

# Risk management in the scope of nursing professionals in the hospital setting

*O gerenciamento de risco no âmbito da saúde de profissionais de enfermagem no contexto hospitalar*  
*La gestión de riesgo en el ámbito de la salud de profesionales de enfermería en el contexto hospitalario*

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## ABSTRACT

**Objective:** To evaluate occupational hazards affecting nursing professionals' health in the environment of the hospital. **Method:** Descriptive-exploratory research with a qualitative approach. **Results:** The main hazards affecting nursing professionals were work overload due to the large number of patients or the small number of professionals, inadequate infrastructure, and insufficient organizational management. It became evident the work interferences in the nursing professional's life are enormous. Despite the existence of health occupational risk management, there is still a shortage of bigger endeavors to be employed in the hospital routine. As a main result of the study, a Standard Operational Protocol (SOP) for biological risk was created to be applied in a hospital setting. **Conclusion:** Based on the identification of occupational hazards, it was suggested the Standard Operational Protocol which should be standardized to manage biological occupational hazards, to ensure the adequate flow of procedures after the exposure, as well as the occupational safety of nursing professionals. **Descriptors:** Occupational Health Nursing; Nursing; Risk Management; Safety Management; Health.

## RESUMO

**Objetivo:** Avaliar os fatores ocupacionais que afetam a saúde dos profissionais de enfermagem no âmbito hospitalar. **Método:** Pesquisa descritivo-exploratória com abordagem qualitativa. **Resultados:** Os principais fatores que afetaram os profissionais de enfermagem foram a sobrecarga de trabalho pelo número grande de pacientes ou número diminuído dos profissionais, infraestrutura inadequada e organização gerencial insuficiente. Evidenciou-se que as interferências do trabalho na vida do profissional de enfermagem são enormes, visto que, apesar de existir um gerenciamento de riscos ocupacionais, ainda há carência de maiores esforços para aplicá-lo na rotina do hospital. Como resultado principal do estudo, criou-se um Protocolo Operacional Padrão (POP) de risco biológico para ser aplicado no hospital-cenário. **Conclusão:** Sugere-se, a partir da identificação desses fatores ocupacionais, a uniformização do POP para gerenciamento de riscos ocupacionais biológicos, com o intuito de garantir fluxo adequado após exposição, assim como a segurança ocupacional dos profissionais de enfermagem. **Descritores:** Enfermagem do Trabalho; Enfermagem; Gerenciamento de Risco; Gestão de Segurança; Saúde.

## RESUMEN

**Objetivo:** Evaluar los factores ocupacionales que afectan la salud de los profesionales de enfermería en el ámbito hospitalario. **Método:** Investigación descriptiva exploratoria con abordaje cualitativa. **Resultados:** Los principales factores que afectaron los profesionales de enfermería han sido la sobrecarga de trabajo por el número grande de pacientes o número diminuído de los profesionales, infraestructura inadecuada y organización administrativa insuficiente. Se ha evidenciado que las interferencias del trabajo en la vida del profesional de enfermería son enormes, visto que, a pesar de existir una gestión de riesgos ocupacionales, aún hay carencia de mayores esfuerzos para aplicarlo en la rutina del hospital. Como resultado principal del estudio, se ha creado un Protocolo Operacional Estándar (POP) de riesgo biológico para ser aplicado en el hospital escenario. **Conclusión:** Se sugiere, a partir de la identificación de esos factores ocupacionales, la uniformización del POP para gestión de riesgos ocupacionales biológicos, con el objetivo de garantizar flujo adecuado pos exposición, así como la seguridad ocupacional de los profesionales de enfermería. **Descritores:** Enfermería del Trabajo; Enfermería; Gestión de Riesgo; Gestión de Seguridad; Salud.

## INTRODUCTION

According to Law 8080/90, in its art. 6, paragraph 3, employees' health entails every activity aiming epidemiological surveillance and health inspection, promotion and protection of employees' health, as well as the recovery and rehabilitation of whom were exposed to hazards and injuries resulted from their conditions on the job. Therefore, it is essential to provide adequate assistance to employees who are victims of accidents on the job or have an occupational disease caused by the job, according to the terms of the law<sup>(1)</sup>.

Initially, it is important to emphasize that the workplace environment of many professionals is unsatisfactory, which can be verified by administrative problems, insufficient human resources, equipment, in addition to an inadequate physical structure from the ergonomic point of view. It is also observed, in several health institutions, poor working conditions for many professionals, which will be becoming risk factors predisposing to occupational diseases<sup>(2)</sup>.

Balthazar et al. pointed out the perception by nursing professionals of the existence of risk factors and its frequency in the workplace, such as fail to identify the emergency exits, move around furniture, risk of electrical shock, exposure to excessive humidity, exposure to noise, exposure to biological hazardous material, risk of contact with chemical substances, physical effort that could end up in fatigue, use of forced ergonomic postures to perform some activity, monotonous routine tasks, insufficient resources to carry out the job, conflict with the administration or supervisors, little chance of promotion and exposure to hepatitis viruses. Consequently, health professionals are vulnerable and susceptible to the risks mentioned above and to the possibility of developing particular diseases<sup>(3)</sup>.

In that same study<sup>(3)</sup>, the authors highlighted the main health issues related to the nursing profession, such as infectious diseases, intoxication by metals or other substances, joint problems, spinal injuries, health issues in the nervous system, sleeping disorders, alcoholism, drug use, aggression or violent behavior, and organ disorders.

According to the European Commission<sup>(4)</sup>, psychosocial factors considerate capable of generating occupational diseases in the workplace are stress, violence, excessive working hours, bullying, etc. At national and international levels several job factors that can lead to psychosocial stress, which could leave to occupational diseases.

In view of these factors, an alternative to minimize the emotional distress and possible employees' illness is the occupational risk management. For Furini et al.<sup>(5)</sup> the lack of a risk management program generates underreporting, lack of knowledge about the subject, and the wrong interpretation of the purpose of the processed data. Nurses working in institutions believe the reason for underreporting harmful events is lack of information, 81.81%; fear of being punished, 54.54%; time pressure, 27.27%; no access to the printed form, 9.09%; and yet 9.09%, think the notification is not important. In this sense, the role of the nurses in risk management must be highlighted to promote continuing education that will encourage professional's notification.

Therefore, it is observed the importance of identifying occupational risk factors that affect the professional's health, which would subsidize occupational risk management in institutions as a preventive measure in case of health complications.

## OBJECTIVE

To evaluate occupational hazards affecting nursing professionals' health in the environment of the hospital.

To describe the interferences of occupational hazards in nurses' health working in the hospital; discuss nurses' knowledge regarding exposure and management of occupational risks in the hospital; and build a Standard Operating Protocol (SOP) to deal with biological risk management.

## METHODS

### Ethical aspects

This study was submitted to and approved by the Research Ethics Committee. To comply with Resolution 466/12 of the National Health Council, the Informed Consent Form was presented to the participant or guardian. The beginning of the research was conditioned to this consent.

### Theoretical framework

The framework used as base for the data analysis in the discussion was Dejours<sup>(6)</sup>.

### Type of study

This is a descriptive-exploratory research with a qualitative approach. Information was gathered through a semi-structured interview with open questions.

### Methodological procedures

The instruments used for gathering information were analyzed as to their content and structure by two experienced professionals in occupational health, and a pilot test was performed on the first day of data gathering to corroborate the instruments' feasibility. The interview addressed sociodemographic issues; occupational and health aspects; accidents in the workplace; occupational diseases and other diseases. From the analysis of the interview, it was possible to have knowledge about issues related to the population sociodemographic characteristics and their occupational and health aspects.

The inclusion criteria were to be a nurse or nursing technicians, working in any section, both administration and care assistance. Exclusion criteria were to be on sick leave or leave of absence for many reasons, or on vacation, during the data gathering period.

### Study setting

Data gathering was performed in all sections of a university hospital located in the state of Rio de Janeiro, from June to November 2015 and from January to February 2016. Presently, the nursing staff is constituted of 160 nurses, 211 nursing technicians, 208 nursing assistants and 11 nursing attendants. A convenience sample was obtained to do the research.

### Collection and organization of data

The search for interviews started from the 8<sup>th</sup> floor to the lobby, on different days; therefore, different professionals (from

different shifts) who agreed to participate in the study by signing the informed consent form were interviewed.

It was possible to interview nurses and nursing technicians from the following wards: Emergency, Infectious and Parasitic Diseases (IPD), Intensive Care Center (ICC), Mixed Nursing, Pediatrics, Female and Male Medical Clinic (FMC and MMC), Female Surgical Clinic and Male (FSC and MSC), only excluding the Maternity Ward, where nurses and nursing technicians did not want to participate in the research. So, 12 nurses and 10 nursing technicians were interviewed. The interviews lasted an average of 42 minutes. Figure 1 illustrates the participants collection flowchart.

### Data analysis

Data analysis was based on the premises of the content analysis, using three consecutive stages for data treatment / analysis: pre-analysis; information assessment; and interpretation<sup>(7)</sup>. Initially, the preparation was carried out by identifying different samples of information which would be analyzed; then, all the spoken discourses were read to decide which ones would actually be analyzed in accordance with the research objectives.

The research coding process was performed by establishing a code that would be make possible to quickly identify each element of the sample of testimonies or documents to be analyzed. From this point forward, the testimonies were separated according to the questions.

That would be made possible by dividing the information, extracted from the spoken discourses, into analytical categories to reunite in grouping items. Based on the frequency of thematic groups within the categories, we started the process of describing and interpreting the results, establishing our inferences and findings. In that way, the content delivered by the interviewees who emphasized and / or addressed the same premise, placements and subjects were grouped and discussed.

The second moment was the encoding unitization. The material was carefully reread to define the unit of analysis, that is, the statements were identified in their full presentation, and afterwards similar statements were regrouped according to their context.

After that it was performed the categorization: data were arranged considering what they had in common, its validity, exhaustivity, inclusiveness, exclusivity, objectivity, reliability. Finally, we arrived at the description, the “communication” of the result. Hence, we arrived at the categories and subcategories presented in the results.

To guarantee privacy, the participants were identified by colors: nurses - brown, pink, green, lilac, yellow, white, grey, blue, black, purple, orange, gold; and nursing technicians - beige, navy blue, silver, graphite, salmon, red, hot pink, pistachio, pumpkin, yellowish brown .

### RESULTS

Of the 22 participants interviewed, the majority were female, over 50 years old, with experience of 6 to 10 years on rotating shifts schedule.

Among the categories to be addressed, the first one refers to occupational risk factors that interfere with the health of nursing employees, to answer to the general objective; the second one refers to educational actions regarding risk preventions. Subsequently, it was addressed the issue of knowledge about exposure and occupational risk management in a hospital setting, which presented the subcategory notification and monitoring after exposure to hazards.

From these categories, the study sought to ascertain different situations nursing professionals are exposed to and the respective interferences that directly affect their health, so that the second objective of the study could be answered.

#### Interfering of risks on health of nursing employees: overload and exposure to hazards

The current work overload has been directly interfering in the employees’ lives, so much so that some professionals reduce their work rhythm or withdraw completely from their job activities due to occupational diseases developed throughout their lives. Therefore, it is observed that some nursing professionals from

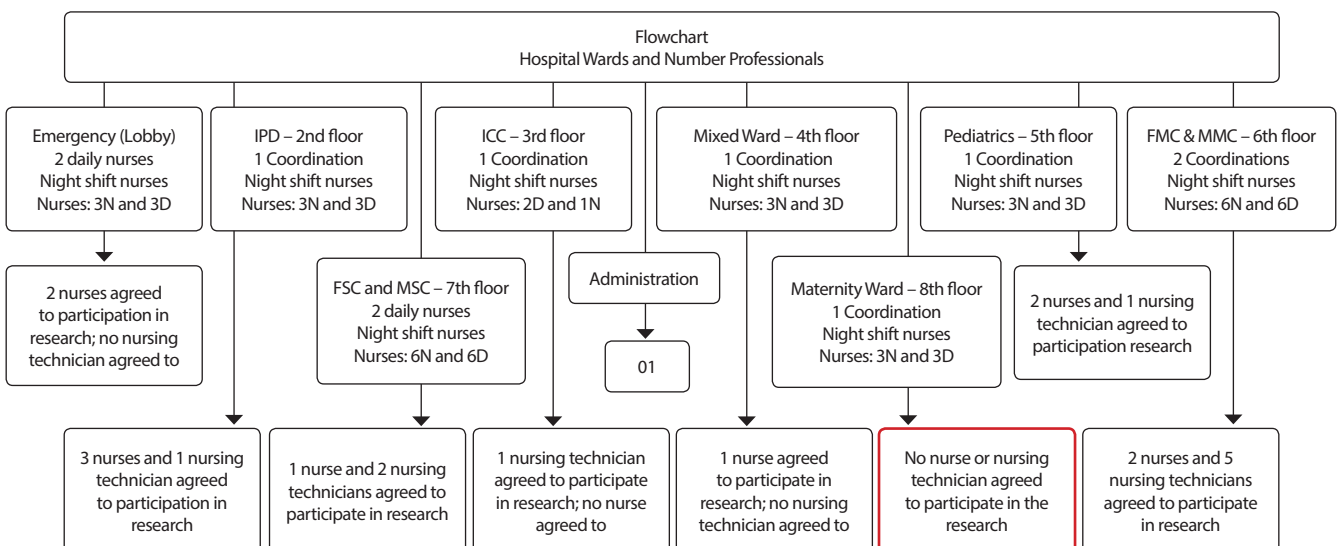


Figure 1 – Research Selecting Participants Flowchart, Niteroi, Rio de Janeiro, Brazil, 2015

the different hospital clinics reported their anguish and concerns regarding work overload.

From this perspective, work overload is identified by the exhausting routine that causes employees discomfort, frustration, physical and mental disturbances. This happens because these professionals suffer greater susceptibility and vulnerability since they are on the front line of healthcare and do not have recognition.

As causes that precipitate vulnerability, we have the small number of nursing staff, complex patients who inspire specialized care, lack of training professionals to deal with adverse situations, etc.

This is evidenced in the statements of the following interviewees:

*Sometimes, we really get overwhelmed. Sometimes we must work at the maximum capacity of patients, patients with serious disease, which demand more care; then we really get overwhelmed.* (YELLOW)

*We can even organize well the workload, but we always have a staff problem.* (BLACK)

*Sometimes, yes, even due to the reduced number of staff.* (PURPLE)

In the present study it became also clear that ergonomic hazards are strong factors burdening nursing professionals. Physical exhaustion comes from lack of procedures which should be avoided, such as fail to provide better equipment, institution's internal organization flow and distribution of the nursing staff.

*Ergonomic risk factors, such as old broken stretchers, which you cannot handle properly anymore, therefore we must apply physical effort.* (LILAC)

Such factors cause sick leaves due to occupational diseases, highlighting the interferences in the employee's health, as reported below:

*It was due to the job, I have vertebral column problems, I already had a sick leave because of the vertebral column; I already had this issue when I worked in the ICU. I had tonsillitis, pharyngitis, every 15 days, every 20 days.* (PURPLE)

The following testimonies show the need to reorganize the distribution of human resources according to the patient's complexity.

*There is work overload. A lot. It is almost unanimous.* (LILAC)

*There are 20 beds. We have a very complex nursing ward with a reduced number of nursing technicians, like 4 or 3. We should have at least 5 nursing technicians working here And also the complexity of the patient's illnesses and lack of doctors on duty, that's for sure too* (ORANGE)

When health professionals finds themselves overwhelmed and worn out due to so many situations and problems, such as the lack of professionals in the staff, higher numbers of patients, among other issues, the employee starts to show physical exhaustion which could lead to occupational, and even psychological diseases. Thus, the depreciation and demotivation on the job begin to turn into psychic overload, and many professionals do

not support such pressure, as we see in the report of the next professional:

*In 2012, I was on sick leave for 3 months due to depressive disorder, which was related to the psychological stress I was going through. It was related to my job in the night shift in the emergency department. I had also developed conflicts with the nursing staff, in relation to the patients' condition.* (PINK)

Other deponents indicate work overload because colleagues absenteeism due to occupational illness or accident on the job, accumulation of functions, large number of hospitalized patients, and the job organization in the public hospital, which often present a shortage in the working staff, among other reasons.

*I feel overwhelmed in the sense that when someone takes a sick leave -- and I am at the end of my nursing career -- there are no professionals to cover for that person. One of the nurses has been on sick leave for almost a year and there is not another person to cover for this professional. On the last shift I had to do the job of a nursing technician because there was only me and another nurse; the second person did not show up, and there was nobody else.* (GREY)

*No, I never took a sick leave, I currently have a low back pain, which is acting out today. I took the anti-inflammatory medication and came to work.* (WHITE)

*We have some health problems that I cannot say that were only due to the job, but I have activity limitations due to spinal injuries.* (BLACK)

*I have already taken a sick leave due to tendonitis and ankle torsion.* (RED)

When asked if she has another illness as a result from the job, a deponent reported her initiative in seeking help to be able to cope with the painful daily job facing death:

*Look, I think I could use burnout as an excuse, because of the stress due to my job activities.* (GREY)

There is a report by a professional who indicates the reduction in the number of beds as a measure to reduce overload:

*No [...] it was not for the sake of reducing the number of employees, there was a reduction in the number of beds as well [...].* (PINK)

### **Educational/Administrative actions to prevent occupational hazards**

It is of significant importance the promotion of effective educational actions to avoid occupational hazards which the health professionals may be exposed.

On this aspect of the analysis, let us see what a female deponent report about the educational actions she develops in her practice:

*I think the material was distributed in all nursing wards to be seen in all the bulletin boards describing the hazardous material accidents flowchart.* (GREEN)



From this perspective, a female deponent signaled the need for planned management actions involving continuing education:

*When it comes to the regulations, we have the Standard Operational Protocol for all nursing specialties and procedures which stays in the ward [...] but, so specifically well directed, that does not exist. (BLUE)*

When a male nurse was asked whether meetings are held to provide guidance on the risks inherent to the job, the answer was negative, as can be seen in the following report:

*No. We are starting now, to guarantee patient's safety and to avoid the risk of falls. The personnel are organizing to do so. Now for us, employees, I have not seen anything, although it might even have it. (BROWN)*

So, it becomes evident, in this way, that there is no standard educational action for the hospital nurses regarding the prevention of occupational hazards and illnesses. It appears that the employee himself does not have the clarity to identify the need to take care of his own health. Thus, it is necessary that the institution provides and invests in educational actions for its health employees, and in the case of this study, the nursing employees.

### **Nurses' knowledge on occupational exposure and risk management in the hospital setting: notification and monitoring after exposure to risks**

The notification and monitoring of occupational accidents are important for the health of the nursing professional. It would be possible to take steps to control hazards only by knowing which ones pose main threats to health professionals. However, for this to happen, it is necessary to notify and monitor the cases of occupational accidents, and accompanying the protocol flow, as described in the following reports:

*They are first referred to the DIP for their first consultation, fill a form, answer questions, and everything is recorded. Professional's blood is drawn at the time of the accident, as well as it is collected from the source, if the source is known. (GREEN)*

*They are communicated through the Internal Communication of Accidents at Work, but there are people who does not bother, they do not fill the form. If nobody noticed any accident. Some people just do not want to do it. (BROWN)*

The initial identification of the main types of disasters and hazards is essential to prevent occupational accidents. For this reason, the communication carried out in the hospital through the Comunicação Interna de Acidente de Trabalho (CIAT - Internal Communication of Accidents at Work) is fundamental, because it helps to keep in the hospital's "memory" the imminent risks within its unit and in addition assist the development of risk management. It would allow to perform studies to improve the quality of services provided by nurses and their respective nursing staffs, since many chemical, ergonomic and biological hazards, such as the ones described below, could have been prevented. Furthermore, the notification of accidents on the job supports the employees in terms of guaranteeing their labor rights.

It is significant that the employee becomes aware of his responsibility for his own health and conduct all procedures safely. He must also officially report any accident. In this sense, let us see the account of one of the interviewees:

*Yes, I already had an accident with sharp object, but it was a hypodermic needle. I was treated right here, and I was referred to the controller committee. (PINK)*

*Yes, but I did not know if I had to take immunoglobulin for hepatitis because I was not notified by the hospital. I had to act and look for the entire process by myself. (LILAC)*

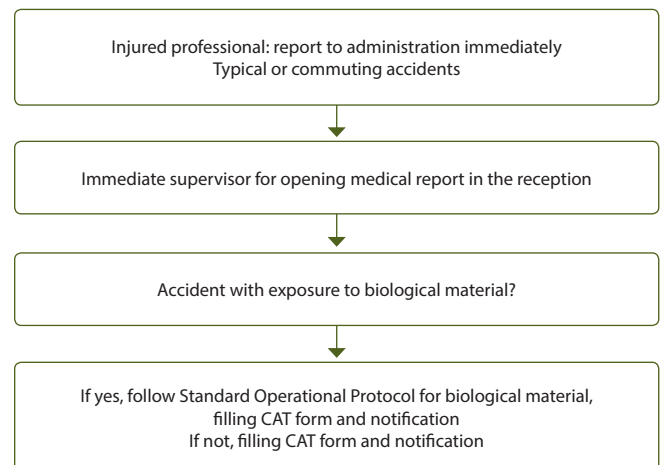
*I pierced myself with a sharp object. My blood was sent to the emergency, the prophylactic scheme was put into practice and a notification was issued. (RED)*

Besides accidents with sharp objects, which appear to be more often, there are also other types of accidents, such as falls, infections acquired from a patient, etc. The nursing professional is susceptible to all kinds of issues in the work environment and, if the necessary steps are not taken to prevent these risks, they may occur during the working days.

From the results observed and analyzed, taking into consideration the situation of the institution, a Standard Operational Protocol was created (Figure 2), which will be taken to the institution as a protocol suggestion to help the process of notification and guide future practices for risk management, specifically to biological hazards. The Standard Operational Protocol was designed by using the biological hazard protocol because it was the risk with the greatest number of notifications presented in the field.

### **Standard Operational Protocol after risk management in the university hospital**

#### **Flowchart after the accident**



**Figure 2** – Standard Operational Protocol for Job Accidents, Niteroi, Rio de Janeiro, Brazil, 2015

#### **General proceedings after contact with biological hazardous material (related to Figure 2):**

1. Clean the area immediately with soap and water;
2. In case of accident with membranes and mucous membranes,

- irrigate immediately with clean water or saline solution;
3. In case of accident with the ocular membrane, irrigate the eyes with clean water or sterile ophthalmic solution;
  4. Immediately report the responsible sector;
  5. In the event of accident with sharp objects, it will be necessary to collect a blood sample to perform serological tests on the victim and the client/patient being treated. They must wait the collection of material for exams.
  6. The professional responsible must fill out the complete accident notification form regulated by the Biosafety Commission and the standard form of the Secretaria Municipal de Saúde (Municipal Department of Health);
  7. If the victim of the accident is an institution employee, he / she must also be referred to the Human Resources to fill out the CAT form (Work Accident Register)
  8. The accident victim must undergo serological tests (anti HIV, anti-HCV, HBsAg) 30, 60 and 180 days after the accident; and deliver the result to the professional responsible for the registration;

#### OBSERVATIONS:

- Serology must be performed after an accident with sharp objects or body fluids in mucous membranes, however it is not mandatory;
- The communication must be carried out immediately, since prophylaxis with antivirals must start in no more than 2 hours (preferably in the first hour) after the accident.
- Accident victims who refuse to perform the serological routine proposed by the institution must be aware of the fact and sign a term of commitment, which will be filed with the Municipal Health Secretariat.

Source: Adapted from [cgj.tjsc.jus.br/dna/docs/rotinas\\_acidentados.doc](http://cgj.tjsc.jus.br/dna/docs/rotinas_acidentados.doc)

## DISCUSSION

When nursing professionals are aware of their health problems, along with the main risk factors on the job, it may be possible to develop intervention alternatives that could promote changes in the way how employees obtain knowledge and develop their own progress.

So, it was ascertained that information, formation/training, and the knowledge construction in the proper way, and, also, complying with regulations, are strategies that would contribute to the employee's occupational health, turning the job safer and healthier<sup>(3)</sup>.

The excessive workloads occur thanks to a culture and a form of organization within the health institutions, which allow the reality of wards packed with bedridden, as well as, terminally ill patients, many of them with open sore wounds, among other circumstances already exposed, which compromise the quality of treatment.

Because of this, many employees fall ill, feel underappreciated, unmotivated, distressed, and stay away from the job. This occurs, as Dejours<sup>(6)</sup> says, because the initially job proposal does not always match the reality experienced by the employees causing anguish and displeasure on the job.

For Dejours<sup>(6)</sup>, all excess leads to fatigue and suffering. The author states that if there is no interruption to stop the evolution of this process and if there are no changes immediately in

the organization where the employee works fatigue will trigger a pathology. There is also a risk related to the dynamics on the job, which refers to the beginning, genesis and, also the changes in mental distress linked to the work organization.

In this line of thinking, Balthazar et al.<sup>(3)</sup> understand that, as the health problems of nursing professionals and risk factors on the job are recognized, it becomes possible to develop alternatives for intervention that lead health employees to experience a human dimension on the job. Therefore, information, adequate job training and compliance with regulations are strategies that contribute to occupational health, enabling the performance on the job in a safer and healthier way.

The employee, due to the job situation that is daily imposed, characterized by a low number of professionals, many inpatients, lack of resources, inadequate infrastructure, etc. finds himself overwhelmed and tired living in this routine. After years of work it causes health problems, which often take the professional away from the job to take care of their own health.

It was noticed that occupational diseases cause nursing professionals to leave their duties to deal with their own health issues, thus generating an even greater deficit of professionals effectively working in the hospital. Furthermore, the public treasury also takes a toll because when professionals are injured or ill by some work-related disability, they continue to receive their wages, sickness benefits, among other sources of income, without performing any type of work. or offering benefits to their employment institutions and even the government. Therefore, health professionals on leave are considered patients who demand a lot of social and fiscal burdens for the government and employing institutions, consequently generating overburden and fatigue into the system itself.

However, the health situation that nursing professionals have been experiencing cannot be left aside, since absenteeism is necessary to improve and restore these professional's health, so that they can provide quality care for their patients, instead of becoming the patient.

As to the notification of accidents on the job, it must start by identifying the main types of accidents and hazards, since it is fundamental for the prevention of occupational accidents. For this reason, the communication carried out in the hospital through internal communication of accidents at work is essential, as it helps to keep the imminent risks in the hospital's "memory" within its unit, assists in the construction of risk management and promotes studies to improve the quality of services provided by nurses and their respective nursing staffs. In addition, the notification of accidents supports the employees' labor rights guarantees.

Alves et al.<sup>(8)</sup> affirm that when occupational hazards are early identified, the preventive power prevails over illnesses and accidents on the job, allowing a decrease in the occurrence of accidents and health problems.

Neves et al.<sup>(9)</sup> report some barriers against the use of EPI (Individual Protective Equipment – IPE), revealing low adherence to their usage; this befalls due to organizational, administrative and relational aspects (inadequate physical structure, availability and accessibility to protective equipment, lack of routines, work overload, stress, improvisation and strain in the work relations).

Several studies point out the nursing staff as the profession most involved in accidents on the job during the work practice,

being sharps devices the object most frequently the cause of accidents on the job<sup>(10)</sup>.

Silva et al.<sup>(11)</sup> affirm that it is essential that leaders of health entities and institutions in question, promote, encourage and value the updating and development of nursing professionals in the face of innovations, changes and scientific innovations that are constantly taking place in the health area.

Hospitals must be up-to-date and enthusiastic to spread those changes among their employees, aiming better technical and scientific qualifications. Moreover, nursing professionals must be a vehicle to transmit the expertise between theory and practice, taking these concepts to their job routine, disseminating among other professionals the interest to pursue knowledge: everything is fundamental for a good health assistance.

According to Pinto et al.<sup>(12)</sup>, from all the teaching-learning strategies available for implementation a Continuing Education (CE), there is the predominance of the expose dialogue and problematization of cases. Thus, the themes should be technical and behavioral skills and care evaluation by auditing. Among the topics covered, there are suggestions pointed out by the nurses themselves for improving the CE process, and the suggestions are related to the need for structural, educational resources and also compatible and organized planning according to the needs and availability of everything involved, so that their knowledge needs would be met, as well as the motivation of nursing staff to ensure bigger adherence.

Therefore, for an effective and well-structured educational process to take place with the participation of all nurses, every impediment or restrictive factor must be overcome by the leading factors. That could be achieved by combining the university and the health department, so that both can cooperate to produce knowledge, train professionals, and assist in the Continuing Education. This union and cooperation between educational institutions and healthcare units can bring enormous benefits to health institutions, as well as to the patients assisted by these professionals<sup>(12)</sup>.

It is also necessary to be implemented measures to improve the work environment with the effective participation of health professionals. They should devise strategies for changes associated with an ergonomic adequacy of physical spaces, equipment and furniture, temperature adjustment, noise level exposure and workstation's setting, among other factors<sup>(3)</sup>.

### Study limitations

The limitations of the study happened by not attracting more professionals for the research, since the reports of nursing professionals are fundamental for understanding what happens in

nursing shifts when it comes to occupational risk management. Contact with all nurses and nursing technicians was not possible, due to factors such as unavailability, refusal to participate in the research, etc, which made many reports impossible to be fully captured to enrich the research.

### Contributions to the fields of Nursing, Health or Public Policy

This study contributes to disclosure the main interferences in the employee's health and the possible complications to the life of each professional. In this sense, the importance of the expertise obtained in academic and professional life is obvious for the control and minimization of these risks. Hence, the study contributes to the scientific community by demonstrating that occupational risks, when not managed and controlled in a secure and effective way, will harm the health of nursing professionals, which, in consequence, will directly influence the quality of care provided to patients.

### CONCLUSION

Based on the objectives, it was identified that the risks suffered by nursing professionals on the job are diverse, highlighting the work overload due to the large number of patients or the small number of professionals, inadequate infrastructure and insufficient controlling organization. In relation to occupational diseases, most of the interviewees reported suffering from some type of pathology that affects their health, manifesting in the form of anxieties, sleepless nights, psychosomatic and musculoskeletal problems, etc.

These factors trigger institutional and social problems, since more and more professionals are taking leave of absence; and, when that occurs, there are less work labor available on the market and the society suffers with shortage of health professionals, not to mention the tax and social burdens those certified professionals inflict on society. Therefore, it has become evident that the interferences in the life of a nursing professional is enormous. Although the existence of occupational risk management there is still a need for bigger efforts in order to apply permanent education in the hospital's routine. It was suggested a Standard Operational Protocol for biological risks to be considered as a tool to subsequent implementation in the hospital.

Based on this information, the role of the nursing professional as the main force in combating occupational hazards is fundamental. It is noticeably obvious the profession is qualified and suitable for the preparation and implementation of a management plan as well as the development of actions to control risks within the institution.

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