132 - A CONSTRUCTION INDUSTRY - A CASE STUDY IN THE CITY OF PONTA GROSSA, THE SYMPTOMS OF PAIN AND DISCOMFORT WORKERS IN THROUGH THE DIAGRAM CORLETT – MANENICA

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1)INTRODUCTION

The construction industry is a fundamental value to the economy, as its unique ability to generate direct and indirect jobs. Contrasting this economic capacity, we can excel in workers in construction work, the presence of symptoms of body aches, as the pace of work activities carried out be very stressful for the involvement of many physical valences of the human body, it is worth emphasizing also the poor work offered to workers and their usual low-skilled.

In a brief historical approach, improving working conditions and the search for optimization of production, together with the comfort of the worker is a constant search for the man. It should be noted that the geometer Euclides in 300 A.C., developed through mathematical studies, ways to promote the production with less effort, benefiting farmers in the Nile River.

The discovery of the levers interfix by Arquimedes in parallel time, also reduced the need for major efforts in workers, improving their performance and producing quality work life.

According WALSH et al. (2004), JR and ASSUMPTION (2005), biomechanical factors involved in making the work associated with the persistence of pain may contribute to the promotion of musculoskeletal disorders and the reduction of earning capacity.

This discomfort caused by the symptom is a painful health problem that strikes parallel to it, the quality of life, compromising the ability to work and therefore, the performance of the service sector and the burden to other employees on the basis of physical shock that which is afflicted with pain and, thus, commitment to productivity.

As part of the symptoms of pain, we have that this is a word derived from Latin, Orem, defined by BAEZ et al. (1990) as a phenomenon intangible, invisible and immeasurable.

This is a response that alerts individuals to the occurrence of changes in the integrity or functionality of the body, allowing the defense mechanisms or leakage are adopted (TEIXEIRA, 2001).

2)OBJECTIVES

- Conduct a statistical summary of the symptoms of pain in construction workers in the city of Ponta Grossa / PR, through the Diagram Corlett-Manenica.
- Differentiate between the symptomatology crafts developed by construction workers in the city of Ponta Grossa.

3)MATERIAL AND METHOD

On the topic of biomedical nature, evaluation is performed by the patient through self-perception, including the outcome of this sense of well-being dimensions in which individuals were able to maintain their physical skills, mental and functional (REJESKI ET AL, 2001).

In terms of the specific case of this research article, the focus has been the subject of biomedical nature, and the research population are construction workers from the city of Ponta Grossa, of various ages, covering a sample of professional office, such as mason, construction builder, carpenter, electrician and plumber in a total sample of 60 construction workers were divided according to the following table:

TABLE 1 - SAMPLE SEARCH

Professional Citizen Construction	Quantity Surveyed	Middle Ages (years)
Masonry	14	47,1
Bricklayers	13	46,1
Electricians	12	51,4
Plumbers	11	41,7
Carpenters	10	43,7
TOTAL SAMPLE	**60**	**46,0**

The standard deviation of the average age of the building industry respondents is equal to 3.68 and its coefficient of variation equal to 8% and is considered a low value and not interfering in the search results.

To collect the information in the survey, we used the technique of interview and during it, the data reported in the Diagram Corlett-Manenica, assessment tool for symptoms of pain, which consists of a representative model of the body human in anatomical position, where there is a dividing it into 14 anatomical regions and 27 sub-anatomical regions, as described in the following table:

TABLE 2 - REGIONS AND SUB-REGIONS OF ANATOMICAL DIAGRAMA DE CORLETT

Anatomical Region	Numbering Correspondent
1)Neck	0
2)Cervical Region	1
3)Top Back	2
4)East Back	3
5)Lower Back	4
6)Basin	5
7)Shoulder	6 (left side) 7 (left right)
8)Arms	8 (left side) 9 (left right)
9)Elbow	10 (left side) 11 (left right)
10)Forearm	12 (left side) 12 (left right)
11)Handle	14 (left side) 15 (left right)
12)Hand	16 (left side) 17 (left right)
13)Thigh	18 (left side) 19 (left right)
14)Leg	20;22;24 e 26 (left side) 21;23;25 e 27 (left right)

In realization of the interview, the researcher has studied the scale used in the Diagrama Corlett-Manenica, which varies as follows:

TABLE 3 – VALUATIONS AND SYMPTOMS

Valuations	Symptoms
1	No discomfort/pain
2	Some discomfort/pain
3	Moderate discomfort/pain
4	Quite discomfort/pain
5	Intorerable discomfort/pain

Data were collected before the start of working hours, the construction site of three (3) large real estate projects in the city of Ponta Grossa.

The procedure adopted and the time, was due to the muscular stress caused by the manual labor required by the professions and the same can be confused with pain due to occupational labor activity.

The Diagram Corlett-Manenica has quantitative characteristics, and after the tabulation of their data, it was determined the highest possible value to be found (maximum score) and their maximum and minimum values found (score maximum is reached score Low) , and such values are explained in a numerical scale and the percentage scale.

4)RESULTS

The results, after applying the Diagram Corlett-Manenica, were tabulefts with information regarding the letter played by a construction worker, age in years and its respective score, as the following table:

TABLE 4 - CRAFTS, AGES AND INDEXES RESULTS

CRAFTS	Ages (years)	Indexes Results	CRAFTS	Ages (years)	Indexes Results
Masonry 01	50	46	Electricians 04	34	49
Masonry 02	51	58	Electricians 05	31	41
Masonry 03	49	32	Electricians 06	46	47
Masonry 04	48	35	Electricians 07	42	56
Masonry 05	45	33	Electricians 08	47	57
Masonry 06	43	48	Electricians 09	49	58
Masonry 07	56	39	Electricians 10	43	60
Masonry 08	51	25	Electricians 11	44	61
Masonry 09	29	40	Electricians 12	32	50
Masonry 10	60	37	Plumbers 01	33	32
Masonry 11	58	71	Plumbers 02	32	42
Masonry 12	32	33	Plumbers 03	31	46
Masonry 13	47	80	Plumbers 04	32	47
Masonry14	41	70	Plumbers 05	46	51
Bricklayers 01	54	33	Plumbers 06	48	57
Bricklayers 01	46	36	Plumbers 07	47	59
Bricklayers 02	45	46	Plumbers 08	48	60
Bricklayers 03	39	49	Plumbers 09	47	62
Bricklayers 04	41	46	Plumbers 10	48	61
Bricklayers 05	45	46	Plumbers 11	47	66
Bricklayers 06	42	40	Carpenters 01	44	34
Bricklayers 07	52	23	Carpenters 02	46	48
Bricklayers 08	51	49	Carpenters 03	40	49
Bricklayers 09	50	72	Carpenters 04	46	45
Bricklayers 10	44	59	Carpenters 05	40	42
Bricklayers 11	46	61	Carpenters 06	41	56
Bricklayers 12	44	41	Carpenters 07	43	61
Electricians 01	46	51	Carpenters 08	44	63
Electricians 02	44	53	Carpenters 09	45	66
Electricians 03	45	56	Carpenters 10	48	65

In the results concerning the maximum and minimum scores possible and the scores, respectively attained, we have the following table:

TABLE 5 - MAXIMUM AND MINIMUM INDEXES OBTAINED

Indexes	Absolute Value	Relative Value	Crafts
Maximum Possible	110	1 ou 100%	==========
Maximum Reached	80	0,7273 ou 72,73%	Masonry
Minimum Reached	23	0,2091 ou 20,91%	Bricklayers

Among the groups surveyed, determine the simple average of the results, obtaining the following results:

TABLE 6 – AVERAGE RESULTS OBTAINED

Professionals Cityzen Construction	Quantity Surveyed	Average Arithmetic
Masonry	14	46,2
Bricklayers	13	46,2
Electricians	12	53,3
Plumbers	11	53,0
Carpenters	10	52,9
TOTAL SAMPLE	**60**	**50,3**

5)DISCUSSION

In the Table 05, the column on the relative value of the maximum and minimum scores achieved, is obtained by the ratio between their absolute values and the maximum possible.

For the previous values, note that the construction worker, construction builder 52 years of age, with lower rates of symptoms of pain reached 20.91%, while the construction worker, mason 47 years age, the highest rate of symptoms of pain reached 72.73%.

The percentage range, the result of subtraction between the largest percentage and the lowest percentage was 51.82%.

The results show to be quite close to each other, with a standard deviation of 3.76, resulting in a coefficient of variation of the arithmetic mean age of the sample equal to 7.48%, classified as a low variance.

6)CONCLUSIONS

According to the results, the masons and bricklayers, obtained the arithmetic mean of the same symptoms of pain, which may be explained by the great similarity in tasks performed and labor movements performed by both offices. It must be noted that this sub-group of the sample (masons and bricklayers) constituted 45% of the total sample.

The other offices surveyed, whether they are electricians, plumbers and carpenters, covering 55% of the sample, most arithmetic on symptoms of pain fell to electricians, this result can be explained as a result of these professionals have their work spaces people, usually very low and thus the role played by the same letter have a requirement of muscle groups and joints, more stressful than the other letters.

Few electricians have capational physical to serve as a lifetime of work, because many of them presents MSD after years of exposure to the activity, principally due to excessive use of force (MARKLIN and SEELEY, 2003).

Another factor to be considered in the daily work activities carried out by electricians and with greater influence on the symptoms of pain, due to the fact that professional work under constant stress at work, since error or an oversight in his office, may trigger discharges of electrical currents the risk of serious injury or life itself.

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A CONSTRUCTION INDUSTRY - A CASE STUDY IN THE CITY OF PONTA GROSSA, THE SYMPTOMS OF PAIN AND DISCOMFORT WORKERS IN THROUGH THE DIAGRAM CORLETT – MANENICA

ABSTRACT:

This study aimed to lift the symptoms of pain in construction workers. The sample is composed of sixty (60) in the building industry, with a mean age of 46 years and standard deviation of ages equal to 3.68. The instrument used to assess symptoms of pain was the diagram Corlett. In results, the highest value was found for a bricklayer with 72.73% of the symptoms of pain and the lowest value was for a servant with 20.91%, indicating a percentage range of 51.82%. The results of the symptoms of pain, the sub-sample of masons and bricklayers had the same value of 46.2 and the lowest value obtained by letters. The highest

value obtained was the sub-group of electricians, equal to 53.3, characterizing the group with more symptoms of pain.
KEYWORDS: Symptoms, Pain, Citizen Construction.

UNE INDUSTRIE DE LA CONSTRUCTION - ETUDE DE CAS DANS LA VILLE DE PONTA GROSSA, LES SYMPTÔMES DE LA DOULEUR ET L'INCONFORT TRAVAILLEURS EN TRAVERS LE CORLETT SCHÉMA – MANENICA

RÉSUMÉ:

Cette étude visait à lever les symptômes de la douleur chez les travailleurs de la construction. L'échantillon est composé de soixante (60) dans l'industrie du bâtiment, avec une moyenne d'âge de 46 ans et l'écart type des âges égal à 3.68. L'instrument utilisé pour évaluer les symptômes de la douleur était le diagramme Corlett. Dans les résultats, la valeur la plus élevée a été constatée pour un maçon avec 72,73% des symptômes de la douleur et la valeur la plus basse était pour un employé avec 20,91%, indiquant une fourchette de pourcentage de 51,82%. Les résultats des symptômes de douleur, le sous-échantillon des maçons et des maçons avaient la même valeur de 46,2 et la plus faible valeur obtenue par des lettres. La plus haute valeur obtenue est le sous-groupe d'électriciens, égal à 53,3, caractérisant le groupe avec plus de symptômes de douleur.
MOTS-CLÉS: symptômes, la douleur, de la construction.

UNA INDUSTRIA DE CONSTRUCCIÓN - UN ESTUDIO DE CASO EN LA CIUDAD DE PONTA GROSSA, LOS SÍNTOMAS DE DOLOR Y MALESTAR TRABAJADORES EN A TRAVÉS DEL ESQUEMA CORLETT - MANENICA

RESUMEN:

Este estudio tenía por objetivo promover la avalacion de los síntomas de dolor en los trabajadores de la construcción. La muestra se compone de sesenta (60) en la industria de la construcción, con una edad media de 46 años y desviación estándar de edades igual a 3,68. El instrumento utilizado para evaluar los síntomas de dolor fue el Diagrama de Corlett-Manenica. En los resultados, el valor más alto fue encontrado por un albañil con 72,73% de los síntomas del dolor y el valor más bajo fue para los agentes con 20,91%, lo que indica un rango de porcentaje de 51,82%. Los resultados de los síntomas de dolor, la sub-muestra de los albañiles y los albañiles tenían el mismo valor de 46,2 y el valor más bajo obtenido por las letras. El valor más alto obtenido fue el sub-grupo de electricistas, igual a 53,3, que caracterizan el grupo con más síntomas de dolor.
PALABRAS CLAVES: síntomas, el dolor, la Construcción.

A INDÚSTRIA DA CONSTRUÇÃO CIVIL – UM ESTUDO DE CASO NA CIDADE DE PONTA GROSSA/PR DA SINTOMATOLOGIA DA DOR E DO DISCOMFORT EM OPERÁRIOS ATRAVÉS DO DIAGRAMA DE CORLETT - MANENICA

RESUMO:

O presente trabalho teve por objetivo o levantamento da sintomatologia da dor em operários da construção civil. A amostra é composta por 60 (sessenta) profissionais da construção civil, com idade média de 46 anos e desvio padrão das idades igual a 3,68. O instrumento utilizado para avaliação da sintomatologia da dor foi o Diagrama de Corlett. Nos resultados encontrados, o maior valor encontrado foi para um pedreiro com 72,73% da sintomatologia da dor e o menor valor encontrado foi para um servente com 20,91%, caracterizando uma amplitude percentual de 51,82%. Nos resultados da sintomatologia da dor, a sub-amostra dos pedreiros e dos serventes de pedreiro obteve o mesmo valor de 46,2, sendo o menor valor obtido pelos ofícios. O maior valor obtido foi do sub-grupo dos eletricistas, igual a 53,3, caracterizando o grupo com maior sintomatologia da dor.
PALAVRAS-CHAVE: Sintomatologia, Dor, Construção Civil.

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