

Intervention strategies for the health of university hospital nursing staff in Brazil

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Objective: The aim of this study was to propose intervention strategies for the health of hospital-based nursing staff. **Method:** It was a field study, with a quantitative and qualitative approach, developed from data collected through the Monitoring System of Nursing Workers' Health in seven public and university hospitals of Brazil. **Intervention strategies proposed** considered regional specificities and the demands presented by professionals in each setting. **Results:** The interventions were developed for: each workload to which nursing staff was exposed; processes of strain generated; and intervention strategies at the settings, according to the needs of the national scenario. **Conclusion:** Monitoring the health of nursing staff is a beginning point for building strategies directed at the health profile of each reality.

Descriptors: Occupational Health; Surveillance of the Workers Health; Health Promotion; Nursing Staff, Hospital; Nursing.

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Introduction

Considering the categories of health workers, nursing professionals are the ones who more frequently encounter precarious working conditions, being exposed to a variety of elements that cause strain. Studies show the problems experienced by nursing staff, marked by occupational accidents, illnesses, disability, absenteeism and abandonment of the profession⁽¹⁻⁴⁾.

Given the scenario of concern related to the health of nursing staff, there is a predominance of studies on this topic in recent decades. However, most national research still has a focus on the diagnosis of diseases when compared with international studies, which address proposals and plans for health intervention. Thus, this study arises from the need to develop strategies that can prevent and / or minimize health problems identified in the nursing staff, besides providing improved living conditions and health at work⁽⁵⁾.

The proposition of intervention strategies requires an evaluation of work processes and roles assumed by workers. This review requires an initial reflection from those who coordinate the work of nursing, i.e., nurses who, by means of management, have the ability to institute changes, and who can contribute to a real transformation of the work process and the health-illness process of workers.

On this focus, intervention studies seeking to introduce some element or factor in the transformation of the health status of individuals, present great relevance in relation to promotion and vigilance in health⁽⁶⁾.

Interventions for workers' health may include changes in working environments, equipment, or organization of work, including professional relationships, involvement of managers and other workers. These changes can relate to furniture or materials that improve the dynamics of work, or to deeper changes in the forms of management⁽⁷⁾.

Whereas the introduction of strategies and new forms of organization of the work process can directly reflect on the reduction of occupational accidents and diseases, the aim of this study is to propose intervention strategies for the health of nursing staff, based on the Monitoring System of Health Workers of Nursing - *Sistema de Monitoramento da Saúde dos Trabalhadores de Enfermagem* (SIMOSTE).

Method

This was a field study, with a quantitative and qualitative approach, using as its setting seven public

hospitals and universities in Brazil, which compose the Unified Health System (*Serviço Unificado de Saúde - SUS*) in the north, northeast, midwest, southeast and south of Brazil, according to criteria of representativeness, size (large and extra large) and infrastructure. Thus, the sample of each Brazilian region was named: HUN-north, HUNE- northeast, HUCO- midwest, HUSE - southeast, and in the south: HUS1 (HCCur), HUS 2 (HT) and HUS3 (HCPOA).

Initially, an invitation letter was sent to seven hospitals, requesting the appointment of two institutional representatives that were later trained to implement and use the SIMOSTE software.

SIMOSTE is a technological innovation tool developed according to the theoretical reference of social determination of the health-disease process, having as its basis the categories: work process, workload, processes of strain, and pathological profile, in order to capture the health injuries of nursing staff and its determinants, generators of potential strain and strengthening.

After the acceptance and approval of institutions for development of the project, data collection was conducted in two phases:

First phase: Implementation of the SIMOSTE - the software was implemented in each of the settings and trained representatives have entered the data on accidents and illnesses of nursing staff into the system, from the secondary data contained in occupational medicine services, during twelve months. After entering data into the software, the data were sent every three months, from each setting to the system administrator, with the locus at the School of Nursing, University of São Paulo (*Escola de Enfermagem da Universidade de São Paulo - EEU SP*).

Second phase: Proposing interventions - from the analysis of data sent about the injuries occurring to workers in the national scenario, a deeper knowledge was possible about the health problems experienced by workers in different institutions, enabling consolidation of intervention strategies.

The quantitative data collected by each settings and stored in the system, for the period of November 2008 to October 2009, were statistically analyzed according to absolute and relative frequency and are presented in a descriptive format.

From the identification of the loads and processes of strain generated in the national scenario, intervention strategies have been consolidated and are presented in figures, according to the categories: mechanical, biological, physiological, psychological, physical and

chemical workloads, with additional information about causes, strain, and how to proceed with its implementation.

As a subproject of implementation of the SIMOSTE, the study was approved by the Committee of Ethics and Research of EEUSP, under no.718/2008

Results and Discussion

The study was conducted in public and university hospitals in the north, northeast, midwest, southeast and south of Brazil, with the aim of identifying the health problems of nursing staff, showing that they were exposed to all kinds of workloads, with some regional specificities⁽³⁾.

To propose intervention strategies for health promotion and prevention of the processes of strain suffered by nursing staff, an attentive eye was required

to the regional specificities as well as to satisfy the needs presented for all settings. From the data obtained by SIMOSTE, a prevalence of physiological loads (36.8%), biological loads (27.2%), mechanical loads (25.9%) and psychic loads (18.9%) was observed, while at the same time, observing a small notification of chemical and physical loads.

Many of the mechanical loads are correlated with the biological because they were from accidents with biological material. In addition, a large part of the physiological loads were presented in association with psychic loads due to the organization and intense pace of work. Thus, we consider the predominance of the loads and the occurrence of injuries, to present the proposition of global strategies for the settings studied, and we highlight the particularities in the discussions, as can be seen in sequence.

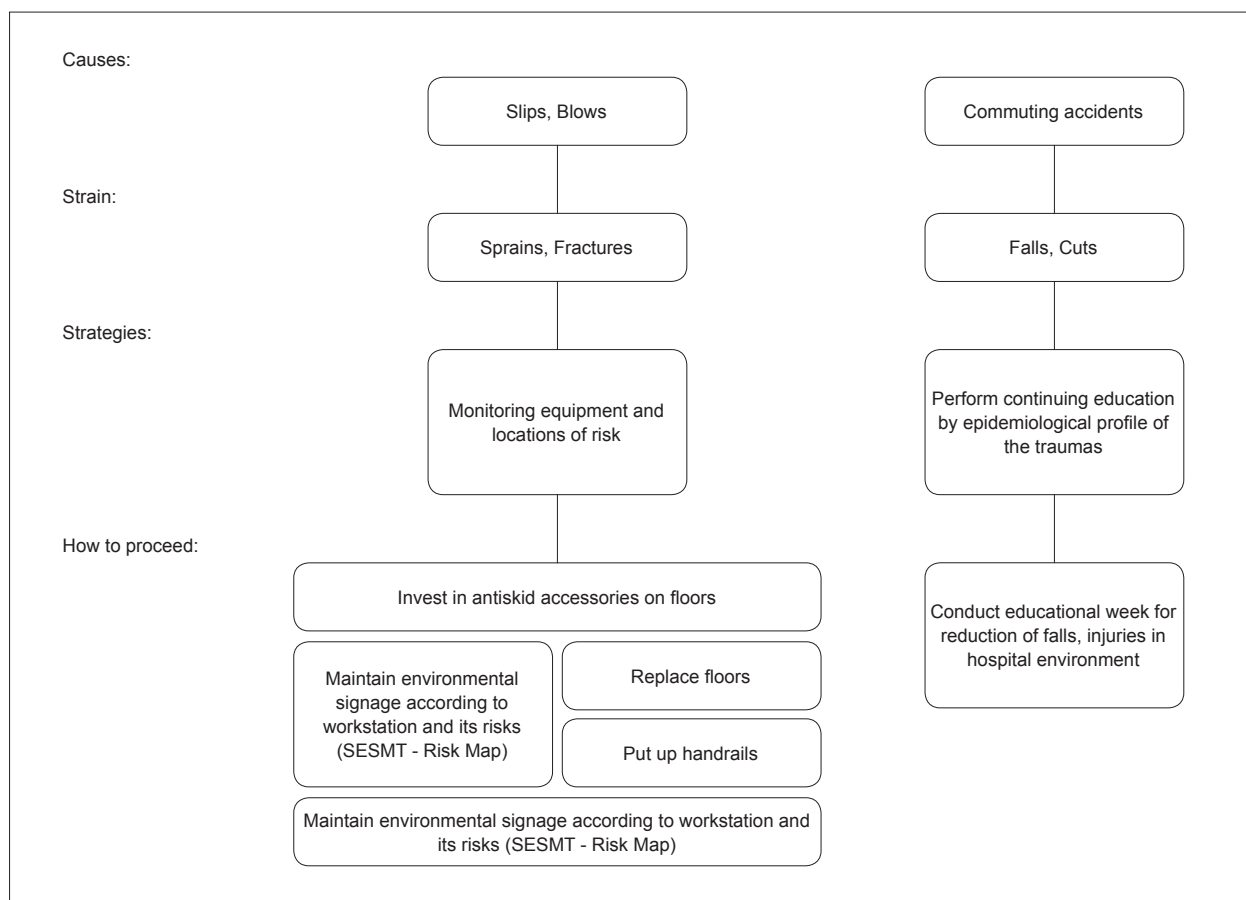


Figure 1 - Mechanical loads, strain processes and intervention strategies generated. São Paulo, SP, Brazil, 2010

In Figure 1 it can be verified that the mechanical loads identified in the settings refer to needlesticks accidents, commuting accidents and, especially, traumas occurring in the actual hospital environment, such as sprains, slips and injuries.

In relation to traumas, a series of measures can be adopted, from risk analysis of areas and their correct signage, such as replacing floors, putting up handrails, and even redesigning the physical areas where a higher prevalence of falls is observed. Other studies have

reported the importance of improving the trafficked areas and the flows of the work process, in addition to the correct signage about risks⁽⁸⁾.

For the possibility of understanding, but not justifying, the behavior of the nursing professional about the use of PPE, the routine of the nursing service has proven to be one of the factors related to high rates of accidents, so

it is necessary to create training situations and reflection about this behavior to reverse this situation⁽⁹⁾.

Needlestick accidents are also included in the mechanical loads because they cause skin puncture, and thus damage of continuity; however, the strategies will be discussed from Figure 2, because they involve biological materials:

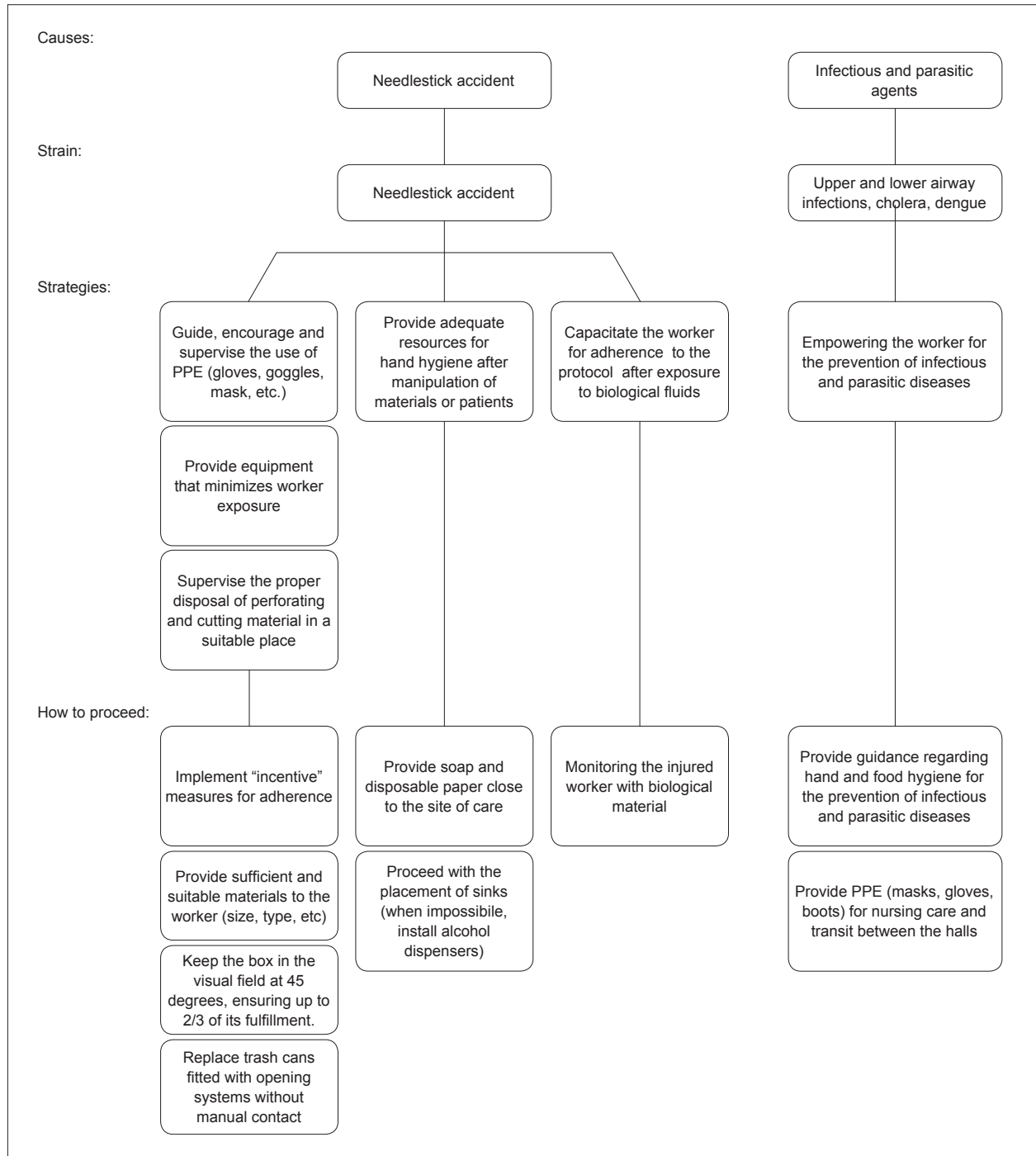


Figure 2 - Biological loads, processes generating strain and intervention strategies in these settings. São Paulo, SP, Brazil, 2010

Prevention of biological risk and measures of control are based on various types of knowledge, involving hygiene, occupational biosecurity, as well as education, management, engineering and legislation. However, although many workers accept biosafety standards, they have not effectively permeated everyday practice, a fact resulting from the feeling of invulnerability of the workers themselves⁽¹⁰⁾.

In the HUS3 (HCPOA) setting, the records did not specify the occurrence of accidents, so specific measures are suggested, and in other settings there is a gap in information about the procedures adopted after the accident.

Studies about the attitude of workers after accidents with sharp objects, potentially contaminated, show that a large portion of the professionals do not submit themselves to the protocols recommended by the Centers for Disease Control and Prevention (CDC), increasing the probability of acquiring the human immunodeficiency

virus (HIV). Although the chance of HIV infection is minimal, that is not the same as zero, especially when the norms for accidental exposure to HIV are not followed. Furthermore, studies show that the non-submission to treatment is not only a result of fear of the reactions to medications, but the lack of knowledge and warning about "what to do after exposure"⁽¹⁰⁾.

Therefore, what becomes evident is that although the protocol for needlestick accidents is known by health professionals, in practice, before the occurrence of the accidents, the professionals become vulnerable and demonstrate knowledge gaps.

This fact demonstrates the need for continuing education to increase knowledge, not only about the correct use of PPE with regard to decision-making, in the case of accidents at work, but also the investment in a service that monitors the health of workers, creating situations that allow them to recognize the risks to which they are exposed⁽⁹⁾.

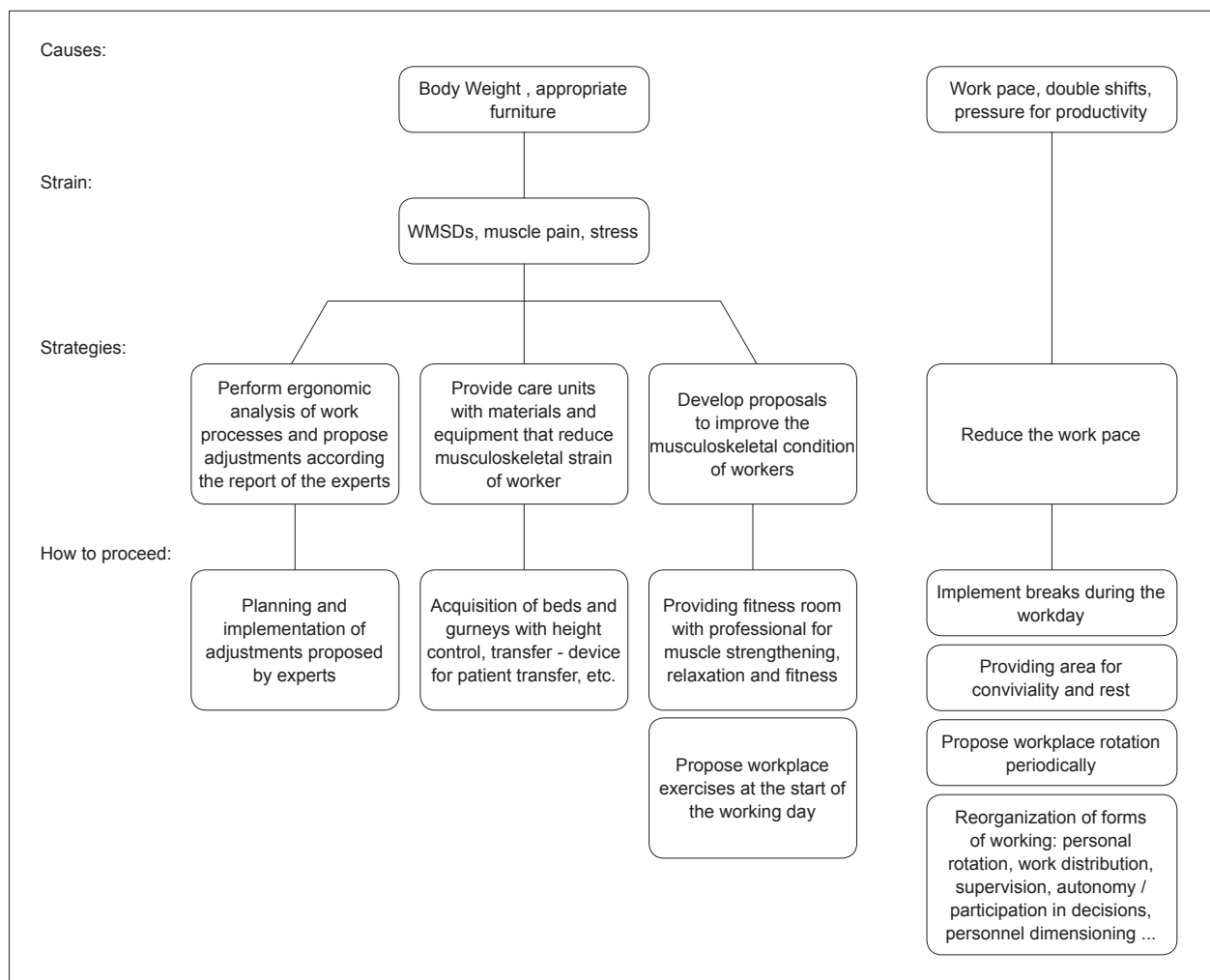


Figure 3 - Physiological loads, processes of strain generated and intervention strategies in the settings. São Paulo, SP, Brazil, 2010

Musculoskeletal problems have assumed great importance in terms of injured workers, constituting one of the most frequent complaints and major cause of work absenteeism among nursing professionals⁽¹¹⁻¹³⁾.

An engineering assessment by Labor and Occupational Medicine about the environment and workstations is also characterized as a necessary intervention for ergonomic adjustment of the areas, which requires the involvement of other professionals and establishment of partnerships. Furthermore, it is known that the invisibility of a health problem related to the musculoskeletal system does not mean the absence of gravity, because while the sick worker can not prove "legally" the cause of the disease, veiled discrimination of managers and colleagues further worsens its evolution and delays the seeking of treatment. This means that there is a need for a service of early notification of problems and monitoring of affected workers.

In addition to handling excessive weight, working in standing and awkward positions, the physiological loads also include night shift work and shift rotations that directly interfere with the functioning of the body,

causing headaches, irritability, sleep disorders and stress; complaints in high prevalence in the workers in the HUCO and HUNE settings.

The tasks of modifying work schedules, based on the development of special programs, demonstrate that it is possible to build complex shifts scales that meet the different sectors of the same organization and that have incorporated ergonomic criteria in its design, reducing the negative effects of shift work⁽¹⁴⁾.

In the HUS2 (HT) and HUCO settings, the accumulation of activities, and the volume of work were recorded as enhancers to not only musculoskeletal problems, but also psychic problems and other somatizations. In the HUNE setting, considering the strain of the workers by the accumulation of jobs, there was already permission to rest during the shift, however, workers expressed a number of issues related to overwork.

The permission to sleep at night during the work shift is a measure that aims to reduce fatigue and sleep deficit, which tend to accumulate over successive nights of work. Studies claim that naps during the night reduce fatigue during and after the shift and maintain higher levels of alertness along the journey, especially at night⁽¹⁴⁾.

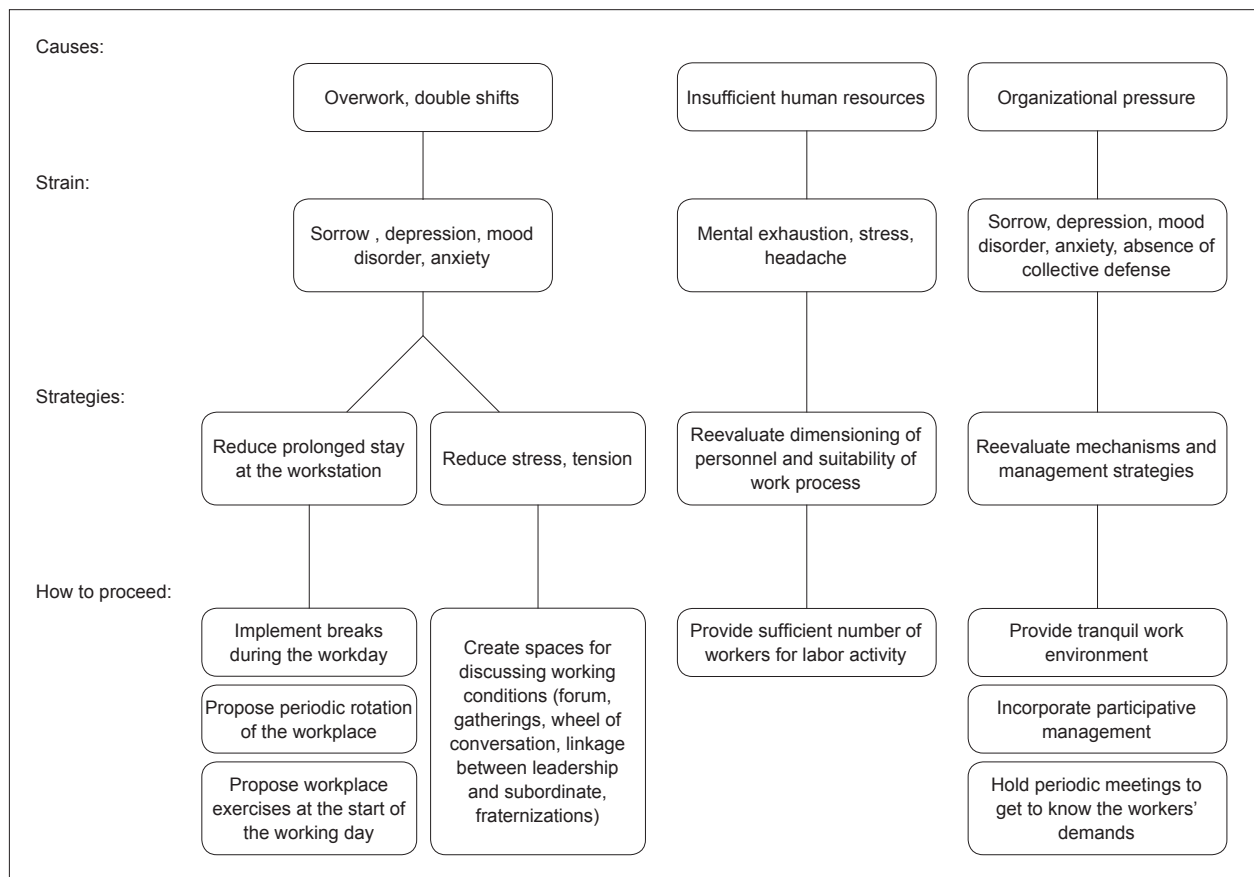


Figure 4 - Psychic loads, processes of strain generated, and intervention strategies in the settings. São Paulo, SP, Brazil, 2010

The psychic loads are related to the work object - humans, demanding situations that generate stress, suffering, fatigue, tension, and also, the forms of organization of work, marked by routine, lack of autonomy and forms of supervision and control.

A very accelerated rhythm of work imposed by the shortage precarious personnel dimensioning, prevents staff from taking rest breaks during the day, generating a number of morbidities or co-morbidities, such as headache, anxiety disorders, depressive disorders, among others^(3,15).

In a psychosocial study, to evaluate the association between psychological demands, job control and the occurrence of minor psychiatric disorders (MPD), the prevalence of 33.3% of MPD was found, among nursing staff of a public hospital⁽¹⁶⁾. These findings reinforce the importance of the adoption of intervention measures in the organizational structure, in order to increase job control and adjust the levels of psychological demands.

Initiatives grounded in knowledge of psychology linked to partnerships of professional psychology, physical therapy and physical education have been reported in the literature with great success⁽¹⁷⁾.

Some measures can be extremely beneficial to the social life of the worker, for example, the company's

promotion of sport and leisure activities during the day. With a look toward facilitating contact with family and reducing social isolation, free weekends and fast rotation schemes can also contribute⁽¹⁴⁾.

It is important to remember that in the first phase of the project, the data showed that a significant lack of awareness existed of health issues and their relationship with work, despite the knowledge produced to this respect. These results allow us to conclude that these workers performed their work activities while sick.

Dejours proposed as an intervention strategy, in order to promote health, the creation of discussion spaces in the workplaces. The author suggested an action of listening and interpretation of the group of workers, believing that the forms of expression that may arise in this discussion space, constitute the material from which one can learn both the concrete experience and the representation of the subjective experience of the collective⁽¹⁸⁾.

Experiments of this nature have been reported in hospitals, rescuing the opinion of the worker to build strategies to improve working conditions and contribute to increasing the quality of life⁽¹⁹⁾.

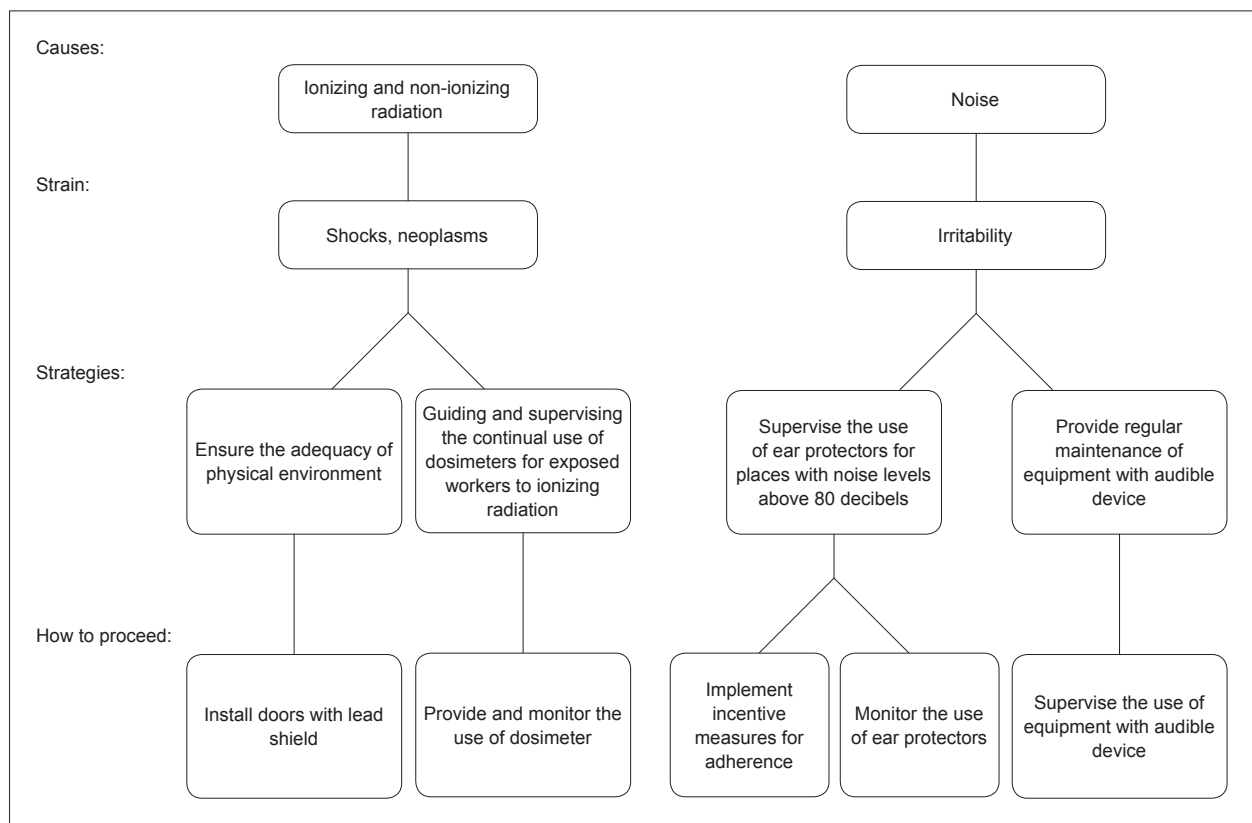


Figure 5 - Physical loads, processes of strain generated, and intervention strategies in the settings. São Paulo, SP, Brazil, 2010

Regarding physical loads, only the HUS1 registered exposure to ionizing radiation, however, strains such as irritability and headache can be caused by noise.

Although noise has long been recognized as being harmful to health, with the progressive advance of industrialization, the problems arising from this agent were well known socially, becoming the object of progressive attention of public health.

The chronicity of the effects and the difficulty of establishing direct correlations with other diseases (hypertension, stress, increased number of accidents), make noise a recognizable agent, but one with little visible repercussions on workers' health. Thus, the importance of preventive maintenance or replacement of machinery is evident, as a way of eliminating sources of noise and keeping workers vigilant, particularly in relation to alarms⁽²⁰⁾.

The noise emitted by equipment interferes with the acoustical environment in the work process, creating a nuisance and a psychophysical strain at work due to the permanent state of alert, the need for periodic checks of the system and for interventions. Anxiety is exacerbated and the worker lives with the unpredictability due to loss of control of the conditions of the patient and the apparatus. As for preventive action resulting from the exposure of nursing professionals to noise, controlling the flow of people in the sector, preventive maintenance of equipment, and professional qualification for dealing with new technologies is suggested.

The chemical loads were not registered much into SIMOSTE, however, the HUS1 (HCCur) and HUS2 (HT) settings described it as a trigger for dermatitis and allergies. Nursing professionals are exposed to soaps, sodium hydrochloride, disinfectants, formaldehyde, glutaraldehyde, chemotherapy, iodine, antibiotics, ionic and non-ionic contrasts, anesthetic gases, latex and cigarette smoke. These substances have toxic effects of various complexities that may compromise worker health. Other substances such as disinfectants have some irritant effect that can cause airway and skin allergies⁽³⁾.

It is important that guidelines about risks inherent to different chemical substances are available, and constantly flagged, so that the workers recognize their exposure and become responsible for adherence to PPE, as well as compliance with other measures to reduce injuries.

Final considerations

Intervention strategies were proposed from the workloads and processes of strain captured by SIMOSTE,

and are intended to prevent injuries among nursing staff in the hospital setting in Brazil.

The implementation and effectiveness of the strategies must engage all people involved in the work process, especially those that have the capability to recognize the needs of the group and have governance to support the changes. In this sense, a model of participatory management, prioritizing opportunities for active participation of employees in the change process and sharing health actions through consistent programs, is certainly an effective way to reduce health risks to nursing staff of the hospital sector within the national scenario.

It is important to emphasize that the use of technological tools to monitor the health of nursing staff represents a starting point for building strategies directed toward the health profile of each reality.

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