays, at times when both professors and staff were available, without disrupting their teaching and administrative duties.

The instrument used was the short form of the IPAC, so that the level of physical activity in a regular week could be determined by applying the interviews to the selected professors and staff. The stress level was assessed using Lipp's Stress Symptoms Inventory for Adults, LSSI, (LIPP, 2002). In order to analyse the data referent to the physical activity level, the 2002 consensus between CELAFISCS and the US based Atlanta Center for Disease Control (CDC) was employed. This consensus considers the criteria of frequency and duration, classifying individuals in five categories: very active, active, irregularly active and sedentary (MATSUDO et al., 2002).

The information gathered in the forms was transferred to a database used to perform a descriptive statistical analysis (mean, standard deviation, percentage and frequency distribution), as well as to apply the chi-square test and the variance analysis using the SPSS 12.0 software. The data were analysed with the use of tables and charts provided by MS Word software for Windows.

DATA PRESENTATION

Table 1 Distribution of frequency and percentage referent to physical activity level (74)

Classification	*f*	*%*
Insufficiently active	30	40.5
Sufficiently active	21	28.4
Very active	23	31.1
Total	74	100.0

Table 2 Distribution of frequency and percentage referent to the stress phase in which the study subjects were (n=74)

Stress phase	*f*	*%*
Alert	2	2.7
Resistance	18	24.3
Exhaustion	7	9.5
Does not show stress	47	63.5
Total	74	100.0

Table 3 Distribution of frequency and percentage referent to the subjects' physical activity level and stress occurrence

Physical activity level	*Stress occurrence*		*Total*
Insufficiently active	18 (38.3%)	12 (44.4%)	30 (40.5%)
Sufficiently active	15 (31.9%)	6 (22.2%)	21 (28.4%)
Very active	14 (29.8%)	9 (33.3%)	23 (31.1%)
Total	47 (100.0%)	27 (100.0%)	74 (100.0%)

Table 4 Distribution of frequency and percentage referent to subjects who showed stress in relation to their sex and physical activity level (n=27)

Physical activity level	*Sex*		*Total*
	Male	*Female*	
Insufficiently active	3 (60.0%)	9 (40.9%)	12 (44.4%)
Sufficiently active	1(20.0%)	5 (22.7%)	6 (22.3 %)
Very active	1 (20.0%)	8 (36.4%)	9 (33.3%)
Total	5 (100.0%)	22 (100.0%)	27 (100.0%)

Table 5 Age mean and standard deviation of the subjects who showed stress in relation to their physical activity level (n=27)

Physical activity level	*n*	*Mean*	*Standard deviation*	*p*
Insufficiently active	12	38.83	9.98	0.49
Sufficiently active	6	35.83	10.24	
Very active	9	42.22	10.59	
Total	27	39.30	10.13	

Table 6 Distribution of frequency and percentage referent to the kinds of stress symptoms in relation to the subjects job (n=74)

Kinds of stress symptoms	*Position*		*Total*
	Teaching staff	*Other staff*	
No symptom	8 (15.1%)	1 (4.8%)	9 (12.2%)
Psychological	8 (15.1%)	7 (33.3%)	15 (20.2%)
Physical	34 (64.2%)	11 (52.4%)	45 (60.8%)
Both (physical and psychological)	3 (5.7%)	2 (9.5%)	5 (6.8%)
Total	53 (100.0%)	21 (100.0%)	74 (100.0%)

DISCUSSION OF DATA

After the data analysis was completed it could be noted that of the 74 subjects investigated 47 did not show stress (63.6%), 2 were in the alert phase (2.7%), 18 were in the resistance phase (24.3%) and 7 were in the exhaustion phase. With regards to physical activity level, 40% (30) of the subjects classified as insufficiently active, 28.4% (21) as sufficiently active and 31.1% (23) as very active.

It was also noted that both professors and staff at Ulbra did not practice physical activity on a regular basis. Studies by Matsudo *et al.* (2002) found that 46.5% of the total sample were also classified as insufficiently active.

Among the symptoms revealed by the subjects investigated, the physical ones were most notable, being characterized, in the last 24 hours, by muscular tension, jaw clinching and teeth grinding, insomnia, cold hands and feet, appetite changes and other symptoms of lower score. In the last weeks, in order of importance, the following symptoms were reported: sensation of constant physical weariness, constant fatigue, memory problems and general indisposition with no specific cause. Among the physical symptoms observed in the last month period, insomnia was the most pronounced, followed by others with lower scores.

Muscular tension was the physical symptom predominant in the last 24 hours period, probably the result of a reduction in on-the-job physical activity and consequently of the use of certain groups of muscles not usually exercised.

There is rarely a single cause of stress. Most of the times, people suffer a cumulative effect of numerous stressors that accumulate creating a state of physical and mental tension (LIPP, 2002).

The most effective way of neutralizing stress is through the practice of physical activity, what helps the stressed person to reestablish the normal conditions of his organism, unbalanced by psychological or physiological factors (BERGER apud VALIM *et al*. 2002).

Using the chi-square statistical test, it was determined that there is no significant association between the physical activity level and the occurrence of stress (p=0.67). Similarly, there is no significant connection between the physical activity level of the stressed individuals and their sex (p=0.71).

Males were noted to be more active than females. Studies by Oliveira apud Madureira et al. (2003) confirmed men had a more active behavior, specially in relation to performing strength exercises, muscular stretching and active transportation.

No significant association was observed between the kind of stress symptoms and the subjects job (p=0.21). When writing about stress in post graduation university professors, Lipp identified factors related to the excessive demands for high productivity, including the need to take part in numerous conference meetings, examining boards and official examinations, in addition to all the correspondent expenses. Therefore, there are many stressors that can vary from one university to the other, but still they have many common origins. At first it was believed that the higher the schooling and job levels of the participants, the more a significant association would appear, but that did not happen.

Making use of variance analysis, it was possible to determine that there was no significant difference between the physical activity level of the stressed individuals and their average age (p=0.49).

CONCLUSIVE ASPECTS

- Of the 74 persons investigated, 47 did not show stress, 2 were in the alert phase, 18 were in the resistance phase and 7 were in the exhaustion phase;
- The majority of the subjects were classified as insufficiently active (40%);

- Among the kinds of symptoms, physical ones were prevalent;
- The physical symptoms experienced by the subjects in the last 24 hours period included muscular tension, jaw clinching, teeth grinding, insomnia, cold hands and feet, appetite changes and others of lower score;
- Among the symptoms observed in the last month period, insomnia was the most manifest;
- The prevalent symptom in the last 24 hours period was muscular tension;
- Males were more active than females in relation to regular practice of physical activity;
- No significant association was found between job and kind of stress symptom (p=0.21);
- Using variance analysis, it can be inferred there is no significant difference between the physical activity level of individuals who showed stress and their average age (p=0.49).

It is recommended that strategies are devised to highlight the benefits of physical activity to health, given that the more frequently it is practiced the less will physical and psychological disturbs appear, consequently reducing the occurrence of stressors commonly encountered in modern society.

PHYSICAL ACTIVITY AND STRESS LEVELS OF PROFESSORS AND STAFF AT ULBRA-CANOAS, RS
ABSTRACT

The aim of the present descriptive study is to determine physical activity and stress levels, according to sex and age, of professors and staff working in college courses at the Universidade Luterana do Brasil, Canoas, RS, in 2005. It was studied 74 professors and other staff from the university selected through the convenience sampling method. The instruments applied were the short form of the IPAQ and Lipp's Stress Symptoms Inventory for Adults (LSSI). The statistical tools used for the data analysis were mean, standard deviation, percentage, frequency distribution, the chi-square test and variance analysis using the SPSS 12.0 software. It was found that of the 74 subjects investigated 40 % were insufficiently active; 47 did not show stress, 18 were in the resistance phase, 7 in the exhaustion phase and 2 in the alert phase. Using the chi-square statistical test, it was revealed that there is no significant connection between physical activity level and the occurrence of stress (p=0.67). Similarly, the physical activity level of stressed individuals was not significantly associated with their sex (p=0.71). In the same way, no suggestive connection was found between job and kind of stress symptom (p=0.21). Through variance analysis, it could be inferred there was no significant difference between the physical activity level of individuals who showed stress and their average age (p=0.49).

Key words: Physical Activity. Stress

NIVEAU D'ACTIVITÉ PHYSIQUE ET DE STRESS DES PROFESSEURS ET DES FONCTIONNAIRES DE ULBRA, CANOAS, RS
RESUMÉ

Le présent étude descriptif a comme objectif déterminer le niveau d´activité et de stress, par rapport au sexe et l´âge des fonctionnaires et des professeurs actuant dans les cours de l´Université Luthérienne du Brésil, Campus Canoas, RS, dans l´année 2005. L´étude a été composé par 74 enseignants et fonctionnaires d´Ulbra, Canoas, RS, de façon accidentelle. Les instruments utilisés ont été l´IPAQ avec une version courte et l´Inventaire de Symptômes de Stress pour les Adultes de Lipp (ISSL). Les informations des fiches ont été mises dans un banc de données, qui a été utilisé dans l´analyse statistique de façon descriptive (moyenne, desvio padrão, pourcentage et distribution de fréquence) et l´application du teste statistique Qui-carré et l´Analyse de Variante par le SPSS 12.0. Après l´analyse des données on peut conclure que des 74 personnes investiguées, 40% sont insuffisamment actives, 47 d´entre eux n´ont pas de stress, 18 sont dans la phase de résistance, 7 se trouvent dans la phase d´épuisement et finalement 2 dans la phase d´alerte. Le teste Qui-carré a montré qu´il n´existe pas une relation significative entre le niveau d´activité physique et la présence de stress (p=0,67). Il n´existe pas, non plus, une relation significative entre le niveau d´activité physique des individus qui ont présenté stress et sexe (p=0,71). Il n´existe pas une relation significative entre le type de symptôme de stress et le cadre (p=0,21). En utilisant l´analyse de variante, on peut vérifier qu´il n´existe pas des différences significatves entre le niveau d´acivité physique des individus qui ont presenté stress et âge moyenne (p=0,49).

Mots clés : Activité physique, Stress

NIVEL DE ACTIVIDAD FÍSICA Y DE ESTRÉS DE PROFESORES Y FUNCIONARIOS DE ULBRA, CANOAS, RS
RESUMEN

El presente estudio descriptivo tiene como objetivo determinar el nivel de actividad física y de estrés, según el sexo y la edad de los funcionarios y profesores que actúan en los cursos de graduación de la Universidad Luterana de Brasil, Campus Canoas, RS, durante el año de 2005. La composición de la muestra del estudio fue de 74 docentes y funcionarios de Ulbra, Canoas, RS, de forma accidental. Los instrumentos utilizados fueron el IPAQ versión corta y el Inventario de Síntomas de Estrés para Adultos de Lipp (ISSL). La información de los formularios de recolección de datos fue pasada a una base de datos, la cual fue utilizada para realizar el análisis estadístico de forma descriptiva (promedio, desvío estándar, porcentaje y distribución de frecuencia) y aplicación de la prueba estadística Qui-cuadrado y Análisis de variancia por el software SPSS 12.0. Después de analizar los datos fue posible concluir que de los 74 sujetos investigados, un 40% son insuficientemente activos, 47 de ellos no sufren estrés; 18 están en la fase de resistencia; 7 se encuentran en la fase de agotamiento y 2 en la fase de alerta. Se verificó, a través de la prueba estadística Qui-cuadrado, que no existe asociación significativa entre el nivel de actividad física y la presencia de estrés (p=0,67). Tampoco existe asociación significativa entre el nivel de actividad física de los individuos que presentaron estrés y sexo (p= 0,71). No existe asociación significativa entre el tipo de síntoma de estrés y cargo (p= 0,21). Utilizando el análisis de variancia, se puede inferir que no existen diferencias entre el nivel de actividad física de los individuos que presentaron estrés y edad promedio (p= 0,49).

Palabras clave: Actividad física. Estrés.

NÍVEL DE ATIVIDADE FÍSICA E DE STRESS DE PROFESSORES E FUNCIONÁRIOS DA ULBRA, CANOAS, RS
RESUMO

O presente estudo descritivo teve por objetivo determinar o nível de atividade física e de stress, de acordo com o sexo e idade dos funcionários e professores atuantes nos cursos de graduação da Universidade Luterana do Brasil, Campus Canoas, RS, no ano de 2005. A amostra do estudo foi composta por 74 docentes e funcionários da Ulbra, Canoas, RS, de forma acidental. Os instrumentos utilizados foram o IPAQ versão curta e o Inventário de Sintomas de Estresse para Adultos de Lipp (ISSL). As informações das fichas de coleta foram digitadas em um banco de dados, sendo este banco usado para realizar a análise estatística de forma descritiva (média, desvio-padrão, percentual e distribuição de freqüência) e aplicação do teste estatístico Qui- quadrado e Analise de variância pelo software SPSS 12.0. Após a análise dos dados pode-se concluir que dos 74 sujeitos investigados, 40% são insuficientemente ativos, 47 deles não possuem estresse; 18 estão na fase de resistência; 7 encontram-se na fase de exaustão e 2 na fase de alerta. Verificou-se através do teste estatístico Qui- quadrado que não existe associação significativa entre o nível de atividade física e a presença de estresse (p= 0,67) Também não existe associação significativa entre o nível de atividade física dos indivíduos que apresentaram estresse e sexo (p= 0,71).

Não existe associação significativa entre o tipo de sintoma de estresse e cargo (p= 0,21). Utilizando-se a análise de variância, pode-se inferir que não existe diferenças significativa entre o nível de atividade física dos indivíduos que apresentaram estresse e idade média (p= 0,49).

Palavras-chave: Atividade física. Estresse.

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