

**130 - WORK-RELATED ACCIDENTS IN THE CIVIL CONSTRUCTION**

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**INTRODUCTION**

The civil construction has been experiencing good moments in the Brazilian scenario, in face of the great demand for works of residential nature, as well as the incentives from the federal government, by means of mortgages and housing policies. Despite this, it is congruent that generally this sector of economy is destitute of favorable conditions that foster an efficient and secure working environment, with minimization of the risks of work-related accidents (BORSOI, 2009).

It is responsible for a great number of jobs, with a significant number of workers inserted in informality (MOREIRA; TARGINO, 2008). Given the context, numberless questions and challenges may emerge in this sector, such as the number of work-related accidents. Faced with these facts, it was aimed to carry out a study in the municipality of São José de Piranhas, Paraíba, since that in the municipality the number of constructions and, consequently, the great demand for informal workers. This feature has had a negative impact on the area of the civil construction, for example the work-related accidents, motivated by various factors – lack of security at work, absence of training and collective and individual protection equipment, among others. The high incidence of work-related accidents bring consequences to the overall health, generating inabilities in the professional.

Therefore, it was defined as the research problem: which is the occurrence of work-related accidents in the civil construction in São José de Piranhas, Paraíba? The statistical data proves that Brazil is among the first in the ranking of work-related accidents, which results in occupational diseases (LUCAS, 2008). Given this, the study is also justified by the scarcity of research in the area. Therefore, the objective of this study was to identify the occurrence of work-related accidents in the civil construction in the quoted municipality.

**METHOD**

The present study had as a methodological proposal to be an exploratory, descriptive field research with a quantitative approach. The study was carried out in the municipality of São José de Piranhas, located in the state of Paraíba, in the micro-region of Cajazeiras, included in the scope of the Brazilian semi-arid area. It has a population of 18.062 inhabitants, with an area of 677 Km<sup>2</sup>.

Participated in the study 40 professionals (22% of the universe) who work in the civil construction in the municipality. They were selected by research, using non-probability sampling by convenience, according to the following inclusion criteria (to be a local civil construction worker, be 18 years old or over) and exclusion criteria (to not wish to take part in the study, refusing to sign the informed consent)

To contemplate the objectives of the research a questionnaire was used, produced by the researcher, containing objective questions, contemplating social and demographical data, referring to work-related accidents and biosecurity measures. The collection of the data occurred after the assent of the Ethics and Research Committee of the Santa Maria College, according to CAAE 26140413.9.0000.5180. The data was statistically analyzed, and from the determination of the absolute and relative frequencies. It should be noted that all the research criteria involving human beings were respected, according to is stipulated in the Resolution 466/12 of the National Health Council/Ministry of Health.

**RESULTS AND DISCUSSION**

The civil construction workers were predominately men (95%) and young adults (50%) (age range between 28-40 year-olds). Such data concurs with that of another study with the same group of workers from Belém-PA (BARBOSA; LIMA, 2007). As for the marital status, 55% were married and 30% single. Barbosa; Ramos (2012) showed in their research that regarding the marital status 55% of the interviewed were married and 23% single.

As for educational training, the majority had a low level of education (88% - illiterate, complete and incomplete elementary education). According to Silva; Altobeli; Ribeiro (2009) the workers of the civil construction have a low literacy level, even though the requirement regarding the educational level for this activity is not so important, but rather the ability. The aforementioned information reinforces what has been collected in research that 43% of the workers have the complete elementary education, substantiating that fact that to work in the civil construction it is not required scientific knowledge, but ability.

The low level of schooling leads to risks to the worker, the technical and scientific knowledge deficit contributes to making the professional more susceptible to work-related accidents or to acquisition of an occupational disease, due to the impairment of scientific knowledge and professional training in the area.

Regarding the income of the workers, 50% of the workers earned up to two minimum wages and 32% up to one minimum wage. The aforementioned data does not differ to the national data, as the Inter-union Department of Statistics and Socio-economic Studies (DIEESE, 2012) highlights that in Brazil more than half of the occupants in civil construction in 2010 received from 1 to 2 minimum wages.

Considering the duration of employment of each worker, 73% had been working for the maximum of 10 years. Based on the above mentioned, it should be pointed out that the duration of employment is a condition for the exposure to occupational risks, leading to the appearance of lesions. The occupational lesions affect the workers' physical and mental health, substantially reducing his/her functional capacity, interfering directly on the productivity and quality of life of the worker (SAAD; XAVIER; MICHALOSKI, 2006).

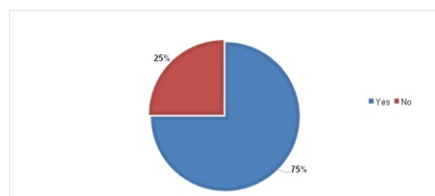


Chart 1. Data distribution regarding work-related accidents in the civil construction

The data in the chart describe that 75% (n=30) of the workers of the civil construction have suffered some kind of work-related accident. According to Silveira et al. (2008) the civil construction industry maintains high rates of work-related accidents.

In order to have intervention proposals regarding the work-related accidents in the civil construction it is fundamental the analysis and development of research in the sector. Thus, in the situations in which it is possible to recognize the damage to health, little has been done in order to control and prevent accidents. Furthermore, the prevention and elimination of the risks, has not taken into consideration the progressivity and human wear out that has slowly been accumulated. So it can be said that there have been advances in the identification, in the diagnosis and treatment of the work-related accidents, however there is another side to this reality, which is the number of workers excluded from the productive environment bearing in mind their loss of productivity in the sector in question (MENDES; WUSCH, 2007).

As for the activity being carried out when the work-related accident happened, were highlighted: scaffolding (20%), machine or equipment in movement and tool without driving force (17 % each), installation of ceramics (10%) among others (36%). According to the Industrial Social Service (SESI, 2013) the most important causes of the serious cases were exposure to mechanical forces (43% which involve machines and equipment, and falls 50 % of the serious cases)

It is worth highlighting that the accidents do not happen by chance and that these cannot be avoided in their totality, however, preventive actions may be adopted to minimize their occurrence.

Considering the nature of the lesion, 34% had suffered cuts, 13% contusions, 10% fractures and hematoma, 7% luxation and multiple lesions, among others (19%). According to the information mentioned above, it is highlighted the high number of cuts and contusions which occur in the workers. Such data may be associated to the lack of adoption of individual protection equipment (IPE), after all, 75% of the interviewed claimed not to use them.

Pelloso, Zandonadi (2012) in a study stated the non-existence of any types of security programs in the building sites, and that the focus of the works is limited to timing and cost, these programs are seen as mere expenses and waste of time. However, the use of IPE is set in the labour legislation, according to the Consolidation of Labour Laws, and determines as being the employers' obligation to provide the safety equipment in perfect conditions, ensuring the worker's protection in the prevention of work-related accidents. Also, the Regulatory Norm 6 describes that the employees also have responsibilities regarding the IPE. The employees must: use them, and do so only for their intended use; be responsible for their safekeeping and conservation, communicate to the employer any alteration that make them unfit for use; comply with the employers' determinations regarding the adequacy of the usage of such safety equipment (BRASIL, 2008).

## CONCLUSION

The objective of this work was achieved, since the civil construction worker is still exposed to the risks of accidents in the building sites, evidenced by the fact that the majority of the workers who were interviewed had already suffered some form of work-related accident. Most of these, were due to the use of scaffolding and the lesions resulting of these accidents were predominantly cuts. Considering the criticality of the results, it is necessary to intervene in the labour process in the sector, adopting safety measures and education for work.

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## **WORK-RELATED ACCIDENTS IN THE CIVIL CONSTRUCTION**

### **ABSTRACT**

Objective: identify the occurrence of work-related accidents in the civil construction in the municipality of São José de Piranhas, Paraíba. Methodology: exploratory and descriptive field research with quantitative approach. Participated in the research 40 civil construction workers of the urban area of São José de Piranhas – PB, being adopted non-probability sampling by convenience. For the data collection, a questionnaire was used and the data was analyzed through descriptive statistics. Results: The sample was composed predominantly by men (95%), young adults (50%) (age group between 28-40 year-olds), with low levels of education (88% - illiterate, complete and incomplete elementary education). Their average income was of up to 2 minimum wages (82%), and they had been working in the sector for up to the maximum of 10 years (73%). Furthermore, 75% of the workers had already suffered accidents during the process of working in the civil construction and, in general, the accidents happened with scaffolding (20%) and 34% of the lesions were cuts. 75% of the researched workers stated that they did not use individual protection equipment. Conclusion: the civil construction worker is still exposed to the risks of accidents in the building sites, evidenced by the fact that the majority of the workers researched had already suffered some kind of work-related accident. Considering the criticality of this result, it is necessary to intervene in the labour process in the sector, adopting safety measures and education for work.

**KEYWORDS:** Worker's Health. Civil Construction. Work-related Accident.

## **ACCIDENTS DU TRAVAIL DANS LA CONSTRUCTION**

### **RÉSUMÉ**

Objectif: identifier la survenance d'accidents dans la construction à São José de Piranhas, Paraíba. Méthode: exploratoire, champ de recherche descriptive à l'approche quantitative. Participants à l'étude étaient de 40 travailleurs de la construction dans la zone urbaine de São José de Piranhas - PB, l'échantillonnage non probabiliste a été adopté pour plus de commodité. Pour la collecte des données questionnaire et analysées par des statistiques descriptives a été appliqué. Résultats: L'échantillon a été en grande partie délimitée par les hommes (95%), les jeunes adultes (50%) (tranche d'âge 28-40 ans) ayant un faible niveau d'instruction (88% - l'enseignement primaire analphabètes, complet et incomplet), à revenu intermédiaire jusqu'à deux fois le salaire minimum (82%) et le travail dans l'industrie pour un maximum de 10 ans (73%). En tout, 75% des travailleurs qui étaient déjà blessent pendant le processus de travail de la construction et, en général, les accidents d'échafaudages a eu lieu (20%) et 34% des blessures étaient des coupes. Pourtant, 75% des répondants ont déclaré ne pas utiliser l'équipement de protection individuelle. Conclusion: le travailleur de la construction est également exposée à des risques d'accidents sur les chantiers de construction, comme en témoigne le fait que la majorité des répondants ont déjà subi un accident du travail. Vu l'importance de ce résultat, il est nécessaire d'intervenir dans le processus de travail dans l'industrie, l'adoption de mesures de sécurité et d'éducation au travail.

**MOTS-CLÉS:** Santé au Travail. Construction. Les Accidents du Travail.

## **ACCIDENTES LABORALES EN LA CONSTRUCCIÓN**

### **RESUMEN**

Objetivo: Identificar la ocurrencia de accidentes en la construcción en São José de Piranhas, Paraíba. Método: exploratoria, campo de investigación descriptiva con enfoque cuantitativo. Los participantes del estudio fueron 40 trabajadores de la construcción en el área urbana de São José de Piranhas - PB, el muestreo no probabilístico ha sido adoptado por conveniencia. Para el cuestionario de recogida de datos y analizados por estadística descriptiva se aplicó. Resultados: La muestra fue delineada en gran medida por los hombres (95%), adultos jóvenes (50%) (28-40 años) con bajo nivel educativo (88% - la educación primaria analfabeta, completo e incompleto), el ingreso medio de hasta dos salarios mínimos (82%) y los que trabajan en la industria para un máximo de 10 años (73%). En total, el 75% de los trabajadores que ya fueron heridas durante el proceso de trabajo de la construcción y, en general, se produjo accidentes de andamios (20%) y el 34% de las lesiones fueron cortes. Aún así, el 75% de los encuestados dijo que no usan equipo de protección personal. Conclusión: el trabajador de la construcción también está expuesta a los riesgos de accidentes en obras de construcción, evidenciado por el hecho de que la mayoría de los encuestados ya han sufrido un accidente de trabajo. Teniendo en cuenta la criticidad de este resultado, es necesario intervenir en el proceso de trabajo en la industria, la adopción de medidas de seguridad y la educación para el trabajo.

**PALABRAS CLAVE:** Salud Ocupacional. Construcción. Accidentes laborales.

## **ACCIDENTES DE TRABALHO NA CONSTRUÇÃO CIVIL**

### **RESUMO**

Objetivo: identificar a ocorrência de acidentes de trabalho na construção civil do município de São José de Piranhas, Paraíba. Método: pesquisa exploratória, descritiva, de campo com abordagem quantitativa. Participaram do estudo 40 trabalhadores da construção civil da zona urbana de São José de Piranhas – PB, tendo sido adotada amostra não probabilística por conveniência. Para coleta de dados foi aplicado questionário e os dados analisados mediante estatística descritiva. Resultados: a amostra foi majoritariamente delineada por homens (95%), adultos jovens (50%) (faixa etária entre 28-40 anos), com baixo nível de escolaridade (88% - analfabetos, ensino fundamental completo e incompleto), renda média de até 2 salários mínimos (82%) e atuando no setor há no máximo 10 anos (73%). No mais, 75% dos trabalhadores já se acidentaram durante o processo de trabalho na construção civil e, em geral, os acidentes ocorreram com andaimes (20%) e 34% das lesões foram cortes. Ainda, 75% dos pesquisados afirmaram não utilizar os equipamentos de proteção individual. Conclusão: o trabalhador da construção civil ainda está exposto aos riscos de acidentes nos canteiros de obra, evidenciado pelo fato de que a maioria dos pesquisados já terem sofrido algum acidente de trabalho. Considerando a criticidade deste resultado, é necessário intervir sobre o processo laboral no setor, adotando medidas de segurança e educação para o trabalho.

**PALAVRAS-CHAVE:** Saúde do Trabalhador. Construção Civil. Acidente de Trabalho.