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Health indicators of workers of the hospital area

Indicadores de saúde dos trabalhadores da área hospitalar

Indicadores de salud de los trabajadores del área hospitalaria

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ABSTRACT

Objective: to analyze the health indicators of workers of hospital area for exposure to workloads, wear processes and its consequences. **Method:** a retrospective, descriptive and exploratory study performed in a hospital in southern Brazil. The population consisted of 1,050 workers notifications of registered in the Monitoring System of Nursing Workers Health, in 2011. **Results:** 80.8% of the records were female workers, with 34.2% aged between 31 to 40 years old, corresponding to 2478 working lost days. The results subsidized the implementation of nine indicators that showed the prevalence of respiratory and osteoarticular problems. **Conclusion:** the results allow the reflection and redirection of actions for workers' health, as the processes of becoming ill are compounded by exposure to psychic burdens. These indicators, when monitored, can contribute to the transformation of the profile of morbidity of these workers.

Key words: Occupational Health; Epidemiological Surveillance; Hospital Human Resources; Health Basics Indicators; Nursing.

RESUMO

Objetivo: analisar os indicadores de saúde dos trabalhadores da área hospitalar quanto à exposição às cargas de trabalho, processos de desgaste e suas consequências. **Método:** estudo retrospectivo, descritivo e exploratório realizado em um hospital no Sul do Brasil. A população foi composta por 1.050 notificações de trabalhadores cadastrados no Sistema de Monitoramento da Saúde dos Trabalhadores de Enfermagem, no ano de 2011. **Resultados:** dos registros, 80,8% correspondiam a trabalhadores do sexo feminino, sendo 34,2% com idade entre 31 a 40 anos, que corresponderam a 2.478 dias perdidos de trabalho. Os resultados subsidiaram a implementação de nove indicadores que evidenciaram a prevalência de problemas respiratórios e osteoarticulares. **Conclusões**: os resultados permitem a reflexão e redirecionamento das ações para a saúde dos trabalhadores, uma vez que o processo de adoecer é potencializado pela exposição às cargas psíquicas. Estes indicadores, quando monitorados, podem contribuir para a transformação do perfil de morbidade desses trabalhadores.

Descritores: Saúde do Trabalhador; Vigilância Epidemiológica; Recursos Humanos em Hospital; Indicadores Básicos de Saúde; Enfermagem.

RESUMEN

Objetivo: analizar los indicadores de salud de los trabajadores del área hospitalaria en relación a la exposición a las cargas de trabajo, procesos de desgaste y sus consecuencias. **Método:** estudio retrospectivo, descriptivo y exploratorio realizado en un hospital en el Sur de Brasil. La población fue compuesta por 1.050 notificaciones de trabajadores registrados en el Sistema de Monitoreo de la Salud de los Trabajadores de Enfermería, en el año de 2011. **Resultados:** de los registros, 80,8% correspondían a trabajadores del sexo femenino, siendo 34,2% con edad entre 31 a 40 años, que correspondieron a 2.478 días perdidos de

trabajo. Los resultados subsidiaron la implementación de nueve indicadores que evidenciaron la prevalencia de problemas respiratorios y osteoarticulares. **Conclusión**: los resultados permiten la reflexión y re direccionamiento de las acciones para la salud de los trabajadores, una vez que el proceso de enfermar es potenciado por la exposición a las cargas psíquicas. Estos indicadores, cuando son monitoreados, pueden contribuir para la transformación del perfil de morbosidad de esos trabajadores.
Palabras clave: Salud del Trabajador; Vigilancia Epidemiológica; Recursos Humanos en Hospital; Indicadores Básicos de Salud; Enfermería.

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INTRODUCTION

Health workers and all professionals in the labor market, suffer the consequences of social and economic policies of the country. The influence of these factors on health, on workers' quality of life and quality of provided services, is a consensus among researchers[1-2], although its consequences remain nearly invisible in national statistics[2].

Working conditions are closely related to the health worker illness process[3], and absenteeism-disease is responsible for most of the absences at work. Such absences resulting from occupational diseases and work accidents that involve health workers are associated with adverse factors in the work environment and characteristics of the activities.

Therefore, monitoring of workers' health is an indispensable tool to recognize and change this reality, as it enables the construction of indicators that enable the identification of the workloads involved in the disease process and the characterization of the worker's morbidity profile.

The indicators provide relevant information about the characteristics, conditions and the performance of services. In health care area, they are an important tool for building parameters that allow analysis and monitoring of the health conditions of a given population as a basis for surveillance activities. In the area of occupational health, they are used to measure exposure to risk factors inherent to the activity and its impacts on institutions, in the family[4] and the Social Security system.

The Pan American Health Organization provides some indicators in the area of occupational health[4]. However, despite allowing the identification of the worker's illness conditions, do not allow the establishment of relation with the working environment, especially in the hospital environment, which is the purpose of this study.

Given this reality, the "Studies about Nursing Worker Health" group, of the University of São Paulo School of Nursing (EEUSP), developed the software Monitoring System of Nursing Workers Health (Simoste) to capture the health problems of workers inserted in the hospital through indicators[5].

The objective of the Simoste is to register and monitor working conditions and health problems in the workplace through indicators that support the implementation of preventive measures to thus, improve the quality of life and health of workers[5]. The use of this software should occur in association with hospitals, available as it is trampled in the institutional interest to invest in workers' health surveillance. The registration and forwarding of data for analysis are done by these employees.

Considering that, the understanding of disease processes is essential for the elaboration of action plans involving prevention, monitoring, promotion and restoration of workers' health conditions, this study aims to analyze the health indicators of health workers in the hospital area for exposure to workloads, wear processes and its consequences.

METHOD

This study used information extracted from the Master's thesis entitled "Proposals for action on workers' health supported by indicators", presented at the Federal University of Parana – UFPR, Brazil. A cutout of existing data was done to cover the worker's health indicators available through the Simoste[5] and others built from the studied reality.

This is a retrospective, descriptive and exploratory study, performed at a teaching hospital in the city of Curitiba, Southern Brazil. The population consisted of 1,050 notifications of hospital workers registered at the Simoste in the period from January to December 2011. The records corresponded to the located workers or service providers in that hospital, regardless of the profession and employment, which have suffered labor accident or developed any health problems from exposure to workloads.

The collection of secondary data took place between March and June 2012, in its study setting, which is the Simoste Project partner. For implementation and construction of indicators, it was used the information in the software[5], related to the institution, to workers, to workloads and suffered wear processes and the consequences, i.e., the absence from work activities.

Concerning the workers, data were considered about sex, age, and professional category. Concerning removal or absences from labor activities, the types of absences were analyzed (whether via Work Accident Report - CAT, medical certificate or faults); causes, according to the International Classification of Diseases (ICD-10)[6] and the number of working lost days. Workloads and its wear, subdivided into the categories of biological, physiological, physical, mechanical, mental and chemistry cargo, were also analyzed.

The analysis of data occurred by Microsoft Excel® 2010 and the results were expressed in absolute frequency (n) and relative (%). The results of the first analysis were analyzed by nine indicators, three supplied by the Simoste (I_1, I_2, and I_7), one adaptable (I_5) and five constructed (I_3, I_4, I_6, I_8, and I_9) supported by a statistician, as shown below:

Box 1 - Worker's health indicators of the hospital area, Curitiba, Paraná, Brazil, 2011

Indicator	Formula
I_1^* = Number of notifications by burden type x total number of exposed workers	$\left[\frac{\text{Number of notifications by burden type (biological, physical, chemical, mechanical, physiological, mental)}}{\text{Total number of exposed workers}}\right]$ x100
I_2^* = Number of wear by burden type x total number of notifications	$\left[\frac{\text{Number of wear by burden type (biological, physical, chemical, mechanical, physiological, mental)}}{\text{Total number of notifications}}\right]$ x100
I_3 = Number of working lost days x total number of notifications by professional category	$\left[\frac{\text{Average of working lost days}}{\text{Total number of notifications by professional category}}\right]$ x100
I_4 = Number of notifications by ICD grouping x total number of notifications	$\left[\frac{\text{Number of notifications by ICD grouping}}{\text{Total number of notifications}}\right]$ x100
I_5 = Number of working lost days by ICD grouping x total number of notifications	$\left[\frac{\text{Number of working lost days by ICD grouping}}{\text{Total number of notifications}}\right]$ x100
I_6 = Average of working lost days by ICD grouping x total number of notifications	$\frac{\text{Average of working lost days by ICD grouping}}{\text{Total number of notifications}}$
I_7 = Number of notifications by ICD grouping x total number of notifications by professional category	$\frac{\text{Number of notifications by ICD grouping}}{\text{Total number of notifications by professional category}}$
I_8 = Number of working lost days by ICD grouping x number of notifications by professional category	$\frac{\text{Number of working lost days by ICD grouping}}{\text{Number of notifications by professional category}}$
I_9 = Average of working lost days by ICD grouping x number of notifications by professional category	$\frac{\text{Average of working lost days by ICD grouping}}{\text{Number of notifications by professional category}}$

Notes: The ICD term used in this box corresponds to the International Classification of Diseases[6].
** Separately calculated for all types of burden.*

This research is a subproject of the study entitled "Implantation and Evaluation of the Monitoring System of Nursing Worker Health – Simoste" approved by the Research Ethics Committee of the University of São Paulo Nursing School.

RESULTS

Among the 1.050 registrations made in the Simoste in 2011, 80.8% referred to female workers, 34.2% were aged between 31 to 40 years old and the sum of the days of work absence corresponded to 2478 working lost days.

According to the records, 60.6% (n = 636) were performed by nursing professionals, being 49.7% for nursing assistants, 36.5% for nursing technicians and 13.8% by nurses. The workers of the administrative sector accounted for 18.9% of the records (n = 198), general services assistants by 6.5%

(n = 68), the auxiliary/lab technicians by 2.4% (n = 25) and maintenance workers for 1.8% (n = 19). The remaining records (n = 104) were performed by trainees (n = 15), physicians (n = 14), biochemical (n = 10), physiotherapists (n = 09), warehouse assistants (n = 08), pharmacy auxiliaries (n = 08), social worker (n = 06), undertaker (n = 06), nutritionist (n = 06), driver (n = 05), telephone operator (n = 03), computer technician (n = 03), psychologist (n = 02), electronics technician (n = 02), manager (n = 2), radiology technician (n = 02) and advisor (n = 01).

The Indicator **number of notifications by burden type x the total number of exposed workers (I_1)** evaluates the exposure risk coefficient of the health worker to different workloads, considering the biological, physiological, mental, mechanics, physics and chemistry burden, as shown in Table 1. Due to the representativeness of the nursing staff (60%) and technical-administrative workers (18.86%) in the total registrations, these categories were evaluated individually. Other workers, which together amounted to 9.9% of total registrations, were grouped in the "Other" category. Due to technical problems, the institution has made available the total of workers by category only for nursing professionals.

The Indicator **number of wear by burden type x the total number of notifications (I_2)** evaluates the wear arising from worker exposure to workloads about the total number of completed notifications. The results showed that the most prevalent wear resulted from exposure to biological cargo, which accounted 43.3% of total registered wear. The physiological burden accounted for 22.4% and then, in descending order, the psychic wear, mechanical, physical and chemical.

The wear more presented by hospital workers were related to the biological, physiological and psychological burden. Among the wear generated by the biological burden, the largest frequency of records occurred for diseases of the respiratory system (18.6%), gastrointestinal infections (9.7%) and conjunctivitis (6%). The wear resulting from exposure of physiological burden showed the highest number of records for a headache (4%) and varicose veins (1.5%). Among the wear generated by the mental burden, the largest frequency records were for depression (2.9%) and hypertension (2.8%).

Table 1 - Number of notifications* by burden type x total number of exposed workers (I_1), Curitiba, Paraná, Brazil, 2011

Burden	Nurse	Nursing Technician	Nursing Auxiliary	Others**
Biological	0.63	1.21	0.51	0.17
Physiological	0.52	0.60	0.28	0.08
Psychic	0.37	0.61	0.20	0.06
Mechanics	0.35	0.32	0.21	0.05
Physical	0.26	0.24	0.10	0.04
Chemical	0.02	0.06	0.02	0.01

Source: Simoste (2011).
*Notes: *a notification may result from exposure to more than one workload;*
*** Refers to other health workers.*

The Indicator **number of working lost days x the total number of notifications by professional category (I_3)** calculates the average number of working lost days according to professional categories. This indicator showed an average of 2.63 working lost days for nursing technicians, followed by other health care workers, averaging 2.21 days and nursing auxiliaries with an average of 2.19 days. The nurses had the lowest average number of lost days of the total number of notifications, equivalent to 2.02 days about the nursing staff.

The diseases classified by ICD in the analyzed the records were evaluated using the Indicator **number of notifications by ICD grouping x the total number of notifications (I_4).** Diseases of the respiratory system (J00-J99) were the most prevalent, accounting for 19.62% of total records; symptoms, signs and abnormal clinical and laboratory findings not classified (R00-R99) accounted for 15.71%; finally, diseases of the musculoskeletal system and connective tissue (M00-M99) accounted for 14.19%.

Interestingly, despite the respiratory diseases were the more generated notifications (i.e. records in Simoste) were the wear related to ICD O (pregnancy, childbirth and postpartum) and ICD F (mental and behavioral disorders) those who generated more absences from work, 7 and 5.76 working lost days by notification, respectively, as calculated by the Indicator **number of working lost days by ICD grouping x total number of notifications (I_5).** Therefore, it is important to consider the working lost days that demonstrate the severity of events.

The Indicator 5 as the Indicator 6, which evaluates the average of working days lost by the ICD group are shown in Table 2.

O Indicador **número de notificações por agrupamento de CID x número total de notificações por categoria profissional (I_7)** calcula o número absoluto de registro de afastamento do trabalho segundo o agrupamento de CID por categoria profissional. O maior número de registros entre os profissionais de enfermagem correspondeu às doenças do aparelho respiratório (J00-J99), com 115 ocorrências, às doenças do sistema osteomuscular e do tecido conjuntivo (M00-M99), com 101 ocorrências, e aos sintomas, sinais e achados anormais de exames clínicos e de laboratório, não classificados em outra parte (R00-R99), com 98 ocorrências.

The Indicator **number of notifications by ICD grouping x the total number of notifications by professional category (I_7)** calculates the absolute number of absence from work registration according to the ICD grouping by professional category. The largest number of records among nurses corresponded to respiratory diseases (J00-J99), with 115 occurrences, diseases of the musculoskeletal system and connective tissue (M00-M99) with 101 occurrences, and the symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99), with 98 occurrences.

By this indicator, it was observed that the respiratory diseases (J00-J99) had eighteen records of absenteeism among nurses. Genitourinary system diseases (N00-N99) and the musculoskeletal system and connective tissue diseases (M00-M99) totaled eleven records, each.

Table 2 - Worker Health indicators in the Labor Hospital, according Simoste data (I_5, I_6) - Curitiba, Paraná, Brazil, 2011

International Classification of Disease (ICD – 10)	Number of notifications	Percentage of notifications	Average of working lost days
Respiratory diseases	206	19.62	1.70
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	165	15.71	1.52
Diseases of the musculoskeletal system and connective tissue	149	14.19	2.42
Certain infectious and parasitic diseases	116	11.05	1.73
Injuries, poisoning and other certain consequences of external causes	78	7.43	3.59
Eye diseases and attachments	72	6.86	3.17
Mental and behavioral disorders	55	5.24	5.76
Genitourinary diseases	49	4.67	1.31
Circulatory diseases	48	4.57	2.63
Nervous system disorders	37	3.53	2.76
Digestive diseases	33	3.14	1.94
External causes of morbidity and mortality	12	1.14	2.17
Skin and subcutaneous tissue diseases	11	1.05	3.0
Diseases of ear and mastoid process	7	0.66	2.29
Neoplasms [tumors]	7	0.67	4.57
Factors that influence health status and contact with health services	4.0	0.38	5.0
Pregnancy, childbirth and postpartum*	1	0.09	7.0
Total	**1050**	**100**	**1.73**

Source: Simoste (2011).
*Note: *This corresponds to a complicated episode of hypertension by pregnancy.*

Among nursing technicians, diseases of the respiratory system (J00-J99) accounted for 42 records. Then, in descending order, diseases of the musculoskeletal system and connective tissue (M00-M99) and infectious and parasitic diseases (A00-B99) with 38 and 34 records, respectively. Among nursing auxiliaries, symptoms, signs and abnormal clinical and laboratory findings, not found elsewhere (R00-R99) accounted for 56 records. Diseases of the respiratory system (J00-J99) totaled 55 records and diseases of the musculoskeletal system, and connective tissue (M00-M99) totaled 52 occurrences.

Among other health workers, diseases that obtained the greatest number of records were the respiratory system diseases (J00-J99), with 91 records, followed by symptoms, signs and abnormal clinical and laboratory findings, not found elsewhere (R00-R99) with 67 records and diseases of the musculoskeletal system and connective tissue (M00-M99) with 48 records.

In this category, the main absence records by respiratory diseases (J00-J99) were performed by auxiliary/administrative technicians (n = 48) and auxiliary/laboratory technicians (n = 09). The absence due to symptoms, signs and abnormal clinical and laboratory findings, not found elsewhere (R00-R99), totaled 40 records between the auxiliary/administrative technicians. The records corresponding to the diseases of the musculoskeletal system and connective tissue (M00-M99) were obtained by general services auxiliaries (n = 18) and auxiliary/administrative technician (n = 14).

The Indicator **number of working lost days by ICD grouping x number of notifications by professional category (I_8)** calculates the absolute number of working lost days according to the ICD grouping by professional category. By this indicator, it was observed that the respiratory diseases (J00-J99) and injuries, poisoning and certain other consequences of external causes (S00-T98) deviate the nurses of their work activities for 33 days each. Diseases of the musculoskeletal system and connective tissue (M00-M99) remained missing for 24 days.

Among the nursing technicians, mental and behavioral disorders (F00-F99) accounted for 162 working lost days. Then, in descending order, appear injuries, poisoning and certain other consequences of external causes (S00-T98), with 78 days. Finally, diseases of the musculoskeletal system and connective tissue (M00-M99) with 72 days.

Among nursing auxiliaries, diseases of the musculoskeletal system and connective tissue (M00-M99) accounted for 99 working lost days. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99) add 91 days and diseases of the respiratory system (J00-J99) 87 days.

Among other health workers, the disease that most commonly lead to absence were musculoskeletal system and connective tissue (M00-M99), with 164 days of which 75 days between the auxiliary/administrative technicians. Diseases of the respiratory system (J00-J99), 162 days, being 88 for absence of auxiliary/administrative technicians, and the symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99), with 85 days, of which 57 registered by auxiliary/administrative technicians.

The diseases responsible for the absence of health workers at work, according to ICD-10 were evaluated by the **Average indicator of working lost days by ICD grouping x number of notifications by professional category (I_9)**, as described in Table 3.

DISCUSSION

The results showed that the medium and technical level of nursing workers obtained the highest number of working lost days attributed to burden and wear of work. These results are justified by the proportion of workers by the care of object and the activities inherent in this profession in the hospital, as well as the closeness of professionals with workloads[3]. The fact that they remain great part of the time in care activities, performing invasive procedures or manipulating sharps, expose them to the body fluids[3], main biological burden. Similarly biomechanical factors such as repeatability, physical effort and psychosocial pressures, characteristic of the physiological and psychological burden are clear and constant in the daily lives of these workers.

It is considered that these results demonstrate the division of roles and different responsibilities of each category. As established by the Federal Nursing Council by the Professional Practice Law (Law 7. 498/86), it is up to the nurse to carry out

Table 3 - Average working lost days by grouping of the International Classification of Diseases x number of notifications by professional category (I_9), according to Simoste data, Curitiba, Paraná, Brazil, 2011

International Classification Disease (ICD – 10)	Nurse	Nursing Technician	Nursing Auxiliary	Others
Certain infectious and parasitic diseases	1.67	1.53	1.83	1.83
External causes of morbidity and mortality	-	2.0	2.40	2.0
Skin and subcutaneous tissue diseases	-	3.0	4.40	1.60
Circulatory diseases	2.75	3.90	2.88	1.91
Digestive diseases	1.17	3.50	1.25	2.0
Genitourinary diseases	1.36	1.20	1.13	1.44
Respiratory diseases	1.83	1.64	1.58	1.78
Eye diseases and attachments	4.0	2.94	3.86	2.74
Diseases of ear and mastoid process	-	1.75	3.0	-
Nervous system disorders	1.25	1.20	2.27	3.88
Diseases of the musculoskeletal system and connective tissue	2.18	1.92	1.90	3.42
Factors that influence health status and contact with health services	-	7.0	-	4.33
Pregnancy, childbirth and postpartum	-	-	-	7.0
Injuries, poisoning and other certain consequences of external causes	4.71	4.59	3.15	3.11
Neoplasms [tumors]	1.0	-	5.50	5.0
Symptoms, signs abnormal clinical and laboratory findings, not classified	2.20	1.63	1.63	1.28
Mental and behavioral disorders	2.25	10.13	5.33	3.57

Source: Simoste (2011).

more complex procedures and activities related to the management and supervision of staff[7]. Because they are responsible for the continuity of care, it may be that, not to leave the team without a reference person, nurses choose to work sick to move away for short periods[8].

Nursing technicians are responsible for performing medium level activities, to guide and monitor the work of nursing auxiliaries and assist in the planning of care[7]. In the Brazilian public health institutions, a category that fits the setting of this study, these professionals are overloaded by the need to meet a high demand of users who seek or are referred for these services. This occurs mainly about nursing technicians who work in intensive care units in operating rooms and emergency care services. In these sectors, the assistance the user requires more concentration, technical skills, quick thinking and continuous attention due to the severity of the sick.

In addition to wearing arising from biological burden, there was a great exhibition of the health worker to the physiological and psychological burden, results that corroborate those observed in a study developed in the Midwest region of Brazil[9]. Although, with minor differences, the results showed that regardless of the professional category, there is a greater exposure to these charges. Factors related to work organization, models of management, the lack of collective defenses, lack of autonomy and power abuse, might be associated with these results[9]. Therefore, it evidences the need for interventional measures to minimize this exposure[10].

Noteworthy is the high number of absences due to mental and behavioral disorders, and the high average of absence days from their work. These values are worrying because they demonstrate the mental illness of older workers, although the causal link with working conditions is hardly established[11]. Although difficult association with work, these diseases are among the most costly to health services[12] and the employing institutions. The average absence time for mental disorders indicates that such conditions require more time to recover, resulting in higher expenses for the institution, to the pension system for workers.

Depression is a mental worker disorder and was also identified in this study. It indicates stress in the work environment, influences in the physical and psychological health of professionals and its occurrence results in dissatisfaction, absenteeism, turnover in services, loss in quality of care[13] and reduction of cognitive activities, as demonstrated in a study developed among workers in Norway[14]. Given that stress is harmful to health, this symptom may affect the work process and trigger consequences in health maintenance or restoration of capacity for work[13].

An important study conducted in southeastern Brazil among nursing workers found that when submitted to high demand in the workplace, they are more likely to have reduced capacity for work, which can promote the development of stress. It is important to emphasize that age and sex of these workers were associated with these findings[13].

Wear processes responsible for working lost days converge partially with those found in the literature, indicating that respiratory diseases and musculoskeletal are among the most frequent among health professionals when compared to the general population[2,9-10,15]. The general index of population is 1.4% while the cleaning hospital workers are 3%, nurses 2.9% and nursing auxiliaries 1.6%[16].

The work-related musculoskeletal disorders (Dort), diseases also evidenced in this study, are associated with exposure to physiological burden, especially by adopting inadequate postures and excessive manipulation of weight that cause changes in physical, psychological and psychosocial order. The chronic disease causes signs and symptoms as stress, depression, anxiety, insecurity, fear, adopting introverted attitudes and mood alterations, also committing to social and family life[17]. Physical symptoms lead to frequent worker absences. This can compromise the environment, leading to an atmosphere of distrust and tension between co-workers and interfering in team motivation and quality of care, factors observed in research conducted on the South American continent[18], North American[19] and European continent[20].

Some studies on different continents confirm the magnitude of the disease process among workers with Dort. Economic globalization articulated to restructure the production processes has contributed to the redefinition of the profile of morbidity and mortality of workers. Some studies have indicated a range between 34.3% and 62.5% of osteoarticular disorder[18-19,21].

The pain expressed by physical wear can trigger stress in the workplace and influence the psychological domain of workers, in general, resulting in feelings of dissatisfaction at work, anxiety and even diseases such as depression[14,22]. A study carried out in Oslo, Norway[14] analyzed the impact of psychosocial and mechanical exposure related to work in the development of pain in shoulder and neck in the workplace. The association of pain presence in the face of psychosocial exposure was slightly influenced to physical risk factors. The indicators used in this study showed an association between the musculoskeletal diseases and mental disorders, whose absences records totaled 677 working lost days in the study setting.

The Simoste records amounted 2478 working lost days from workplace. Serious consequences are triggered by work-related diseases, especially in Dort. These can cause a substantial loss of working days, resulting in socio-economic losses, since the company needs to replace this worker when is absent from work process[20]. Epidemiological studies carried out in Brazil[23-24], Denmark[25] and Italy[26] emphasize the high rates of absenteeism resulting from different disease processes among health workers. These results commit the production, influence the total of lost workdays and keep active the morbidity processes.

The number of absences records by symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (ICD R00-R99) was also high, which reinforces the hypothesis that there may be links between the various burden and wear of work. Wear processes for these diseases are considered when signs and symptoms do not have a defined etiology when can lead to two or more diseases and in different body systems. They are classified in this way when it is not possible to set a diagnosis, when the disease or symptoms present transitory or symptoms, regardless of etiology, are major health problems[6].

The pathologies classified in this category, as abdominal pain, headache, edema and pain in the lower limbs are common in the general population, and are a leading cause of

demand for health services. Among health workers, these diagnoses may be related to exposure to workloads[2]. However, it is unknown which health problems will be triggered, and this is the weathering process that had no detectable disease.

There is a need of clarification regarding the working lost days due to diseases related to pregnancy, childbirth and postpartum (O00-O99 ICD). A unique record, referring to an episode of hypertension complicating pregnancy deviate the worker of its activities for seven consecutive days. Hypertension has physiological causes; however, hypertensive situations can be exacerbated by unfavorable situations like stress pressures in the workplace[27].

Another important aspect refers to records of neoplasm absence that correspond to the diagnosis of skin cancer among nursing staff working in the Intensive Care Unit and the Material and Sterilization Center. In those sectors where there is great exposure of workers to the chemical burden by handling of medicines and products used daily for disinfection and processing of materials[28]. However, the causal link between this disease and the work was not performed in this study.

The wear corresponding to injuries, poisoning and certain other consequences of external causes had a high average of working lost days in this study. They have been associated with the occurrence of trauma, poisoning or complications and squeals arising from these diseases[6]. A Brazilian study carried out in northeastern Brazil showed that when related to work, they have a representation of 82.8% among typical accidents and 75% of stretch accidents[29]. These results may not be confirmed in this study due to the lack of Occupational Accident Report in the period, which may indicate under-reporting of accidents at work in the institution.

National and international findings allow reflecting about the need for interventions[14] in the workplace. Articulation strategies should be adopted to reduce this installed morbidity[19], mainly to the physiological and psychological workloads, observed in this study by the magnitude of expressed and registered morbidity process. Investments in better-working conditions for all workers 'life stages reduce temporary and permanent absences[13] and contribute to the improvement of workers' quality of life.

CONCLUSION

Worker health indicators used in this study indicated problems arising from the characteristics and dynamics of the work of the hospital environment, in the sectors in which the routines are more intense and wearing, like the Intensive Care Unit in the Surgical Center and Emergency Room.

The results point to worker exposure to various types, predominantly biological, physiological and psychological burden. They reflect the health work processes, whose activities are characterized by close contact with the patient, exposure to bodily fluids, handling weights and intense and stressful work routines.

There is the loss of 2478 days of work among research participants, and the nursing team is responsible for 1526 days of this sum. The indicators showed that these workers fall ill by physical and psychological diseases. In the study setting, it should be considered the high number of respiratory diseases register, musculoskeletal and connective tissue diseases and mental and behavioral disorders. Thus highlights the need for intervention measures to reduce these numbers.

These results lead to reflection and a redirect to the health surveillance of workers since the process of becoming ill is compounded by the sum of psychosocial factors, physical symptoms such as pain, as well as the workplace. The health indicators used in this study may contribute to the design of the morbidity profile, helping to monitor over time. They can also support actions aimed at changing the illness profile. However, it is for managers and workers with an integrative vision for health promotion in the face of this existing epidemiological profile. The technological tool entitled Simoste can contribute to the construction of this process.

There are the limitations of this research, which was performed in specific scenario in southern Brazil and methodological issue, not to allow the establishment of association and correlation between workload and disease. Despite the limitations, the results replied to the proposed goals and provide support for interventions in reality, as well as for the development of other studies with the same perspective.

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