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RESEARCH

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Riscos de acidentes com materiais perfurocortantes no setor de urgência de um hospital público

Risks of accidents with needlestick materials at the urgency sector of a public hospital

Riesgos de lesiones con materiales cortopunzantes en el sector de urgencia de un hospital público

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Developed from the Coursework Conclusion: Risks of accidents with needlestick material and working activity of nursing technicians, 2010. State University of Rio Grande do Norte (UERN).

ABSTRACT

Objective: To investigate the risk factors related to accidents with needlestick materials present in the work of the nursing technicians of the urgency sector of a public hospital. **Method:** Descriptive study, with qualitative approach, conducted with 14 professionals. The data were collected through semi-structured interviews, from July to September 2010, and analyzed by the categorical thematic analysis. **Results:** The categories that emerged from the interviews were: Situations of urgency and emergency, adherence to the Personal Protective Equipment, carelessness and improper storage of needlestick materials. **Conclusion**: It was observed that the

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working conditions in the sector need to be urgently reviewed in order to provide a suitable environment for the development of nursing procedures with reduced risk for accidents.

Descriptors: Occupational health, occupational risks, risk factors.

RESUMO

Objetivo: Conhecer os fatores de risco relacionados aos acidentes com material perfurocortante presentes no trabalho dos técnicos de enfermagem do setor de atendimento de urgência de um hospital público. **Método:** Trata-se de um estudo descritivo, de abordagem qualitativa, realizado com 14 profissionais. Os dados foram obtidos por meio de entrevistas semi-estruturadas, no período de julho a setembro de 2010 e analisados seguindo a análise temática categorial. **Resultados:** As categorias emergidas dos discursos dos entrevistados foram: situações de urgências e emergências, adesão aos Equipamentos de Proteção Individual, Descuido e armazenamento inadequado do material perfurocortante. **Conclusão:** Observou-se que as condições de trabalho no setor de urgência necessitam ser revistas a fim de oferecer um ambiente adequado para minimizar os riscos ocupacionais durante o desenvolvimento dos procedimentos de enfermagem.

Descritores: Saúde do trabalhador, riscos ocupacionais, fatores de risco.

RESUMEN

Objetivo: Investigar los factores de riesgo relacionados con los accidentes por pinchazos con materiales presentes en el trabajo del personal de enfermería de la División de Urgencias de un hospital público. **Método:** Se trata de un enfoque descriptivo, cualitativo, realizado con 14 profesionales. Los datos fueron recolectados a través de entrevistas semi-estructuradas en el período de julio a septiembre de 2010 y analizados por el análisis categórico temático. **Resultados:** Las categorías surgieron de las entrevistas fueron: las situaciones de atención de emergencia, la adhesión a los Equipos de Protección Personal, el descuido y el incorrecto almacenamiento de objetos punzocortantes. **Conclusión:** Se observó que las condiciones de trabajo en el sector deben ser reconsideradas con urgencia para proporcionar un ambiente adecuado para el desarrollo de procedimientos de enfermería con un menor riesgo de accidentes.

Descriptores: Salud laboral, riesgos laborales, factores de riesgo.

INTRODUCTION

Performing the work often exposes human beings to risk factors in the work environment, which can influence the health/disease process, compromising their capacity in an event that can be avoided.[1]

In the health area, this process is not different. These professionals are exposed to various risks, for example: physical, chemical, biological, psychosocial and ergonomic. Considering the activities this group of professionals performs, the biological risk is the most frequent risk for them.[1]

The nursing professionals, for being included in this group of health workers, and especially for staying longer and often performing technical procedures with patients in the hospital environment, are exposed to various risks. When considering the workers injured by biological material, the nursing team, especially the nursing assistants and technicians, are the most affected.[2]

It is noteworthy that, at the hospital, among the main events, there are the work accidents with needlestick material, since, by the nature of the activities developed by these workers, there is a considerable number of handling with this kind of material.[3]

Among the accidents with needlestick materials, studies show that the most common materials found in this group of accidents are caused by needles, being this accident caused by their disposal in inappropriate places.[3] This situation deserves attention and enhances the need for more studies to understand the reason of this fact, as it is an preventable episode.

These accidents may cause many damages to professionals, since there may be transmission of infectious diseases such as hepatitis B and C and HIV, as well as psychological traumas.[2]

Moreover, this type of accident can have several causes, for example, the lack of adequate conditions for the development of the work, either by excessive physical or mental activities, link system, or poor remuneration, reinforcing the need for better monitoring and training regarding the worker's health.[4] Since the creation of the Federal Constitution of 1988, the Occupational Health and Surveillance are discussed. Furthermore, with the creation of the National Policy of Occupational Health, in 2012, the objective is to strengthen the Worker's Health Surveillance, in order to ensure, among others, the minimization of risks (VISAT).[5]

When assessing the sector where the research was developed, the Urgency Service was considered because it is a sector where the developed activities and situations can possibly favor accidents, such as the large flow of patients with the most diverse pathologies and the gateway to the first hospital care.

The focus of studies on occupational accidents in the nursing class is very important, since most of the researches about this subject shows that they are, among health professionals, the most affected by accidents with biohazardous.[6]

The study is relevant for the need for better knowledge and understanding of the reality of the environment and working conditions, which can be an important tool to prevent these accidents. Moreover, it contributes to the dissemination of the knowledge produced about this theme, as well as the development of strategies for controlling occupational accidents involving biological material and, more specifically, needlestick material, by identifying possible risk factors that may exist in the course of work activities.

In general, the objective of this research was to know the risk factors related to accidents with needlestick materials

present in the work of nursing technicians of the Urgent Care Sector (UCS) of a public hospital.

METHOD

It is a descriptive and exploratory study, with qualitative approach, conducted at a public hospital in the city of Santa Cruz/RN. The hospital is a municipalized institution of the Unified Health System (SUS), and reference in attention to urgency and emergency services in Trairí region, in the state of Rio Grande do Norte.

The population of this research consisted of the nursing technicians working at the Urgency Care Service of the mentioned hospital, corresponding to a total of 18 professionals. However, 14 professionals compound the sample for they met the following inclusion criterion: having at least six months of experience at the mentioned sector within this hospital unit.

The data was collected from July to September 2010, through semi-structured interviews with the filling of socioeconomic data and with six questions about the risks of accidents with needlestick material.

It is noteworthy that the interviews were recorded with digital technology after the respondents' authorization, who agreed to voluntarily participate in the study and signed the Informed Consent Form (ICF). Next, each speech was transcribed and subjected to content analysis in the Bardin thematic category mode.[7] Therefore, the analysis of data consisted of three stages: pre-analysis, material exploration and treatment of the results and their interpretation. To ensure the anonymity of respondents, a numbering was used as pseudonyms.

It is noteworthy that the study was submitted to the Research Ethics Committee of the State University of Rio Grande do Norte observing the determinations recommended by Resolution 196/96, obtaining approval in the embodied opinion 011/2010 and CAAE number 0012. 0. 438.000-10.

RESULTS AND DISCUSSION

Regarding the gender, it is observed that the majority consists of women (57.2%) and 42.8% were men. Another similar study found a prevalence of women, obtaining a higher proportion of 94.3%.[8]

The predominance of women in the nursing profession has a historical link, reflecting the women entering in the labor market.[9] However, the study showed little difference between the genders, which can be justified by the management factor that seeks to place most male nursing technicians, preferably, in the Urgency and Emergency Care Sector.

Regarding the characterization by age group, the youngest participant was 34 years old, and the oldest two were 53 years, and the predominant age group was from 40 to 49 years with seven people (50%), followed by 30-39 years with four professionals (28.6%), which indicates a relatively middle age group. A research about the same theme, conducted at a public hospital of the Brazilian Northeast, coincides with the prevalence of professionals in the forties group.[8]

However, age or age group alone is not a predictive factor for the occurrence of accidents, but the process of work and the organizational context in which the worker is inserted.

With respect to the category "time of service in nursing", the highest frequency found was from 10 to 19 years represented by five professionals (35.7%), followed by 20-29 years, with four people (28.6%), followed by 01-09 years, with three workers (21.4%) and, at last, service time of 30-39 years, with two professionals (14.3%).

It is noteworthy that these workers have significant practical experience, therefore should be empowered in the field of technical and biosafety recommendations.

This extensive experience scenario confirms the reality found in another study in which the majority exceeded 10 years of profession.[10] It is observed that when the professional is familiar with the techniques that involve his/her work process, it becomes safer, making it possible to underestimate the risks that these activities may submit them. At the same time, the findings of another study point to the inexperience as one of the factors that contribute to the occurrence of accidents.[11]

It was found that the working hours of 13 (92.9%) nursing technicians corresponds to 40 hours per week, while only one (7.1%) had 48 hours a week that are distributed in duties of 12 or 24 hours. However, national and international scientific evidences denounce the potential risks to patient's health and safety that the current "programming paradigm" reproduces in working routines of 12 hours or more. Long daily journeys and double employment bonds are stressful and contribute to expose, even more, these professionals to accidents, mentioning as a recommended daily journey of recommended six hours.[11-14]

The second phase was the analysis of the interviews, in which the results were organized in thematic categories presented below.

Situations of urgency and emergency

The urgency department staff, particularly the nursing technicians, require greater flexibility for patient survival; however, sometimes they forget the primary or universal care, as the use of PPE, increasing the exposure of that worker to occupational risk.[15,16]

It was found that the nursing technicians take the urgency and emergency care as a service that requires skill and speed, is already characterized as a risk factor for accidents with needlestick materials due to stress and anxiety that this may generate.

> *"[...] in an urgency, sometimes, we get nervous, the doctor keeps calling us, we run the risk of being contaminated as*

already happened with a friend of mine, she got punched with a needle of a patient." (Interviewed nº 03)

"[...] you can lose your mind in an urgency and you really get your finger punched." (Interviewed 14).

"They are the risks to which we are exposed here, especially, in urgency, if you get punched, cut, and get contaminated." (Interviewed 13).

Taking into account the factors related to the conditions under which the work is performed, researches discuss that urgency situations are predisposing factors to accidents with this type of material according to the literature.[11,15]

Moreover, evidences point to an association between the occurrence of accidents with needlestick materials and the performance of nursing professionals in the hospital, as they face hard work as they continuously exercise nursing monitoring and care, acting quickly because of the high number of clients and complications provided by the change of the health status of these clients.[8,13]

It is noticed that the propensity for this episode may be associated with a lack of training for working at the urgency sector, for the skilled professional feels safer and performs the team assistance, thus avoiding nervousness at critical moments, and decreasing the susceptibility to the accident.

In contrast, despite the growing discussion about the exposure of nursing workers to biological occupational risk, it was not observed significant concern with frail prevention. Perhaps this fact is the result of a historical appreciation of the healing practice in Brazil, showing a trivialization posture regarding accidents, a reflection in the high underreporting of these diseases among health workers.

Adherence to the Personal Protective Equipment

This fact was reported by the nursing technicians in their speeches, in which, most of the times, they performed several procedures, without the use of personal protective equipment, such as gloves, masks and closed shoes. Let's see:

"[...] Because the thing here is to work with gloves, masks, shoes; you can never wear sandals, but, unfortunately, we wear them, we work with no mask, no gloves. We have them at the hospital, we hardly lack them, it's rare not to have masks for you to get protected, because people get to the hospital coughing, and, sometimes, talking very near to you." (Interviewed 10)

"In customer's service, in case the patients, because..., and how it's use do if we use PPE[...]." (Interviewed 02)

"It's when you have to punch a vein, you have to, more or less, Always use gloves in the care to patient, for avoiding contamination." (Interviewed 08)

The findings in the study reveal a constant problem in relation to health services, which is the non-adherence of the PPE. Studies show that the worker does not incorporate in its activities the use of PPE, possibly due to the assignment of little importance to its use, and low severity of accidents.[17,18]

It is believed that this may be associated with extensive career time of the professionals, so they think they possess technical skills and safety satisfactory to prevent accidents with needlestick materials. However, recent national studies have pointed the operating time as a predictive factor to exposure to percutaneous accidents among urgency service professionals, providing evidence that the fact that having more time of work is not sufficient to prevent or reduce the risk of occupational accidents.[16,19] Therefore, there is need for intervention strategies in health institutions that make it possible to promote awareness of workers about their vulnerability.

As for the managerial perspective, it is observed that such problems, besides increasing the risk of accidents at work, have a direct influence on absenteeism of these nursing workers, as they suffer accidents or acquire an occupational disease during the service.

The adoption of protective equipment for health workers is considered a challenge. This fact is a result of a number of factors, such as lack of PPE, the difficulty in acquiring the PPE appropriate to the situation, interference in the procedure, inadequate size of the PPE, the pace of work, as well as the feeling of self-confidence, strength and the failure to apply the use of PPE.[20]

Thus, such a scenario requires the adoption of measures focused on changing the behavior and expanding strategies for safe working practice. Studies show strategic elements for the prevention of accidents, along with these workers, as the involvement of the entire organization, safety culture, accident reporting by completing the Work Accident Communication (WAC) by health professionals, prevention-based plan in local data, map risks developed by the Worker's Health professionals and correctly posted in the workplace, professional's education and evaluation of interventions, especially for consolidating preventive actions.[8,21]

Carelessness and improper storage of needlestick materials

It is evident that the care while handling needlestick materials is essential to avoid accidents. However, the institution is also responsible for the applicability of biosecurity activities of nursing staff, through adequate human and material resources, providing PPE, encouraging ongoing education, adoption of health and safety measures in the workplace.[22]

Carelessness while handling needlestick materials as a risk factor for accidents can be evidenced in the following speech:

"Risk of occupational accident at the hospital happens due to carelessness while handling needlestick materials... I think it's the lack of attention when we discard the material being used with the patient." (Interviewed 02)

Studies reiterate "carelessness" as one of the main contributing factors to the accident, along with the "lack of attention", "poor working conditions" and "hurry".[10,17,18] In addition, it was shown that "irrelevance of the theme", "nonchalance" and "workload" also contribute to the underreporting of accidents.[23]

At the same time, through the interviews, it is observed that they recognize that working with needlestick materials is already a risk, being the moment of handling these objects when usually the accidents occur.

"[...] Ampoules, when breaking, and, in the case, all infusers, as white coats, scalps and scalpels, that we work a lot with this material." (Interviewed 09)

[...] When we are puncturing a vein, we can get cut, get punched by the scalp, when we do an intravenous medication with a needle or needle sticks. (Interviewed 12)

In accordance with this result, researches indicate that one of the factors related to the individual behavior of workers that favors the occurrence of accidents is the manipulation of needlestick materials.[18]

The statements of the participants showed that sharp materials containers, when with capacity higher than the safety level, comprise a risk factor for disposing the material because it facilitates the contact with discharges.

"When you're going to put in the box, sometimes, we put needles and these are all out, too full, the box. Even putting the hands there, you can get punched." (Interviewed 05)

The use of sharp materials containers above its capacity was observed at times, when, several times, the material was discarded in a container beyond its recommended limit, and sometimes, this was projecting for the environment work, so it could contaminate any careless employee who was going to discard scalps and needles, as well as reported in the following discourse:

"[...] Sometimes we lack the sharp materials containers to dispose needles and we end up improvising any box to discard the scalps, so you see that these bottles are inadequate and needles end up crossing them and causing accidents." (Interviewed 01)

An adequate sharps container, as well as training on biological hazards, positively contributes to the prevention of such accidents.[8]

With respect to this category, in many cases, the availability of the sharps containers may be considered unsatisfactory for the use, since they are not always available for replacement when necessary.

CONCLUSION

It was observed that the risk factors for accidents with needlestick materials present in nursing technicians work at the urgency room are related to: emergency and urgency situations, resistance to the use of PPE and carelessness and improper storage of the material.

It was found that the working conditions deserve to be revised in order to provide adequate space for the performance of tasks that, along with the ongoing education of nursing technicians, will contribute to minor occupational risks, especially accidents with needlestick materials.

Therefore, in view of the results, an ongoing education program about worker's health should be implemented, in order to reduce the risks, in the workplace, to which nursing professionals are submitted.

Moreover, further researches should be conducted in order to deepen the knowledge about the determinants and conditions of accidents with needlestick materials in this audience. It is noteworthy that this study had structural limitations as the sample was restricted and, therefore, the inferences must be viewed with caution.

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