129 - ERGONOMICS AND HANDLING OF LOADS IN A CEASA IN SOUTH OF BRAZIL

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INTRODUCTION

According to Iida (2005) the term ergonomics, can be divided into two words, Ergon, that Greece has the meaning of work, and nomos, meaning laws, and in some countries like the United States, the study of ergonomics is known as the study of "Human Factors". And, according to ABERGO (Brazilian Ergonomics Association), Ergonomics works with the interactions between humans and other objects / systems in order to optimize human well-being and overall system performance.

However Ergonomics which according to Regulatory Standard NR-17 from the Ministry of Labour and Employment aims to adapt the psychophysiological conditions of labor to man (BRAZIL, 2014th), is still a young science that has much to grow and offer even more in environments work where the work is continuous, as in assembly lines, or in environments that are continuous and strenuous as the transport and loading of materials, for example in Central Supply (CEASA). According to Barbosa (2000), in services like these, with repetitive and forceful movements, rhythms pulled in, the postures are not always the most suitable for the worker's body.

It is noteworthy that the ergonomics within this context, can be of great importance since it presents ways to improve these jobs because it proposes to adapt the workplace to the employee, making it more pleasant, safe, humane, comfortable and perhaps efficient. And this adaptation involves the use of correct postures and setting limits for lifting weights. According Timossi (2009) provide good working conditions for workers is important, so not only for the reasons mentioned above, but also provide employees a better quality of life.

However, according to Iida (2005) one of the greatest difficulties in analyzing and correcting jobs and bad posture at work is the identification and registration of the same, and the normal to work postures are sitting, standing and lying. Intermediate semi sitting postures as they are sometimes very interesting to be adopted.

Is observed as the manual transport of loads, that is when performed incorrectly, can lead to physical overload that begins with symptoms of fatigue, and as this increases, there is a decrease not only the pace of work, but also attention, quick thinking, muscle pain, unexplained fatigue, insomnia, stealth breaks, which causes the worker has greater probability to make mistakes and have accidents (SILVA, 1999).

As for weight lifting, Merino (1996) and Pellenz (2005) agree that in Brazil the Consolidation of Labor Laws - CLT presents some problems regarding the regulation of handling and cargo handling activities manually, not saying clearly what activities must comply with the maximum weight of 60kg. And also comment that this weight is very high near the ergonomic standards, creating the real possibility of severe osteo-muscular injuries. According to Silva (2009) International Labour Organization recommends to activities where the weight exceeds 55 pounds, they should create forms as soon as possible to reduce this figure.

Thus in this work we analyzed the ergonomic issue within a CEASA (Central Supply) in southern Brazil, raising the postures adopted by workers and the main complaints of the same related muscle pain they feel over their working hours .

METHODOLOGY

In terms of its objectives, the methodology adopted here is classified as exploratory and descriptive. Regarding how to approach the problem it can be characterized as qualitative.

Considering the technical procedures, the research is characterized as a case study, based on questionnaires to examine the issue at Ergonomic work boots CEASA charges.

Integrate study population as officials responsible for transportation of cargoes between stores and trucks and also responsible for loading these vehicles in CEASA. The sample for this research consisted of eleven (11) employees, all aged less than eighteen (18) years.

The physical space of CEASA has about 45 thousand square meters, and the circulation occurs through corridors and ramps, some of them unstable. The environment has natural and artificial lighting, and noise levels appeared to be below 85 dB (A) NR-15 recommended by the Ministry of Labour and Employment.

As instruments for data collection, first used a general questionnaire to employees containing information on the time function, weight, height, length of service, workload, etc. Other questions were raised to qualify the job, such as whether it has paused to rest, gym work, what the posture in performing the activities, if the operator feels pain, if it performs repetitive movements.

Then it was presented to respondents Diagram Painful Areas (CORLETT, MANENICA, apud Itiro, 2005), asking whether the employees that would point in the diagram the regions where they felt discomfort or pain during work activities, and beyond. The questionnaires were completed anonymously and were used in the ergonomic analysis of the job. Figure 1 shows the diagram used.

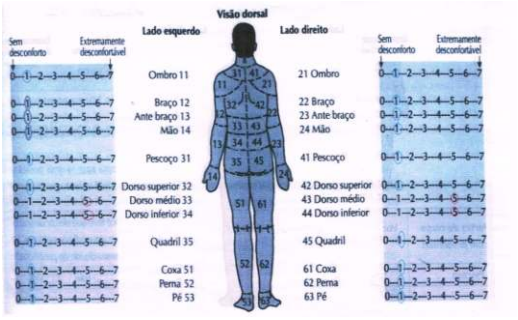


Figure 1 - Diagram Painful Areas. Source: CORLETT and MANENICA cited Itiro (2005)

Note in Figure 1 that the pain can be identified by the worker measured from 0 to 7 for each part of the body, and means 7 "extremely uncomfortable".

3. RESULTS AND DISCUSSION

3.1 Results of interviews and visits

The interviews showed that all chargers are male and usually worked more than eight hours a day, in heavy duty boxes to stack and pull carts.

Most of the workers were young, possibly by the very requirement and wear this job.

Most workers complained of excessive weight carrying, but when asked the reason said it was necessary.

It was also observed that the same had no training and / or education as the ideal postures to lift boxes and carts to transport.

The wheelbarrow porters had used poles wooden frame and rectangular, with a capacity of about 14 plastic boxes of (60x40) cm. Each box can hold up to 30 kg, so the cargo could easily total average of 400 kg per trolley.

Figure 2 shows a worker within the CEASA lifting a cart with 14 boxes during your workday.



Figure 2 - Typical Charger within the CEASA making cargo transport. Source: The authors (2014).

Analyzing the Figure 2 we note that the charge besides being too high may cause tipping of the cart, which can cause accidents. It is also observed that the position of the employee to lift the cart is not correct, because it is curving your spine, which certainly will lead to back pain. Furthermore, it is clear that the weight is transported beyond supported by the body of the individual.

It is recommended that in this case, for health workers can go through training to aware them on correct postures that can be adopted in this work and to set limits of boxes that can be transported by cart, perhaps applying warnings for those that break those limits.

3.2 Results of the application of painful regions diagram

The results obtained with the application of painful regions of the diagram (Figure 1) for each of the 11 workers CEASA, who performed loading and transport carts, showed that the area of the most painful body throughout the workday was to thighs (codes 51 and 61 of Figure 1), followed by the lower or legs (codes 52 and 62) members, and the back of the staff (codes 33 and 43). For all these points, pain intensity were identified as 5-7 (extremely uncomfortable).

A region that is not in the diagram, more than was prescribed as pain intensity 7 for all respondents was the knees.

It is noteworthy that other areas were mentioned, but not with such frequency and intensity of pain, as the arms (codes 22 and 23), forearms (codes 13:23), shoulders (codes 11:21) and hands (codes 14 and 24).

These results were at first expected, since the image of Figure 2, where one can see the physical toll that the job because each employee. Pull carts with 400kg (or more) beyond the physical effort done in an uncontrolled manner to load it and unload it are largely responsible for the pain in employees.

4. CONCLUSION

Was concluded that the ergonomic issue within the supply structures should be further studied by experts so you can create workouts that can raise workers' awareness of the limits of his body and the handling of cargo and so you can show them how to do the whole drive necessary for your day job correctly, ie, ergonomic, so that the employee can develop better postures during work, so as to lift the loads to transport them, because the current situation is very complicated with respect health thereof.

It is suggested that employees receive training teaching them to elongate, or even creating any gym work for them so they can do their jobs already heated and can go with relaxed muscles already, so that may have a good rest at home.

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ERGONOMICS AND HANDLING OF LOADS IN A CEASA IN SOUTH OF BRAZIL

ABSTRACT

The incorrect handling of heavy loads with the own body is the generating cause of two main kinds of pains in workers around the world, but specifically backache or low back pain, which holds the second biggest amount of people suffering from it, being the first the headache. In this paper, the ergonomics issue inside a CEASA (Supply Center) in the South of Brazil was analyzed, collecting attitudes adopted by workers, such as their main complaints related to muscular pains, caused by their workdays. For this, several visits to CEASA were necessary, in order to keep up with the routine of the workers, and a questionnaire was applied with ergonomics focus, to know more about workers involved with handling and moving of loads. The outcomes of the visits showed that these workers move and lift much more load than what it would be coherent during the work expedient, as well as it showed that the main complaints of the workers were about backache and leg pain, which can be generated not only by inadequate stance while moving and lifting products, but also by the huge load handled. It follows that the ergonomics situation analyzed inside CEASA is fully unfavorable to the interviewed worker's health, and still awareness behaviors about good ergonomics practices (such as stretching) are vital for them to work in a less painful way.

KEYWORDS: Ergonomics, CEASA, Health, Stance, Loads.

ERGONOMIE ET MANUTENTION DU FRET DANS UN CEASA AU SUD DU BRÉSIL

RÉSUMÉ

La manipulation et le transport de charges lourdes avec son propre corps sont deux des principales causes de la douleur sur les travailleurs du monde entier, mais en particulier les maux de dos ou lombalgie, qui est le deuxième plus la douleur qui apparaît dans le monde, deuxième seulement en apparence à la migraine. Ainsi, dans ce travail, nous avons analysé la question d'ergonomie dans un CEASA (Central Supply) dans le sud du Brésil, soulevant les postures adoptées par les travailleurs et les principaux griefs de la même douleur musculaire associée ils se sentent sur leurs heures de travail . Pour ce faire a été fait plusieurs visites dans les structures d'approvisionnement, afin qu'ils puissent suivre la routine de travailleurs et appliqué un questionnaire en mettant l'accent ergonomique pour les travailleurs impliqués dans les frais d'expédition et de manutention. Les résultats de ces visites ont montré que ces travailleurs portent et soulèvent plus de charge que serait conforme au cours de la journée de travail, et ont montré que les principales plaintes des travailleurs était comme des douleurs dans les jambes et le dos, qui peuvent être générés non seulement en postures utilisées dans le levage et le transport des produits, mais aussi par le poids élevé manipulé. Nous concluons que la situation ergonomique au sein des structures d'approvisionnement analysées est totalement défavorable à la santé des travailleurs interrogés et la sensibilisation des mesures comme une bonne pratiques ergonomiques (comme les étirements, les postures emploi dans les frais de manutention, etc.) sont essentiels pour eux de peut travailler moins douloureux.

MOTSCLÉS: ergonomie, CEASA, la santé, la posture, les charges.

ERGONOMÍA Y MANEJO DE CARGA EN UN CEASA EN EL SUR DE BRASIL

RESUMEN

El manejo inadecuado y el transporte de cargas pesadas con su propio cuerpo, son dos de las principales causas de dolor en los trabajadores de todo el mundo, pero especialmente el dolor de espalda o dolor de espalda baja, que es el segundo dolor más que aparece en el mundo, sólo superada en apariencia a la dolor de cabeza. Así, en este trabajo se analizó la cuestión ergonómica dentro de un CEASA (Suministro Central) en el sur de Brasil, levantando las posturas adoptadas por los trabajadores y de las principales quejas del mismo dolor muscular relacionada se sienten sobre sus horas de trabajo . Para ello se realizaron varias visitas a las estructuras de suministro, de modo que pudieran seguir la rutina de los trabajadores y se aplica un cuestionario con enfoque ergonómico para los trabajadores involucrados con los gastos de envío y manipulación. Los resultados de las visitas mostraron que estos trabajadores llevan y levantar más carga de lo que sería consistente durante la jornada laboral, y mostraron que las principales quejas de los trabajadores era como dolores en las piernas y la espalda, que se pueden generar no sólo por posturas utilizadas en el levantamiento y transporte de los productos, sino también por el alto peso manejado. Llegamos a la conclusión de que la situación ergonómica dentro de las estructuras de abastecimiento analizados es totalmente desfavorable para la salud de los trabajadores entrevistados y medidas como un buenas prácticas ergonómicas conciencia (como estiramientos, posturas de trabajo en el manejo de cargas, etc) son de vital importancia para ellos puede trabajar menos doloroso.

PALABRAS CLAVE: Ergonomía, CEASA, salud, postura, cargas.

ERGONOMIA E O MANUSEIO DE CARGAS DENTRO DE UM CEASA NO SUL DO BRASIL

RESUMO

O manuseio e transporte incorreto de cargas pesadas com o próprio corpo são duas das principais causas geradoras de dores nos trabalhadores ao redor do mundo, mas especificamente a dor nas costas ou lombalgia, que é a segunda dor que mais aparece em todo mundo, só perdendo em aparecimento para a dor de cabeça. Desta forma neste trabalho analisou-se a questão ergonômica dentro de um CEASA (Central de Abastecimento) no sul do Brasil, levantando as posturas adotadas pelos trabalhadores e as principais queixas dos mesmos relacionadas as dores musculares que estes sentem em detrimento de suas jornadas de trabalho. Para tanto fez-se diversas visitas ao CEASA, para que se pudesse acompanhar a rotina dos trabalhadores e aplicou-se um questionário com foco ergonômico para os trabalhadores, envolvidos com o transporte e manuseio de cargas. Os resultados das visitas mostraram que estes trabalhadores transportam e levantam muito mais carga do que seria coerente durante o expediente de trabalho, bem como mostraram que as principais reclamações dos trabalhadores foi quanto as dores nas pernas e nas costas, as quais podem ser geradas não só por posturas inadequadas utilizadas no levantamento e transporte dos produtos mas também pelos elevados peso manuseados. Conclui-se que a situação ergonômica dentro do CEASA analisado é totalmente desfavorável para a saúde dos trabalhadores entrevistados e que medidas de conscientização quanto a boas práticas ergonômicas (como alongamentos, emprego de posturas adequadas no manuseio de cargas etc) são vitais para que os mesmos possam trabalhar de forma menos dolorosa.

PALAVRAS-CHAVES: Ergonomia, CEASA, Saúde, Postura, Cargas.