56 - LABOR GYMNASTICS: THE PERSPECTIVE OF ITS PRACTICE ON THE REDUCTION OF PHYSICAL FATIGUE

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INTRODUCTION

A hard day of work linked to the lack of physical activity and the passage of time brings along serious problems for the worker's health, such as body aches, stress, lack of willingness to work with the consequent lack of motivation, emotional instability and difficulties in interpersonal relationships among others (CARVALHO, 2001; Lima, 2005; ACHOUR, 1999).

Carvalho (2001) says that work is good and necessary for human beings, but it is known that there is a relationship between work and illness, and this relationship has been ignored for a long time and nowadays, due to the evolution on the requirements imposed by the labor market and the workers increasingly showing symptoms of physical and mental strain, demands preventive and/or mitigation measures that the companies themselves are implementing programs that benefit workers.

Martins and Barreto (2007) reported that physical activity is essential to the human being can healthily live, so the importance of implementing preventive health programs, with Laboral Gymnastics (LG) developed in their own work environment as workers are increasingly engaged in their professional duties leaving aside their physical and mental health. Lima (2008, p. 74) notes that companies do not always have "physical space, compatibility in their schedule and willingness of leaders" to hold the LG, but the initiative to carry out the exercise program have resulted in good returns for the company for all the positive results that the implementation of the program provides.

In this context, this modality has excelled and it has been deployed in enterprises by promoting several benefits for the worker and their daily lives contributing to the relief of the above problems. To enhance the wellbeing of their employees, it ends up winning with productivity, since they have better mood and health (CARVALHO, 2001; MARTINS, 2001).

By presenting a definition of LG, Delbin and Moraes (2005) describe it as a practice consisting of relaxation and heating exercises that prepare the employees for their service, because it can provide them muscles, tendons and ligaments ready for the journey they will face. The authors also refer to the benefits that the company promotes to its workers, when it deploys a program of LG as a way to bring health to its employees, obtaining as a result, fewer absences and absences due to physical injuries.

Regarding the issue, Pinto (2003) confirms that the LG is a way to improve the willing of the worker, assisting in the improvement of relations between employees and consequent revenue for the company. Moreover, Poletto (2002) believes that the Labour Gymnastics seeks for a change in the workers' lifestyle so that they have as routine physical activity, not only in oriented moments in the company's practice of LG exercises, but it also seeks for a practice of physical activity out of the workplace, aiming to promote some improvements on their health.

To Cazón et al., (2007) in accordance with the laws of the worker, the law decree 651/77 and 3214/78, the health education had to be mandatory in the workplace, with programs promoting the health of their workers, in addition to performing routine medical examinations and inspection of work structures, having then healthier employees for the company, a positive way to advertise their concern for their employees.

When the criteria of ergonomics are not taken into account, it can lead to consequences such as employee grievances and even his removal, constant adaptation and redesign of structures and the demands of the workplace are necessary. Both the public and the private sector, there is need for greater investment and adaptations in the workplace for compliance with labor requirements aimed satisfaction by workers (GONÇALVES et al., 2005). Carvalho (2001) adds that the lack of a suitable for the work environment, the worker leads to organic, psychological, disturbances so there is the need for deployment of health programs that enhance their technical and cooperative potential.

In the LG classification, this activity can be performed before, during and after the workers' workday, with sessions of 10 to 15 minutes daily or at least three times a week, helping to prevent and/or recover health by decreasing stress, improving posture defects, preventing muscle fatigue and preventing accidents at work (MARTINS, 2000). For Pinto and Souza (2008), the companies that best adapt to the programs implementation of the LG as health promotion have satisfied employees and satisfied customers accordingly, while Oliveira (2000) emphasizes that in a country like Brazil, the practice of LG is still early, with few companies promoting their deployment failing to promote health benefits to the worker.

Based on the reports of cited authors in the foundation of this study, its effectiveness is justified by the importance nowadays' implementation of a prevention program for health workers in implementing LG and the vision of a new concept of daily physical activity widespread among them, contributing so there is a new perspective in the face of physical exercise out of the work environment. The goal here was to analyze the proposed implementation of the LG in reducing physical fatigue of commerce of Dourados-MS, as a contributing factor in their workday, in order to improve the physical and mental disposition, verifying the reduction ratio of complaints in general by applying test and post-test, brokered by the application of labor exercises.

MATERIALS AND METHODS

This field study was characterized in quantitative evaluation, presentation of results in descriptive form ((GRESSLER, 2003; BARUFFI, 2004; MARCONI; LAKATOS, 2008) aiming to describe, record, analyze and interpret facts or phenomena without manipulation variables or data. Ethical precepts involving research with human beings, were followed to the full, such as submitting the study to the Committee on Ethics in Human Research of the University Center of Greater Dourados-Unigran considering the inclusion and exclusion criteria previously established, obtaining authorization to perform the search according to protocol 172/08. The research was conducted in three large commercial enterprises from downtown Dourados-MS, for the largest number of employees in the performance in commerce. The names of these places are not in the dissemination of results in order to preserve the identity of investigated and given a designation by letters of the alphabet A, B, C, whose sample consisted of 42 commerce totaling the study population, both genders, with ages ranging from 18 to 60.

With the effectuation of data collection, these were tabulated and organized into spreadsheets; then the results

underwent statistical treatment with application of t Wilcoxon test through BioEstat 5.0 program, in order to compare between the two samples (CALLEGRI-JACQUES, 2003) test and retest; the results are presented in tables and figures using percentages, which characterizes the quantitative study, in Results and Discussion below statement.

RESULTS E DISCUSSION

From the workers of the sample, it was found results for the identification data regarding to gender, age, education, prevalence of physical activity and in the affirmative cases, what kind of activities it was performed.

From the results in Table 1 (n = 42) 8 were males, in a total of 19.04% and 34 females totalizing 80.96%; in relation to age, it was found that 16 (38.09%) of workers were aged 18-25 years old, 14 (33.34%) aged between 26-35 years old, six (14.02%) were 36-45, 4 (9.52%) were 46-55 and finally 2 (4.76%) were aged over 56 years old; the term education, 4 (9.52%) are studying or have finished primary school, 32 (76.19%) are enrolled in or have completed high school, and 6 (14.29%) are enrolled in or have completed the higher education; Regarding physical activity, 25 (59.53%) responded affirmatively, while 17 (40.47%) responded negatively; among those who practice physical, 6 (14.29%) activities so some physical activity in gyms, another 6 (14.29%) report that they walk, 2 (4.76%) go running, 1 (2.38 %) practices dance as physical activity, 6 (14.29%) play soccer, 2 (4.76%) do aerobics and 2 (4.76%) practice volleyball; In the smoking item 5 (11.90%) are smokers, since 37 (88.10%) do not have the habit of smoking. Analyzing these results it was noticed that the female gender is predominant in the sample; age group is most concentrated between 18-25 years old, education has focused on primary education and 60% practice some physical activities, and in most of the case they go the gym, go on a walk and play soccer. From the sample, about 90% of questioned ones do not have the habit of smoking.

Table 1: Sampling of Data Identification

Gender	Frequency (%)		
Male	08	(19,04)	
Female	34	(80,96)	
Total	42	(100)	
Age		· · · ·	
18 – 25	16	(38,09)	
26 – 35	14	(33,34)	
36 – 45	06	(14,02)	
4655	04	(9,52)	
beyond 56	02	(4,76)	
Total	42	(100)	
Education		× *	
Fundamental School concluded or Studying	04	(9,52)	
High school concluded or studying	32	(76,19)	
Superior concluded or studying	06	(14,29)	
Total	42	(100)	
Do they practice any physical activity?			
Yes	25	(59,53)	
No	17	(40,47)	
Total	42	(100)	
Affirmative case, what?			
Gym	06	(14,29)	
Walking	06	(14,29)	
Running	02	(4,76)	
Dance	01	(2,38)	
Soccer	06	(14,29)	
Hidrogymnastic	02	(4,76)	
Volleyball	02	(4,76)	
Total	25	(100)	
Do they smoke?			
Yes	05	(11,90)	
No	37	(88,10)	
Total	42	(100)	

In the study by Sousa and Venditti (2004), held in a company providing services within the Refinery Planning Petrobras SA (REPLAN-Paulinia / SP), involving 1847 employees, of both sexes, aged between 26 to 49 showed some health improvement in their employees as the wellbeing resulted from the intervention of the LG. But the study by Rose and Pilatti (2007) has recruited 150 workers in which 20 were selected to participate in the study, with an average age of 20 and 40, all workers from the same sector of assembling a plant in Ponta Grossa/PR the 130 workers remaining who entered the study were from other parts of the company, it was found a great improvement in their mood for post-application work.

Riesco, Kappes e Sandoval (2006) in his study has found a sample of 10 people, including 6 (60%) women and four (40%) of men aged between 19 and 50, and all participants operate a machine called checkout in a supermarket of Goiânia/GO, seeking to investigate the effectiveness of corporate wellness program implemented for these workers was realized with the application if the improved provision for day to day tasks with fewer complaints regarding bodily pain.

Lopes, Nogueira e Martinez (2008) conducted his research with telemarketing operators in Ribeirão Preto/SP, with 317 workers being only 72 men and 245 women. The workers have answered a questionnaire organized by researchers and with the application of LG it was perceived a better willingness to work with the intervention of LG.

Pereira (2003) in their study comprised 169 employees intentionally a supplier of electricity in the city of Natal/RN, 57% of respondents were from the administrative sector and 43% of operational services sectors 61% men and 39% women with the intervention it was possible to realize several benefits such as better mood at work and fewer complaints of body aches. It is noted by the research cited above that this issue has relevance given by its benefits scientifically proven, as report Martins and Barreto (2007) by implementing a program of LG for administrative staff of the Institute of Physics of the University of São Carlos, attending the employees' request, which were made semiannually ratings to guide the direction of the exercises.

In the current study, with the assistance of two months and the application of labor gymnastics it could be felt an improvement in relation to a complaint of pain in the arms which was one of the major complaints on the application of the test. The results obtained between the test and the post-test were undergone to Wilcoxon statistic test lying benchmark for the value of p = 0.001, demonstrating some statistically significant result for the sample (Figure 1).

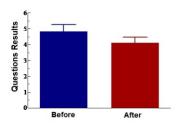


Figure 1: Comparative results for the question "I feel tired or some uncomfortable, most concentrated in the arms" performed before and after the LG (p = 0.0001 - Wilcoxon test).

Souza and Venditti (2004) report that in five months of applying an LG program there was an improvement by approximately one percentage point on the workers' aches, showing the effectiveness of the program. Riesco et al., (2006) have report that with the intervention compensatory exercises of labor in a group of workers, the anatomical regions such as arms and forearms, which had previously incidence of discomfort with pain, after the intervention showed an improvement of 18%.

Cañete (2001) mentions that a third part of people feel pain and works with pain being a significant factor and that brings suffering to the people, while the same adds that the pain is a signal that something is not going well and that is a threat to the structure and functioning of the body. Another factor of claim detected in the test developed on this study was focused on the issue of the neck fatigue, resulting in an improvement of post-application of LG investigation. Comparing these test and post-test results for this issue, undergone the results of the statistical test of Wilcoxon, lying significant for p = 0.05 (Figure 2).

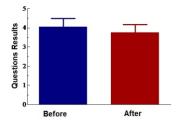


Figure 2: Results of the comparative question "I feel tired or uncomfortable, most concentrated in the neck" between before and after the LG (p = 0.05 - Wilcoxon test).

Poletto (2002) states that there was an improvement in the neck pain and that these were significant in comparisons of their data and the improvement can be noted between the third and fourth weeks of the application of LG and as to the timing for obtaining the effects of exercise in the human body, Barbanti (1996) reports that the change brought about by physical activity occurs around 4-12 weeks after it began.

Pinto (2003) in his survey on dentists showed that the LG program was effective in minimizing pain arising in the neck and improves the well-being of its members. Regarding the fact, Cañete (2001) reports that an article in the Journal Time Zero found explanations for psychosomatic diseases, in which there is manifestation of diseases arising from high levels of stress. Some people experience headaches, stomachaches and other tighten the neck region.

Investigating the question "if you have sought for medical attention due to muscle pain manifested," as it was a factor of complaints in the test application, the study showed significant improvement with the intervention, since the reports were of decreased demand medical believing that there has been a decrease in body pain. The results of this question were submitted to the Wilcoxon statistical test to test and post-test lying p-value = 0.05, demonstrating significant results for this query (Figure 3).

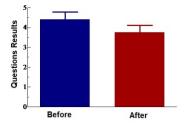


Figure 3: Results of the comparative question "Seeking medical care due to muscle soreness" between before and after the LG (p = 0.05 - Wilcoxon test).

Sousa and Venditti (2004) show in their research that during the implementation of the Gymnastics program there was a decrease in outpatient visits, through the information obtained by the company, TECCHINTSA, which was the target of the application. Lopes et al., (2008) state that for shoulders, elbows and wrists, 71% of participants in their study had sought for medical assistance during the intervention and there was an improvement of 39% in cases regarding medical demand due to decreased pain in the mentioned places. Again, Sousa and Venditti (2004) highlight the decrease in absenteeism, which is the absence in working with submission of medical certificates, a factor that greatly diminished during their intervention with the labor gymnastic program.

Pereira (2003) starting from his analyzes in his field of study, carried that with the implementation of a program of LG achieved a significant improvement in the participants' life quality, that was reported by themselves such as the improvement in their mood and physical well-being, thus improving their health. The study Riesco, Kappes e Sandoval (2006) also raises reports of workers who started a new lifestyle after implantation of Gymnastics program going to have new habits such as the practice of physical activities not only a routine but as an aid to their health.

FINAL CONSIDERATIONS

According to the study the aim was sought to examine the application of Gymnastics in reducing physical fatigue of the employees from the commerce of Dourados-MS as a contributing factor in their workday, resulting in an improvement in manifestations of pain reported during the test, namely: the regions of the arms and neck, also finding significant improvement in decreasing the demand for medical aid during the two-month intervention.

It was concluded that there was improvement in willingness to perform the tasks in the workweek with fewer complaints, confirming the hypothesis for the study, who believed in the benefits of Gymnastics by the reasoning of the literature used in the Scoping Study. The gym work has been seen in the company in order to minimize the problems acquired at work due to the demands involved there where the physical and mental exhaustion are caused by stress. It is hoped therefore that the study will contribute to further research in the area based on the improvement of physical wellbeing of workers through this practice, thus contributing to creating healthy habits in practice other physical activities out of the work environment.

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LABOR GYMNASTICS: THE PERSPECTIVE OF ITS PRACTICE ON THE REDUCTION OF PHYSICAL FATIGUE ABSTRACT

The aim of this study was to investigate the effects of the Gymnastics through intervention with application of stretching exercises and relaxation to the commerce of Dourados-MS, in order to help reduce the physical fatigue due to long hours in a workday. The sample consisted of 42 people, both gender, aged between 18 and 60, with the application of test and retest, interspersed with intervention, with 15 minutes twice a week at the beginning of the workday, which characterizes as a preparatory Gymnastics. With the intervention, it was found some improvement for complaints of pain in the arms and neck region and significant reduction in medical visits during the intervention, showing the benefits with the implementation of the

Gymnastics program among the sample. It could be concluded that, with the program organized and implemented according to the workers' needs there was reduction in the physical fatigue and also the improvement of the willingness to perform the tasks in the workweek with fewer complaints of pain.

KEYWORDS: Labor Gymnastics. Stretching. Physical Exercise and Health.

TRAVAIL DE GYMNASTIQUE: LES PERSPECTIVES DE LA PRATIQUE DE RÉDUTION DE LA FATIQUE PHYSIQUE

RÉSUMÉ

Le but de cette étude a été d'étudier les effets de la gymnastique grâce à l'intervention avec l'application d'exercices d'étirement et de relaxation au commerce de Dourados-MS, afin d'aider à réduire la fatigue physique à de longues heures dans sa journée de travail. L'échantillon a été composé de 42 sujets des deux sexes, âgés entre 18 et 60 ans, avec l'application de test et de retest, entrecoupées par intervention, avec 15 minutes deux fois par semaine au début de la journée de travail, qui caractérise comme une gymnastique préparatoire. Avec l'intervention, il a été constaté une amélioration de plaintes de la douleur dans les bras et de la région cervicale et une réduction significative du nombre de visites médicales au cours de l'intervention, ce qui démontre les avantages avec la implantation du programme de gymnastique entre l'échantillon. Il a été conclu que, avec le programme organisé et appliqué selon les besoins des travailleurs, il y a eu une réduction de la fatigue physique et une améliore de la volonté d'effectuer les tâches de la semaine de travail avec moins de plaintes de douleur.

MOTS-CLÉS: Exercices de travail. Allongement. Exercice et santé.

GIMNÁSTICA DE TRABAJO: LAS PERSPECTIVAS DE LA PRÁCTICA EN LA REDUCCIÓN DE LA FATIGA

RESUMEN

FISICA

El objetivo de este estudio fue investigar los efectos de la gimnástica a través de la intervención con la aplicación de ejercicios de estiramiento y relajación para el comercio de Dourados-MS con el fin de ayudar a reducir la fatiga física debido a las largas horas en su jornada laboral. La muestra fue compuesta por 42 sujetos de ambos sexos, con edades comprendidas entre 18 y 60 años, con la aplicación de la prueba y vuelva a probar, intercalados con la intervención, con 15 minutos dos veces a la semana al principio de la jornada de trabajo, que caracteriza la gimnástica como preparatoria. Con la intervención, se constató una mejora de las quejas de dolor en los brazos y en la región cervical y la reducción significativa de las visitas médicas durante la intervención, lo que demuestra los beneficios con la aplicación del programa de gimnástica entre la muestra. Se concluyó que, con el programa organizado e implementado de acuerdo con las necesidades de los trabajadores, la reducción de la fatiga física y mejora la disposición a realizar las tareas de la semana de trabajo con un menor número de quejas de dolor.

PALABRAS CLAVE: Ejercicios de trabajos. Elongación. Ejercicio y Salud.

GINÁSTICA LABORAL: AS PERSPECTIVAS DA SUA PRÁTICA NA REDUÇÃO DO CANSAÇO FÍSICO RESUMO

O objetivo deste estudo foi investigar os efeitos da Ginástica Laboral, mediante intervenção com aplicação de exercícios de alongamento e relaxamento para os comerciários de Dourados-MS, com o intuito de auxiliar na redução do cansaço físico devido às longas horas em sua jornada de trabalho. A amostra compôs-se de 42 sujeitos, de ambos os sexos, com idades entre 18 e 60 anos, com aplicação de teste e reteste, intercalados por intervenção, com 15 minutos, duas vezes na semana, no início da jornada de trabalho, que caracteriza a Ginástica Laboral como preparatória. Com a intervenção, encontrouse melhora para as queixas de dores nos braços e na região cervical e significante redução nas consultas médicas no período de intervenção, demonstrando os benefícios com a implantação do programa de Ginástica Laboral entre a amostra. Concluiu-se que, com o programa organizado e aplicado de acordo com as necessidades dos trabalhadores, houve redução no cansaço físico e melhora da disposição para a realização das tarefas na jornada de trabalho com menos queixas de dores.

PALAVRAS-CHAVE: Exercícios Laborativos. Alongamento. Exercício e Saúde.