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RN32: REVIEW OF PROTECTION IN LABORATORIES OF HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Highlights: Healthcare workers are in one of the professional categories that present the highest risk of suffering work-related accidents or contracting pathologies due to their professional activity. The Regulatory Norm 32 provides these professionals with guidelines that propose safe working conditions that must be followed throughout the country.
Aim: understand the current scenario of health laboratories of higher education institutions regarding occupational safety and health (OSH).
Design / Methodology / Approach: In order to achieve the objective, it was decided to structure a review-type survey of narrative literature.
Results: 12 articles related to the subject of the research were found; however, none of them dealt with the use of the standard in laboratories of higher education institutions, specifically.
Limitations of research: No research has been located for which the object of study was the RN32 in health laboratories of higher education institutions; therefore, the findings of this article must be understood and transferred to the reality found by teachers, technicians and students.
Practical implications: through the findings it will be possible to develop a culture of occupational health and safety, from the training of future professionals.
Originality / value: The absence of scientific material exploring health and safety at work in laboratories of educational institutions shows how relevant and valuable this theme is.

Keywords: Regulatory Norm 32; occupational health and safety; laboratories.

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1. INTRODUCTION

When talking about the health of health workers, one must bear in mind that health professionals do not have relevant problems in their work routine, since they are inserted in environments that take care of health and promote it in a general manner (ABEn, 2006). However, several categories of health professionals have presented occupational diseases and have been involved in work accidents. There are several factors that lead these professionals to occupational diseases. The extensive workday to which many health workers are subjected, especially when it comes to uninterrupted care for the sick, is among the factors that contribute to the sickening of health workers. Another factor that justifies the cases of health problems may be related to the fact that these professionals are always in direct physical contact with the patients (ABEn, 2006).

It is important to highlight that the hospital space is classified by Brazilian legislation as an environment that is part of the tertiary sector and is recognized as an environment with degree three of risk. This classification is made because the activities that are developed there are considered unhealthy (Marziale; Carvalho, 1998). For this reason, with the creation of the RN32, the Ministry of Labor and Employment (MTE) establishes the protocols and measures that favor the safety and protection of health professionals, also including workers in the area of teaching and research.

The main risks to which the worker is exposed are explained in the regulatory standard. Acácio et al. (2013) state that for the purpose of this RN, environmental risks are considered to be the physical, chemical and biological agents existing in work environments that, due to their nature, concentration or intensity and time of exposure, are capable of causing damage to the worker's health.

In RN32, the risks that are commonly associated with the illness of workers are highlighted, such as chemical risk, biological risk, ergonomic risk, and physical risk agents, where ionizing radiation is highlighted. The norm foresees that all workers must have ensured training regarding the risks exposed before the beginning of activities and continuously whenever there is a change in the conditions of exposure to the agent (Brazil, 2005).

Thus, this article will analyze scientific research under the perspective of RN32, seeking to understand the current scenario of health laboratories of higher education institutions regarding occupational health and safety (OSH). For this purpose, the narrative bibliographic review will be used, through scientific literature of the last 10 years.

2. METHODOLOGY

The focus of this work is on the analysis and evaluation of scientific articles that address Regulatory Standard 32. This analysis will focus on the perception that the authors of the articles present about the RN32, highlighting the objectives and results achieved with the research.

To this end, we seek the use of bibliographic sources that discuss the subject, since the analysis of the works of diverse authors can contribute to the variety of ideas on the subject. Corroborating this statement, Marconi and Lakatos (2003) affirm that the bibliographic research implies a theoretical process that aims to gather information on a certain theme.

The approach used for the study focused on qualitative research through a narrative bibliographic review. Chizzotti (2003) states that the qualitative approach concentrates its analysis on data and information that has some meaning for individuals. This type of research seeks to understand the meaning of actions, understanding the interactions between these actions and the context in which they manifest themselves.

The research was based on the assumptions of the bibliographic research and was understood as the theoretical collection on the subject, consisting of providing current data relevant to the work. In this research, scientific articles on occupational health and safety in health institutions, which contribute greatly to the theme of research, were consulted. For research purposes, item 32.1.2 of RN32 was followed, as seen below:

> For the purpose of applying this RN, health services are understood as any building intended to provide health assistance to the population, and all actions of promotion, recovery, assistance, research and teaching in health at any level of complexity (Brazil, 2005).

For the research in question, scientific articles from some databases, such as Scientific Electronic Library Online (SciELO), as well as data and information from the search in the Virtual Health Library (VHL) and Google Academic with the use of the descriptor "regulatory standard 32", were consulted.

3. RESULTS AND DISCUSSION

The RN32 focuses on the standardization, regulation of accidents and cases of illness that arise in the workspaces of health workers, mainly considering the risks to

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which these professionals are subject in their work environment. Silva (2018) clarifies that:

> With the advent of Ordinance No. 485 (DOU 16.11.05), which introduced Regulatory Standard 32 (RN32), it is established that its purpose is to establish the basic guidelines for implementing health protection measures for health service workers, as well as for those who perform health promotion and assistance activities in general.

In general, RN32 works with risk elimination or control that are present in the places that offer health services. The norm specifies that the control of these risks must be joint; therefore, the responsibilities between employee and employer are divided. This underscores the importance that those involved in the provision of health services should pay attention to the safety measures to be followed in the environment (Brazil, 2005).

In an Anvisa document (2003) the definition of risk is explicit when the document states that risk is the "probability of possible damage within a period of time or number of operating cycles".

In the work environment of health professionals, it is possible to find several situations that bring risks to the health of these workers. Generally, it is observed that the risks occur due to the use or not of PPEs, use of inappropriate clothing and footwear, and carrying props that can facilitate the flow of contamination, besides the incorrect packaging of syringes and sharp objects that facilitate the contamination of microorganisms in hospital space (Robazzi; Marziale, 2004). Thinking about reducing these risks, the labor legislation relies on RN32, which offers support to intervene in risk situations within the hospital environment, also offering the protocols and measures that help prevent occupational risks for health workers.

The RN32 is considered the norm that regulates and guides all the development of the labor activities of health workers. It is also responsible for explaining the risks to which these professionals are susceptible, clarifying in a specific way the procedures and protocols that must be followed, in order to reduce the risks inherent to professions in this area (Brazil, 2005).

In order to effectively reduce risks in work activities in health environments, the RN32 foresees the use of an activities protocol legally based on the RN32 (Brazil, 2005).

The analysis carried out on the scientific articles allowed us to find 12 articles that were related to the research theme; however, none of them dealt with the use of the standard in laboratories, specifically. In an attempt to show the results that were obtained, we opted to present the articles analyzed through Chart 01, since it presents some data about the titles of the articles, their authorship(s), the year in which they were published, the name of the journals, in addition to specifying the objective of the study and the approach presented in each of the surveys.

The articles used for literature review were chosen according to criteria such as proximity to the proposed and periodical subject in which it was published, and year of publication, respecting the maximum limit of 10 years of publication. The choice of certain articles responded to the objective proposed by the research, since it explicitly represented the importance of the RN32 in the working environments of health professionals.

In some of these articles, it was possible to notice a greater emphasis in relation to health risks when the RN32 was not used within the health spaces, implying in the unsafe development of work activities. However, it was also observed that some articles had as object the discussion about the need of implementing the RN32, in order to present the impact of prevention protocols and risk reduction for health professionals. Oliveira et al. (2015) cite in their work the importance of the norm for health establishments and for workers, because in addition to ensuring proper safety at work, they promote an environment that allows quality of life at work. Oliveira et al. (2015) state that "developing health education actions by discussing biosafety and standard precaution is one of the first actions necessary for preventing and controlling accidents, in addition to the adoption of measures recommended in RN32.

Marziale et al. (2012), when seeking to identify work accidents with exposure to biological material that occurred in a university hospital, showed that the percentage of work accidents reduced throughout the period in which several requirements of the standard were adopted. However, Silva et al. (2015) stress that it is necessary to understand that both the guidelines and the commitment are not unilateral, but that they occur between health institutions and professionals. It is necessary that the movement involves aspects related to offering an adequate structure, available materials, decent working conditions, just as it is necessary for workers to act responsibly and respecting the proposed guidelines. Oliveira et al. (2015) consider that drilling accidents generate negative impacts for both workers and companies, since such episodes can cause them to leave, in addition to the

Chart 1. List of authors, year of publication and objective of research.

Title	Authors	Year	Aim
Diagnosis of the implementation and enforcement of regulatory standard 32 in health care facilities: a case study carried out in a public hospital in Joinville, SC - Brazil.	Clock D, Batiz EC	2017	To diagnose the implantation and implementation of RN32 in health establishments.
Knowledge and biosecurity behaviors among nursing teachers	Morais RLGL et al.	2017	Describe the knowledge of nursing teachers of a course on Regulatory Norm 32 and post exposure behaviors to biological materials and identify the vaccination status of these teachers.
Regulatory norm 32 in Brazil: integrative literature review	Santos Junior AG et al.	2015	To know the main publications in the literature about Regulatory Norm 32.
In-service training experience report	Silva VG et al.	2015	Report the experiences of 03 (three) nursing teachers in the dissemination of Regulatory Norm 32, in partnership with the Continuing Education of a Municipal Hospital in the city of Rio de Janeiro.
About the regulatory norm - RN32	Oliveira JS et al.	2015	To identify the scientific production on accidents with drilling related to health workers.
E-learning training model in Regulatory norm No. 32 (RN32)	Pustiglione M et al.	2015	To propose a training model.
Consequences of occupational exposure to biological material among workers at a university hospital	Marziale MHP et al.	2014	It aimed to analyze the occurrence, characteristics and consequences of an accident at work with exposure to biological material for workers and institution.
Applicability of Regulatory norm 32 (RN32) and implications for the work nurse	Acácio AJ et al.	2013	Analyze the factors that interfere with the applicability of RN32 by the work nurse.
Workers' health and waste risks in the hospital environment according to Regulatory Norm 32(10)	Cremer E et al.	2013	It aimed to survey the occupational risk factors to which workers in the hospital environment are exposed, conducted in a philanthropic hospital in the interior of Paraná.
Implementation of Regulatory Norm 32 and the control of accidents at work	Marziale MHP et al.	2012	Identify occupational accidents with exposure to biological material that occurred in a university hospital.
Evaluation of the implementation of Regulatory Norm 32 in a university hospital	Santos MR et al.	2012	It aimed to verify the implementation of Regulatory Standard 32 in a hospital in northern Paraná.
Continuing Education and Regulatory Norm 32: utopia or reality in Nursing?	Cunha AC, Mauro MYC	2010	Describe the training offered by the Continuing Education Program in the institution, according to the nursing workers, and analyze how this training can influence the implementation of RN32 in the hospital.

emotional and psychic shock that post-accident treatment can cause.

The work of Cremer et al. (2013) aimed to survey the occupational risk factors to which professionals in the hospital environment are exposed and found that several units presented waste risks, allowing the recommendation of proposals for interventions in health services to minimize existing risks. Marziale et al. (2014) aimed to analyze the occurrence, characteristics, and consequences of an occupational accident with exposure to biological material for workers and institutions. They showed that most of the injured workers were women (94.6%), that 67.8% were nursing auxiliaries, and that most of the accidents occurred in the performance of venous puncture and administration of drugs with manipulation of needles without protective devices. The same study also points out that the consequences of an accident at work with biological material generate consequences to the institutions as well, since they will suffer from absenteeism, the need to reorganize the work, and financial losses.

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When Acácio et al. (2013) analyzed the factors that interfere in the applicability of the RN32, they concluded that training and specific formation in the RN32 are strategic requirements for the implementation of worker health protection measures. Pustiglione et al. (2015), attentive to the RN32 in terms of training aspects and information on risk agents, proposed a distance learning model, using a technological interface that sought greater adherence to the program, greater efficiency in content assimilation, and compliance with the requirements of the RN32, for example. Cunha and Mauro (2010) described the training offered by an institution's Continuing Education Program, according to nursing workers, and analyzed how this training could influence the implementation of RN32 in a hospital. In this study, among the findings, it is highlighted that the data indicated the need for training and specific formation in the RN32 as important strategies for the implementation of measures to protect workers' health. Marziale et al. (2014) also cite that in their study, part of the workers who suffered an accident at work in a hospital attributed the occurrence of the accident to individual factors or to colleagues, showing that this is an indicator of the need to use educational strategies and, especially, of the awareness of these workers regarding the need to adopt safe work practices and the risks caused by accidents, since many workers did not identify the consequences of the injury suffered when accidented with biological materials. In an integrative review, the authors affirm that "among the works analyzed, it is noted that an emphasis on the role of permanent education together with professionals in the search for success in the implementation" shows that these aspects are essential for obtaining the safety and protection of health professionals (Santos Junior et al., 2015).

Santos et al. (2012) verified the implementation of the RN32 in a hospital and realized that despite the difficulties found in the institution (in the scope of investments and professional negligence, for example), it meets certain requirements in relation to the RN32, in the implementation process or in its totality, showing that to adapt to the norm does not only require financial contribution from the institutions, but also the adherence of workers, in terms of adopting a safe attitude and behavior.

Currently, it is possible to observe that the quality of life of people in the work environment is a general requirement. In this sense, it is necessary that they are trained to face work accidents that arise in work environments, demanding a differentiated look to questions about risks and safety at work from the health professional.

The RN32 clearly defines the rules and conditions of safety and health preservation for workers who work in health environments. This norm deals exclusively with the measures that should be taken by employers and employees to ensure the protection of professionals within the health spaces, emphasizing the shared responsibility of both on the implementation of the regulatory norm in question. However, when Morais et al. (2017) evaluated the knowledge of nursing teachers of an nursing course on RN32, they found that more than 40% of teachers evaluated reported not knowing the norm, showing that even with more than a decade of publication, the norm still does not reach all health professionals; and among those who knew it, teachers did not mention fundamental definitions of this norm. Another analysis that can be made from this study is that health students may not be receiving training to act safely inside their laboratories and later in their workplaces.

Therefore, this study allowed a deeper discussion in terms of the RN32, making it possible to gather information on aspects related to workers' health, protecting their health and the assistance provided to users, making this norm an instrument that should be applied in the daily routine of health spaces.

For believing in this premise, this work proposed a theoretical approach on the application of the RN32 in the workspaces of health workers and on how the management of risks inherent to the health of workers in healthcare spaces occurs. Due to the absence of studies specifically in laboratories of higher education institutions, it is necessary to understand the findings and transfer them to the reality found by teachers, technicians and students.

Among several benefits found throughout the reading of the articles, the considerable decrease of occupational diseases was cited in practically all studies analyzed, confirming the importance of RN32 within health environments. When we refer to higher education institutions, it is clear that these environments are responsible for the training of future health professionals and that these students should graduate with knowledge about the current legislation regarding health and safety at work. However, it should be emphasized again that no research has been located where health laboratories of higher education institutions have been the object of study.

4. CONCLUSION

Therefore, the proposed study did not present quantitative results, since the above mentioned approach

consisted in the theoretical discussion on aspects such as the application of the RN32, and reduction of risks in occupational health and safety environments for health professionals within the health services offer. Among the studies analyzed, only one of them was a review on the norm, but with a small number of articles (six in total), showing the need for further research to review the results obtained through the implementation of the RN32 (Santos Junior et al., 2015).

More specifically, with the exploratory analysis, some information on the RN32 was obtained as partial results that reinforce the need for the insertion of this norm in all work environments focused on health maintenance, contributing to a healthy work environment for those who offer this type of service and improving the results of the institutions. It is also important to emphasize that because it is an educational environment, the health laboratories of the educational institutions must be aligned with the norm so that the professionals are trained with a refined critical sense for issues related to OSH, as well as offering a safe environment for the academic community to use them.

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