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WORKER'S HEALTH SURVEILLANCE HEALTH PERSONNEL: A SYSTEMATIC REVIEW

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Summary

Goal: Identify in the literature the Occupational Health Surveillance actions developed based on notifications of illnesses and injuries related to healthcare workers.**Method:** This is a systematic literature review study with the purpose of analyzing and synthesizing the results of scientific productions that are relevant to the proposed topic. Based on evidence-based practice, the PICO strategy was used, an acronym for Patient, Intervention, Comparison and *"Outcomes"*(outcome) to verify the information found. To select publications, the Prisma method was used, which provides transparent and effective communication in the reporting of systematic reviews and meta-analyses, being produced in three stages. In the first stage, repeated articles were excluded, and selection by titles took place. In the second stage, the chosen articles had their abstracts read, and those selected were forwarded to full reading, referring to the third stage. **Results:**940 articles were found from cross-checks carried out in the chosen databases, 408 in Medline, 394 in Lilacs and 138 in Bdenf. After excluding duplicate articles, 48 studies were selected by abstract, and of these, 11 were selected for full reading. Once their analysis was completed, 7 were excluded as they were not relevant to the study, leaving 4 articles that were relevant to carrying out the research.**Conclusion:**It is essential that Occupational Health Surveillance, aimed at healthcare personnel, directs its actions towards raising awareness and identifying groups most exposed to illness.

Key words: Health Personnel. Occupational Health. Occupational Health Surveillance. Disease notification.

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Abstract
Objective: To identify in the literature the actions of the Worker's Health Surveillance developed from the notifications of diseases and illnesses related to the health workers. **Method:**This is a systematic literature review with an analysis criterion and synthesizing the result of scientific productions that are relevant to the proposed theme. Based on evidencebased practice, the PICO strategy was used, which represents an acronym for Patient, Intervention, Comparison, and "Outcomes" for the verification of the information found. For the selection of publications, the Prisma method was used, which provides a transparent and effective communication in the report of systematic reviews and meta-analyses, being produced in three stages. In the first stage, repeated articles were excluded, and the selection by titles took place. In the second stage, the selected articles had their abstracts read, and those selected were sent to complete reading, referring to the third stage.**Results:**From the crossings carried out in the chosen databases, 940 articles were found, 408 in Medline, 394 in Lilacs and 138 in Bdenf. After excluding duplicate articles, 48 studies were selected for the abstract, and of these, 11 were selected for full reading. Completed their analysis, 7 were excluded because they were not relevant to the study, thus leaving 4 articles that were relevant to the research.**Conclusion:**It is essential that Occupational Health Surveillance, aimed at health personnel, directs its actions towards awareness and identification of groups more exposed to illness.
Keywords: Health Personnel. Occupational Health. Surveillance of the Workers Health. Disease Notification.

1. Introduction

Occupational Health constitutes an area of Public Health whose object of study is the relationship between work and health. Its objective is to promote and protect workers' health, monitor risks and provide assistance to workers, and to guide these actions it is important to know their determining factors. They include the social, economic, technological and organizational conditions responsible for living conditions and occupational risk factors – physical, chemical, biological, mechanical and those arising from work organization – present in work processes (BRASIL, 2002).

Occupational Health actions include assistance for illnesses; surveillance of working environments and conditions (health surveillance), the health status of workers (epidemiological surveillance) and the environmental situation (environmental surveillance); the production, collection, systematization, analysis and dissemination of health information; the production of knowledge and educational activities, all of which are developed under the control of organized society. From the assistance actions, "cases" or situations are identified

of work-related illnesses, which are notified to the Information System, triggering health surveillance procedures (RENAST, 2006, p. 37).

The actions of monitoring environments and working conditions, epidemiological surveillance of diseases and environmental surveillance generate information and identify "sick or suspected cases" that are forwarded to the network of sentinel services, for diagnosis and, if necessary, for treatment and rehabilitation. These actions are part of the cycle of comprehensive health care for workers, which also includes health promotion procedures defined and implemented within the health system and beyond, by the Labor, Social Security, Environment and other government sectors. responsible for economic and social development policies (RENAST, 2006, p. 37).

In a schematic way, it can be said that the morbidity and mortality profile of workers in Brazil today is characterized by the coexistence of illnesses that are related to specific working conditions, such as typical work accidents and "occupational diseases"; illnesses that have their frequency, onset or severity modified by work, called "work-related illnesses" and; diseases common to the population as a whole, which are not causally related to work, but affect the health of workers (RENAST, 2006, p. 17).

With regard to notifications, in the period from 2010 to 2015, 809,520 cases of work-related diseases and illnesses were reported in the Notifiable Diseases Information System (SINAN) (BRASIL, 2017). However, the lack of precise information constitutes a serious problem, highlighting the evident under-reporting of work-related injuries, since their number is very low when compared to that in developed countries (CAVALCANTE*et al.*, 2014).

Some injuries are directly related to specific professional groups. Among the most affected classes are health professionals, as they spend several years studying, researching, training the promotion, prevention and maintenance of health in relation to everyone they interact with, except themselves; Therefore, they tend to be among the most careless in relation to their own health (VIEIRA, 2009).

In this way, Occupational Health Surveillance actions aimed at healthcare workers prove to be of great relevance, as they can draw the attention of this professional category to the care that must be taken in relation to their own health, in addition to strengthen their security, with a view to improving conditions

of work environments. Therefore, the study in question aims to identify in the literature the Occupational Health Surveillance actions developed based on notifications of diseases and injuries related to healthcare workers, based on the following research question: "What are the proposed actions? by Occupational Health Surveillance in the face of notification of illnesses and injuries related to the work of health personnel?".

2 Theoretical Foundation

The Ministry of Health, through the Handbook of Basic Care in Occupational Health, considers that Occupational Health studies the relationship between the health-disease process associated with productive activities and that interventions should improve work processes in order to modify the environment by promoting a healthy environment and ensuring comprehensive health care for workers (BRASIL, 2018).

These actions are implemented through the National Workers' Health Policy-PNST, which was established by ordinance GM/MS No. 1,823/2012 of August 23, 2012; it defines principles and guidelines in the SUS management spheres for the development of surveillance actions to ensure the promotion and protection of health in the workplace and reduce morbidity and mortality resulting from the development of production processes (BRASIL, 2012).

The Occupational Health actions developed must observe the structure of the care and surveillance networks in the region. There must also be the participation of workers in order to contribute with their knowledge to identify risks found in work environments that influence the appearance of diseases/conditions, as well as identify changes to improve environments, helping to make them healthier and safer (BRASIL, 2018, p. 20).

Furthermore, the assistance provided to them must be linked to health and epidemiological surveillance actions, as this association will improve the understanding of how the dynamics of the health-disease process arising from work occur (BRASIL, 2002). From this perspective, the Notifiable Diseases Information System (SINAN) has been implemented in Brazil since 1993, portraying the damages and injuries generated in the world of work in its most diverse facets – urban or rural, public or private, formal or informal – to the

gather data on some diseases and events of compulsory notification, by health services and professionals, related to work (CENTRO DE VIGILÂNCIA SANITÁRIA, 2019).

Therefore, it is notable that the dimensioning of the issue of health effects, related to work, in the different population groups, depends on the quality of the information collected regarding: documentation of the distribution of injuries according to demographic variables; detection of epidemiological alert situations; evaluation of such situations to relate them to their causes; identification of needs for investigations, studies or research and, finally, organization of a database for planning actions and services (BRASIL, 2002, p. 33).

With the use of the National Workers' Health Policy (BRASIL, 2012), which promotes and ensures quality in working conditions, worker health has been the target of frequent concern by researchers dedicated to living and working conditions, as that the number of illnesses and injuries related to work activities has increased significantly.

> [...] these professionals present different profiles from the general population, as they are more likely to become ill or die from work-related causes and exposure to the burdens and risks inherent to their work activity (MACHADO*et al.*, 2014).

Felli*et al.*(2007, 2013) point out some of the following burdens to which healthcare workers are exposed, taking as an example the class of nursing workers in the Brazilian scenario:

- **Biological load:**occurs through contact with patients carrying infectious, contagious or parasitic diseases and/or their secretions, which characterize the interaction with the work object.
- **Physical load**: exposure to ionizing and non-ionizing radiation, noise, sudden changes in temperature, lighting and humidity.
- **Chemical load:**results from the exposure of workers to chemical substances, which can be in different states (solid, liquid and gaseous) and have different purposes (medicine, antiseptic, disinfectant, sterilizing and others). Exposure to this load causes rhinitis, allergies, asthma and irritation.
- **Mechanical load:**comes from the handling of sharp materials, falls, attacks, gripping of fingers and hands.
- **Physiological load:**It results from handling excessive weight, working in an upright position, inappropriate and uncomfortable positioning, night work and shift rotations, which interfere with the functioning of the body. Resulting in hypertension, diabetes and musculoskeletal disorders.

- **Psychic charge:**It results from constant attention from the worker; strict supervision; fast pace; exposure to stressful and authoritarian situations. It is associated with the development of mental and behavioral disorders, insomnia, anguish and anxiety.

It is understood that problems related to workers' health develop in a multicausal manner. In this sense, for Fernandes*et.al.*(2010) there are determining factors that affect the health status of these professionals, such as: the level of independence, type of employment relationship, working hours and satisfaction with work. The effect of excessive working hours due to lack of labor and financial recognition has led to physical and mental exhaustion, consequently triggering illness (KIRCHHOF, 2009).

3 Method

This is a systematic literature review study with the purpose of analyzing and synthesizing the results of scientific productions that are relevant to the proposed topic, in a way that enables an assessment of the quality of studies through the identification of evidence and mechanisms for implementation in assistance (GALVÃO; SAWADA; TREVISAN, 2004).

Based on evidence-based practice, the PICO strategy was used, which represents an acronym for Patient, Intervention, Comparison and*"Outcomes"*(outcome) to verify the information found (NOBRE; PIMENTA; SANTOS, 2007). Data collection took place from December 2020 to January 2021, in the following databases:*Medical Literature Analysis and Retrieval System Online*(MEDLINE), Latin American and Caribbean Literature in Health Sciences (LILACS) and Nursing Database (BDENF), all indexed in the Virtual Health Library (VHL).

For the data search, the following descriptors were established: health personnel, worker health, worker health surveillance and disease notification; from the Health Sciences Descriptors (DeCS) and in English in*Medical Subject Headings*(MESH). In combination, the Boolean operator "AND" was used to cross-reference the terms. The inclusion criteria were: 1- Works indexed in the databases

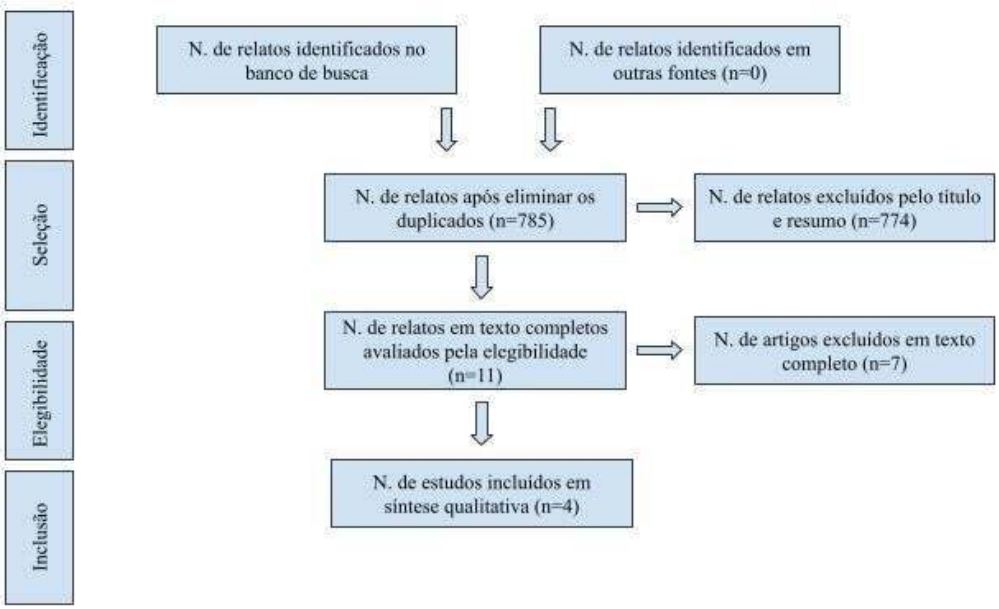
cited; 2- Written in Portuguese, English and Spanish; 3- Available free of charge and in full; 4- Published in the last five years; 5- Brazil as a country/region.

To select publications, the Prisma method was used, which provides transparent and effective communication in the reporting of systematic reviews and meta-analyses, being produced in three stages (GALVÃO; PANSANI; HARRAD, 2015). In the first stage, repeated articles were excluded, and selection by titles took place. In the second stage, the chosen articles had their abstracts read, and those selected were forwarded to full reading, referring to the third stage.

In this way, the search for articles relevant to the research began, through two independent reviewers, who carried out the selection and exclusion of them, by their titles, abstracts, and, finally, reading the selected studies in full. After completing this process, the included articles had their data extracted, also independently, and the reviewers reached a consensus when disagreements arose in relation to the results found.

To manage and analyze the data extracted from the studies, the Microsoft Excel spreadsheet editor was used, in which the preparation of the spreadsheet allowed the researchers to organize the selection of works through two answers: yes or no. In this way, the studies that received “yes” remained to be evaluated in full, and those that received “no” were excluded from the research, through the agreement of the reviewers involved, as systematically presented in figure 1.

Figure 1 - Flowchart representing the article selection steps.Recife, 2021



Fonte: Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement, 2015

4 Results

940 articles were found from cross-checks carried out in the chosen databases, 408 in Medline, 394 in Lilacs and 138 in Bdenf. After excluding duplicate articles, 48 studies were selected by abstract, and of these, 11 were selected for full reading. Once their analysis was completed, 7 were excluded as they were not relevant to the research, leaving 4 articles that were relevant to carrying out the study in question, 3 from the LILACS database, and 1 from MEDLINE, produced in 2016. , 2019 and 2020.

Furthermore, all studies were conducted in Brazil, and presented Occupational Health Surveillance actions, according to specific situations involving healthcare personnel, as shown in table 1.

Table 1 - Data extracted from articles selected for the systematic review. Recife, 2021.

Author/Year	Title	Basis of data	Kind of study	goal	Conclusions
Souza; Otero; Silva, 2019.	Profile of workers health with records of accidents with material biological in Brazil between 2011 and 2015: aspects for surveillance.	LILACS	Study Transversal	Describe the profile of accidents with exposure to material biological in professionals in the field health during the development of the your job, encouraging the discussion about the importance of determinants of these accidents for health surveillance of the worker.	The actions of surveillance returned if for identification of more groups exposed to occurrence of accidents involving material biological, aiming at prevention, in addition to improvement in quality of records in moment of notification.
Santana*et al*, 2016.	Indicators of health of workers of the area hospital.	LILACS	Study retrospective, descriptive and exploratory	Analyze the health indicators of workers at hospital area regarding exposure to loads of work, processes wear and its consequences.	The interventions of surveillance consisted of delineation of the morbidity profile, in addition to actions directed at change in the illness profile, based on of the analysis of health indicators, aiming to reduction of highs numbers of Notifications.
Duim*et al*, 2020.	Caring for the Workforce of a Health System During the COVID-19 Epidemic in Brazil Strategies of Surveillance and Expansion of Access to Care.	MEDLINE	Report of experience	Describe the strategies for monitor and expand access to care for healthcare workers a healthcare system in the first 2 months of epidemic of COVID-19 in Brazil.	Surveillance was readily implemented by through strategies in monitoring and monitoring of employees in as a result of exponential increase of the cases of COVID-19, targeting the decrease in number of contaminated.

Mangualde, 2019.	Accidents of I work with material biological in Belo Horizonte from 2008 to 2017.	LILACS	Study epidemiological transversal and time series	Analyze the characteristics of accidents of I work with Biological material notified in city of Belo Horizon.	were adopted as actions to preparation and the improvement of guidelines that reinforce the importance of notifications, in addition to reduction of these accidents through of measures preventative measures, with the with the aim of improving the safety of workers.

5 Discussion

The study in question analyzed articles that addressed Occupational Health Surveillance actions, considering the initiatives used based on the notification of illnesses and injuries related to healthcare workers. Even with the limited number of articles that dealt with the topic to be studied, the results found highlighted the relevance of these actions for improving the working conditions and safety of these professionals, as they occupy a key position in a vulnerable society, as they assist the individuals and their communities in an integral way. As a result, they themselves constitute a vulnerable group, as manifestations of dissatisfaction and illness coexist with a deficit in health protection measures (FEDOSSE; FERIGOLLO; FILHA, 2016).

With the aim of positively intervening in work environments, one of the strategies implemented by Surveillance was cited as identifying the groups most exposed to the occurrence of accidents, and, among these, accidents involving biological material deserve to be highlighted, as they were responsible for the majority of notifications. , both in a study limited to the state of Belo Horizonte, between 2008 and 2017 (MANGUALDE, 2019) and in another carried out at national level, between 2011 and 2015 (OTERO; SILVA; SOUZA, 2019). Both surveys showed that the majority of accidents occur with nursing professionals.

These findings are consistent with the literature, which shows the nursing team as the most affected by the type of accident in question, as it is the largest segment of the workforce in many hospitals, having a greater probability of suffering an accident at work with biological material involving sharps. In addition to including the injury itself, the great

The concern in an accident of this nature is the possibility of becoming infected with a blood-borne pathogen, especially the hepatitis B and C viruses, in addition to the Human Immunodeficiency Virus (HIV). Therefore, preventing workplace accidents with biological material is an important step in preventing the contamination of healthcare workers by blood-borne pathogens (RAPPARINI; REINHARDT, 2010).

The knowledge brought through epidemiological data on accidents, including the circumstances associated with occupational transmission by these pathogens, is essential for directing and evaluating interventions at local, regional and national levels (RAPPARINI; REINHARDT, 2010). However, in the relevant studies, the marked presence of underreporting was evidenced, reaching rates of 68.3% related to accidents with biological material**,**which varied according to the professional category. The most frequent justifications for underreporting were considering the patient as low risk and HIV-negative, lack of knowledge about procedures subsequent to the accident and excessive bureaucracy (ALVES*et al.*, 2013).

Given the above, it is notable that underreporting prevents knowledge of the real epidemiological situation, generating conflicts and harming the debate regarding measures and actions that affect the quality of life and work of the parties involved (ALVES*et al.*, 2013). Poor quality data results in incomplete or biased information, ultimately resulting in mistaken decision-making and the adoption of inappropriate measures for different realities (OTERO; SILVA; SOUZA, 2019). In this context, it is important that Occupational Health Surveillance strengthens its role as a mediator in these conflicts and disseminates information, and begins to optimize the coordination of actions to prevent diseases and injuries, raising awareness in an enlightening way and contributing to changing attitudes. of the population to be worked (ALVES *et al.*, 2013).

Therefore, notification should be encouraged, not only in the context of accidents involving biological material, but also in relation to all other illnesses and injuries related to work, based on guidelines that must come from managers towards their workers; Furthermore, it is essential that the health professional responsible for notification through the Notifiable Diseases Information System (SINAN) fills in all the form fields correctly, improving the quality of the records, as it is this information that contributes to the construction of projects and guidelines in the area (MANGUALDE, 2019).

Another strategy adopted by Surveillance mentioned in one of the articles was the delineation of the morbidity profile within the category analyzed, as from the study it was evident that mid-level and technical nursing workers had the highest number of lost workdays. attributed to work loads and wear and tear (SANTANA *et al.*, 2015). In this sense, alarming results are seen regarding the somatization of burdens to which healthcare professionals are exposed daily. The predominance of biological, psychological and physiological risks is evident from close contact with the patient to work exhaustion as a consequence of intense routines (SANTANA*et al.*, 2015). Therefore, work should be carried out under conditions that contribute to the personal and social fulfillment of workers, without harming their health, physical and mental integrity (FEDOSSE; FERIGOLLO; FILHA, 2016).

In this way, health indicators are of great relevance, as they are a source of information about the characteristics and conditions that make up the work environment, reveal the health problems to which they are affected and provide the basis for constructing the design. the morbidity profile of the population to be addressed. Consequently, the delimitation of this profile will serve as a tool as an evaluation and analysis measure for monitoring workers' health, bringing as factors the improvement of their quality of life and the services provided, and, above all, the health conditions they are subject to. submitted (SANTANA*et al.*, 2015).

With regard to the health worker's illness process, this corroborates the high number of records of respiratory diseases, musculoskeletal and connective tissue diseases, as well as mental and behavioral disorders (SANTANA*et al.*, 2015). In Brazil, there are public policies that aim to minimize work-related illnesses and, among them, the National Policy for Workers' Health Care through a National Network for Comprehensive Workers' Health Care (RENAST). This aims to establish a network of health information and practices, in an organized manner for the implementation of assistance, surveillance, prevention and health promotion actions (BREY*et al.*, 2017).

There are also labor laws, established through the Consolidations of Labor Laws (CLT), which aim to guarantee the safety, protection and health of workers. Among them, the Regulatory Standards and, mainly, NR 32, which is specific to health workers (BREY*et al.*, 2017). Furthermore, Surveillance presents

is fundamental in that it seeks to identify risk factors and the pattern of occurrence of the diseases and disorders that are most portrayed, and thus, develop relevant strategies, as a form of intervention, so that they have a positive impact, aiming to restore health of these professionals and control of factors and situations that generate risk(SANTANA *et al.*, 2015).

As described in one of the studies, an action implemented with the aim of expanding access to health care for professionals affected by some work-related illness or illness, especially communicable diseases, was their monitoring and monitoring. In this way, Surveillance operates based on case tracking, with a view to interrupting the chain of transmission of infectious diseases or reducing exposure to illness factors, which reinforces the importance of this control for improving the well-being of patients. workers (DUIM*et al.*, 2020).

It is understood that Surveillance, in the context of work, aims to: determine the magnitude to trace trends based on the profile of work-related illnesses and injuries; identify diseases whose occurrence signals the need to adopt and strengthen prevention actions (sentinel event); as well as monitoring and evaluating the success of the prevention measures adopted. However, it is up to workers to understand their fundamental role in the adequate recording of notifications, as from this, it will be possible to identify and investigate cases, determine the epidemiological reality of this population, so that interventions can be applied in an appropriate manner. assertive, and aimed at solving the indicated problems (BRASIL, 2018).

In this context, for a complete analysis, it is necessary to understand that the presence of risk factors, classified as mechanical, physical, chemical, biological, ergonomic and psychosocial, are present in work environments, acting in a cumulative and synergistic manner, facilitating the emergence of pathologies. This complex relationship therefore allows Occupational Health Surveillance to carry out actions in conjunction with Health Surveillance, Primary Care, as well as other entities, thus ensuring that the worker is seen comprehensively with regard to their health. , a right that is guaranteed in the Federal Constitution of 1988, with the creation of the Unified Health System (SUS) (BRASIL, 2018).

Conclusion

After carrying out the study, the vulnerability to which the category of healthcare personnel is exposed daily in their work environments was noticeable, mainly in the hospital environment, where the highest number of reports of illnesses and injuries caused by work occur. The diversity of risks found in these places ends up leading to situations of illness, bringing inconvenience to the affected professionals and their families, in addition to interfering with the quality of the services they provide. Furthermore, the occurrence of underreporting also hinders the implementation of effective surveillance measures, as the lack of filling out essential data in the forms, for example, prevents knowledge about the real morbidity profile of health workers.

Therefore, it is essential that Occupational Health Surveillance, in the context of this specific professional category, directs its actions towards raising awareness regarding their own health, bringing these professionals also as protagonists, through the search for opinions that may come to improve working environments, as this will certainly reduce the number of notifications of illnesses and injuries over the years. It is also essential that the profile of professionals most affected by these diseases and conditions is broken down, in order to create specific prevention actions for this highest risk group.

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