

Federal University of Rio de Janeiro State



# Journal of Research Fundamental Care Online

ISSN 2175-5361  
DOI: 10.9789/2175-5361

## INTEGRATIVE REVIEW OF THE LITERATURE

### O gerenciamento de riscos ocupacionais e as interferências na saúde do trabalhador: revisão integrativa

The risk management and interference in occupational health worker: integrative review

La gestión del riesgo y la interferencia en los trabajadores de salud ocupacional: revisión integradora

Rafael Pires Silva <sup>1</sup>, Bruna Maiara Ferreira Barreto <sup>2</sup>, Alessandra Conceição Leite Funchal Camacho <sup>3</sup>, Geilsa Soraia Cavalcanti Valente <sup>4</sup>

#### ABSTRACT

**Objective:** To identify the main interference of work on oil rigs in occupational health; describe the actuation of nurse in the management of occupational risks on oil rigs; analyze how risk management can promote occupational health worker. **Method:** an integrative review, in order to answer the following research question: What is produced on the nurse in managing risks in occupational health worker oil rig? **Results:** companies that had nurses working in the planning for the prevention of accidents had fewer reports of work accidents and occupational diseases, as efforts to prevent these diseases were being performed with increasing frequency. **Conclusion:** The management of occupational risks is a major challenge for the entire multidisciplinary team of health of certain oil companies, and the nurse is the professional activities highlighted in this scope. **Descriptors:** Occupational health nursing, Safety management, Occupational risks.

#### RESUMO

**Objetivo:** identificar as principais interferências do trabalho em plataformas de petróleo na saúde do trabalhador; descrever a atuação do enfermeiro no gerenciamento dos riscos ocupacionais em plataformas de petróleo; analisar como o gerenciamento de riscos ocupacionais pode promover a saúde do trabalhador. **Método:** revisão integrativa, com vista a responder a seguinte questão de pesquisa: O que existe produzido sobre o gerenciamento de riscos ocupacionais na saúde do trabalhador em plataforma de petróleo? **Resultados:** as empresas que possuíam enfermeiros atuando no planejamento para a prevenção de acidentes apresentaram menor quantidade de notificações de acidentes de trabalhos e doenças relacionadas ao trabalho, já que os esforços para prevenir estas enfermidades estavam sendo realizados com maior frequência. **Conclusão:** o gerenciamento de riscos ocupacionais é um enorme desafio para toda equipe multiprofissional de saúde de determinadas empresas petrolíferas, e o enfermeiro é o profissional em destaque na atuação neste âmbito. **Descritores:** Enfermagem do trabalho, Gerenciamento de segurança, Riscos ocupacionais.

#### RESUMEN

**Objetivo:** Identificar la principal interferencia del trabajo en plataformas petroleras en salud ocupacional; describir el papel de la enfermera en la gestión de los riesgos laborales en las plataformas petrolíferas, analizar cómo la gestión del riesgo puede promover el trabajador de la salud ocupacional. **Método:** revisión integradora, con el fin de responder a la siguiente pregunta de investigación: ¿Qué se produce en la enfermería en el manejo de riesgos en los trabajadores de la salud ocupacional plataforma petrolera? **Resultados:** las empresas que habían enfermeras que trabajan en la planificación de la prevención de los accidentes tuvieron menos informes de accidentes de trabajo y enfermedades profesionales, se están realizando esfuerzos para prevenir estas enfermedades cada vez más frecuentes. **Conclusión:** La gestión de los riesgos laborales es un gran reto para todo el equipo multidisciplinario de salud de algunas compañías petroleras, y la enfermera son las actividades profesionales destacados en este ámbito. **Descritores:** Enfermería del trabajo, Administración de la seguridad, Riesgos laborales.

<sup>1</sup> Nurse, Graduate nurse at the Nursing School Aurora Afonso Costa (EAAAC) Universidade Federal Fluminense-UFF, Email: rafaelinluminado@hotmail.com <sup>2</sup> Nurse, Graduate nurse at the Nursing School Aurora Afonso Costa (EAAAC) Universidade Federal Fluminense-UFF, Email: bruna.barreto07@gmail.com <sup>3</sup> Nurse, Doctor in Nursing, Associate Professor, Department of Nursing Fundamentals and Administration EAAAC / UFF, E-mail: cicacamacho@gmail.com <sup>4</sup> Nurse, Doctor in Nursing, Associate Professor, Department of Nursing Fundamentals and Administration EAAAC / UFF, E-mail: geilsavalente@yahoo.com.br

## INTRODUCTION

To situate the understanding of workers' health, it is essential to understand all the work mechanism, relationships between the institutions and their employees, whether public or private, as well as all that is necessary to maintain, promote and take care of workers' health, based on the main causes, evidence of accidents and occupational risks, to promote the prevention, and when necessary to take care of these workers.

Work on the offshore environment has grown enormously, enabling the work of nurses in this environment. The offshore nurse should plan, promote, prevent occupational risks to workers' health on oil platforms and not only perform healing functions in cases of work accidents offshore environment.<sup>1</sup> It is important to highlight the significance of offshore word translates in "far from the coast" and refers to activities on platforms or ships, in shifts of 12 hours, and the scale of 14x14, or 14 days at home and 14 days on the platform, and/or the 14x21, which means that the nurse works 14 days and 21 days is off. Although it is an existing action scene for a long time, the quantitative studies on offshore are still incipient.

The focus in this type of environment is the petrochemical industry, defined as a chemical and industrial processes, or any industry that produces some sort of chemical material as a final product. This concept is very important because it reveals the unhealthy and dangerous to work with chemicals, risks that will be up to the nurse managing throughout their workday. The industrial chemical complex is a set of industries whose dynamics is governed by common factors since it is a segment of the same production petrochemical chain aimed at the same consumer market. These companies have workers under a tiring and difficult workday, which may generate risks and occupational diseases.<sup>2</sup>

According to Law nº 8.213, of July 24, 1991, there are plans of Social Security, transcribed by Article 19, which define how workers' compensation whatever happens by the exercise of work in the service of the institution employment whether public or private, or by insurance special work service, which caused injury or functional disorder, which causes death or reduction of working capacity of each professional, permanent or temporary. Occupational diseases and those derived from work are considered as work accidents.<sup>3</sup>

To prevent accidents at work in that environment, the Regulatory Standard Number 33 of December 22, 2006, defines and outlines a goal that has as minimum requirements for the identification, recognition, assessment, monitoring and control of risks in confined spaces, to ensure the health of these employees. Thus, the safety and health management should be planned, programmed, implemented and evaluated by health professionals of the employing institution. As a result, technical preventive, administrative and personal measures should be offered to these professionals to come and perform their work in confined spaces.<sup>4</sup>

As an objective of the study, there is the management of occupational risks on oil rigs. The guiding question was described as: How do the nurses involved in the management of occupational risks on oil rigs prevent major interference in workers' health and promote health in an offshore environment?

The objectives of this study are: to identify the main interference of work on oil rigs on workers' health; describe the work of nurses in the management of occupational risks on oil rigs; analyze how the management of occupational risks can promote the health of workers on oil rigs.

## METHOD

The concept of methodology, focus of discussion is a subject full of controversies because there are people who equate methods and techniques, such as the manuals and American texts, which are produced for the training of researchers.<sup>5</sup> The theory and methodology go together and linked. The set of techniques is the instrumental need to apply the theory, so here is treated as a fundamental element for methodological consistency and systematic research.<sup>6</sup>

An Integrative Literature Review of a qualitative approach was held, in order to answer the research question: What is produced on the nurse in occupational risks managing in worker's health on an oil rig?

The main electronic databases related to health were used: Latin American and Caribbean Health Sciences (LILACS); Scientific Electronic Library Online (SciELO) and Medline contained in VHL - Virtual Health Library, from the following descriptors: nursing work, safety management, and occupational risks, using the Boolean OR operator. The Boolean operators AND was not used because no articles were found possessing the descriptors mentioned above.



As inclusion criteria, studies were selected in Portuguese and English only with full texts and that addressed the issue in question, published from 2006 to 2012. A brief reading of the abstracts and titles of their articles and texts selected were performed, excluding those who did not treat the subject studied.

In the database Scientific Electronic Library Online (SciELO), were found 157 productions, and selected nine articles that met the search criteria, and a dissertation which featured the theme proposed in this study, located in the Engineering School Library of the Universidade Federal Fluminense - UFF.

In the other databases, there were nine articles in the Lilacs, 9 in SCIELO and 2 in Medline. After the brief reading of 2 Medline articles in English, they were excluded because they did not have the subject to be studied.

For the quantitative articles by publication year, there were the following results: in 2011 N = 3 found (16.66%) of the articles; in 2010 N = 2 (11.11%); in 2009 only N = 1 (5.55%); in the previous year, 2008, N = 7 (38.88%); in 2007 there were N = 3 (16.66%); and finally in 2006 there were N = 2 (11.11%) published. It is noticed that in 2008 there was the largest number of publications according to the theme, which allowed with the texts of that time give a greater emphasis to the subject being studied. For 2012, no articles were found during the period of the searches.

In the quantitative types of methodological approaches taken in the respective selected articles, there were studies with quantitative nature in 55.55% (n=10), while the qualitative studies presented 44.44% (n=8) of cases.

Of the studies selected in Scielo, Lilacs, and Medline, they had quantitative and qualitative methodological approaches, not being evidenced any other methodology. It is noticed that the publications with quantitative and qualitative approaches are nearly in balance, showing that research regarding occupational health are paired and are constant in scientific circles.

Type of Study	N	F (%)
Quantitative	10	55,55
Qualitative	8	44,44

Source: BVS, 2012

Among the publications analyzed for the preparation of this study, 66.66% (n=12) of the articles were written by nurses. The professions of nursing, engineering, psychology, and speech therapy correspond to 5.55% (n=1) of the articles written. It is noteworthy that two articles had no professional identification, which corresponds to 11.11% (n=2) of analyzed articles.

The analysis and discussion of this study also occurred through a master's thesis dissertation of the engineering school of the Universidade Federal Fluminense, which addressed the theme entitled "The safety management system and workers' health: a

case study on a petrochemical industry in Rio de Janeiro”, which was essential in the construction of this study, since the amount of work produced in this area is still incipient.

## RESULTS AND DISCUSSION

The following table describes the year, authors, entitling, title and journal name. It addresses the type of publication and methodological approach, the essence of content/knowledge production. Furthermore, it emphasizes the databases where articles were found, adding to the recommendations of the author (s).

Year/Author/entitling/Title/Name of the Journal	Type of Publication and methodological approach	Essence of Content / Knowledge Production	Recommendations of the author(s)
<p>- 2008, Regina Stella Spagnuolo, Renata Cristina Silva Baldo, Ivan Amaral Guerrini.</p> <p>- Epidemiological analysis of accidents with biological material reported to the Worker's Health Reference Center - Londrina.</p> <p>Revista Brasileira de Epidemiologia.<sup>7</sup> SCIELO</p>	<p>Retrospective, descriptive, and quantitative approach because records with notifications of occupational accidents with the biological material were found. These records are for the period of 1 year.</p>	<p>The records of occupational accidents notifications regarding health units in Londrina were analyzed, within one year to determine the profile of injured workers. Thus, it was noted it is the most common types of accidents in these professionals.</p>	<p>As recommendations, we are offering training courses for these professionals, offered by their work institutions and the government. Providing vaccines for these workers to prevent future problems and increasing the supply of containers to dispose sharp material.</p>
<p>- 2006, Denise Tolfo Silveira, Heimar de Fátima Marin.</p> <p>- Minimum Data Set in Nursing: identification of categories and items to practice nursing in ambulatory</p>	<p>It is a retrospective descriptive study. Quantitative.</p>	<p>This study aims to describe the categorization of the elements identified in the practice of nursing consultation in occupational health. But to carry out this task, the feature of computerization of</p>	<p>This study emphasizes the importance of determining a set of essential data that has priority on forms elaboration that feed the databases so that this data can be better documented and structured in information systems.</p>

<p>occupational health.</p> <p>-Revista Brasileira de Enfermagem.<sup>8</sup></p> <p>SCIELO</p>		<p>information was used, that is, all information previously stored in SIE - Nursing Information System were analyzed to obtain the main occupational risks.</p>	
<p>2007, Mônica Bonagamba Chiodi, Maria Helena Palucci Marziale, Maria Lúcia do Carmo Cruz Robazzi.</p> <p>- Accidents with biological material among public health workers.</p> <p>- Revista Latino-americana de Enfermagem.<sup>9</sup></p> <p>SCIELO</p>	<p>It is an exploratory research with the use of a quantitative approach to data analysis.</p>	<p>This study investigates the occurrence of work accidents (WA) involving exposure to biological material among health workers active in Public Health Units in Ribeirão Preto, Brazil.</p>	<p>It is recommended that the strategies to prevent the occurrence of occupational accidents involving sharp materials should include joint actions established between workers and management of services and should be aimed at improving working conditions in general.</p>
<p>2010, Elvia Lane Araújo do Nascimento, Sarita Brazão Vieira, Tânia Batista da Cunha.</p> <p>- Occupational risks: the traditional methodologies of analysis of work situations.</p> <p>-Revista de Psicologia.<sup>10</sup></p> <p>LILACS</p>	<p>This is a literature review.</p>	<p>This study sought to incorporate knowledge of the individual who is being evaluated in the technical and scientific knowledge of occupational safety specialist, as it is believed that the assessed professional has the knowledge of the risks inherent in their profession. Integrating their knowledge with the knowledge of occupational safety professionals, prevention and control of occupational risks it would be better.</p>	<p>The author suggests changing practices and traditional and preventers work methodologies.</p>
<p>2008, Karine Kummer Gemelli, Eunice Fabiani Hilleshein, Liana Lautert.</p> <p>- The effects of work shifts on workers' health:</p>	<p>This study is a systematic review of the literature. Articles with cross-sectional, cohort and case-control</p>	<p>This study aimed to describe the effect of work shifts on worker's health. For this, a study was carried out to analyze the health of workers working in shifts or even on</p>	<p>It is suggested the development of research with other types of designs, allowing more accurate monitoring of the influence of work shifts on occupational health.</p>

<p>a Systematic Review.</p> <p>-Rev Gaúcha Enfermagem, Porto Alegre (RS).<sup>11</sup> SCIELO</p>	<p>were included.</p>	<p>fixed schedules, etc., and thus evaluate the influences on life, the health of these workers.</p>	
<p>2008, Helena Hemiko Iwamoto, Karoline Faria de Oliveira, Gilberto de Araújo Pereira, Bibiane Dias Miranda Parreira e Bethania Ferreira Goulart.</p> <p>- Occupational health: medical control and environmental risks.</p> <p>-Acta Sci. Health Sci.<sup>12</sup></p> <p>SCIELO</p>	<p>This is a retrospective study. There were data collection workers held.</p>	<p>The study has as guidelines the prevention, screening and early diagnosis of injuries to workers' health. There is an Occupational Health Control Program (PCMSO), the Federal of the University of Triângulo Mineiro evaluating the adherence of workers to the program, which aims to improve the quality of life.</p>	<p>Occupational health is recommended to seek new strategies for greater adherence of workers to the promotion, prevention and rehabilitation programs.</p>
<p>2011, Sylvia Boechat Coutinha, Ana Claudia Fiorini, Iára Bitante de Oliveira, Maria do Rosário Dias de Oliveira Latorre, Léslie Piccolotto Ferreira.</p> <p>- Vocal symptoms and laryngeal sensations in workers at a sugar and ethanol plant exposed to occupational risks.</p> <p>-Revista da Sociedade Brasileira de Fonoaudiologia.<sup>13</sup> LILACS</p>	<p>It was a field study, descriptive and exploratory in which workers observed and analyzed the data reported by workers. Quantitative.</p>	<p>Patient data analysis previously selected in groups for active observation of the signs and symptoms that occur due to their daily activities at work.</p>	<p>To avoid exposure to chemical and physical risks at work, as these are leading complications in their lives in the workplace.</p>
<p>2010, Samanta Rauber Gallas, Rosane Teresinha Fontana.</p> <p>- Biosafety and nursing in clinical</p>	<p>This qualitative study aimed to investigate concepts and nursing practice. The</p>	<p>This article shows the negligence of the nursing staff on the use of PPE and on their workload. So, these events are predisposing factors</p>	<p>It is suggested that professionals are affected by such accidents, as well as other professionals, will let their cleaner and healthier work</p>



care: contributions to the workers' health. -Revista Brasileira de Enfermagem. <sup>14</sup> SCIELO	data was collected through interviews and systematic observations.	for the occurrence of accidents.	environments. They should also pay attention to the negligence on the biosafety.
2008, Jorge Alberto Bernstein Iriart, Roberval Passos de Oliveira, Shirlei da Silva Xavier, Alane Mendara da Silva Costa, Gustavo Ribeiro de Araújo, Vilma Sousa Santana.  - Representations of informal jobs and health risks among housemaids and construction workers. -Ciência e Saúde Coletiva. <sup>15</sup> LILACS	Qualitative study, focusing on in-depth analysis of incidents of non-fatal work-related injuries based on a prospective cohort study.	The study aimed to analyze the representations and perceptions on the informality of employment and the health risks of injured unregistered workers. The workers recognize the importance of formal work because it offers guarantees of labor rights.	The study shows the need for greater disclosure and discussion About labor rights and the construction of public policies that address their safety and health. With regard to construction workers, it is necessary to greater enforcement of the labor laws.
2008, Jorgana Fernanda de Souza Soares, Marta Regina Cezar-Vaz, Raul Andrés Mendoza-Sassi Tabajara, Lucas de Almeida, Ana Luiza Muccillo-Baisch, Maria Cristina Flores Soares, Valdecir Zavarese da Costa.  - Perception of temporary workers on occupational risks in Rio Grande do Sul port, Rio Grande do Sul, Brazil. -Cad. Saúde Pública, Rio de Janeiro. <sup>16</sup> LILACS	It is a cross-sectional descriptive study with a quantitative approach to data held in Rio Grande port with temporary dock workers.	According to epidemiology, the risk is the probability of occurrence of an event relating to health. But each individual has a perception of the risk, because humans have different perceptions about the risks to which they are exposed. In other words, the risks are inherent to each professional, but each one has a different perception of it. Even with increased technology, there are new risks to these workers.	It is recommended that actions are carried out with workers in line with the activity carried out, to formulate procedures that effectively reduce the exposure to occupational risks and consequently mitigate diseases and accidents that may occur to this workers.
2008, Silvia Helena Henriques Camelo, Emília Luigia Saporiti Angerami.	Literature review.	The study tends to identify the categories of psychosocial risks related to work and	It is suggested unquestionably the importance of participation of institutions in the



<p>- Psychosocial risks at work that can lead to stress: an analysis of the literature.</p> <p>-Ciência do Cuidado em Saúde.<sup>17</sup> SCIELO</p>		<p>leading to stress. After identifying these risks, it is necessary to develop risk management strategies in the workplace.</p>	<p>development of strategies for identification of psychosocial risks in the work that can lead to occupational stress, as well as the implementation of interventions that promote beneficial results to the employee.</p>
<p>2007, Doroteia Aparecida Höfelmann, Nelson Blank.</p> <p>-Self-assessment health among industrial workers in Southern Brazil.</p> <p>-Revista de Saúde Pública.<sup>18</sup> LILACS</p>	<p>Cross-sectional study with a probabilistic sample of 482 metalworking industry workers in Joinville. Quantitative.</p>	<p>Industrial workers perform a self-assessment of their health and also of associated factors. And the prevalence of self-assessment prevailed socio-economic/demographic factors, lifestyle, psychosocial and health status, as the main negative aspects of the health of these workers.</p>	<p>It is suggested conducting more studies with greater depth in the measurement of aspects related to the control and physical and psychological demands on the workplace and inferring the cause and effect relationship.</p>
<p>2008, Daiana Picoloto, Elaine da Silveira.</p> <p>- Prevalence of musculoskeletal symptoms and associated factors among workers in a metallurgic industry of Canoas - RS.</p> <p>-Ciência e Saúde Coletiva.<sup>19</sup> SCIELO</p>	<p>This is a quantitative research. The analytical observational cross-sectional epidemiological method was used, to obtain data of symptoms in the study population and its associated factors.</p>	<p>A study was conducted with the objective of identifying the musculoskeletal symptoms reported by workers of a metallurgical industry in the city of Canoas-RS and their association with sociodemographic and occupational variables.</p>	<p>It is suggested that prevention of musculoskeletal symptoms in workers is an interdisciplinary task. For this, there is a preventive area that is growing within the health programs of companies, aiming at improving the quality of life of workers and the reduction of costs, particularly with the absences of employees.</p>
<p>2006, Marcia Tereza Luz Lisboa, Marcia Moreira de Oliveira, Lidiane Dias Reis.</p> <p>- Night work and nursing practice: A perception of nursing students.</p> <p>-Revista de Enfermagem da</p>	<p>It is a quantitative study.</p>	<p>The study has brought relevance on night work and SUS harmful and direct complications for the health of nursing workers. The survey was conducted from nursing students, who although only a minority of nursing students have had experience with the</p>	<p>Therefore, it is suggested that the inclusion of the theme about night work, for classroom discussion on nursing work and health of nursing workers. Addressing this issue further in the course of graduation in nursing, there will be a better preparation and awareness of the professional future.</p>

<p>Escola Ana Nery.<sup>20</sup> SCIELO</p>		<p>night work, most of them know some negative effects that can be caused by night work, but often associate only to the physiological aspects.</p>	
<p>2007, Elizabeth Rose Costa Martins, Regina Célia Gollner Zeitoune.  -Working conditions as triggering factor of substance use by nursing workers.  -Revista da Escola de Enfermagem Ana Nery.<sup>21</sup> LILACS</p>	<p>This is a descriptive study with qualitative approach.</p>	<p>The study had as its object the use of psychoactive substances by nursing staff and its relationship with work. In the study, the objective was to show the working conditions as a factor that triggers the use of these drugs by nursing staff. Working conditions that are related to personnel quantitative nursing staff, many patients, and so on.</p>	<p>It is recommended seeking to know the reality of working professionals nursing in a way that they can monitor situations where there is the use of psychoactive drugs by professionals and together with the occupational health service staff propose a care plan for this employees.</p>
<p>2011, Rosângela Marion da Silva, Carmem Lúcia Colomé Beck, Tânia Solange Bosi de Souza Magnago, Maria Isabel Sampaio Carmagnani, Juliana Petri Tavares, Francine Cassol Prestes.  - Night work and the impact on the nurses' health.  -Revista da Escola de Enfermagem Ana Nery.<sup>22</sup> LILACS</p>	<p>This study is characterized as a research field, descriptive with a qualitative approach.</p>	<p>This study presents and discusses the changes in the health of nursing professionals. These changes were perceived by them as a detrimental factor to health. This review was performed by nurses at nighttime. It was noticed that work shift is revealed with changes in biological balance, eating habits and sleep, loss of attention, the accumulation of errors in the humor state and family and social life.</p>	<p>It is suggested further studies investigating the relation of night work in nursing of physical activity practice during leisure time, with daytime sleepiness and overweight, in an attempt to identify possible relationships and their effects on workers' health.</p>
<p>2011, Queliãne Gomes da Silva Carvalho, Wanessa de Aguiar Pedrosa, Quitéria Pereira Sebastião.</p>	<p>It is a cross-sectional, exploratory study of a quantitative nature.</p>	<p>The study sought to understand the profile of workers in similar active age group admitted from 1997 to 2007 in the hematology hospital diagnosed with acute myeloid</p>	<p>It is recommended that health professionals have enough knowledge to relate certain conditions and the work environment, carried occupations and past history as well as the notification and correct</p>

<p>- Acute myeloid leukemia versus occupation: Profile of workers met in Recife Hematology Hospital.</p> <p>-Revista da Escola de Enfermagem da USP.<sup>23</sup> LILACS</p>		<p>leukemia (AML). From then on, it was the profession with the highest prevalence among workers who died. Also it was bothered to seek to identify occupational risks consistent with the onset of AML prevalent in professions.</p>	<p>and complete filling of admission forms and follow-up of these patients. It should also highlight the importance of increasing preventive and educational role of health professionals.</p>
<p>2009, Wilson Siguemasa Iramina, Ivan Koh Tachibana, Leonardo Motta Camargo Silva, Sérgio Médiçi de Eston.</p> <p>- Identification and control of construction occupational risks in a metropolitan region of São Paulo.</p> <p>-REM: R. Esc. Minas, Ouro Preto.<sup>24</sup> LILACS</p>	<p>Field, reports and records analyzes of the company and measurements of some agents was the method used to produce the study. Qualitative.</p>	<p>This work evaluated and discussed the risks in the operation units of the production process of crushed stone in an open pit mine and, thereafter, proposed control measures for the development of the Risk Management Program (RMP).</p>	<p>It is suggested improvements such as the use of drills, building a control cabinet for the crushing and screening and the use of video cameras.</p>

Chart 1. Production selected for analysis.

In a general analysis, among the selected studies, there were reports that avoiding workers being exposed to occupational risks of their respective companies, the number of industrial accidents and occupational diseases were minimal. But for this to happen, it is necessary to work continuously with health education to prevent diseases.<sup>2</sup>

It was clear that most public policies for safety and health of workers must be implemented, and along with these policies, supervision of works for their fulfillment. In addition, it should invest in the education of professionals to make them reflect on their actions and after that take correct attitudes. This issue was raised as a result of employee negligence and carelessness in their work environments. It is worth remembering that not all workers are negligent and reckless.<sup>14</sup>

The survey data concerning the main activities, class of workers, major diseases, among others, are essential for the companies to plan strategies that allow the control of occupational risks improving the quality of life of its employees. However, for the nurse's control be effective over the workers' health, it is necessary that the company has information systems for the recording of data concerning workers' health and their main occupational diseases.<sup>8</sup>



According to recommendations, the nurse who plans an action, implements and manages everything is at his fingertips to his planning will be successful because in this way will be working proactively, enabling the protection and recovery worker health when necessary.<sup>17</sup>

For a discussion of this study, thematic categories were necessary.<sup>5</sup> The construction of the three categories will be discussed below, carried out by reading the essence of the content and recommendations of the authors.

### **Category 1: Occupational risks management**

Occupational risks are due to work processes and originated from certain material components, machines, tools, facilities, physical space, working methods and other factors that may cause imminent risk to the health of these workers. The nurse is the main character in making the planning and management of occupational risks in the workplace.

In this regard, the distribution of occupational accidents when exposed to biological materials in reporting forms in the Worker's Health Reference Center of Londrina were analyzed. This survey revealed the high incidence of accidents with perforations, reinforcing the urgent need for constant vigilance and continuous training on the care in handling these objects.<sup>7</sup>

To this end, it is important to pay attention to the need for information systems and is essential for the development of a nursing planning and subsequent management of occupational risks to workers of any professional area. Thus, workers from oil platforms as the other professional classes are benefiting from access to the SIE, since access health information professionals help the healthcare professional to plan and manage these occupational risks, enabling the care to workers and the appropriate prevention in the workplace and also their health.<sup>8</sup>

There may be underreporting of accidents, but it is still uncertain what causes employees to notify or not their accidents. Thus, workers' compensation and mapping of the main occupational risks is difficult, since no one knows the number of affected workers and the right quantity of accidents that are occurring with these workers.<sup>9</sup>

The occupational risks management to prevent accidents will become better when the effective participation of the workers along with the safety multidisciplinary teamwork is effected, and then the planning guidelines and precautions that should be followed by employees, as the they know the real needs of its functions. But of course not ignoring the standardization of safety, guided by the team of safety and health at work.<sup>10</sup>

Thus, when analyzing the data, it is noticed that mandatory reporting creates an epidemiology of major occupational accidents in these health professionals, making the nurse rethink and plan lifelong learning, continuous training of health professionals in



their work environment. The nurse conducting educational activities continuously, will prevent occupational risks and manage these risks, thus promoting safe at work.

### **Category 2: Occupational risks and interferences on worker´s health**

Law Number 8,213, of July 24, 1991, which provides for the Plans of Social Security Benefits, the definition of industrial accident described in Article 19 is one that occurs by the exercise of work, on company, or by special insured labor service, causing personal injury or functional disorder, which causes death or reduce the capability of work, permanent or temporary. They are considered as well as the industrial accident commuting accidents, occupational diseases and work diseases.<sup>3</sup>

The work accident is a global problem due to the high rate of occurrence. Death and removing workers from their functions generate economic and political consequences for the whole society since these workers will be less productive, which will generate less revenue for the company and more expense to the government and even the company.<sup>2</sup>

The work shifts directly affect employee´s health, these shifts may be fixed, or rotating shifts. This type of work changes the worker rhythm of life and as result can lead to changes in quality of life, because the life cycle is being changed.<sup>11</sup>

Corroborating this, this type of work is a routine of many professionals of oil platforms and other professional categories, with major changes in workers´ health. Some of these changes are described below: cardiovascular disorders, sleep disorders and wakefulness, musculoskeletal disorders, metabolic disorders, tiredness, dissatisfaction at work, human errors and accidents and impaired family relationships. It is worth mentioning the last two losses to workers´ health since the oil platform workers work at sea in confined spaces, and are away from family and work in shifts facilitator to occupational risks exposure.<sup>11</sup>

There are also risks to acute or chronic injuries that are caused by high temperatures, noisy or dangerous machinery, toxic substances and even explosions. The survey of these risks and accidents (injuries) at work come from the suffering experienced over the years for these workers. These problems are mapped by the multidisciplinary team, as nurses, doctors, engineers and the workers. Thus, facilities, processes and working substances are classified according to the potential risks of causing damage to workers´ health.<sup>2</sup>

Therefore, it can be understood through the analysis of these references that there are many diseases resulting from the work that each employee carries. Through this, it is necessary to map these occupational diseases and occupations that these workers perform to proper planning of education for accident prevention and working conditions of these workers.

### **Category 3: The worker´s health on an oil rig**

The work on oil platforms is growing every day and with it the risks inherent in the profession become more evident. The population working in the offshore environment suffers from very high risks related to their profession as they are in confined environments, working with heavy materials and difficult to handle. Additionally, they are isolated from the population, or are working in a group, however, isolated from the family, relatives, friends, and others, which makes the work even more difficult. The importance of work and research in this area is evident.

During industrialization process, the workers act in a not very conducive environment, exposed to toxic substances, risky machinery, long working hours, among others.<sup>2</sup>

Below, there is a table with potential risks for worker's health in the area.

LIST OF POTENTIAL EXISTING RISKS
Slips and falls on the floor due to slippery and uneven floor surfaces.
Falls due to open spaces in floors and channels.
Falls from big heights.
Dangers associated with handling, transport and manual lifting tools, materials, among others.
Inadequate thermal environment, such as very hot one.
The possibility of fire and explosion.
Exposure to hazardous substances.
Exposure to equipment moving parts.
Monotonous and repetitive activities.
Poor lighting levels.

Chart 2. Source: Almeida (2003)

By the exhibition held above, it appears that the workers' health on oil platforms are in constant challenges because the risks these workers are exposed are huge, as well as social and psychological risks.

As for psychological issues, it can be said that it is a drama experienced by all employees of oil platforms, because they live confined for long periods of time and in tight spaces, away from family, friends, social life, among other. These issues can easily be transfixed by some workers, but for others it can be very difficult to adapt to this work environment, and may cause health problems.

With respect to occupational health, it is necessary to find new strategies for greater adherence of workers to the promotion, prevention and rehabilitation programs. Among these strategies, it can be inferred the adoption of healthy habits, the pursuit of

biopsychosocial balance between professional and personal life, creating an atmosphere of pleasant and productive coexistence among workers, among others.<sup>12</sup>

## CONCLUSION

The occupational risks management is a huge challenge for the whole multidisciplinary team of the health of certain companies, particularly in this study, working in the offshore environment. There is a high relevance in the planning of accident prevention goals since it is critical to the working environment having risk maps listing the main types of workplace accidents and also the methods to avoid these accidents.

The figure of the nurse in this planning in occupational health is important because the nurse has the training focused on the management and strategic planning, which makes it easier to prepare occupational accident research strategies and hence to prevent them. Thus, it is necessary to record all accident notifications within the company, even minimal, for mapping these accidents.

There are occupational health elements, which are a data set, and as an example there are accidents at work, occupational history, environmental risk factors, among others, and comprising a set of essential data for nursing in the area of occupational health. These data are elaborated from the notification of accidents, thus making these accidents known by the documentary record. This data can be further explored by the nursing staff in order to produce correct information for the performance of care practices, every day better in the occupational health area.

Therefore, it is worth noting the importance of research that addresses the risk management theme and interference with health workers on oil rigs as it has been little explored. To this end, on the analysis and discussion of the studied references, it is concluded that the occupational risks management is the best way to reduce and prevent accidents at work that is occupational accidents. The association between worker and multidisciplinary health team is very important for the mapping of the main occupational risks and subsequent strategic planning for the control, prevention and rehabilitation of this worker.

## REFERENCES

1. Marques G. 10 perguntas e respostas para ajudar você a entender a Enfermagem Offshore 2010. Available from: <http://www.enfermagemoffshore.com.br/sections.asp?sectionID=51&sectionParentID=4>
2. Almeida TCM. O sistema de gestão de segurança e saúde dos trabalhadores: estudo de caso em uma indústria petroquímica no RJ [Dissertação de mestrado]. Rio de Janeiro: Universidade Federal Fluminense. Curso de Engenharia. 2003
3. BRASIL. Ministério do Trabalho e Emprego. Lei nº 8213 de 24 de julho de 1991. Planos de Benefícios da Previdência Social. [internet]. Available from: [http://www.planalto.gov.br/ccivil\\_03/leis/l8213cons.htm](http://www.planalto.gov.br/ccivil_03/leis/l8213cons.htm).
4. BRASIL. Ministério do Trabalho e Emprego. Portaria GM nº 202, de 22 de dezembro de 2006. NR 33 - Segurança e saúde nos trabalhos em espaços confinados. [internet]. Available from: [http://portal.mte.gov.br/data/files/FF8080812BE914E6012BF2FE9B8C247D/nr\\_33.pdf](http://portal.mte.gov.br/data/files/FF8080812BE914E6012BF2FE9B8C247D/nr_33.pdf) >
5. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 10 ed. São Paulo(SP): Hucitec, 2007.
6. Figueiredo AM, Souza SRG. Como elaborar projetos, monografias, dissertações e teses. Da redação científica a apresentação do texto final. Rio de Janeiro(RJ): Lumen Juris, 2005.
7. Spagnuolo RS, Baldo RCS, Guerrini IA. Análise Epidemiológica dos acidentes com material biológico registrados no Centro de Referência em Saúde do Trabalhador - Londrinas-PR. Rev Bras de Epidemiol. 2008; 11(2): 315-23. Available from: <[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1415-790X2008000200013](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1415-790X2008000200013)>
8. Silveira DT, Marin HF. Conjunto de Dados Mínimos em Enfermagem: identificação de categorias e itens para a prática de enfermagem em saúde ocupacional ambulatorial. Rev Bras de Enferm. 2006; 59(2): 142-7. Available from: <[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0034-71672006000200004](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672006000200004) >
9. Chiodi MB, Marziale MHP, Robazzi MLCC. Acidentes de trabalho com material bilógico entre trabalhadores de unidades de saúde pública. Rev Latino-Am de Enferm. 2007; 15(4): 123-29. Available from: <[http://www.scielo.br/scielo.php?pid=S0104-11692007000400017&script=sci\\_arttext&tlng=pt](http://www.scielo.br/scielo.php?pid=S0104-11692007000400017&script=sci_arttext&tlng=pt)>
10. Nascimento ELA, Vieira SB, Cunha TB. Riscos Ocupacionais: das metodologias tradicionais á análise das situações de trabalho. Fractal: Revista de Psicologia. 2010; 22(1): 115-26. Available from: <[http://www.scielo.br/scielo.php?pid=S1984-02922010000100009&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S1984-02922010000100009&script=sci_arttext)>



11. Gemelli KK, Hilleshein EF, Lautert L. Efeitos do trabalho em turno na saúde do trabalhador: Revisão Sistemática. *Rev Gaúcha de Enferm.* 2008; 29(4): 639-46. Available from: <http://seer.ufrgs.br/RevistaGauchadeEnfermagem/article/view/7637/4692>
12. Iwamoto HH, Oliveira KF, Pereira GA, Parreira BDM, Goulart BF. Saúde ocupacional: controle médico e risco ambientais. *Acta Sci. Health Sci.* 2008; 30(1): 27-32. Available from: <http://periodicos.uem.br/ojs/index.php/ActaSciHealthSci/article/view/4384/3093>
13. Coutinho SB, Fiorini Ac, Oliveira IB, Latorre MRDO, Ferreira LP. Sintomas Vocais e sensações laringes em trabalhadores de usinas de álcool e açúcar expostos a riscos ocupacionais. *Rev Soc Bras Fonoaudiol.* 2011;16(3):266-72. Available from: [http://www.scielo.br/scielo.php?pid=S1516-80342011000300006&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S1516-80342011000300006&script=sci_arttext)
14. Gallas SR, Fontana RT. Biossegurança em enfermagem nos cuidados clínicos: contribuições para a saúde do trabalhador. *Revista Brasileira de Enfermagem.* 2010; 63(5): 786-92. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0034-71672010000500015](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672010000500015)
15. Iriart JAB, Oliveira RP, Xavier SS, Costa AMS, Araújo GR, Santana VS. Representações do trabalho informal e dos riscos à saúde entre trabalhadoras domésticas e trabalhadores da construção civil. *Ciência e Saúde Coletiva.* 2008; 13(1): 165-74. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1413-81232008000100021](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232008000100021)
16. Soares JFS et al. Percepção dos trabalhadores avulsos sobre os riscos ocupacionais no porto do Rio Grande, Rio Grande do Sul, Brasil. *Cad. Saúde Pública,* 2008; 24(6):1251-1259. Available from: [http://www.scielo.br/scielo.php?pid=S0102-311X2008000600006&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S0102-311X2008000600006&script=sci_arttext)
17. Camelo SHH, Angerami ELS. Riscos psicossociais no trabalho que podem levar ao estresse: uma análise da literatura. *Cienc Cuid Saude* 2008; 7(2): 232-240. Available from: <http://periodicos.uem.br/ojs/index.php/CiencCuidSaude/article/view/5010/3246>
18. Hofelmann DA, Blank N. Auto-avaliação de saúde entre trabalhadores de uma indústria no sul do Brasil. *Rev Saúde Pública.* 2007; 41(5): 777-87. Available from: <http://www.scielo.br/pdf/rsp/v41n5/5899.pdf>
19. Picoloto D, Silveira E. Prevalência de sintomas osteomusculares e fatores associados em trabalhadores de uma indústria metalúrgica de Canoas - RS. *Ciência e Saúde Coletiva.* 2008; 13(2): 507-516. Available from: [http://www.scielo.br/scielo.php?pid=S1413-81232008000200026&script=sci\\_abstract&tlng=pt](http://www.scielo.br/scielo.php?pid=S1413-81232008000200026&script=sci_abstract&tlng=pt)
20. Lisboa MTL, Oliveira MM, Reis LD. O trabalho noturno e a prática de enfermagem: uma percepção dos estudantes de enfermagem. *Escola Anna Nery R Enfermagem.* 2006; 10(3): 393-98. Available from: <http://www.scielo.br/pdf/ean/v10n3/v10n3a06.pdf>
21. Martins ERC, Zeitoune RCG. As condições de trabalho como fator desencadeador do uso de substâncias psicoativas pelos trabalhadores de enfermagem. *Esc Anna Nery Rev Enferm.* 2007; 11(4): 639-44. Available from: <http://www.scielo.br/pdf/ean/v11n4/v11n4a13.pdf>

22. Silva RM et al. Trabalho noturno e a repercussão na saúde dos enfermeiros. *Esc Anna Nery* (impr.)2011; 15(2): 270-276. Available from: <[http://www.scielo.br/scielo.php?pid=S1414-81452011000200008&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S1414-81452011000200008&script=sci_arttext)>
23. Carvalho QGS, Pedrosa WA, Sebastião QP. Leucemia mieloide aguda versus ocupação profissional: perfil dos trabalhadores atendidos no Hospital de Hematologia de Recife. *Rev Esc Enferm USP*. 2011; 45(6): 1446-51. Available from: <<http://www.scielo.br/pdf/reeusp/v45n6/v45n6a24.pdf>>
24. Iramina WS, Tachibana IK, Silva LMC, Eston SM. Identificação e controle de riscos ocupacionais em pedreira da região metropolitana de São Paulo. *REM: R. Esc.* 2009; 62(4): 503-09. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0370-44672009000400014](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0370-44672009000400014)



Recebido em: 20/04/2014  
Revisões requeridas: Não  
Aprovado em: 17/09/2015  
Publicado em: 03/04/2016

Contact of the corresponding author:  
Alessandra Conceição Leite Funchal Camacho - Departamento de Fundamentos de Enfermagem e Administração da Escola de Enfermagem Aurora de Afonso Costa - Universidade Federal Fluminense - EEAAC/UFF. End: Rua: Dr. Celestino, nº 74, 4º andar, sala nº 41 - Centro - Niterói/RJ. E-mail: cicacamacho@gmail.com.