

Gerenciamento dos riscos ocupacionais da enfermagem na atenção básica: estudo exploratório descritivo

Management of occupational risks of nursing in primary health care: a descriptive exploratory study

Gestión de riesgos laborales de la enfermería en atención primaria: estudio exploratorio y descriptivo

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ABSTRACT

Objectives: This study aims to identify occupational hazards that nursing professionals are exposed in Primary Health Care, as well as to describe the health units' risk factors and correlate them with the structure safety conditions. **Method:** It is an exploratory and descriptive study with quantitative approach. **Results:** The prevalent hazards were as follows: biological (100%), chemical (87.5%) and violence (62.5%). Two working accidents and work-derived illness were recorded. **Conclusion:** There is a need for either training or updating about occupational hazards intended to the professionals of the health units surveyed. It was noticed that professional knowledge about occupational hazards is a result of daily practice and does not come from either field research or training.

Descriptors: Nursing; Risk Management; Occupational Hazards; Primary Health Care.

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RESUMO

Objetivos: Identificar os riscos ocupacionais aos quais os profissionais de enfermagem estão expostos na atenção básica à saúde; descrever os fatores de risco presentes nas unidades e correlacioná-los com as condições de segurança da estrutura. **Método:** Estudo de natureza exploratória e descritiva, com abordagem quantitativa. **Resultados:** Os riscos prevalentes foram os biológicos (100%), químicos (87,5%) e de violência (62,5%). Foram registrados dois acidentes de trabalho e uma doença advinda do trabalho. **Conclusão:** Há necessidade de treinamento ou atualização sobre riscos ocupacionais para com os profissionais das unidades pesquisadas. Percebeu-se que o conhecimento dos profissionais sobre os riscos é fruto da prática cotidiana e não oriundo de pesquisas na área ou treinamentos realizados.

Descritores: Enfermagem, Gestão de Riscos, Riscos Ocupacionais e Atenção Primária à Saúde.

RESUMEN

Objetivos: Identificar los riesgos laborales que los profesionales de enfermería están expuestos en la atención primaria de salud; describir los factores de riesgo presentes en las unidades y correlacionarlos con las condiciones de seguridad de la estructura. **Método:** Estudio exploratorio y descriptivo, con enfoque cuantitativo. **Resultados:** Los riesgos prevalentes eran los biológicos (100%), químicos (87,5%) y de la violencia (62,5%). Dos accidentes de trabajo y enfermedades derivados del trabajo se registraron.

Conclusión: Existe la necesidad de la formación y actualización en los riesgos laborales para los profesionales de las unidades encuestadas. Se observó que el conocimiento de los profesionales acerca de los riesgos es el resultado de la práctica diaria y no proviene de la investigación en el campo o que se lleve a cabo la formación.

Descritores: Enfermería, Gestión de Riesgos, Riesgos Laborales y Atención Primaria de Salud.

INTRODUCTION

During 2013 about 737 thousand occupational accidents were recorded in the Social Security. Regarding those total cases, 14,837 people developed permanent disabilities and 2,797 people died. The economic activity sector "Health and Social Services" was responsible for 70,602 cases of accidents and has showed the second largest participation in typical accidents.¹

Occupational accidents have significant morbidity and mortality in the national panorama and constitute a public health problem. The actions in favor of the workers have begun by means of the medicine of the work, which started in England with the Industrial Revolution. The main goal of medical insertion in production environments was to reduce predictable damages, which would guarantee that productive processes would continue to rise, despite the unhealthy and inhuman conditions to which workers were subjected.²

Thus, the professionals would fit the machines and the companies' ways of working, then the industry would profit with the production. At some point in time, occupational medicine has not been able to contain so many deaths in workplaces, accidents and occupational diseases, which has stimulated a new view on workers' health, giving rise

to successive evolutions that placed the worker at the center of the process. The machines and the structure of work are adapted to the man and its necessities.²

Unfortunately this reality is not perfect, and there are still environments in inadequate conditions. Even the environments that invest in technologies and strategies aiming to reduce accidents are still susceptible to their occurrence.

A strategy for preventing occupational accidents is the reduction and/or control of occupational hazards. Risk management is the systemic and continuous application of policies, procedures, conduct and resources in the identification, control and evaluation of risks and adverse events that affect safety, human health, professional integrity, the environment and the institutional image.³

The activities described above are critical to a broad understanding of workplace safety issues. Studies on occupational hazards pointed out that when they are not subject to control, they can lead to the appearance of accidents and occupational diseases.

Researches developed on occupational hazards and also occupational accidents concerning the nursing category have been more frequently shown in areas of high complexity work.^{4,5}

This study contributes to the academic production regarding occupational hazards in Primary Health Care, turning the attention to the primary level of attention, as opposed to the generally addressed theme that focuses on hospital hazards. This study will also enable an assessment of the risks and the safety conditions offered by the health units, providing knowledge of existing problems in order to enhance the development of prevention and control strategies.

Primary Health Care is the primary level of care, which is the gateway to the *Sistema Único de Saúde (SUS)* [Unified Health System], where the work is developed through health promotion and disease prevention.⁶

The occupational exposure of the health professionals is accentuated by the performance of the home visit, which is a specific activity of the Primary Health Care professionals. During these visits, the professional can still face factors such as violence, which generate emotional exhaustion, besides the physical exhaustion already expected in function of the exposure to typical environmental hazards.

The execution of activities toward the worker's health is attributed to the *SUS*, prescribed in the Federal Constitution of 1988 and regulated by the Law No. 8,080/90 - Organic Health Law. The 6th article of the Law No. 8,080/90 give to the national management of the country's health system the responsibility of coordinating the worker's health policy. According to the 3rd paragraph from the 6th article, the health of the worker is defined as a set of activities that is intended, through health surveillance actions, to promote and protect the worker's health.⁷

Considering the previous explanation, the object of study of this research are the occupational hazards to which the nursing professionals are exposed in Primary

Health Care. In order to respond to the research object, the following objectives were formulated: Identify the types of occupational hazards to which the nursing professionals are exposed in Primary Health Care; Describe the risk factors existing in the health units; Correlate the risk factors with the safety conditions of the unit structure.

METHODS

It is an exploratory and descriptive study with quantitative approach. This research was developed in the municipality of *Niterói*, *Rio de Janeiro*, Brazil, in two units of Primary Health Care.

The total population of the nursing team of the two units is composed of ten professionals. Eight professionals were selected and only two people did not participate in the study because they were on vacation. The study subjects were selected from the following inclusion criteria: nursing professional category that accepted to participate in the study. In the other hand, the exclusion criteria were: professionals that were on vacation or under medical leave.

As data collection tools were developed two questionnaires in partnership with the Center for Research on Citizenship and Management in Nursing of the *Universidade Federal Fluminense*. The first questionnaire, answered by the professionals, was formed from closed questions about the current risk situations in the sectors. This questionnaire was tabulated in a spreadsheet of Microsoft Excel 2007 and divided into nine spreadsheets, namely: identification data, chemical, physical, biological, mechanical, ergonomic, psychosocial, violence, and occupational accidents. The second questionnaire was an instrument for structured observation, used to analyze the security conditions of the units in order to correlate them with the professionals' answers.

Data were collected over June and July 2013. Firstly, a presentation of the research project to the professionals and the administrative team of the units were performed to understand their implementation in this scenario. The professionals interested in participating were then invited to sign the Informed Consent Term. The questionnaires were applied at the workplace during times when employees were not in service. The second questionnaire has been filled up by the researchers by the time they were visiting the health units.

This study is a part from a larger research project that was submitted to evaluation and approval by the Ethics and Research Committee of the *Faculdade de Medicina do Hospital Universitário Antônio Pedro*, under the number CAAE: 2866.0.000.258-10.

RESULTS

Occupational hazards were pointed out through a review of the literature. The following five categories of occupational hazards were used: physical; biological; chemical; mechanical and of accident; ergonomic and psychosocial. In order to better show and understand the results, we have chosen to present separately the ergonomic, psychosocial and violence hazards. In this article the most relevant answers will be presented regarding the categories.

All participants in the study were female. Regarding the variable professional category, N = 2 participants were nurses, N = 4 nursing technician and N = 2 nursing auxiliary. The time they were graduated ranged from 2 to 25 years. The weekly working day of six professionals was 40 hours, and two other professionals have a workload of 20 and 30 hours per week.

The sectors in which the professionals work were diversified. One professional works in Epidemiological Surveillance; two work in Vaccination; two work at the Sterilized Material Center; and three workers do not have a specific sector and carry out all activities related to Primary Health Care.

Among the professionals' answers, those related to biological hazard were remarkable. Four professionals noticed problems of contamination by biological agents, three said they did not see any problem of contamination and one did not know. Another issue was related to contact with infectious-contagious materials, six professionals reported coming in contact with needles and sharp objects.

All the professionals indicated that there is a risk of contamination in the sector, and could indicate more than one option of answers. Thus, six professionals indicated the risk of contamination with contaminated needles, six in technical procedures, three indicated that the secretion of patients implies a risk to professionals, and two mentioned patients with infectious diseases.

The most relevant data regarding the chemical hazards were the chemicals handled by the professionals. The professionals registered contact with: alcohol (N = 6); sodium hypochlorite (N = 3); PVPi (N = 3); enzymatic detergent (N = 2); detergent (N = 2); chlorhexidine (N = 1); disinfectant (N = 1) and acetic acid (N = 1).

The professionals answered that the situations where there is a greater risk of liquid spilling are in the manipulation of products (N = 5), in patient secretions (N = 4), and in the manipulation of immunobiological material (N = 3).

It is worth noting that the violence and psychosocial hazards are not included in the NRs. However, articles addressing the topic on risk for nursing professionals presented these topics. The violence hazard was the third group highlighted in the professionals' opinions, as can be seen in **Table 1**.

Table 1 - Violence hazard

Variable	N	%
Have you been embarrassed close to other professionals?		
Yes	3	37.50
No	5	62.50
Have you experienced violence?		
Yes	5	62.50
No	3	37.50
Those who have experienced violence, what type?		
Physic	1	12.50
Moral	4	50.00
Violence done by whom?		
Bosses	2	25.00
Users	2	25.00
Users' relatives	1	12.50

Source: Questionnaires applied to the units. *Niterói/2013*.

Regarding psychosocial hazards, five professionals mentioned that they were satisfied with the remuneration for their work and three stated that they were not satisfied with the remuneration. Still, four professionals stated that they had another employment to increase their income. It is noteworthy that of these four, two responded that they are satisfied with the remuneration received in the work in the units.

Additionally, five professionals feel fulfilled in the development of their work and three reported that they sometimes feel the lack of integration between the team and the difficulty of resolving technical conflicts with superiors.

Ergonomic hazards go beyond posture during activity development. Heavy physical exertion, and overloading or function accumulation are also part of this group. In relation to this group, two professionals reported heavy physical exertion, and one pointed out that sometimes performs. The situations of greater physical effort are chairs without height adjustment that makes it difficult to carry out administrative activities, and also the home visits.

Three professionals reported excessive responsibility and accumulation of duties. Concerning the rate of excessive work, two professionals reported this event, and two mentioned that sometimes the work is excessive. Two professionals affirm that the place responsible for excessive work is typing, one professional registered the bureaucratic part, and the other did not show the place where excessive work occurs.

Regarding physical agents, noise was the most significant problem, five workers reported intermittent noise, and three identified constant noise. There was no relevance in the data related to heat, cold, vibration or humidity.

The answers related to the mechanical risks did not show concern on the part of the professionals. The organization of materials and machines, the safety of the physical structure,

and risks with electrical installations did not show conditions that suggested risks in the opinion of the workers.

The subjects were also questioned about the work accidents that have suffered in Primary Health Care and also about the diseases coming from work or aggravated by it, as shown below in **Table 2**. The causes will be considered in the discussions.

Table 2 - Occupational accident and occupational disease

Variable	N	%
Have you had an occupational accident?		
Yes	2	25.00
No	6	75.00
Do you have work-related illness (or have it worsened)?		
Yes	1	12.50
No	7	87.50
Total	8	100.00

Source: Questionnaires applied to the units. *Niterói/2013*.

Six professionals reported participating in training on occupational hazards and worker health, and only two reported not having participated. The inquiring was for any training, and had no cuts regarding the periods in which these trainings were performed.

In relation to work-related accidents, an employee scratched herself with contaminated needles when administering an intramuscular medication without the use of gloves, and another one has fractured her left thumb, both of them had already participated in occupational risk training. In relation to diseases caused by work, a worker developed streptococcal infection acquired at home activities.

DISCUSSION

Biological hazard is the main concern of the nursing team due to manipulation of sharps and contact with people with infectious diseases, which contributes to a worldwide trend of investment in new technologies that may reduce this risk.^{4,5,8}

The study performed by Valim and Marziale (2012) stated that 34.5% of nursing work records with exposure to biological material were preventable. The biological hazards to which nursing professionals are exposed cause serious problems for the exposed professional, where the most worrisome is the exposure to viruses such as: HBV (hepatitis B), HCV (hepatitis C) and HIV (human immunodeficiency).⁹

However, the present study highlights the negative responses of professionals who did not observe the problem of contamination by biological agents in the Sterilized Material Center sector. The latter is a technical support unit within the health facility designed to receive contaminated material, subsequently decontaminate it, prepare and sterilize, and then store those items for future distribution.¹⁰

The Sterilized Material Center of the health unit evaluated has great demand for sterilizing materials for other

35 health units belonging to the *Programa Médico de Família* [Family Medical Program] in the municipality of *Niterói*. As recommended, there are areas for receiving materials, washing and decontamination, material preparation, sterilization, storage and distribution. Thus, this sector deals daily with contaminated materials.

Negative and non-explanatory responses were alarming to the need for either training or updating of occupational hazards to the units' professionals. Educational programs have been associated with increased knowledge about occupational hazards and also the best preventive practices regarding biological hazards.^{9,11}

Another similar question involving biological hazards referred to the risk of contamination in the industry. The question was whether the professionals saw the contamination risk in their work environment. In this question, all eight professionals registered that there is such a risk of contamination and pointed out the situations where there may be this occurrence. Although the professionals have responded that they do not have problems with biological agents in their sector, they recognize that the risk is constant.

Regarding chemical hazards, researches indicate that misuse and inadequate protection can cause health problems for people who are frequently exposed to these substances. The irritant response in the mucous membranes, cutaneous region, respiratory and digestive tract has been mentioned in all the chemical safety information sheets of the products mentioned above.¹²⁻³

Chemicals when correlated with the risk of spilling show that five professionals may develop some harm from handling these substances. The researched units do not provide emergency lavatories. Sinks are inappropriate for washing the ocular mucosa, in case of a splash on this body region. It is worth mentioning that the only three professionals who indicated the risk of spilling with immunobiological are the only ones that handle these substances, while the other professionals do not manipulate it.

The violence hazard was showed in **Table 1**. The vulnerability to violence in primary care stems from the work process, the health needs of the individuals and communities and the risk of exposure to aggression/aggressor, type of aggression, health management and the professional itself. It is also associated with the social, economic and cultural conditions of the reality in which the professional is inserted. Thus, in order to mitigate the vulnerability to which these professionals are exposed, it is necessary reconsidering the health practices, the service structure and the professionals' attitudes.¹⁴

In a survey with 25 nursing professionals in the largest basic unit in the interior of the *Rio Grande do Sul* State, it was observed that even though there were no negligence or lack of politeness in the care of clients by nursing professionals, in many moments, these workers were the targets of constraints and verbal aggressions, configuring psychological violence. It

should be noted that in none of these situations the violence has been reported.¹⁵

Psychosocial hazards can be associated with fatigue, tension, loss of control over work, impact of night work casters, work overtime, subordinate work, disqualification of the worker, among others.⁸

Ergonomic hazards were evident in heavy physical exertion. The home visit demands great physical effort, mainly in some regions of the neighborhood where the units are located. Steep slopes and hard to reach areas add to the difficulties of this work. In the unit, the effort increases since many administrative activities are developed on hospital stretchers instead of tables; and with inappropriate chairs.

The excess of responsibility and the accumulation of function were highlighted by the two nurses participating in the research and also by a nursing technician. Excessive work was also emphasized by professionals in relation to typing activities, and also the bureaucratic part in general.

It is evident that among nursing professionals, the difficulties of carrying out heavy workloads are a high risk for errors, since overload produces physical and mental fatigue, reducing attention and, thus, compromising the professionals' safety.⁸

Studies in this area have pointed out the health problems of professionals exposed to ergonomic hazards such as: eating disorders, sleep disorders, elimination, fatigue, injuries to the body systems, decreased alertness, stress, disorganization in the family environment and neuroses. All of that often can lead to work-related accidents and medical issues.⁸

Those factors when correlated with the professionals' gender can make the effort even greater, since women often reconcile domestic activities with work. It represents physical and mental exhaustion that can have repercussions on health problems.

Damage to the physical and mental health of the professionals occur through prolonged working hours, more than one job, an accelerated production rhythm, excess of tasks, low pay in relation to the responsibility and complexity of the tasks performed. In such situations, sometimes the work stops having satisfaction, material gain, and useful social services, to become suffering, exploitation, disease, and death.⁸

It is considered that workers who carry out activities in more than one job increase their chances of becoming ill and having accidents. These situations culminate in exacerbated exposure to the risks present in the work environment.

Physical agents were highlighted by the intermittent noise. Most of the professionals who answered that there is acoustic discomfort in their industry justified that the main source of these noises are the patients, followed by the next topic causing noise "doors". Correlating with the units' structure, the noise of doors can be easily solved, with simple and cheap adjustments with gear lubrication.

Intermittent noise in the work environment can lead to hearing loss induced by noise. These are characterized by

metabolic changes in Corti cells, which result in auditory deficit, tinnitus and even dizziness, given the proximity of the cochlea and vestibular organ. There is a pre-injury situation in relation to noise when it causes temporary loss of hearing with recovery after sound rest.¹⁶

The noise malicious effects go beyond hearing effects. These include both psychosocial and clinical aspects, such as: communication disorders, sleep loss, depression, anxiety, mood swings, tiredness, headache, loss of appetite, nausea, elevated blood pressure, and even changes in blood composition levels.¹⁶

The mechanical or accident hazards did not show attention by the professionals. This fact must also be registered since the unit has serious problems of organization of its structure. The units have poorly planned spaces like pharmacies, warehouses and restrooms that also store cleaning products. The units have inadequate tools such as chairs, tables, hospital stretchers used as tables, either bad or none maintenance. There is a likelihood of fire events, as the units do not have fire extinguishers. Also, inadequate storage as in the case of Sterilized Material Center, which has small space for storage of sterilized materials.

This factor evidences the lack of knowledge about this type of risk and, therefore, should be emphasized in the accomplishment of strategies of accident prevention and control of the risks with the professionals of Primary Health Care.

Most of the professionals had participated in some training on the research topic. However, many answers were inconsistent with the work sector. Given the results, it can be noted that all categories of nursing professionals are subject to accidents at the workplace, and also the development of work-related diseases.

CONCLUSIONS

Given the above, it is concluded that a basic care unit shows all occupational hazards categories, exhibiting only differentiated risk factors. These factors permeate the work of thousands of professionals that undergo these risks by performing their duties, promoting health and preventing diseases in the community.

It was noticed that professional knowledge regarding the occupational hazards is a result of daily practice and does not come from either field research or training. Therefore, it does not become preventive action. One of the main contributions of this research is the need of developing educational programs that turns preventive actions into habits.

By knowing the risk factors and identifying the exposed population, it now is up to the managers initiating an endeavor in order to guide the worker to avoid such occupational hazards, and also to provide the necessary tools to their control. It is suggested to implement a continuing educational program with specific training for health professionals in order to provide a better understanding of

these problems and their severity, as well as to support either the reduction or elimination of such risks in the health units.

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