

Biological risk in the activity of the nurse auditor

Risco biológico na atividade do enfermeiro auditor

Lucieno de Moura Santos¹, James Anthony Falk²

1. Enfermeiro, mestre em administração. Professor do Instituto de Desenvolvimento Educacional (IDE), Pernambuco, Brasil
2. Doutor em administração pública. Professor adjunto do Departamento de Ciências Administrativas da UFPE, Pernambuco, Brasil

ABSTRACT

The hospital work environment is considered unhealthy for grouping patients with different infectious diseases and providing many procedures which may lead to accident risks and diseases for health workers. Employees who are potentially exposed to risks have to be informed and trained to avoid health problems. This study aimed to identify if the nurse auditor is exposed to biological risks in the development of their activities. It is a descriptive, exploratory, cross-sectional study with quantitative analysis. It was held in a private, medium-sized hospital in the city of Recife, Brazil, which has clinical and cardiological emergency services; hospitalization; diagnostic aid; surgical unit and intensive care unit. The sample consisted of 31 internal and external nurses, in relation to the characterization of the sample or study revealed that the interviewees are mostly women aged 27 to 38 years, with 4 to 6 years of professional experience and who sporadically attend courses of improvement. 94% of the interviewees answered that there was presence of blood or secretion in the audited medical records, and 84% of them reported that this happened sporadically. 65% are in contact with the patient (on-site) and 85% do not receive the additional unhealthy. The evaluation for the payment of hazard pay is qualitative, what can help to ensure that each employer adopt the way you believe to be the most convenient for the implementation or not of this payment.

Keywords: biological risk, nursing, auditory.

RESUMO

O ambiente de trabalho hospitalar é considerado insalubre por agrupar pacientes portadores de diversas enfermidades infectocontagiosas e viabilizar muitos procedimentos que oferecem riscos de acidentes e doenças para os trabalhadores da saúde. Os funcionários potencialmente expostos aos riscos precisam estar informados e treinados para evitar problemas de saúde. Este estudo teve por objetivo identificar se o enfermeiro auditor está exposto a riscos biológicos no desenvolvimento de suas atividades. Trata-se de um estudo descritivo, exploratório, transversal com análise quantitativa. Foi realizado em um hospital privado, de médio porte, na cidade de Recife-PE, Brasil, que possui os serviços de emergência clínica e cardiológica; internação; auxílio ao diagnóstico; bloco cirúrgico e unidade de terapia intensiva. A amostra foi composta por 31 enfermeiros auditores internos e externos, em relação a caracterização da amostra o estudo revelou que os entrevistados em sua maioria são mulheres com idade de 27 a 38 anos, com 4 a 6 anos de experiência profissional e que esporadicamente frequentam cursos de aperfeiçoamento, 94% dos entrevistados responderam que havia presença de sangue ou secreção nos prontuários auditados sendo que 84% destes, relataram que este fato ocorria de maneira esporádica, 65% atuam em contato com o paciente (in loco) e 85% não recebem o adicional de insalubridade. A avaliação para o pagamento da insalubridade é qualitativa, o que pode contribuir para que cada empregador adote a maneira que acredita ser a mais conveniente para a efetivação ou não desse pagamento.

Palavras-chave: risco biológico, enfermagem, auditoria.

INTRODUCTION

The audit began in Brazil in the 1970s and began a process of replacing its initial utility, which consisted of: meeting statutory requirements; to establish balance sheet consolidation requirements for a Brazilian subsidiary of multinational companies abroad and obtain credit from official or private financial institutions. As a consequence of these changes, one of the new reasons for contracting an external audit is among other factors, as a measure of internal control, taken by shareholders, owners or managers of companies. Notably, the strengthening of the activity was achieved through the constant development and improvement, directly and indirectly, of the norms and procedures of auditing and the auditor by competent bodies ^(1,2).

In the hospital context, nursing is constituted in the largest work force, and its activities are often marked by a fragmented division of tasks, rigid hierarchical structure for accomplishment of routines, norms and regulations; insufficient

qualitative and quantitative sizing of personnel, a situation of professional practice that has had repercussions on high absenteeism and withdrawal for illness ⁽³⁾.

The success of nursing care audit depends fundamentally on the existence of previously established standards, which they can be subdivided into standards of register and standards of care. The registration standards are related to nursing forms, such as: history, nursing prescription and evolution, vital signs records, among others. Standards of care relate to the client's right to receive nursing care, according to their needs ⁽⁴⁾.

The work conditions offered by hospitals, the peculiarities of nursing tasks, the economic crisis arising from globalization, the difficulties of the health sector, the lack of human and material resources and the constant concern with the updating process aiming to follow the technical advances are factors that contextualize the work situation of nursing staff in several countries ⁽⁵⁾.

Brazilian hospital institutions began to worry about workers' health in the early 1970s, when researchers from the University of São Paulo (USP) focused on the occupational health of hospital workers. Studying occupational health, it was observed that in 1971 there were 4,468 work-related accidents in Brazilian hospitals, suggesting the need for preventive procedures to control occupational hazards. Occupational diseases and work accidents are a major public health problem throughout the world. The hospital work environment is considered unhealthy for grouping patients with several infectious diseases and making many procedures that offer risks of accidents and diseases to health workers. Employees potentially at risk must be informed and trained to avoid health problems, and control methods should be instituted to prevent accidents ⁽⁶⁾.

The estimates of the International Labor Organization (ILO) reveal that the annual occurrence of occupational diseases is 160 million, 250 million occupational accidents and 330 thousand deaths are based only on noncommunicable diseases ⁽⁷⁾. The rates of industrial accidents in Brazil are still very worrisome, leaving victims, causing serious consequences to the workers, material losses for the organizations, enormous social costs to the Nation and great suffering to the families of the victims ⁽⁸⁾.

The reasons for the high number of accident occurrences are the most diverse, involving failures in the work system designs, equipment, tools, and deficiencies in the processes of maintenance of the various components of the work. The human factor is an important cause of work-related accidents comprising the worker's psychosocial characteristics, negative attitudes toward prevention activities, among others ⁽⁹⁾.

An accident, never originates in only one cause, but in several, which they accumulate until one last cause precedes the immediate act that activates the situation of the accident. The causes of accidents are divided into human, material and accidental causes. Human causes are based on dangerous actions created by man, whose origin can reside in several factors such as: physical or mental incapacity, lack of knowledge, experience, motivation, stress, non-compliance of rules, operating rules and procedures, difficulty in dealing

with the figure of authority, among others. The material causes are based on dangerous technical and physical issues presented by the environment, whether natural or built and still for equipment defects. Random causes are the rarest, but sometimes they are the only cause of the accidents, having nothing to do with human and technical causes ⁽¹⁰⁾.

This study aimed to identify if the nurse auditor is exposed to biological risks in the development of their activities. As specific objectives: to characterize the interviewees according to age, sex, time of professional performance and participation in events / congresses of the area of performance. Check the existence of medical records contaminated with blood or secretion as well as the frequency with which the medical records were found contaminated. And finally, to relate the proportionality of the interviewees who work professionally in contact with the patient with the condition of receiving the additional of insalubrity.

MATERIAL AND METHODS

It is a descriptive study - exploratory, transversal with quantitative analysis. Descriptive - exploratory research aims the exploration of aspects of a situation and obtainment a better understanding of the behavior that influences a certain phenomenon ⁽¹¹⁾. Cross-sectional study based in the prevalence of old and new cases of a nosology in a given place and time; it is static and essentially transverse ⁽¹²⁾.

The quantitative methods refer to the use of statistical techniques and also in the application of mathematics to sociology ⁽¹³⁾.

For convenience, the study was performed in a private, medium-sized hospital in the city of Recife, Brazil, which has clinical and cardiological emergency services; hospitalisation; diagnostic aid; Surgical Unit and Intensive Care Unit. The sample consisted of 31 internal and external auditors, who attended the referred hospital to analyse the hospital accounts in the determined period for data collection according to the convenience of the study. The study was based on strategic sampling in allows the population to be divided into smaller groups or subpopulation ⁽¹¹⁾.

It was used as inclusion criteria: to be a internal and external auditor nurse and to have analysed some hospital bill through printed media. Those who were not nurse auditors and who for some specific reason used the hospital account analysis digitally were excluded from the study.

The data were processed in micro-computer, in the EXCEL version 3.3.2 programme, with quantitative presentation through graphs and tables, and analysed in the absolute and percentage frequency, through descriptive statistics, which reflected the doubts coming from the questionnaire.

RESULTS

The sample of this study was composed by 31 registered nurses, 13 of them acting as internal, 14 external and 4 in both functions.

During the process of characterisation of the sample, 90% are women and 10% men. According to Table 1 the majority of interviewees are aged from 28 to 37 years, totalling 39%. Then, the age range that obtained the highest percentage was of 38 to 47 years with 35% totalling 11 interviewees. 6 respondents aged 18 to 27 were followed corresponding to 19% and 2 respondents aged 48 to 57 years, accounting for 7% of the sample. The mentioned table shows that the interviewees are of economically active age and in the routine performance of their functions.

Table 1. Distribution of the interviewees according to their age, 2017.

Interviewee ages	N	(%)
18 - 27 years	06	19
28 - 37 years	12	39
38 - 47 years	11	35
48 - 57 years	02	07
Above 58 years	-	-
Total	31	100

The idea that nursing practice is linked to basic principles of "coexistence with others" that are inherent to the time of exercise of the profession. Justice and beneficence say respect for the ethical obligation to give each person what is due to him, to treat each one according to what is morally right and proper ⁽¹⁴⁾.

Table 2 shows that 10 interviewees work in the Nursing audit for 4 to 6 years, equivalent to 32% of the sample, followed by 9 auditors for more than 10 years accounting for 29% of the total. 8 respondents have 1 to 3 years of experience in nursing auditing accounting for 26%, and lastly 4 works for 7 to 9 years in the area and in this study alludes to the remaining 12.9%.

Table 2: Distribution of the interviewees according to the time of professional performance, 2017.

Performance time in the nursing audit	N	(%)
Less than 1 year	-	-
1 - 3 years	08	26
4 - 6 years	10	32
7 - 9 years	04	13
More than 10 years	09	29

Total	31	100
--------------	-----------	------------

It is observed that most of the interviewees have vast experience performing in the chosen function, a fact that can accommodate the professional in certain aspects inherent to their function, so the professional must structure his knowledge in the principle of improvement.

The parcel organisation of work fixes the workers in a certain stage of the professional project. Over-specialisation and fractional work make that the health professional gets alienated in some way from the work object itself. In this way, the workers are left without interaction with the final product of their work activity, even if they had participated of it punctually. As there is no interaction, there will be no compromise with the result of your work ⁽¹⁵⁾.

According to Table 3, of the 31 interviewees, 19 responded that they participate sporadically in congresses/events promoted in their respective areas of activity. That is, 61% of the total do not maintain regularity in the principle of knowledge enhancement. The health professional's performance is based on improving knowledge and skills development and these aspects are developed in the beginning of the training ⁽¹⁶⁾.

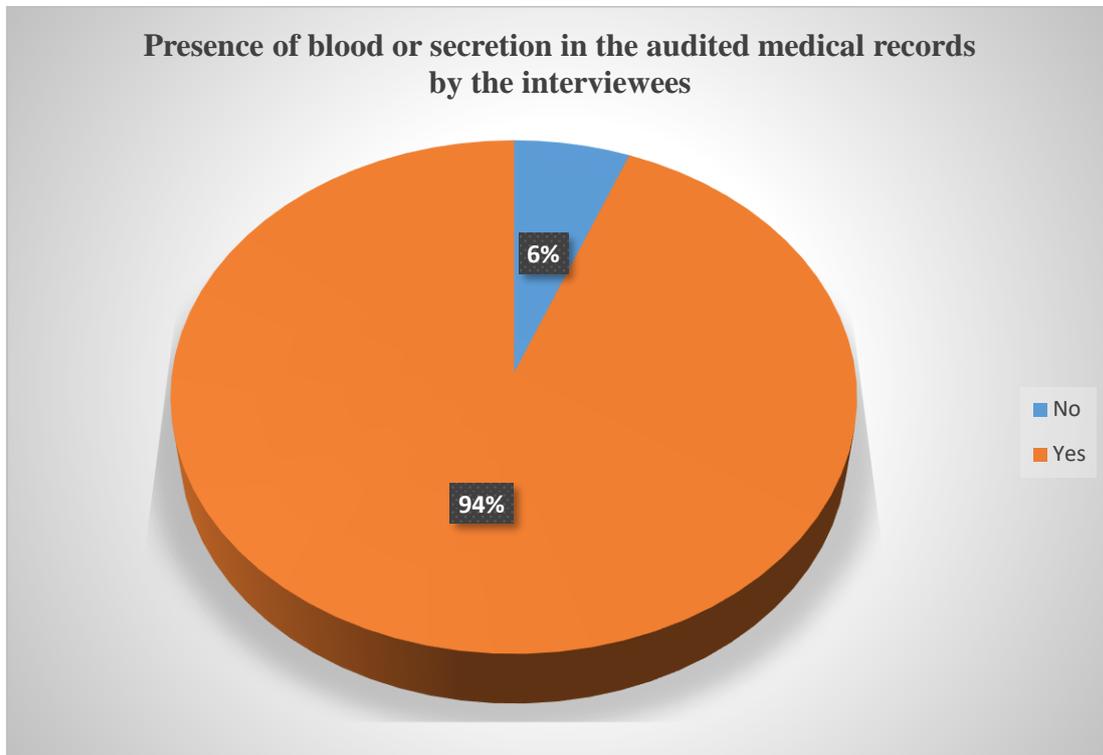
Table 3. Distribution of interviewees according to the participation in congresses/courses in their professional performance area, 2017.

Frequency of participation in congresses/courses	N	(%)
Sporadically	19	61
Once a year	04	13
Twice a year	07	23
More than twice a year	01	03
Total	31	100

However, it is noted in the referred table that 7 respondents answered that they participate twice a year in the events promoted in the area of performance. Then 4 responded that at least once a year they participate in events in the area of activity. And finally, 1 respondent answered with the frequency of more than twice a year he/she attends events in its area.

It can be seen in the Graph 1 that 94% of the respondents answered that blood or secretion was present in the audited records when they performed the function, and 6% answered that they did not find blood or secretion in the medical records. A study done in 2004 proposed to study the risks of contamination caused by work-related injuries with cutting-edge material among nursing workers. According to the authors of the study, needles were the objects that cause the greatest number of accidents, however, it is worth noting

that not only the manipulation of the needles, or intravenous catheters, is a risk, but also the way and the place of disposal of the perishable material cutter ⁽¹⁷⁾.

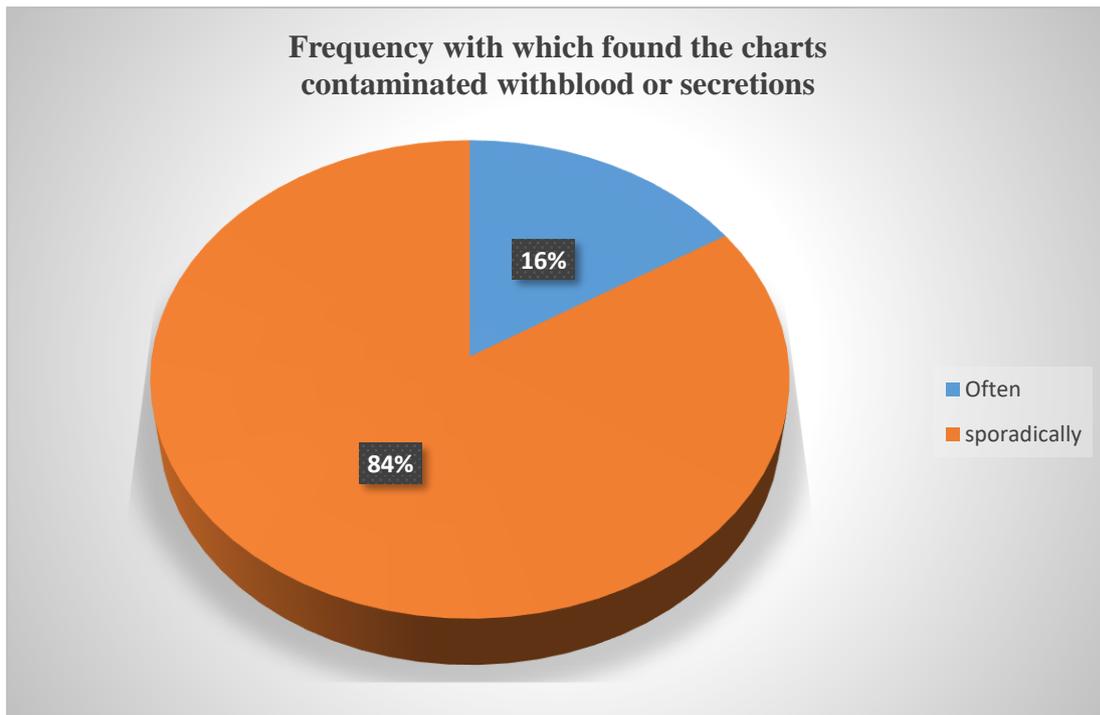


Graph 1. Distribution of respondents about the answers about the presence of blood or secretion in the audited medical records, 2017.

Corroborating with the study described, some authors conducted a survey where they evaluated the occurrences of work-related accidents in an intensive care unit and about this they write that the needles appeared as the main cause of perforating accident among the nursing workers (40%). These findings were in agreement with the literature which claims to be needle manipulation the greatest risk of accident by penetrating material among hospital workers. The other work accidents involved, in general, contact with blood, body fluids and excretions, which are due to exposure of workers to biological loads and their frequent activities with severely ill patients ⁽¹⁸⁾.

Thus, the data in Graph 1 agree with the findings in the study regarding other work accidents such as the handling of contaminated objects.

It can be seen in Graph 2 that 84% of the interviewees sporadically found the record contaminated with blood and secretion, while 16% frequently found blood and secretion in the medical records.



Graph 2. Distribution of the interviewees about the frequency with which they found the medical records contaminated with blood or secretion, 2017.

The definition of professionals and workers that should be considered as an integral part of the health sector, and therefore exposed to the risk of occupational contamination, is quite complex. This definition, however, is necessary to calculate some exposure rates involving specific professional categories. Some authors conceptualise as health workers all those who are directly or indirectly involved in the provision of health services, within health establishments or in health activities, and may or may not have specific training to perform functions related to the sector. The work link in the health activity sector, regardless of professional training or individual qualification is the most important one in the definition of health worker. Similarly, they define as health professionals all those who hold specific professional training or practical or academic training to perform activities directly related to health care or actions, regardless of whether or not they work in health activities ⁽¹⁹⁾.

The importance of this knowledge lies in the fact that, knowing the factors to which we are exposed, we may attempt to establish suitable barriers to the degree of risk, reducing the possibility of harm and transforming professional practice into a safe practice ⁽²⁰⁾.

Table 4 shows the distribution of the interviewees in relation to the performance and the receipt of the insalubrity additional, and we can identify that in relation to the professional performance 20 interviewees develop their functions in loco, in other words, they work analysing the hospital accounts in the sectors where they find the internal patients, such as: Surgical block, Intensive Care Unit, Emergency and Medical Clinic.

Table 4. Distribution of the interviewees according to the performance and receipt of insalubrity, 2017.

Condition		Number of people	(%)
Acting in loco	YES	20	65
	NO	11	35
Total		31	100
Receipt of additional of insalubrity	YES	13	42
	NO	18	58
Total		31	100

These respondents correspond to 65% of the sample. 11 respondents answered that they do not perform their functions in loco, then: it does not maintain direct contact with the patient and they practise the labor activity in a sector in the hospital environment where the access to the patient practically does not exist. The nursing work process is developed by heterogeneous professional categories, to the nurse is reserved the intellectual activities of service management and execution of more complex procedures ⁽²¹⁾.

The complexity of the work in the hospital environment interacts with the inherent characteristic of each institution, which should provide an environment that is unhealthy and that in the work activity this right may be before the economic interests of the employer. In dealing with objects and instruments of work, the workers make physical and mental effort. This work is generically dimensioned by the work organisation, which in each Hospital has specific characteristics ⁽²²⁾.

According to Table 4, 18 respondents answered that they did not receive the insalubrity additional and 13 respondents received the corresponding amount of 58% and 42%, respectively. It is important to emphasise that it was not the objective of this study to verify the interviewees who work in loco or not, how many receive and how many do not receive the insalubrity additional, being this study restricted to the holistic analysis of the sample.

DISCUSSION

Brazilian legislation through regulatory norm 15 approved by SSST No. 12, dated November 12, 1979, in its Annex 14, provides that the worker may apply for insalubrity additional when he is at work and operations in permanent contact with patients, animals or with infecto-contagious material, in: hospitals, emergency services, wards, ambulatory, vaccination posts and other establishments intended for human health care. It applies only to the people

who have contact with patients, as well as those who handle objects of use of these patients, not previously sterilized ⁽²³⁾.

Therefore, for practical purposes, regulatory rule 15 in its annex 14 establishes that the proper insalubrity additional to the worker, is only when it is in permanent contact with the agent that may cause the biological risk. Hermeneutically the legislation does not provide this insalubrity additional if there is sporadic exposure. However, the reflection of the situation in which the worker is exposed, since for them the fact that the worker is not permanently exposed to the biological risk does not extinguish its presence. The study on the health conditions of this professional group should take into account the complexity of the relationships between health and work, which go beyond the traditional view of occupational health, restricted to industrial work and to a limited view of the working environment ⁽²⁴⁾.

FINAL CONSIDERATIONS

The current study evidenced that the nurse auditor is exposed to biological risks. If we take as its basis the regulation 15 in its Annex 14, the in loco audit is framed as permanent, even if the contact with the contaminated medical record is sporadic. In loco work suggests that you have contact with the patient. In a reflexive analysis, the care nurse may or may not maintain contact with the patient in potential biological risk, since it depends on the spontaneous demand of the hospital, but for practical purposes the employer does not exempt him from receiving the insalubrity additional. The evaluation for the payment of hazard pay is qualitative, what can help to ensure that each employer adopt the way you believe to be the most convenient for the implementation or not of this payment.

This study is not intended to go against the legislation. New studies on the subject are valid to promote a comprehensive discussion on this subject, allowing the search for improvement to the development of the activity of the professional auditor as well as the reduction of any risks that may be exposed.

REFERENCES

1. Niyama JK. Contabilidade Internacional. 1 ed., São Paulo: Atlas, 2006.
2. Almeida MC. Auditoria: Um Curso Moderno e Completo. 6ª ed. São Paulo: Atlas, 2003.
3. Kucrgant P. Administração em enfermagem. São Paulo: EPU, 2006.
4. Faraco MM, Albuquerque GL. Auditoria do método de assistência de enfermagem. Revista Brasileira de Enfermagem. Brasília, 57(4) p. 421-424, jul-ago, 2004.

5. Royas ADV, Marziale MHP. A situação de trabalho do pessoal de enfermagem no contexto de um hospital argentino: um estudo sob a ótica da ergonomia. *Revista Latino-Americana de Enfermagem*, Ribeirão Preto, 1(9) p.102-108, 2001.
6. Nishide VM, Benatti MCC. Riscos ocupacionais entre trabalhadores de enfermagem de uma unidade de terapia intensiva. *Rev. Esc. Enferm. USP*, 4(38) p.406-414, 2004.
7. Zocchio A. *Segurança e Saúde no Trabalho. Como entender e cumprir as obrigações pertinentes*. São Paulo: LTR, 2000.
8. Dela Coleta JA. *Acidentes de Trabalho*. São Paulo: Atlas, 1991. XXV Encontro Nac. de Eng. de Produção – Porto Alegre, RS, Brasil, 29 out a 01 de nov de 2005.
9. Di Lascio CHRA. *Psicologia no trabalho*. *Revista Contato – CRP 08*, 113(23), Curitiba, 2001.
10. Geller ES. *Cultura de Segurança Total*. *Professional Safety*, Setembro, 1994.
11. Santos, IE. *Textos selecionados de métodos e técnicas da pesquisa científica*. 2 ed. Rio de Janeiro: Impetus, 2000. 282 p.
12. Bordalo AA. *Pesquisa Transversal: conceito e definição*. *Revista Paraense de Medicina da FSCMP*. Belém, 4(20), p. 3-8, Out-Dez, 2006.
13. Souza CLMV. *A problemática dos métodos quantitativos e qualitativos em biblioteconomia e documentação: uma revisão de literatura*. *Revista Ciência e Interação*. Brasília, 18(2), p. 174-182, Jul-Dez, 1989.
14. Gandolpho MA, Ferrari MAC. *A enfermagem cuidando do idoso: reflexões bioéticas*. *Revista O Mundo da Saúde*. São Paulo, 3(30), p. 398-408, Jul-Set. 2006.
15. Franco, TB, Bueno WS, Merhy EE. *O acolhimento e os processos de trabalho em saúde: o caso de Betim, Minas Gerais, Brasil*. *Cad. Saúde Pública*. Rio de Janeiro 2(15), p. 345-353. Abr-jun. 1999.
16. Viswanathan M. *et al*. *Outcomes of Community Health Worker Interventions. Evidence Report/Technology Assessment*. North Carolina, No. 09-E014, 3-18. June 2009.
17. Marziale MHP, Nishimura KYN, Ferreira MM. *Riscos de contaminação ocasionados por acidentes de trabalho com material perfuro-cortante entre trabalhadores de enfermagem*. *Rev. Latino-am Enfermagem*. São Paulo, 1(12), p. 36-42. Jan-Fev. 2004.
18. Nishide MV, Benatti MCC, Alexandre NMC. *Ocorrência de acidente de trabalho em uma unidade de terapia intensiva*. *Revista Latino-americana de enfermagem*. São Paulo. 6(12), p. 204-211. mar/abr. 2004.

19. Souza PRR. Núcleo de biossegurança hospitalar. Governo do Estado do Rio de Janeiro, Subsecretaria estadual de saúde, superintendência de saúde. Rio de Janeiro, p. 1-15. 1998.
 20. Colen MS. Manual de Biossegurança. Salvador: Divisa, p. 295-370. 2001.
 21. Ribeiro EJG, Shimizu HE. Acidentes de trabalho com trabalhadores de enfermagem. Revista Brasileira de Enfermagem. Brasília. 50(60), p. 535-540. set-out. 2007.
 22. Brandão Junior PS, Wakimoto M, Cotias PMT. Programa de Biossegurança Hospital Evandro Chagas. Biotecnologia, ciência e desenvolvimento. São Paulo. n. 20, p. 54, mai/jun 2001.
 23. Brasil, Norma regulamentar nº 15. anexo 14. Approved by ordinance SSST of November, 12, 1979.
 24. Oliveira BRG, Murofuse NT. Acidentes de trabalho e doença ocupacional: Estudo sobre o conhecimento do trabalhador hospitalar dos riscos à saúde de seu trabalho. Revista Latino-americana de enfermagem. São Paulo. 1(9), p. 109-115. jan. 2001.
-

Recebido: 05 de fevereiro de 2018. **Publicado:** 26 de fevereiro de 2018

Correspondência: Lucieno Santos. **E-mail:** lucienosantos@hotmail.com

Conflito de Interesses: os autores declararam não haver conflito de interesses.

© This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

