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**STRESS AND PSHYSICAL
ACTIVITY IN MEXICAN
TEACHERS**

ABSTRACT: This study examined the prevalence of stress and physical activity in teachers of Guanajuato, México. Aiming to identify the main sources of stress in 304 teachers of basic education, it was applied an adaptation of the scale of Travers and Cooper (coefficient .97 Conbrach's Alpha). Physical activity was detected through a questionnaire. Results: Regarding stress level, 7.2% of the teachers indicate severe pressure and 46.7% moderate pressure. Moreover, data reveal that only 11% of the teachers perform regular physical activity. Over half of participants in this project are sedentary and do not apply to the practice of physical activity as a protective action against stress and cardiovascular diseases. There is an urgent need to improve working conditions and implement health intervention programs that benefit teachers and students in schools and communities.

KEY WORDS: Stress, physical activity, teachers.

ESTRESSE E ATIVIDADE FÍSICA EM PROFESSORES MEXICANOS

RESUMO: Este estudo analisou a prevalência de estresse e atividade física em professores de Guanajuato, México. Com o objetivo de identificar as principais fontes de estresse em 304 professores da educação básica, foi aplicada uma adaptação da escala de Travers e Cooper (coeficiente ,97 Alpha Conbrach's). A atividade física foi detectada através de um questionário. Resultados: Em relação ao nível de estresse, 7,2% dos professores indicam uma grande pressão e 46,7% pressão moderada. Além disso, os dados revelam

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que apenas 11% dos professores realizam atividade física regularmente. Mais da metade dos participantes neste projeto são sedentários e não se aplicam à prática da atividade física como uma ação protetora contra o estresse e doenças cardiovasculares. Há uma necessidade urgente de melhorar as condições de trabalho e implementar programas de intervenção em saúde que beneficiem professores e alunos nas escolas e comunidades.

PALAVRAS-CHAVE: Stress, Atividade Física, Professores.

ESTRES Y ACTIVIDAD FÍSICA EN PROFESORES MEXICANOS

RESUMEN: Este estudio examinó la prevalencia de estrés y actividad física en el profesorado de Guanajuato, México. Con objeto de identificar las principales fuentes de estrés en 304 maestros de educación básica, se aplicó una adaptación de la escala de Travers y Cooper (coeficiente de .97 Cronbach's Alpha). La actividad física se detectó mediante un cuestionario. Resultados: El cuanto al nivel de estrés, 7.2% de los profesores indican una fuerte presión y 46,7% presión moderada. Por otra parte, los datos revelan que solamente el 11% de los profesores realizan actividad física regular. Más de la mitad de los participantes en este proyecto son personas sedentarias y no aplican la práctica de actividad física como acción protectora contra el estrés y las enfermedades cardiovasculares. Existe una necesidad urgente de aplicar programas de intervención para la salud que beneficien a profesores y estudiantes en escuelas y comunidades.

PALABRAS CLAVE: Estrés, Actividad física, Profesores.

INTRODUCTION

Research has suggested that teacher stress is a quite complex phenomenon and that high levels of pressure are associated with several factors, including those intrinsic to teaching, individual vulnerability and systemic influences (JARVIS, 2002; KYRIACOU, 2001; TRAVERS & COOPER, 1997).

Working conditions are powerful determinant for all health aspects, both physical and mental. According to the World Health Organization (WHO, 2001), mental health problems and stress-related disorders are the biggest overall cause of early death. Some of the root causes of these circumstances are related to living and working conditions.

Stressors have contributed to the spectrum of illness: anxiety, susceptibility to infections, gastrointestinal disorders, eating problems, irritable bowel syndrome, sleep disturbances, muscular pain, headaches, hypertension, heart disease, and others. Also, sustained work-related stress increases the risk of depressive and, likely, metabolic syndrome (LEVI, 2005; BJÖRNTORP, 2001).

Teaching is considered a highly stressful occupation. International studies have indicated the increase of tensions and pressures in the educational work: ESTEVE (1997); GREENGLASS (2000); LAZARUS (1999); LAMBERT & MCCARTHY (2006). Emotional symptoms of stress in teachers can include anxiety, frustration, insomnia, depressive disorders, and burnout as a result of chronic work stress.

Moreover, physical inactivity is associated with obesity and increased risk for chronic diseases. International reports showed that individuals in active occupations had lower rates of heart disease than individuals in sedentary occupations (BLAIR & MORRIS, 2009).

A few studies concerning to the physical activity practice of teachers question whether teaching is really a sedentary occupation (VAZ & BHARATHI, 2004). It is estimated that the caloric cost of teaching is 1.9 to 2.1 kilocalories per minute, thus it is a light work activity (WILMORE et al., 2007).

In this context, regular physical activity of moderate intensity may reduce the risk factors and preserves health and function (both physical and mental).

The purpose of the study was to explore some working conditions with objective to identify the main sources of stress and physical activity level in the mexican teachers of Guanajuato, México.

METHODS

Participated 304 teachers of public basic education in a cross-sectional sample (95%, $\alpha=.05$): 38% men and 62% women, primary and secondary school teachers in front of their class. Their age ranged between 21 and 65 with average of 39.8 ± 8.6 years old, and 16.3 ± 8.9 worked years.

It was applied an adaptation of the scale of TRAVERS & COOPER (1997). The analysis of internal consistency of the instrument showed a .97 coefficient (Cronbach's Alpha). The method of factorial analysis allowed detecting the distribution of the teaching staff according to the subjective perception of the pressure sources causing stress in the educational labor.

The 75 items of the scale were integrated in four categories grouped into the following factors: Working conditions and development opportunities; relational demands and social work conditions; organization factors of teaching and, social support, conflict and autonomy.

Physical activity was determined using a self-administered

questionnaire to explore the working conditions and teachers' health. This instrument contains 161 variables, one of which includes regular practice of physical exercise: three or more times a week on average. This survey is part of a study prepared by the UNESCO-OREALC (2005). The questionnaire validity can be seen from two viewpoints: content and format, according to the review of expert researchers.

RESULTS

According to the scale, the total frequency of stress was 88.1%: 7.2% of the teachers indicate severe pressure, 46.7% moderate pressure and 34.2% low pressure. There was no significant differences between gender and geographic region (urban and rural areas of Guanajuato).

There are several stress sources for Mexican teachers: problems with students, colleagues, students' parents and supervisors (factor 0.69); work overload, lack of preparation time for class, excessive paperwork, reports, exams (0.72); organizational structure of the school, leadership style, lack of social recognition, low autonomy and exclusion of teachers from decision making (0.59).

The factors intrinsic to teaching that most produce stress: classroom discipline, disruptive behavior and special needs of students; high workload, excessive working hours, low wages and inappropriate roles.

High levels of stress were associated with the low social support, teacher malaise and deterioration of their health.

Regarding physical activity level, more than half of teachers are sedentary people. Only 11% of the total has performed physical activity to generate healthy effects: three or more times a week on average. Negative correlation ($p < 0.05$) was found between stress and physical activity levels.

DISCUSSION

In effect, at the administrative level, additional stressors include organizational factors such as social support, leadership style, institution's atmosphere, context, lack of support and conflicts among colleagues have found be important in affecting stress levels. (JARVIS, 2002; LAMBERT & MCCARTHY, 2006; GREENGLASS 2000; ESTEVE, 2005).

Relationships with students and number of working hours were

two risk factors for mental problems identified in the Chilean educational system (CLARO & BEDREGAL, 2003). Social dysfunction and lack of control over events in the work place were associated with work stress in teachers of the Canary Islands (MATUD et al., 2006). Our findings are consistent with previous studies. Research has suggested that a number of stressors are intrinsic to teaching, workload and long working hours emerged as particular issues. In this context, TRAVERS & COOPER (1997) found that teachers named lack of government support and lack of information about changes. In México there were no previous studies relating to stress in basic education teachers.

Results of this study indicate the importance of deepening in the stress sources and the intervention programs to improve teachers' life quality.

Stressful experiences lead to the initiation of health-damaging behaviors. Health behaviors can, in turn, influence the magnitude of the physiological adjustments that contribute to stress responses. Alcohol consumption, smoking and inadequate diet, all have effects on immune function if changes in these behaviors take place during stressful episodes (STEPTOE, 2000). Moreover, stress is implicated in cardiovascular disease, both as an enhancing factor in the slow development of arteriosclerosis and as a trigger of acute events (HJEMDAHL, 2000). Similarly, regular physical exercise has been shown in some studies to reduce the magnitude of cardiovascular and affective reactions to stress (WELK, 2002). For this reason, sport and exercise practices should consider to counteract the effects of teaching stress.

Physically active lifestyle reduces the overall risk of premature mortality and coronary heart disease, hypertension, colon cancer and diabetes mellitus in particular. Physical activity also seems to relieve symptoms of depression and anxiety, improve the mood, mental health and it is important to cope with stress.

CONCLUSION

In this study, frequency of stress was 88.1%: 7.2% of the teachers indicate severe pressure, 46.7% moderate pressure and 34.2% low pressure. Moreover, only 11% of the teachers perform regular physical activity.

In conclusion, regular practice of physical activity may be the best option for reducing the stress impact on health, although further research is needed on this topic. In the case of teachers, it should be

observed whether physical exercise could reduce the negative effects of stress and improve work motivation.

Physical activity seems to improve health-related life quality by enhancing psychological well-being, cardiovascular health and all aspects of human functionality with a holistic and comprehensive way.

In our community there is an urgent need to acquire available knowledge, implement it in prevention and health promotion strategies, improving working conditions and outcomes of the educational system.

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