2 - EFFECT OF LABOR GYMNASTICS TO DIMINISH THE FIRE BRIGADE PAIN THAT ARE DOING SERGEANT TRAINING COURSE

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1.INTRODUCTION

The question problem to be answered in this question: Does the labor gymnastics program application diminish the fire brigade pain during sergeant training course? The results are well known in people that work for public or private enterprises having a daily routine work, but, how does it work in fire brigade who are physically and mentally under a strong pressure due to a sergeant training claims about the increase pain due the activities carried out in the course? It's in this time the soldiers are taught and trained to react in unexpected situations, such as emergency and danger, they have to be alert all the time, it's part of the brigade's 10b. there are varieties of activities such as, putting a fire out in a forest, in the city, in a car or in houses, searching for lost people in the jungle, saving people in the water, assist somebody before going to the hospital or working as lifeguard [1,2,3].

Knowing these factors, this work is justified by the need to investigate the effects caused by a gymnastics program applied to the public en such working conditions, and to know that even with such a worsening of physical exhaustion will have good results in practitioners of gymnastics.

For we know of the benefits achieved with the application of a gymnastics program in science, by presenting excellent results and is characterized by a practical exercise oriented within the work environment, lasting 10 to 15 minutes, aiming to prevention of bodily pain and poor posture, increasing the willingness to work and promoting a greater integration among employees. In addition to these benefits is also active in reducing stress and muscle tension, gain flexibility in the activation of the circulation, promoting individual wellbeing in body awareness, and the decrease in certificates of absenteeism and increased productivity [4,5,6,14].

The gym wok can still be classified according Zilli (2002) as this time of application:

Preparatory or Heating: held at the beginning of the working day, in order to enable the body physiologically, acting in the muscles that will be required during office hours, preparing for physical labor, improving the level of concentration, mood, strength and endurance, bringing body temperature, oxygenating the tissues and increasing heart rate. Includes exercises coordination, balance, concentration, flexibility and endurance.

Compensatory: performed during working hours, a break for the specific gym work, with the purpose to compensate for muscle strains acquired by abuse or mishandling oh the tendons, strengthening the muscles used less during the workday and stretching in greatest demand, improve circulation with the removal of metabolic waste, modify and correct working postures, restores glycogen stores and prevent muscle fatigue. They are also performed breathing exercises and posture.

Relaxation: held at the end of the workday, aims to reduce stress, relive tension, relax muscles, and improve oxygenation. It's provided with automassagens, breathing exercises, stretching and flexibility.

Give the context, the aim of this paper is to identify and compare the pain complaints before and after application of a gymnastics program for pain complaints before and after application of a gymnastics program for firefighters ongoing training sergeant (CFS).

2.MATERIALS AND METHODS

This research is characterized as an experimental, non-randomized, longitudinal, uncontrolled and contemporary approach and quantitative data analysis. It was developed in Boa Vista/RR, the seat of the Headquarters of the General Command of the Fire Brigade of the State of Roraima, with the participation of 32 military Sergeant Training Course (CFS) during his last three months, running from September to November 2010, by believing that they would have possibly affected by pain complaints caused or intensified by the specific activities carried out in previous months.

This study was conducted after approval of the Ethics and Research with Human Beings of the Evangelical School of Paraná. Had the inclusion criteria, which the military agreed to participate in the survey voluntarily, who were enrolled in training and who signed the informed consent form. Once completed these criteria, they were informed of their participation and involvement, being aware that non-cooperative, non-regulars to the gymnastics program and those who by chance were to be disconnected from the CFS would be removed from the study because they are these exclusion criteria.

After selecting the sample, which composed the entire class in progress, data collection instruments used were an educational lecture to raise awareness of the initial questionnaire Corlett participants before and after the gymnastics program.

This questionnaire is a discomfort scale of Corlett (1995), used by a body map divided into segments to specify the locations of discomfort experienced by those involved in tasks that are being investigated. This process is designed to provide data for future comparisons, mapping the development of perceived discomfort among those surveyed. It is applied by marking, subjectively, the degree of discomfort perceived in each segment, recording the location or region in which the body feels any pain or discomfort [8].

The gymnastics program adopted was the preparatory work carried out early programming of CFS in the morning for ten minutes three times per week, applied by the same physiotherapist. The stretching exercises were performed, coordination, breathing and dynamic play involving all joints, because the participants use all body regions intensively during their activities and not be any more specific than if overloaded, and several complaints lodged painful identified in the questionnaire Corlett applied before the start of the program.

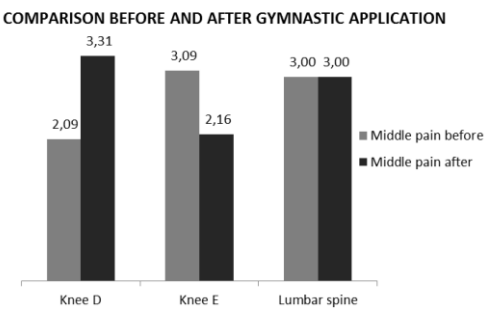
At the beginning of each session, Mondays and Wednesdays, stretching exercises were made overall in the lower limbs and upper trunk, lasting 30 seconds on each muscle group after it was done rhythmically and with a more upbeat song coordination exercises. Already Fridays in the gymnastics began with breathing exercises and ended with dynamic games. And the other days of the week the participants were encouraged by the therapist, through a poster on , proposed

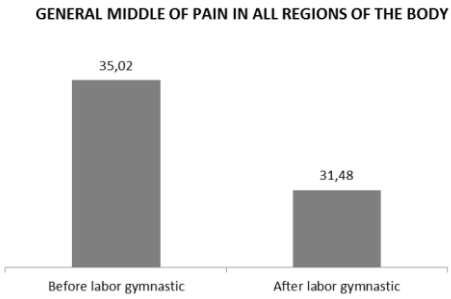
As a measure of assessment to know the results, the information was extracted from the questionnaire Corlett applied at the beginning end of the program, analyzed quantitatively using statistics, graphs and charts, by arithmetic.

3.RESULTS

From the analysis of data from the questionnaire Corlett, who evaluated all body regions, the painful symptoms skeletal muscle was more prevalent in three regions in the firefights ongoing training sergeant, and from this identification was done before and a correlation after application of the gymnastics program.

The indices were pre gymnastics: average of 2,09 in his right knee, left knee 3,09 and 3,00 in the lumbar spine, already after the implementation of the program the average rose to 3,31 right knee, the left knee decreased to 2,16 and the lumbar spine remained at 3,00. But when analyzed as whole, with the total of the average of all body regions evaluated gymnastics proved effective in reducing painful picture, because initially the figure was 35,02 and after months of the program applied to military CFS, this value fell to 31,48.





Among study participants, nine were female and twenty male. There were no shortages or delays in gymnastics classes for any of the participants, and in the course of the lessons the military reported informally that they were satisfied with the program, because it brought improved pain and a greater willingness to perform their activities of daily living and professional. Noting that at the beginning, participants were shy to perform the exercises due to the nature of this military career firefighter, a working environment and governed by very strict discipline and hierarchy, but during classes this shyness and inhibition to perform certain exercises were becoming extinct, so that end everyone was thoroughly familiar with the exercises of gymnastics.

4.DISCUSSION

These results indicate high prevalence of muscle symptoms in firefighters who were taking course SGT. But the regions of the knee and lumbar spine had higher pain, and so these regions were used as a parameter in this study to evaluate the effectiveness of exercise in reducing labor pain.

These data do not corroborate with other studies that found a prevalence of symptoms in upper extremities and spine, such as Ferracini (2010) assessed the presence of pain complaints and the effects of a gymnastics program for employees in the administrative sector of a public hospital. O Trelba et. al. (2004) with officials of a hypermarket. And Carvalho et. al. (2006) with teachers.

Facts are explained by this that these are the regions most affected by work-related musculoskeletal disorders (DORT), nomenclature is used for conditions that may affects muscles, tendons, synovium, ligaments, fascia and nerves, either alone or combined with or without degeneration of tissues, which mainly affect the upper limbs, neck and scapular region, where the target audience are the employees, because these diseases are of occupational origin, and the main aggravation factors for its emergence are: strength, speed and repetition [7].

Among the firefighters, few studies were found with this population, the de Silva (2011), although it did not implement a program of gymnastics, specifically evaluated the prevalence of low back pain in rescuers rescue Fire Brigade of Alagoas and found that the high incidence of symptoms is probably due to the movements they played, which are numerous surveys of the board with the victim and heavy equipment in places of difficult access. Given this similar to that found in this study, back pain ranks second among the major pain complaints in CFS firefighters during the state of Roraima. Zamariola (2011) also found that back pain is more frequent among employees of the production line drug of Ribeirão Preto/SP.

These data demonstrate the importance of the lumbar region for work requiring high physical wear and tear, as well as long stays in the same position just because of the region to sustain the body that has specific muscles that suffer when used inappropriately in wrong postures and lifting weights especially [12,13].

On the painful knee disorders observed in this study found no studies that have found this region as one of the most affected. But there are many articles that lists the many benefits achieved with the application of gymnastics. Like for example, Santos (2007) found that improvement in pain, quality of life in relation to work, interpersonal relationships and mood state in general service staff at the University of Paraná. And though these articles are carried out with different work activities, all have the same common goal, to apply a program of gymnastics group to individual workers and see what effects it provides.

5.CONCLUSION

Although this survey had been conducted in a short period of time, and during a CFS, where the physical and mental is high to extreme, it is concluded that the gymnastics program was effective, since there was a reduction in the participants global pain.

It is also concluded that it is important that continuity of the program in this specific population, not only during training courses, but also in their day-to-day work activities, it is an effective preventive and therapeutic tool in health. It is also suggested that more research is done with more time on specific groups such as firefighters, rescue or trim in firefighting and having a control group to best proceed with this line of research.

6.IBLIOGRAPHIC REFERENCES

1.NATIVIDADE Michelle Regina. Vidas em risco: a identidade profissional dos bombeiros militares. **Rev. Psicologia & Sociedade,** Santa Catarina, v. 21, n. 3, p. 411-420, 2009.

2.MURTA, Sheila Giardini; TRÓCCOLI, Bartholomeu Tôrres. Stress ocupacional em bombeiros: efeitos de intervenção baseada em avaliação de necessidades. **Estudos de Psicologia,** v. 24, n. 1, p. 41-51, jan-mar. 2007.

3.NATIVIDADE Michelle Regina; BRASIL, Vanderlei. A escolha profissional entre os bombeiros militares. **Rev. Bras de Orientação Profissional**, Santa Catarina v. 7, n. 1, p. 37-43, 2006.

4.RESENDE, Márcia Calamarco Ferreira et al. Efeitos da ginástica laboral em funcionários de teleatendimento. **Rev. Acta Fisiatr,** Minas gerais, v. 14, n. 1, p. 25-31, out. 2007.

5.OLIVEIRA, João Ricardo Gabriel. A importância da ginástica laboral na prevenção de doenças ocupacionais. **Rev. de Educação Física,** Mato Grosso, v. 139, n. 1, p. 40-49, dez. 2007.

6.SILVA, Ave Regina de Azevedo. **A Eficácia da Ginástica Laboral na Saúde do Trabalhador.** Maringá: IFM, 2010. 12f. Trabalho de conclusão de curso (Pós em Saúde do Trabalhador) – Instituto Eficaz de Maringá, Paraná, 2010.

7.ZILLI, Cynthia M. **Manual de cinesioterapia / ginastica laboral, uma tarefa interdisciplinar com ação multiprofissional.** 1 ed. Curitiba: Lovise, 2002.

8.CORLETT, Nigel. The Evaluation of Postura and its Effects. In: Wilson, John R. & Corlett, E. Nigel. Evaluation of human work – a pratical ergonomics methodogogy. Londres: Taylor 7 Francis, 1995.

9.SILVA Jordan Bueno; SALATE Ana Claúdia Bonome. A ginástica laboral como forma de promoção de saúde. **Rev. Fisioterapia Especialidades,** São Paulo, v. 1, n.1, p. 15-19, dez. 2007.

10.TRELHA, Celita Salmaso et al. Prevalência de sintomatologia músculo esquelética em funcionários de supermercado em Londrina/PR. **Rev. Fisioterapia em Movimento,** Curitiba, v.17, n. 4, p. 59-64, out.-dez. 2004.

11.CARVALHO, Ana Júlia Frazão Panzeri de; ALEXANDRE, Neusa Maria Costa. Qualidade de vida e sintomas osteomusculares relacionados ao trabalho em professores do ensino fundamental. **Rev. Fisioterapia Brasil,** v.7, n. 4, p. 279-284, jul.-ago. 2006.

12.AUGUSTO V.G. et al. Um olhar sobre as LER/DORT no contexto clínico do fisioterapeuta. **Rev. Bras Fisioter**, São Carlos, v.12, n.1, p. 49-56, jan.-fev. 2008.

13.PICOLOTO Daiana; SILVEIRA Eliana. Prevalência de sintomas osteomusculares e fatores associados em trabalhadores de uma indústria metalúrgica de canoas - RS. **Ciência & Saúde Coletiva**, Rio de Janeiro, v.13, n. 2, p. 507-516, 2008.

14.MACIEL, Regina Heloisa et al. Quem se beneficia dos programas de ginástica laboral? **Cadernos de psicologia Social do Trabalho,** Ceará, v. 8, n.1, p. 71-86. 2005.

15.SANTOS, Andréia Fuentes do. et. al. Benefícios da ginástica laboral na prevenção dos distúrbios osteomusculares relacionados ao trabalho. **Arq. Ciênc. Saúde Unipar,** Umuarama, v.11, n. 2, p. 107-113, maio/ago. 2007

16.CARVALHO, Catharina Manganelli Coimbra; MORENO, Cláudia Roberta de Castro. Efeitos de um programa de ginástica laboral na saúde de mineradores. **Cad. Saúde Colet**, Rio de Janeiro, v. 15, n. 1, p. 117-130, 2007.

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EFFECT OF LABOR GYMNASTICS TO DIMINISH THE FIRE BRIGADE PAIN THAT ARE DOING SERGEANT TRAINING COURSE

SUMMARY

The activities carried out bj fire brigade are dangerous and, so they can get sick [16]. What can we expect of a hard training season, which wake them physically and mentally too tired? On the other hand, labor gymnastics is an activity of physical exercises developed at workplace and one of its purpose is promoting health and preventing physical pain [17]. So, the aim of this paper is identifying and determing pain symptoms before and after applying a labor gymnastics program for fire brigade sergeant training course. It's an experimental study with quantitative approach regarding data analysis and 32 soldiers participated in it. It was used a methodology with an educational speech, the application of corlett's questionnaire and labor gymnastics form, this search was done during three months, for 10 minutes, three times a week. As result was possible to notice and concluding that the knees and spine are the most affected parts of the body and labor gymnastics proved to be good in diminishing all the pain. It was presented to institution as a preventive measure and its application was asked as part of other course routine.

KEY WORDS: labor gymnastics, fire brigade, pain, prevention.

L' EFFICACITÉ DE LA GYMNASTIQUE DANS LA RÉDUCTION DE LA DOULEUR DES POMPIERS EN COURS DE FORMATION POUR LE SERGENT

RÉSUMÉ

Les activités réalisées par les pompiers sont dangereuses et, les rendant donc vulnérables aux problémes de leur santé [16]. Que peut-on attendre d'une période de formation íntense, qui mène ces militaires à l'épuisement physique et mental? D'autre part, la gymnastique de bureau est une pratique orientée d'exercises physiques dans le liev de travail qui vise la promotion de la santé et la prévention de la douleur corporeile [17]. Ainsi, cet article vise à identifier et à quantifier les symptômes de la douler avant et après l'application d'un programme de gymnastique du bureau pour les pompiers en cours de formation pour le sergent. Cette recherche se caractérisé par une étude expérimentale d'une approche quantitative par rapport à l'analyse des données. Elle a "corpus" de 32 soldars. La méthodologie utilisée a été premiérement l'application du questionaire de Corlett et le protocole de gymnastique de bureau, d'une durée de trois mois, pendant dix minutes, trois fois par semaine. Comme résultats, il a été possible de vérifier et de conclure que les genoux et le dos sont les zones les plus impliquées et le travail est efficace dans la gymnastique du bureau pour la réduction de la douleur en général. Cette recharche a été presentée à l'instituition comme une méthode préventive et on a suggéré son application comme un élément pratique des autres cours de cette institution.

MOST CLÉS: gymnastique du travail, pompiers, douleur, prévention

LA EFICACIA DE LA GIMNASIA LABORAL EN LA REDUCCIÓN DEL DOLOR DE LOS BOMBEROS EN EL CURSO DE FORMACIÓN PARA SARGENTO

SUMARIO

Las actividades realizadas por los bomberos son peligrosas y por lo tanto ellos son vulnerables a problemas de salud [16]. Que debemos esperar de un período de entrenamiento intenso que causa a estos militares agotamiento físico y mental? Por otro lado, la gimnasia es una práctica de ejercicios físicos orientado dentro del ambiente de trabajo que tiene como objetivo promover la salud y la prevención de dolores corporales [17]. Por lo tanto, este trabajo tiene como objetivo identificar y cuantificar

los síntomas de dolor, antes y después de la aplicación de un programa de gimnasia laboral para los bomberos en curso de formación de sargento. Se caracteriza por un estudio experimental de un enfoque cuantitativo y el análisis de los datos de una muestra de 32 soldados. El método utilizado fue la conferencia de educación, la aplicación del cuestionario de Corlett y el protocolo de gimnasia laboral, con duración de tres meses, durante diez minutos, tres veces por semana. Como resultado de ello fue posible verificar y concluir que las rodillas y las espaldas son las zonas más afectadas y la gimnasia laboral es eficaz en la reducción del dolor en general. Se presenta a la institución como un método preventivo y se recomienda su aplicación como parte de la rutina de otros cursos.

PALABRAS LLAVE: gimnasia laboral, bomberos, dolor, prevención.

A EFICÁCIA DA GINÁSTICA LABORAL NA REDUÇÃO DO QUADRO ÁLGICO DOS BOMBEIROS EM CURSO DE FORMAÇÃO DE SARGENTO

RESUMO

As atividades desempenhadas pelos bombeiros são de risco e, portanto estes estão vulneráveis à agravos em sua saúde [16]. O que se esperar de um período intenso de treinamento, que leva esses militares a exaustão física e mental? Por outro lado, a ginástica laboral é uma prática orientada de exercícios físicos dentro do ambiente de trabalho que visa a promoção de saúde e a prevenção de dores corporais, dentre outros benefícios [17]. Assim este artigo tem como objetivo identificar e quantificar os sintomas de dor pré e pós aplicação de um programa de ginástica laboral para os bombeiros em curso de formação de sargento. Caracteriza-se por ser um estudo experimental de abordagem quantitativa quanto a análise dos dados e possui uma amostra de 32 militares. O método utilizado foi uma palestra educativa inicial, a aplicação do questionário de Corlett e do protocolo de ginástica laboral, com duração de três meses, por dez minutos, três vezes por semana. Como resultado foi possível verificar e concluir que os joelhos e a coluna lombar são as áreas mais afetadas e que a ginástica laboral se mostrou eficaz na redução do quadro álgico global. Sendo apresentada a instituição como um método preventivo e sugestionada sua aplicação como parte da rotina dos demais cursos.

PALAVRAS-CHAVE: ginástica laboral, bombeiros, dor, prevenção.