

## The Nurses' Role With Regards to the Risks and Vulnerabilities Faced by Civil Construction Workers

Papel do Enfermeiro Sobre os Riscos e Vulnerabilidades de Trabalhadores da Construção Civil

El Papel de la Enfermera en la Construcción Riesgos y Vulnerabilidades de los Trabajadores

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### ABSTRACT

**Objective:** The study's purpose has been to assess the nurses' role regarding both the risks and vulnerabilities faced by civil construction workers. **Methods:** It is a literature systematic review, which was carried out over the years of 2014 and 2015 and based on the analysis of scientific articles contained in online databases. The selection of articles was performed through the following keywords: civil construction, work accident, and occupational health nurse. There were used 15 articles that addressed the occupational risks of civil construction. **Results:** It is the nurse's role to act towards preventive actions capable of minimizing the occupational hazards that construction workers are constantly exposed. **Conclusion:** The nursing professional must provide nursing care capable of promoting the health of workers, as well as, reducing the rates of work accidents in the civil construction field.

**Descriptors:** Construction Industry, Occupational Hazards, Nursing Professional's Role

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## RESUMO

**Objetivo:** Objetivou-se analisar o papel do enfermeiro acerca dos riscos e vulnerabilidades dos trabalhadores da construção civil. **Métodos:** Revisão sistemática da literatura, realizada durante os anos de 2014 e 2015 a partir da análise de artigos científicos contidos em bases de dados on-line. A seleção dos artigos foi realizada através das seguintes palavras-chave: construção civil, acidente de trabalho, enfermeiro do trabalho. Foram utilizados 15 artigos que tratavam sobre os riscos ocupacionais da construção civil. **Resultados:** É papel do enfermeiro atuar no desenvolvimento de ações preventivas capazes de minimizarem os riscos ocupacionais que os trabalhadores da construção civil estão expostos. **Conclusão:** É premente que o enfermeiro desenvolva uma assistência de enfermagem capaz de promover a saúde dos trabalhadores e reduzir os índices de acidentes de trabalho da construção civil.

**Descritores:** Indústria da Construção, Riscos Ocupacionais, Papel do Profissional de Enfermagem.

## RESUMEN

**Objetivo:** El objetivo era analizar el papel de las enfermeras sobre los riesgos y vulnerabilidades de los trabajadores de la construcción. **Métodos:** Revisión bibliográfica sistemática, llevada a cabo durante los años 2014 y 2015 en base al análisis de artículos científicos contenidos en las bases de datos en línea. La selección de artículos se ha realizado mediante las siguientes palabras clave: construcción, accidentes industriales, enfermera ocupacional. Utilizaron 15 artículos que tratan sobre los riesgos laborales de la construcción. **Resultados:** Es el papel de las enfermeras trabajan en el desarrollo de acciones preventivas que pueden minimizar los riesgos laborales que los trabajadores de la construcción están expuestos. **Conclusión:** Es urgente que las enfermeras desarrollan una atención de enfermería que promueve la salud de los trabajadores y reducir las tasas de accidentes de trabajo de construcción.

**Descriptores:** Industria de la Construcción, Los Riesgos Profesionales, El Papel de Llos Profesionales de Enfermería.

## INTRODUCTION

Nowadays, civil construction has been showing a high productivity in the Brazilian economic sector, responsible for 10.3% of the national Gross Domestic Product, being considered a strategic sector for the generation of employment and stabilization of the Brazilian economy.<sup>1</sup>

It is observed that civil construction absorbs most of the informal labor force, given the range of its varied labor supply, without many obstacles to the recruitment of human resources.<sup>2</sup>

It should be noted that civil construction is an economic follow-up that presents a high level of precariousness in working and safety conditions, especially with regard to the unhealthy policies adopted by the construction companies; lack of supervision by responsible bodies; not enough, labor laws do not include all workers involved in this sector, inevitably, from the social rights of citizens.<sup>1</sup>

The precariousness of working conditions and safety of the sector contributes significantly to the occurrence of accidents that occur due to professional practice, resulting in health assaults or functional disturbances, which can lead to incapacities or even death of the individual.<sup>3</sup>

Such accidents show the violent exploitation and precarious working conditions and are, for the most part, preventable and/or preventable. It should be noted that work-related accidents affect a great number of individuals, especially young adults of productive age, incapacitating them for economic activity.<sup>5</sup>

According to statistical data presented by the *Empresa de Tecnologia e Informações da Previdência Social (AEPS)* [Social Security Information and Technology Company], in 2014 in Brazil there were approximately 704,136 thousand occupational accidents resulting in 2,731 deaths and almost 15,000 workers with some type of disability.<sup>3</sup>

In the national scientific literature, there is a shortage of studies that portray the real working conditions of informal workers and the impact of work accidents on the productivity of individuals and their health condition.<sup>1</sup>

It ought to be noticed that there is no research that discriminates on the professional nursing assignments in the field of occupational nursing, regarding the development of education and health promotion actions towards civil construction workers.<sup>5</sup>

It is believed that it is the role of nursing care in the elaboration and application of health education strategies aimed at the prevention of occupational accidents and the reduction of occupational hazards to which construction workers are exposed.

This research can be justified because it considers the occupational health nurse a transformative agent capable of contributing to the improvement of the health conditions and practices of the workers through nursing care.

The study's goal was to assess the nurses' role in regards to the risks and vulnerabilities faced by civil construction workers, aiming to prevent fatal work accidents.

## METHODS

It is a systematic review of the literature carried out during the years 2014 to 2015 from the online databases *Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS)* [Latin American and Caribbean Literature in Health Science], MEDLINE (International Literature in Health Sciences), PAHO (Library Collection of the Pan American Health Organization) and WHOLIS (WHO Library Information System).

The selection of articles was made through online access to the electronic databases, with the following keywords (in Portuguese and English): civil construction; work accident; informal work; occupational health nurse.

The study established the following stages of execution: a) establishment of the hypothesis and objectives of the integrative review; b) definition of inclusion criteria and exclusion of articles (sample selection); c) determination of the information to be extracted from the selected articles;

d) analysis of results; e) discussion and presentation of results; f) presentation of the review.

The research was carried out based on the selection and analysis of 15 articles covering the period between 2001 and 2014, which met the following criteria: a study carried out in Brazil, containing descriptive information on occupational hazards of civil construction, of work accidents in the sector, present discursive analysis about the skills and abilities of the occupational health nurse in the scope of civil construction.

## RESULTS AND DISCUSSION

It was observed that the current Brazilian scientific literature presents a shortage of studies that describe in an analytical way the occupational hazards that construction workers are constantly exposed. It was also identified that most of the scientific research on the topic were carried out in the Southeast and Northeast regions, according to data presented in the table below.

ARTICLE'S OBJECTIVE	METHOD	RESEARCH OUTCOMES	AUTHOR/ YEAR
Describing the activity and perception of construction workers about the risks and the workload, captured by the workers' own discourse.	Qualitative	Workers are highly aware of the risks of accidents and that safety measures make it difficult or impossible to carry out the work. Identifying the need for new transformation strategies in actions to promote health and prevent accidents.	TAKAHASHI, M. A. B. C.; SILVA, R. C.; LACORTE, L. E. C.; CEVERNY, G. C. O.; VILELA, R. A. G., 2012
Evaluating the fatal work accidents that occurred in the civil construction sector in Rio de Janeiro from 1997 to 2001.	Quantitative/qualitative	The circumstances in which the deaths occurred and their impacts on the family were identified. As well as underreporting of accidents, which causes great obstacles for the families of victims to obtain social security benefits.	MANGAS, R. M. N.; GOMEZ, C. M.; COSTA, S. M. F. T., 2008.
Analyzing the occupational and health profile of construction workers, focusing on sociodemographic, occupational characteristics, the degree of precariousness of work, and health risk factors.	Quantitative	The socio-demographic and occupational profiles identified were: male, old age, black, low schooling and a larger proportion of informal employment contracts. As well as smoking, non-fatal accidents and lack of information about PPE and collective were frequent findings in construction.	SANTANA, V. S.; OLIVEIRA, R. P., 2004
Synthesizing epidemiological findings on fatal and non - fatal work accidents, for Brazilian populations, between 1994 and 2004.	Quantitative	A decrease in work-related mortality rates between 1990 and 2003 has been identified. Thus, the annual incidence of non-fatal work-related accidents has also been declining, making room for the fatalities. The most exposed workers are those in the countryside.	SANTANA, V.; NOBRE, L.; WALDVOGEL, B. C., 2005.
Outlining a preventive action strategy for work accidents in construction, integrating the perspectives of different social actors in the work process.	Quantitative	It was identified the perception of the responsible of the companies as well as of the workers of the civil area with respect to the occurrence of work accidents and the actions of prevention of these accidents.	DALCUL, A. L. P. C., 2001
Assessing the representations and perceptions about the informality in the	Quantitative	It was observed that the workers recognize the importance of formal work, mainly for the guarantee of labor rights and self-realization. They	IRIART, J. A. B.; OLIVEIRA, R. P.; XAVIER, S. S.; COSTA,

contract of work and the health risks among casual workers.		recognize the risks of work accidents, which are exposed, but recognize the unsafe practices of everyday life.	A. M. S.; ARAUJO, G. R.; SANTANA, V. S., 2008
Examining the competences of the occupational health nurse in the prevention of work accidents in civil construction.	Bibliographic study	The risks of accidents at work were highlighted, precarious working conditions and safety, the main causes of accidents at work in construction, and preventive measures to minimize these occupational risks.	SILVA, T. F.; OLIVEIRA, I. R.S., 2012.

Civil construction is considered an indispensable strategic economic sector for the development and consolidation of the Brazilian economy. Nevertheless, this sector still presents serious persistent structural problems that urgently need to be solved, namely: non-conformities with the current legislation governing the sector, extreme informality of the workforce, low levels of education of workers, productivity problems and quality.<sup>6</sup>

In the world context, civil construction is one of the most productive branches that presents a greater precariousness in the conditions of work and security. Hence, the majority of the population of workers is male, with ages within the age group from 10 to 65 years old, black, low educational level and socioeconomic level, a fact considered by the predominance of informality in the market, as well as which do not seem to occur on the basis of the level of education, but rather in the experience of the practice of work.<sup>7</sup>

It is worth mentioning that civil construction has a large number of employees who do not have a signed work permit, consequently without benefits and social security rights. A fact justified by the labor class as the lack of opportunity in the formal labor market, evidenced by the loss of social, labor and social security rights guaranteed to other workers.<sup>8</sup>

Another predominant reality in construction and shared by many workers is the diversity of occupational hazards to which they are subjected because of the lack of access to personal and collective protection equipment. Labor practice of this nature exposes workers to the risk of developing physical, emotional, physiological and even pathological disorders.<sup>8</sup>

As a consequence of the larger contingent of labor, the category of workers most exposed to disabling risks are the workmen, masons, and carpenters. This situation of information will be due to the low professional qualification, being permanently subject to the most exhausting tasks, the equipment and machines they use and the insecure workplaces.<sup>5</sup>

As a result of the low qualification for doing such working activities, the workers end up taking the first function offered to the beginners of the sector, which makes them more prone to accidents at work. Furthermore, it is an occupation in support of several other functions, thus involving a very large variety of activities carried out in a short period of time.<sup>9</sup>

Some factors that are related to working conditions include physical environment (luminosity, temperature, noise); chemical environment (dust, vapors, gases and smokes); biological environment (presence of viruses, bacteria, fungi, parasites), hygiene, safety, food and others. All these

elements when improperly present in the workplace can cause problems and suffering to the life of the worker.<sup>10</sup>

According to data presented by the Instituto Nacional do Seguro Social (INSS) [National Social Security Institute], Brazil in the period from 2010 to 2013, there were 54,664 cases of work accidents in the scope of civil construction. The information presented shows that most workers in the sector are subject to serious occupational hazards that represent an injury to the health of individuals and safety in the workplace.<sup>2</sup>

Some authors believe that the indicators do not reliably describe the occupational hazards to which workers in the sector are exposed due to underreporting of information from the Work Accident Communication data. The practice of under-notifications makes it difficult for the union to intervene with the companies and for the control mechanisms of the public authorities over the legal entities of the sector.<sup>6</sup>

Occupational accidents can produce physical, mental and psychological injuries that compromise workers' quality of life and their ability to perform satisfactorily their work activity. It can be mentioned as agents causing these injuries: height falls, crushing, burial, electric shock, asphyxia by exposure to chemical elements, explosion, and intoxication.<sup>11</sup>

Falls are the most common cause of injury and death in the construction industry. Causes include: (a) working on scaffolding or platforms that are not equipped with safety rails, (b) workers who do not properly use their seat belts, (c) fragile roofs, (d) ladders that are not adequately supported, positioned and fixed.<sup>10</sup>

It is clear that failure to comply with the legal norms of work safety by companies and workers favors significantly to the increasing increase of the percentage of accidents of work in the scope of the civil construction.<sup>11</sup>

According to Silva,<sup>4</sup> the subjects point out that work at heights is worrying, they demonstrate knowledge of the risks and benefits of personal protective equipment, but they do not use it because they hamper the performance of activities, which are established deadlines for delivery of the works, discomfort and/or even if it is a requirement of the company.

The scientific literature presents the correct use of personal and collective protection equipment by the workers as an efficient strategy for the reduction of the indices of work accidents in the sector. To the extent that it is the ethical and legal responsibility of the employer to offer the worker the personal and collective protection equipment according to the nature and specificities of the working activity developed.<sup>5</sup>

It is worth highlighting some of the statements made by Silva<sup>4</sup> regarding the perception of the use of Personal Protective Equipment (PPE, such as gloves, helmets, and masks) by employees, as a requirement of the company and not as a necessity, demonstrating self-control over the activities performed with the practice.

A barrier to the reduction of occupational hazards refers to the perception of construction workers about the safety standards of work, since individuals have a high degree of

resistance regarding the use of personal/collective protection equipment during the development of activities.<sup>8</sup>

The Brazilian legislation establishes the measures for prevention, protection and promotion of workers' health in the civil construction sector, in which the following stand out: the adequacy of the Regulatory Standards, especially RS-18, followed by RS-4 (Specialized Services in Safety and Occupational Medicine), RS-5 (CIPA), RS-6 (PPE), RS-7 (Medical Occupational Health Control Program), RS-9 (Environmental Risk Prevention Program) and RS-35, establishes the minimum requirements and protective measures for work at heights, involving planning, organization and execution.<sup>11</sup>

It is the role of the nurse to characterize the profile of construction professionals and work in partnership with the multi-professional health team in the development of preventive actions capable of minimizing occupational hazards typical of the sector's labor activities.<sup>4</sup>

The occupational health nurse must present a set of professional skills and abilities that provides him with the means to elaborate a plan of care that involves the application of educative activities directed to the monitoring of the individual and collective health of the workers, stimulating the adoption of habits of life healthy physical activity, regular physical activity and changes in eating habits.<sup>9</sup>

Nursing health promotion actions contribute to the empowerment of workers over their own health-disease process, with a view to building a productive and safe working environment that satisfies the worker's economic and individual needs.<sup>6</sup>

## CONCLUSIONS

It is the duty of the construction industry to make available and require the correct use of personal and collective protection equipment by the workers, in order to build a safe, pleasant and economically viable work environment. This measure favors the reduction of the percentage of occupational accidents that represents a high financial and social burden on the workers, companies, and government.

It is up to the nurse in partnership with a multidisciplinary health team to both plan and implement preventive actions related to health promotion that can provide the worker with decent working conditions, quality of life and a significant increase in their productivity.

Sometimes, the construction worker is exposed to occupational hazards harmful to health that contribute to developing physical, mental and psychological disabilities. Such disabilities make the worker incapable of performing his working activities either temporarily or permanently.

The nursing professional must provide nursing care capable of promoting the health of workers, as well as, contributing in a meaningful way to the prevention of occupational accidents. The practice of professional care should focus on both identifying and meeting the needs of workers' safety and well-being.

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