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ORIGINAL ARTICLE

OCCUPATIONAL RISK FACED BY NURSES WHO ACT AT PRIMARY HEALTH CARE

RISCO OCUPACIONAL ENFRENTADO PELOS ENFERMEIROS QUE ATUAM NA ATENÇÃO PRIMÁRIA À SAÚDE

RIESGOS LABORALES QUE ENFRENTAN LOS ENFERMEROS QUE ACTUÁN EN LA ATENCIÓN PRIMARIA A LA SALUD

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ABSTRACT

***Objective*:** to analyze the concept of nurses working in primary care about biosecurity measures in their work process. ***Method*:** a descriptive exploratory study of quantitative and qualitative approach, involving 53 nurses working in the Family Health Units, Health District III, in João Pessoa / Paraiba / Brazil. Data analysis was performed using descriptive statistics and qualitative data analysis by the Collective Subject Discourse. The study design was approved by the Ethics Committee of the University Hospital Lauro Wanderley / Federal University of Paraiba, CAAE - 92/09. ***Results*:** preventive measures that should be used by nurses to avoid exposure or accidents were related to 53% lighting, 100% use of gloves, goggles 81% and 96% care for the material handling drill cutting. ***Conclusion*:** The occupational risk should be a constant concern of managers in Primary Attention to Health. ***Descriptors*:** Nurse; Primary Health; Occupational Exposure.

RESUMO

Objetivo: analisar a concepção dos enfermeiros que atuam na Atenção Primária à Saúde acerca das medidas de biossegurança do seu processo de trabalho. ***Método***: estudo exploratório-descritivo, de abordagens quantitativa e qualitativa, realizado com 53 enfermeiros que atuam nas Unidades de Saúde da Família, do Distrito Sanitário III, em João Pessoa/PB/Brasil. A análise dos dados foi realizada com a estatística descritiva e os dados qualitativos pela Análise do Discurso do Sujeito Coletivo. O estudo teve o projeto aprovado no Comitê de Ética do Hospital Universitário Lauro Wanderley/Universidade Federal da Paraíba, n. 92/09. ***Resultados***: as medidas de prevenção que deveriam ser utilizadas pelos enfermeiros para evitar exposição ou acidentes foram relacionadas à: 53% iluminação, 100% uso de luvas, 81% óculos de proteção e 96% o cuidado com o manuseio de material perfuro cortante. ***Conclusão***: o risco ocupacional deve ser preocupação constante dos gestores na Atenção Primária à Saúde. ***Descritores*:** Enfermeiro; Atenção Primária Saúde; Exposição Ocupacional.

RESUMEN

***Objetivo*:** analizar el concepto de las enfermeras que trabajan en la atención primaria acerca de las medidas de bioseguridad en su proceso de trabajo. ***Método*:** estudio descriptivo exploratorio de abordaje cuantitativo y cualitativo, con 53 enfermeras que trabajan en las Unidades de Salud de la Familia, Salud del Distrito III, en João Pessoa / Paraíba / Brasil. El análisis de datos se realizó mediante estadística descriptiva y análisis de datos cualitativos en el Discurso del Sujeto Colectivo. El diseño del estudio fue aprobado por el Comité de Ética del Hospital Universitario Lauro Wanderley/Universidade Federal de Paraíba, CAAE - 92/09. ***Resultados*:** Las medidas preventivas que deben ser utilizados por los enfermeros para evitar la exposición o accidentes estaban relacionadas con un 53% de iluminación, los 100% de uso de guantes, gafas de 81% y 96% de la atención para el corte de material de perforación de manipulación. ***Conclusión*:** el riesgo ocupacional debe ser una preocupación constante de los directivos de Atención Primaria. ***Descriptores*:** Enfermero; Salud Primaria; La Exposición Ocupacional.

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INTRODUCTION

The professionals in health generally are exposed to occupational risks, especially those represented by biological agents, whereas daily, may have contact with blood and other body fluids. The adoption by the *Centers for Disease Control and Prevention* (CDC) of concepts such as universal precautions (PU) have been reformulated and are now termed standard precautions (PP) [1], which aims to hinder microorganisms which patients can be carriers, such as: influenza, tuberculosis, hepatitis and AIDS, submit professionals and other patients. In this sense, include the use of personal protective equipment (PPE), as well as care in handling and disposal of contaminated sharps puncture. [2] Furthermore, the Ministry of Labor and Employment (MTE) Regulatory Standards established for implementation of measures to protect the health and safety of workers, forcing employers to comply actions aimed at reducing occupational hazards and accidents at work. [3]

In this panorama, is set to Norm 32 (NR 32), [4] the Ministry of Labor that addresses the Health and Safety at Work Health Services, with the objective of containing what already exists in the country in terms of legislation, establishing guidelines for implementation of measures to protect the health and safety of consumers, as well as those who exercise promotion activities and health care. [5] This standard deals with biological hazards, chemical hazards, ionizing radiation; waste; comfort conditions during meals, [6- 7] cleaning and maintenance, and equipment maintenance services in providing health care. Among the standards set are advocated the use of PPE, hand hygiene, vaccination against hepatitis B, tetanus and diphtheria, among other provisions. The risk of exposure to biological material present in health care at the hospital, are well known and measured. However, although there are few studies that address this issue outside the hospital environment, particularly in the Family Health Units (USF). Although established the obligation of compliance with PU and due to the growth of studies on occupational accidents with biological material among professionals in healthcare[8] at risk of contamination, accidents do not cease to exist, [9] although many workers accept biosafety standards. [10] Considering, little attention has been paid to units of the Primary Health Network which deserve attention because of the large number of people working in these institutions and have peculiarities in the work units that differ from those found in the hospital environment.[7]

In Brazil the Family Health Strategy that shows how new health care model and, consequently, has brought changes in the current process. Characterize the health actions carried out in this new scenario and identify occupational risks, especially regarding biological exposure that these professionals are exposed, it is of the utmost importance both for the advancement of knowledge in this area as to subsidize actions that can minimize the risks.

Given the above, this study converges to the following question: as the basic health care nurses realize their exposure to occupational risk factors, especially, biological risks? This question prompted the search of knowledge in scientific publications and for the present study, it is meant that it seizes and provides visibility to these issues, contributes to the safety and management of service providers.

From the context, this study aimed to analyze the design of nurses who work in Basic Health Care in the city of João Pessoa-Paraiba, about the biosecurity measures of your work process.

METHOD

This study is a part of a research entitled: "BIOSECURITY: occupational risk faced by nurses working in primary health care". A research of a descriptive and an exploratory character, with a quantitative and qualitative approach, held in the city of João Pessoa-Paraiba, Brazil, at USF, belonging to the Health District III.

The study subjects were nurses who acted in the USF totalizing 53 professionals, all were fit to be interviewed and agreed to cooperate with the research.

For data collection, we used an instrument containing socio-demographic data, and biosecurity. The quantitative data analysis was performed with the aid of descriptive statistics and the results discussed in the light of literature and presented in graphs and tables. For the qualitative data was used the method of analysis of the collective subject discourse.

For the realization of this study have been complied with ethical aspects of research involving human beings and only started with the assent of the Research Ethics Committee of the University Hospital Lauro Wanderley of the Federal University of Paraiba, under no.

92/09 as the observances included in resolution No. 196/1996 of the National Health Council.[11]

RESULTS

The data used for characterization of the participants of the survey were the socio-demographic and professional variables. Of the 53 subject study participants, 38% are aged between 41 and 50 years old and 26% between 31 and 40 years old. As for the genus 100% are female, of whom 72% are married. There is still the predominant training time was 21 years old, 43% and average time 17.1 years. Of the participants, 66% denied having other employment. The prevailing salary range was between 5 to 8 minimum wages for 70% of nurses, but the vast majority 77% working 40 hours a week.

With regard to the occurrence of accidents at work (AT) and types of risks to which were exposed, it was found that 19% of nurses were victims of accidents, of which 90% of these were related to biological risks, as shown in **Figure 1**.

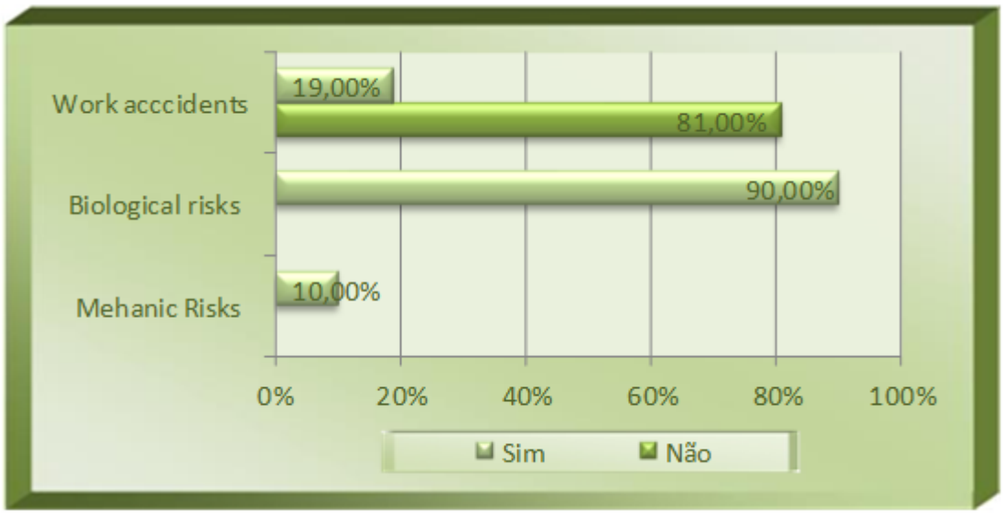

Figure 1. Distribution of nurses in accordance with the occurrence of accidents at work and types of risk to which they were exposed. João Pessoa-PB, Brazil, 2010.

In relation to risk factors, among the professionals exposed to AT, 80% reported needle punching, in accordance with the following reports:

I stuck me with a used needle (ENF. 1).

Needle stuck in a campaign of capillary glycaemia (ENF. 2).

As for the blood fluid exposure reported by only one nurse:

I have had contact with blood due to the lack of gloves (ENF. 16).

Another nurse said cut in glass cabinet:

I had a hand injury due to the contact with glass partition, closet showcase (ENF. 36)

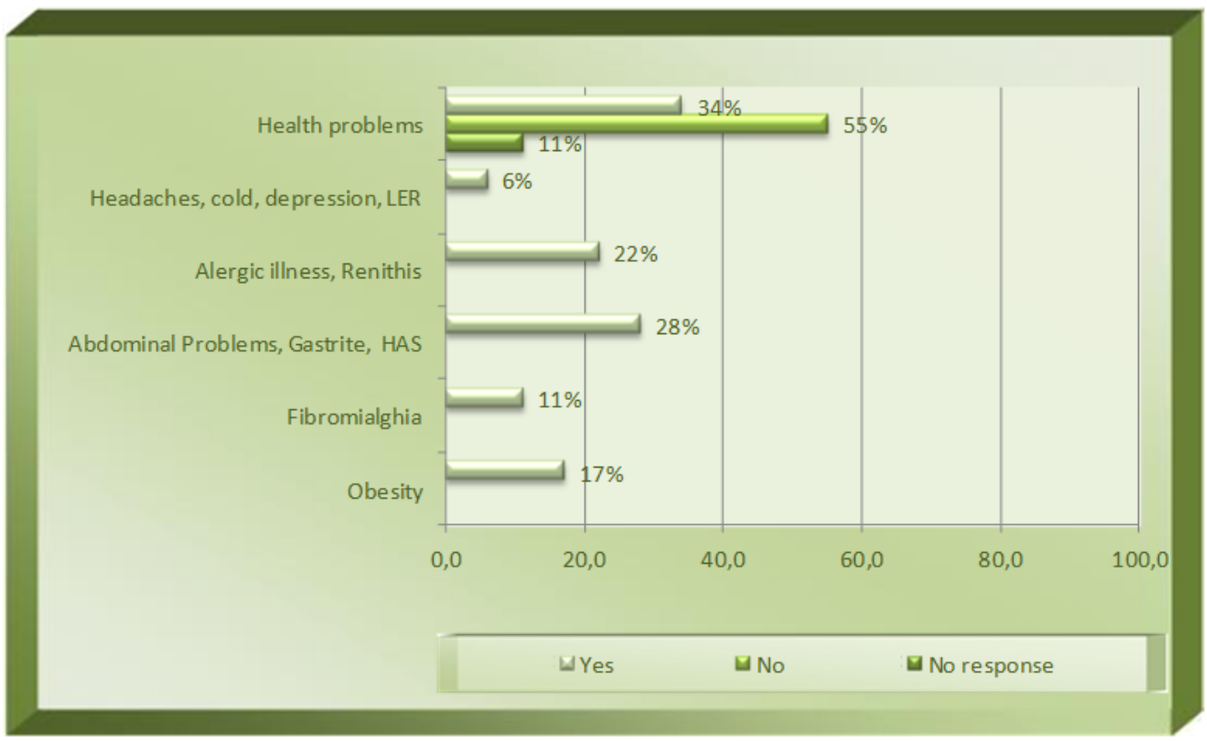

Figure 2. Distribution of nurses according to the existence of health problems. João Pessoa, Paraiba, Brazil, 2010, (n = 53).

Among the subjects, 55% say do not have health problems and 34% reported having one

or more diseases, as shown in **Figure 2**. Most health problems mentioned were abdominal pain, gastritis and hypertension (SAH). However, it is perceived a very significant number of diseases such as rhinitis and allergic diseases.

Here are some clippings of speeches of nurses who reported health problems and factors that ascribe such problems:

> *Abdominal discomfort and headache, stress, workload, lack of professionals in the team (ENF. 23).*
>
> *Allergic rhinitis. Unhealthy work environment (ENF. 24).*
>
> *Anxiety, tachycardia, depression, due to the exhaustive workload (ENF. 28).*
>
> *Flu, contact with ill users and the lack of understanding of the same (ENF. 33).*
>
> *Hypertension, obesity. Stress (ENF. 37).*
>
> *Stress (overload); weight gain (anxiety); Allergic rhinitis (dust, mold and dirty fan); pain in stomach (gastritis, stress) (ENF. 36).*
>
> *SAH, stress, overwork (ENF. 07).*
>
> *Tendonitis/RSI in fist of the right hand. Filling many roles at the bureaucratic (ENF. 08).*

On the use of PPE, in **Figure 3**, which 92% used mask, 94% lab coat, 96% gloves of procedures, 53% closed shoes.

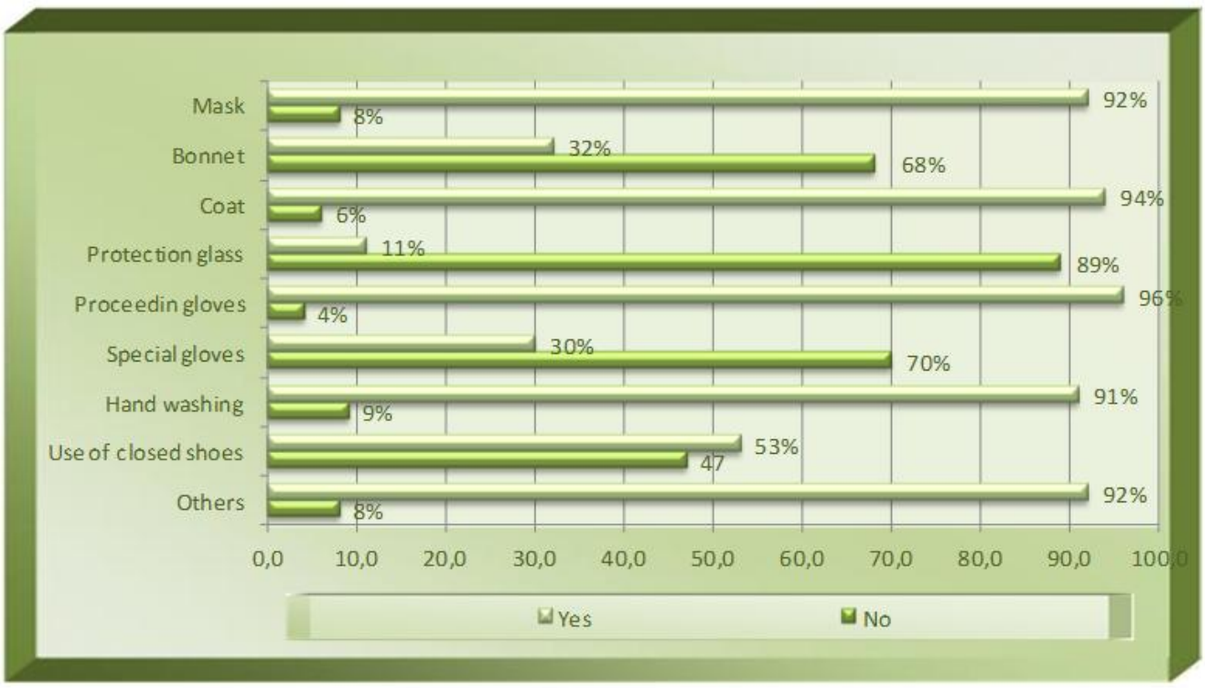

Figure 3. Distribution of nurses, by the use of PPE. João Pessoa-PB, Brazil, 2010, (N = 53).

When asked about what preventive measures should be used to avoid accidents or exposure to biological agents, 53% reported lighting, 100% use of gloves, 81% goggles and 96% care for the handling of material sharp drill.

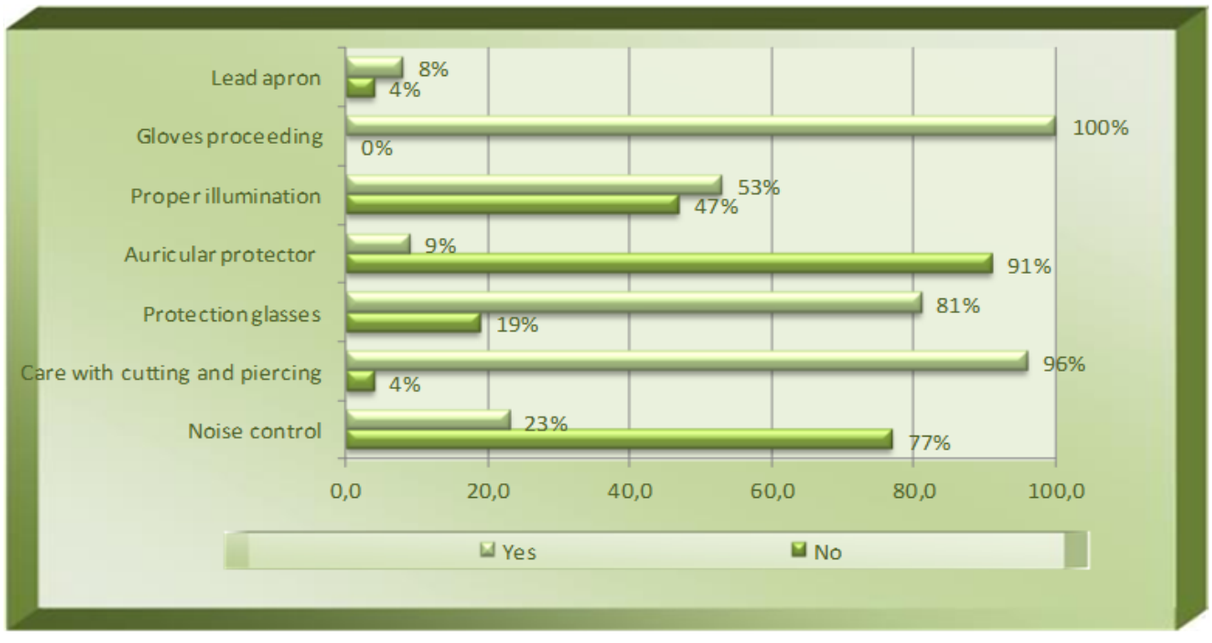

Figure 4. Distribution of nurses, according to the preventive measures related to biological hazards. João Pessoa-PB, Brazil, 2010, (n = 53).

In relation to the involvement in occupational accidents presented in **Table 1**,

72% of the nurses, informed that non-occupational accidents have been reported and one of the 28% who claimed to have been involved, 73% mentioned the biological fluid "blood".

Table 1. Distribution of nurses, occupational accidents, fluids, procedures, security guarantee given by the institution. João Pessoa-PB, Brazil, 2010, (N = 53).

Variable	n	%
Occupacional Accidents		
Yes	15	28
No	38	72
Fluids		
Blood	11	73
Saliva	1	7
Other	5	33
Proccedings		
Cleaness and/or dirt handling	1	7
Washing of Materials	1	7
General Care in Nursing	11	73
Curative	1	7
Puncture	2	13
Recovering of needles	7	47
Safety given by the Institution		
Yes	30	57
No	22	41
Whithout response	1	2

Due to the procedures developed by the nurses in biological accidents, although 73% have occurred while conducting general nursing care, such as blood glucose and cytological, there was a significant number of accidents by the recovering of needles.

Of the 53, 57% say the institution ensures security to protect them from occupational risk factors, but 41%, said they did not. For these nurses, was the following question: what measures to promote protection of risk factors? The following are snips of testimonials:

> *Frequent supply of PPE; calm, quiet, refreshing, and with little noise (ENF 01).*
>
> *Individual room for cytological (ENF. 17).*
>
> *Visit of the health surveillance with interventions; bids carefully to risks; training on biosafety; sufficient supplies and professional desire to use them (ENF. 24).*
>
> *Improve occupational safety against aggressive users; Eliminate mold at the USF; Improve ventilation in offices; Provide more Ppe (gloves, goggles, instruments, hygiene material; Cleaning professionals qualify (ENF. 36).*
>
> *While Miss basic cleaning materials as: SOAP, disinfectant, detergent, paper towels, among others. Basic procedures such as materials: gloves. Maintain the physical structure of the environment in which we work as: walls, doors, bathrooms, electrical and hydraulic installations (ENF. 50).*

When asked: "in your opinion, which risk factors do you expose to, in this work environment?" The nurses reported:

> *Contaminated Biological Material, noise, and heat (ENF. 01).*
>
> *Cytological examination in contamination by the use of inappropriate gloves (plastic) (ENF. 02).*
>
> *The handling of piercing and cutting material; Exposure during collection for oncotic Pap smear; Contact with patients with respiratory and dermatological diseases (leprosy, escabiosis, etc; TB),*
>
> *People with HIV-contact at the time of collection (ENF. 48).*
>
> *Physical, chemical, biological and ergonomic (ENF. 28).*
>
> *In view of the closed rooms without ventilation, unhealthy, without windows, lighting, we expose to, mainly, biological risk factors (ENF. 27).*

DISCUSSION

From the data presented about the characterization of participants noted the predominance of female gender in the work process in nursing. Such results are expected corroborating with the data of the Federal Council of nursing, where the profession in Brazil consists of 88.26% of women.[12] In relation to the time of formation, the result shows that has a track record of professional experience.

The nurses who claimed to possess weekly workload over 40 hours per week, for such a journey, for having more than one employment. It is important to note that nursing is a profession that is so poorly paid that many workers need to perform another activity, [13] in order to supplement the family budget. We need to consider that the overload of work ends by providing the largest number of NA and occupational diseases.[13]

When referring to beneficial agents of risk, through the understanding that occupational hazards can be considered any situation

(factors, agents) of the working environment that presents danger to the physical or mental health of the employee and, assuming that workers are exposed to various types of risks, you can see in **Figure 1**, that only a minority reported having suffered some AT.

Regarding, specifically, those who reported having suffered AT most of these were related to biological risks. The fact of the biological load showed greater relevance requires special attention with this team. On the other hand, the risk of the participants are beneficial factors involved in accidents with needle is the most responsible, consistent with the findings in the national literature. Nursing service some EPIs are basic and dire need as, gloves. In justification, the nurses did not identify the risk, nor their respective factor, just reported that had rugged, demonstrating his incipient knowledge on risks that can is exposed.

Showed one or more health changes in a large number of nurses, of which HAS, gastritis, allergic rhinitis, stress and Obesity. The headache, referred to by only 6%, has been attributed to stress, workload and lack of professionals on the team, corroborating previous studies. Since the symptoms of allergic rhinitis or allergic problems, cited by 22%, occur when activities are developed in areas with excess moisture, which can result in damage to the health of workers, falls, respiratory problems and allergic, among others.

The HAS referred is a typical example of work-related disease that must be addressed by the health sector fully. Stress is a risk factor for various cardiovascular diseases, including hypertension. Several situations of stress present in the working environment and of which coincides with that reported in this study, "overwork".

Disease means process with characteristic symptoms, which can affect the whole body or one or several parts, and then one may consider that 34% of nurses were with some disease. In this sense, there is a need for the existence of a nexus between the activities and the health problem which, in the case of the subjects of this study do not happen, therefore, are not just in work situations that these workers may have been affected by the diseases mentioned.

On the other hand, the use of Ppe was observed with some frequency, as shown in **Figure 3**, in line with other studies. Items lab coat and hand washing are considered protective measures and not EPIs, and even then, have been reported by respondents, this shows the proper understanding not between EPI and preventive measures. With regard to the item "closed shoes" a minority said use, NR 32 closed footwear includes as mandatory PPE for healthcare professionals in order to eliminate risk of exposure to biological material. 4 this standard emphasizes the importance of the use of Ppe the procedures with risk of exposure to blood or bodily fluids and emphasizes the use of protective clothing for health workers.

In the nursing service, EPIs that are basic and dire need, like goggles; mask; apron and gloves, and protective action and minimize exposure to some occupational risk agents. It is assumed that, because they have technique, dispense the protective gear, disregarding their vulnerability and exposing themselves to occupational risks.

In **Figure 4** shows that the subject has issued responses considering the prevencionistas measures, such as EPI, and that some still could not differentiate Ppe related to biological hazards. Using a lead apron, although it is a PPE related to ionizing radiation was appointed by 8% of nurses as a measure of biological risk prevention; proper lighting was cited by 53%, although it is a measure of physical risk prevention; 9% mentioned hearing and 23% control of noise, both as a measure of prevention of biological risk, despite being a prevention to physical risk.

Cited, still, as biological risks prevention measures, the use of gloves, goggles and care for the material handling drill-nipping. NR 17 prescribes that in all workplaces must be adequate natural or artificial lighting appropriate to the nature of the activity. Good workplace lighting provides high productivity, reduction of accidents, waste of materials and eyestrain and general.

The control of noise and the use of ear protectors cited may also relate to the fact that the environment of the USF do not have structures that impede the entrance of sounds of outdoors to nursing, favoring a negative effect as much health as physical and psychological welfare of nurses and users, this situation may be related to stress from some professionals. Loads of existing external materiality in work processes have brought damage to the health of workers in nursing, becoming in determinants of health-disease process. The existence of too much noise during the working processes of nursing adds more discomfort to the professional.

With respect to occupational accidents, 72% Reported having not suffered accidents, contradicting their responses regarding the occurrence of NA, as can be seen in Chart 1,

when only 28% reported having suffered occupational accidents

There are nursing workers who are afraid to identify the accident, others categorize as part of your activity, as if it were inevitable to happen. With respect to occupational accidents involved in fluid, some nurses reported having been involved with more than one fluid, others bumpy with biological fluid "blood", confirming findings anteriores14 .18 and still reported accidents with urine or vaginal secretion or vomiting and ileus. Highlights that some accidents are considered preventable with simple use of PP, through goggles or gloves when handling contaminated fluid.

The NR32 underscores the importance of the use of Ppe the procedures with risk of exposure to blood or bodily fluids.

Procedures developed by the nurses involved in biological accidents, most talked about general care nursing as blood glucose and cytologic examination and reencape of needles. It is observed that most of the procedures with possible biological exposure risk involved the use of needles and exposure to blood, corroborating with findings in the literature, with the adoption of the PP pointed to as the main measure of control. Are relevant too, accidents involving the handling of garbage/cleaning, coinciding with results found in other studies.

In this context, the occurrence of AT with biological materials relates also to the disposal of contaminated materials in inappropriate locations, in overcrowded vessels, transport/unprotected needle manipulation, lack of proper use of PPE, to disconnect the syringe needle, as to the recasing of contaminated needles.

When questioned about the safety offered by the relevant institution was the number of professionals who have said the lack of security given for protection of occupational risk factors. In this way, analyzing the speech can be understood that among the measures mentioned to promote protection of risk factors, the provision of PPE was the one that prevailed, since without these occupational safety is impaired in relation to occupational hazards, especially biological.

The testimonials confirm what the polls show, in which physical loads, present environmental conditions: dust, noise, among others, have shown how workload source also for nursing workers, and says that the areas often offer little ventilation, are strenuous, has inadequate lighting, which has repercussions in the work process of the nursing, without considering the discomfort to users of the services and other health team members, as well as promote AT.

When asked about the risk factors to which they are exposed in the workplace, the speeches are evidence of the existence of biological hazards, although many have also cited physical risks as important factor, considering that these interfere directly in their daily activities. Inappropriate positions and anti-ergonomic of nursing professionals in performing a procedure and the need for self-protection against aggression of users, require physical exertion, with important repercussions on their health-disease process. Thereby, it is pertinent to state that mechanical loads have significant participation in the work of nurses and, consequently, in its physical, demanding that industrial activities are properly reviewed and reorganized in order to avoid an early mental and physical wear employee.

CONCLUSION

The results of this study showed that the nursing professionals of basic health units working under unsafe conditions, either through non-adherence to PP or overload of unhealthy physical conditions or activities. The worker is weakening, which favors the illness, being possible to realize that most health changes were related not only to biological hazards, but also to physical occupational hazards, ergonomic, psychosocial, making evident the vulnerability of these professionals.

Another finding was that the nurses are unable to identify occupational risks and their respective factors to which they are exposed in the workplace, especially biological, what should not happen, since the factors or agents of such risks are present in the daily life of his professional life. It was noticed that although the Ppe are made available by public managers, participants admitted to not use them, mostly, what shows the negligence of the employee as major cause of occurrence of AT.

Therefore, it is imperative the need to develop management strategies for prevention of biological hazards in the basic attention and thus ensure the implementation of actions to promote health within the context of continuing education, in addition to the effective implementation of specific protection measures in all USF. Only the provision of Ppe is not sufficient, it is necessary to sensitize, train and listen to the concerns, questions of workers as regards the adoption and proper usage of biosecurity measures.

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