

Psychic Workloads and Strain Processes in Nursing Workers of Brazilian University Hospitals

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Objective: to identify the work process, the psychic workloads and the strains generated in nursing workers. Method: the study was developed in five Brazilian university hospitals. The sample was composed by 62 nursing workers and the data collection was done by focal group technique, followed by the application of a collective inquire. The data were quantitatively described and systematized according to a thematic analysis. Results: the study population represented 35,37% of the hospital workforce in national setting. The workers mentioned are exposure to several kinds of psychic workload and link them to with others workloads, highlighting the strain processes resulting from this kind of workload, such stress, fatigue, complaints of gastritis and headaches. Conclusions: nursing workers are exposed to several workloads in the hospital environment, especially psychic workloads. This exposure starts strain processes that compromise the health and quality of life, signaling the necessity of interventions in this reality.

Descriptors: Nursing; Mental Health; Occupational Health; Professional Distress; Inter-professional Relations.

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Cargas psíquicas e processos de desgaste em trabalhadores de enfermagem de hospitais universitários brasileiros

O objetivo deste estudo foi identificar o processo de trabalho, as cargas psíquicas e os desgastes gerados em trabalhadores de enfermagem. Esta pesquisa foi desenvolvida em cinco hospitais universitários brasileiros. A amostra foi composta por 62 trabalhadores de enfermagem e a coleta foi realizada por meio da técnica de grupo focal, seguida da aplicação da enquête coletiva. Os dados foram descritos numericamente e sistematizados, segundo análise temática. A população de estudo representou 35,37% da força de trabalho hospitalar, no cenário nacional. Os resultados mostram que os trabalhadores referiram exposição a diversos tipos de cargas psíquicas, relacionando-as a outras cargas de trabalho, destacando-se os desgastes decorrentes desse tipo de carga, como estresse, fadiga, gastrite e cefaleia. Conclui-se que os trabalhadores de enfermagem estão expostos a diversas cargas de trabalho no ambiente hospitalar, especialmente às cargas psíquicas. Essa exposição desencadeia processos de desgaste que comprometem a saúde e qualidade de vida, sinalizando a necessidade de intervenções nessa realidade.

Descritores: Enfermagem; Saúde Mental; Saúde do Trabalhador; Estresse Profissional; Relações Interprofissionais.

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El objetivo de este estudio fue identificar el proceso de trabajo, las cargas psíquicas y los desgastes generados en trabajadores de enfermería. Se trata de un estudio desarrollado en cinco hospitales universitarios brasileños. La muestra fue compuesta por 62 trabajadores de enfermería; la recolección fue realizada por medio de la técnica de grupo focal, seguida de la aplicación de encuesta colectiva. Los datos fueron descritos numéricamente y sistematizados según análisis temático. La población de estudio representó 35,37% de la fuerza de trabajo hospitalario en el escenario nacional. Los trabajadores refirieron exposición a diversos tipos de cargas psíquicas y las relacionaron con otras cargas de trabajo, destacando los desgastes provenientes de este tipo de carga, como estrés, fatiga, gastritis y cefalea. Los trabajadores de enfermería están expuestos a las diversas cargas de trabajo en el ambiente hospitalario, especialmente a las cargas psíquicas. Esta exposición desencadena procesos de desgaste que comprometen la salud y calidad de vida, señalando la necesidad de realizar intervenciones en esta realidad.

Descritores: Enfermería; Salud Mental; Salud Laboral; Estrese Profesional; Relaciones Interprofesionales.

Introduction

In Brazil, nursing workers represent the major number among the category inserted in health institutions; however, they did not receive the same attention from the managers to keep their work capability, quality of life and health.

The conditions in which the nursing work is developed have been described with more emphasis from the eighties⁽¹⁾. However, thirty years after the first studies, much it is known about the nursing work

conditions, but few interventions proposals have been done to improve this poor reality. Researches highlight that these workers are exposed to several workloads that are generating of strain processes that compromise the workers' health and quality of life⁽²⁻³⁾.

The *workloads* are elements that dynamically interact among each other and the worker body, generating adaptation processes, which can result in strain. The same authors define the strain's processes as

the total or partial loss of bodily and mental capacities, which encompasses the biopsychic processes as a whole. These processes show collective characteristics and define the pathological profile of a specific group⁽⁴⁾.

These authors categorize the workloads as biological, chemical, mechanical, physical, physiological and psychic. In hospital environments, the worker is simultaneously exposed to more than one workload, considering it as a progressive and cumulative process.

Exposure to psychic workloads is the most reported by the nursing workers and are related to the work object – human being that suffers, feel pain and dies and is involved in situations of stress, fatigue, tension, as well as to how this work is organized, routinized, parceled, and with a controlling supervision and lack of autonomy⁽⁵⁾.

Research about morbidities referred by workers reveal an increasing incidence of problems generated by exposition to psychic workloads, such as mental unbalance and emotional strain, aside from other strain, such as migraines and digestive disturbances⁽⁶⁾.

Consequently, these processes result in absenteeism at work, several permanent or temporary incapacities that compromise the quality of assistance rendered to patients and the quality of life of the workers themselves.

Although researches about this theme have been conducted recently, it is important highlight that these studies are directed to a local situation and they report feelings of stress and suffering among the nursing staff, especially in critical areas like intensive care units and oncology units⁽⁷⁻¹⁰⁾. In this aspect, the present study reflects an analysis of the strain process in nursing workers from different hospital sectors in the national setting, providing a comprehensive view of illness in the nursing workers in Brazil.

The commitment of workers' health becomes a concern of institutions when reflects on productivity and efficacy of work. Accordingly, the objective of this study is to describe the psychic workloads present in the daily working life of hospital institutions, as well to identify consequent respective strain processes, according to the nursing workers' perspective.

Method

It is a descriptive study, of qualitative nature, anchored in the categories: work processes, psychic workloads and strain processes. The *setting* was composed by five public university hospitals, selected in the North,

Northeast, Center-West, Southeast and South regions of Brazil, according to criteria of representativeness, size (large and extra-large) and, also, of acceptance to participate in the research. Therefore, these settings were named as: North Region – HUN; Northeast Region – HUNE; Center-West Region – HUCO; Southeast Region – HUSE; South Region – HUS.

The study *population* was composed by nursing workers in each Hospital, totaling 3,471 workers, including nurses, technicians and nursing auxiliaries, representatives of several hospital units. The sample was intentional, consisting of 62 subjects who voluntarily agreed to participate of data collection. Previously to data collection, the approval was received from the Ethical Committee of Research of the Nursing School of USP, under process number 339/2003/CEP-EEUSP.

The *data collection* was performed with voluntary participation of individuals in focal group, individually formalized by signature on the Term of Free and Informed Consent (Resolution 196/96 of the National Council of Health – CNS⁽¹¹⁾).

The composition of the focal group was made through invitation to the nursing heads and team of the hospital units. The intention was to constitute a group that representing with reliability several hospital unities. Approximately 12 participants from hospital units from each university hospital of the five regions accepted to participate of focal group meetings. These subjects were informed about the possibility of discontinuity of participation in focal group without any incidence of punishments for that. Three meetings with the focal group were performed in each setting during the data collection between February 2005 and October 2006.

In the first meeting, the objectives of the research were exposed and the dynamic of data collection was explained; in the following meetings the workloads were discussed. The researchers pre-established questions and coordinated the discussions among the participants. The meetings were filmed, so as to enable the apprehension of the individuals' speech, as well as the group dynamic. After the focal group discussion, there was the fulfillment of the collective inquiry by the workers for information validation. This inquiry contemplates issues related to working process and workloads present in the work environment. It is a self-reported instrument, individually fulfilled.

The filmed speeches were fully transcribed and analyzed in accord to methodological proposal. It was done the numeric data description, that were treated as absolute and relative frequency and were presented

in tables. The qualitative data analysis occurred by thematic analysis⁽¹²⁾ with systematization according to previously elected categories: work process, psychic workloads and strain processes. The data obtained were synthesized and presented in table.

Results

The data analysis allowed the articulation between the strain processes identified and the ways of work, through the workers' exposure to psychic loads that they are submitted during the work activities. The nursing work processes are apprehended by characterization of institutions.

Work Process

As university hospitals, they have finality to offer health assistance to the population and to promote education and research, considering different levels of

human resources education (except for the HUN, which explicitly do not cite the research as an institutional finality). All of the hospitals develop assistance activities in four basic areas, such as medical clinic, surgery, gynecology and pediatrics, whereas other hospitals develop high specialization activities, such as transplants.

Despite same researched hospitals classification as large and extra size, the data demonstrated a significant heterogeneity in relation to quantity of hospital beds and attendance, which reflects the production capacity of each location.

The representativeness of the nursing team within the analyzed hospital institutions is very significant, in spite of different percentage presented in each region. The concentration of professionals is reflected in the relation workers per hospital beds, as it can be observed below:

Table 1 – Distribution of numbers of workers (total workers and nursing team) in relation to the number of hospital beds in the setting hospitals. Brazil, 2007

| Setting | Number of Hospital Beds | Hospital Workers | | | Number of workers per hospital bed | |
|--------------------|-------------------------|------------------|--------------|--------|------------------------------------|--------------|
| | | All workers | Nursing Team | % | All workers | Nursing Team |
| North (HUN) | 210 | 1.002 | 356 | 35,53% | 4,77 | 1,70 |
| Northeast (HUNE) | 347 | 2.436 | 1.071 | 43,96% | 7,02 | 3,10 |
| Center-West (HUCO) | 299 | 2.126 | 591 | 27,80% | 7,11 | 1,98 |
| Southeast (HUSE) | 150 | 800 | 202 | 25,25% | 5,33 | 1,35 |
| South (HUS) | 643 | 3.449 | 1251 | 36,27% | 5,36 | 1,94 |
| Total | 1.649 | 9.813 | 3.471 | 35,37% | 5,95 | 2,10 |

We can observe that in the Northeast region, nursing represents approximately 44% of the total of the hospital workers. The lowest percentage found was in the Southeast region, where the 202 nursing workers represent 25% of the total hospital workers. The average of national setting found in this study, about 35% is better than the Brazilian average analyzed by Sanitary Medical Assistance, that it between 28-32%⁽¹³⁾.

The data presented on first table also emphasize that the relation between the quantity of workers and the number of hospital beds is variable, accordance with the trend above described in which a higher amount of workers reflects a higher relation between professionals and hospital beds.

It is relevant to comment that in some hospitals we

found nursing attendant, beyond others professionals belonging nursing team with different denominations, despite the Law of Nursing Professional Exercise was foreseen better qualification of these workers, that should be occurred up to 1996⁽¹⁴⁾.

Generated Psychic Workload and Strain Processes

The analysis of psychic workloads enables to emphasize that aside from being attributed to some work conditions, they are enhancers and enhanced by most of other workloads. The Figure 1 describes the type of psychic workloads referred by the research individuals, as well as resultant strain from the exposure to such workloads.

| Psychic Workloads | Specifics strains for each psychic workload | |
|--|--|--|
| Psychic aggression | Stress Irritation Physical and mental strain Anxiety Panic Syndrome Depression | High blood pressure Lack of motivation Anguish Felling of impotence Mental strain |
| Monotonous and repetitive work | Stress Irritation Physical and mental strain | Sleep Disregard |
| Constant attention | Stress Irritation Physical and mental strain Visual discomfort Headache Insomnia | High blood pressure Stomachache Anxiety Insecurity Depression Somatic diseases |
| Female work | Stress Tiredness Strain of interpersonal relations Existential crisis Overload | Depression; High blood pressure Insomnia Increase of sensibility Lack of attention Guilty |
| Lack of collective defenses | Headache Discomfort among the work team Lack of motivation Arguments | Intrigue Strain of interpersonal relations Lack of union |
| Abuse of alcohol and drugs | Anesthetic drugs | |
| Accelerated work rhythm | Irritation Tiredness Fatigue Physical and mental strain High blood pressure Insomnia Stomachache | Sleep Lack of attention Anxiety Insecurity Headache Lack of motivation |
| Lack of communication | Felling of uselessness Professional belittling Depression; Lack of communication among the hospital departments | Emotional strain Irritation Overload |
| Strict supervision of nursing head and other professionals | Stress Somatic diseases | Stomachache Depression Dissatisfaction |
| Lack of creativity and autonomy | Stress | Lack of motivation. |

Figure 1 – Psychic Workloads and strains generated in several settings. Brazil, 2007

The strain process resultant from the exposure to these workloads is shown in somatization of some experiences (manifested in physical or physiologically) or by psycho-emotional disorders (which signs are anguish, lack of motivation, fear, etc).

Discussion

The analysis of institutional and workers' characteristics enable us to apprehend their ways of insertion as health care providers on Brazilian society and on generation of public health policies.

Despite remarkable regional and cultural differences, they are not significant in relation to work accidents especially in regard to their notification. Indeed, studies have indicated that there is misinformation regarding risks and gravity of work accidents, which is the cause for this sub-notification⁽¹⁵⁾.

The particularities are related with the regionalism, environment and kind of construction of the hospitals.

This can be exemplified by workers exposure to endemic diseases, like dengue and yellow fever in the HUN (Amazon region) or of leptospirosis in the HUNE, that has a architecture pavilinary with an insufficient water flow, that allows contact with the water during the transit among the pavilions.

The relation between the number of hospital beds and the number of nursing workers follows the same trend, although more adequate to the Northeast region and less adequate in the Southeast region. However, data reveal that nursing workforce in Brazil is heterogeneously distributed in different regions, considering that 70% of this force is concentrated in the Southeast and South regions of Brazil⁽¹⁶⁾.

In general, the difficulties of high demand and low availability of materials and human resources are peculiar of health area⁽¹⁷⁾. Thus, we can affirm that work processes are the first aggravation on psychic loads suffered by nursing professionals.

The *psychic aggression* especially appears in relations established with patients and other members of the health team that for several reasons adopt an aggressive and offensive position towards nursing workers. This kind of aggression is characterized by violence and moral harassment to these workers that also is related to disrespect of human dignity, in which the bullying is used to discriminate and humiliate the attacked individual. On extreme cases, occurs the development of important psychic disorders (as Panic Syndrome) or even cardiovascular diseases, such as Arterial Hypertension⁽⁹⁾.

The *monotonous and repetitive work*, despite being present in other units, have been mentioned by workers of the Material and Sterilization Center, which is characterized for being a sector of extremely repetitive activities and performed in a static position. Although the individuals of this research have only mentioned the hindering of their hands, nursing workers also present injuries that affect arms, neck, back, knees, among others⁽¹⁸⁾. Complaints about digestive, nervous and cardiovascular systems were also found in nursing workers of a Materials and Sterilization Center associated to pressure for productivity and work repetitiveness⁽¹⁹⁾.

For being a work that requires constant attention, nursing workers emphasized anxiety and insecurity to perform some tasks, as well as a resulting somatization of psychic suffering. The anxiety of nursing team was also verified in situations of death possibilities before the end of shiftwork, peculiarity of this kind of job⁽²⁰⁾

The *unfolding of the female working journey*, which starts at home, continues at work and finishes (when it finishes) at home again, due to domestic tasks that do not have a week resting-break, not paid vacations – tasks that do not help to rise the working woman self-esteem – can lead to chronic fatigue and physical and mental exhaustion. Authors who have also studied nursing work refer that the double or triple female working journey means an overload and a strain that requires a permanent physical and mental effort from these workers⁽²¹⁾.

The findings in this study revealed that, since women predominantly perform nursing work, they suffer specific strains generated from the psychic workload. Female workers refer feeling guilty for not giving enough attention to their children due to work, which can result in psycho-somatic symptoms that compromise the workers' quality of life and of their family.

The *collective defense* for the workers' right propitiates the empowerment of the group and gives more credibility and power to what is being required,

once the individual necessities are projected to the collectivity. However this lack of articulation aside of generating discomfort and intrigues to the team, makes the requirements seem less important, as an individual need that not represents the spokesman group.

Although this matter generates embarrassment and sometimes inhibits the participants to speak, the abuse of alcohol and drugs available at daily work in hospitals were referred as use of licit substances. This practice can cause dependence of drugs licit (medicaments for pain, as example) for a better performance at work, compromising mental and physical health of the worker.

In a reflexive study about this theme, authors realized that some health professionals use drugs trying to minimize or to avoid the *burnout* and due this they start developing other disorders, once the drug effect alters the behavior, compromises logical reasoning, decision taking and execution of specialized procedures risking people's lives whom are under their care⁽²²⁾. Other study about nursing workers with health problems showed that the alcohol abuse is a real suffering of some workers that brought their experiences during the research⁽²³⁾.

The *accelerated rhythm* resulting from an insufficient number of workers and excessive tasks per individual tends to require less time to complete activities and a reduction of breaks. This rhythm is intensified when workers have two jobs, since this situation probably is repeated in both settings.

Beyond from psychic workload, the accelerated rhythm of work is also associated with a higher occurrence of work accidents, either for the quickness to perform a task, for not using individual protection equipment or for the insufficient time to pre-care preparation.

We can link the lower relation between the number of workers and the number of hospital beds with the higher exposition to psychic workloads, primarily because they exert a higher rhythm of working journey. Thus, the accelerated rhythm of work harms the performance of tasks; it undoes the possibility of relationships and mainly causes workers physical and mental strains.

Lack of *autonomy and creativity* were directly related to *lack of communication*, because the workers feel that the head does not care about their suggestions to change their routine, not giving them the autonomy to perform it. Both situations aggravate internal conflicts in the group either for too much institutional authority, which configure a setting of attitude restriction or depreciation of other people, their thoughts and proposals.

Furthermore, the nursing workers frequently face lack of autonomy to solve simple problems of the patients they take care of, which generates a feeling

of impotence. Stress and demotivation generated by this psychic overload, in addition to other workloads, configure a progressive pathological profile of the nursing workers⁽²³⁾.

Strict supervision by nursing heads was reported as controlling attitude and not associated with a promoting of workers better performance behavior. Supervision is performed under of constantly pressuring to execute tasks in a certain rhythm to accomplish them and not of supporting or orienting and articulating processes. A research with nursing workers showed that demotivation generated in daily work is caused by work organization, hard relationships and belittling of work realized for some professionals⁽²⁴⁾.

These psychic workloads present in the nursing daily work, impact on the quality of life and work of these professionals. Workloads generated are enormous due to the accelerated work rhythm, non-interaction of the staff, medical team pressure, frequent double working journey, repetitive work, and unfair wages. In addition, there are strict supervision, pressure from the nursing head and other professionals, overtime, monotonous and repetitive work, and factors such as the lack of creativity, autonomy, aside from lack of collective defense⁽²⁵⁾.

In general, the stress has been related as a strain more frequent in daily life of nursing workers, independently of kind of psychic load exposure. The question that deserves more attention is this study is not only the strain caused by the workloads, but also the opportunities of intervention to revert this situation in order to prevent a definitive installation of the disease - relevant issue for nursing staff.

The path between the psychic load exposure and the occurrence of strain happens immediately or late consequences. This because the psychic damage in several forms impacts on psychic and emotional health of individuals, compromising their rationality, social welfare and also their physical health due to somatization.

Thus, the focus of intervention must be on not exposure of workloads or when it occurs, to available resources to minimize the strains that are consequence of them. It means to direct the efforts to work organization that involves the own workers, worker staff and relationships with all social actors.

Conclusions

The hereby study enabled us to identify psychic workloads present in the nursing work environment and the strain processes resultant from this exposition.

Workers represented all hospital units in focal group meetings; they referred to suffer different kinds of psychic workload and presented resultant strain.

Nursing workers described that psychic workloads resultant from the nature of work (taking care of sick people) a lower impact on the quality of life than the strain generated in work situations and social relationships.

Consequently, this made us reflect about what has been occurring in the corridors of the Brazilian university hospitals and that has generated a gradual loss of quality of life of nursing general workers. The focus point of intervention proposals from Brazilian hospital institutions must be rethinking the organization structure of health services under the workers' perspective who effectively are daily exposed to workloads.

If the work environment and the product of this work is the human being, who suffers, undergoes a strain process, gets sick, and dies; therefore, this human being must be the reason for which services must be structured – either in physical and organizational aspects or the interpersonal and relationships issues.

References

1. Felli VEA. Worker's health and management in nursing [thesis]. Sao Paulo (SP): School of Nursing of University of Sao Paulo; 2002.
2. Gurgueira GP, Alexandre NMC, Corrêa HR Filho. Self-reported musculoskeletal symptoms among nursing personnel. Rev. Lat. Am-Enfermagem. [serial on the Internet] 2003 September-October [cited 2009 August 6]; 11(5): [about 6 screens]. Available from: <http://www.scielo.br/pdf/rlae/v11n5/v11n5a07.pdf>
3. Mininel VA. Promotion of nursing work's quality of life: managerial responsibility of nurse [dissertation]. Sao Paulo (SP): School of Nursing of University of Sao Paulo; 2006.
4. Laurell AC, Noriega M. Production process in health: laborer's work and strain. Sao Paulo, Hucitec, 1989.
5. Cezar ES, Marziale MHP. Occupational violence problems in an emergency hospital in Londrina, Parana, Brazil. Cad Saude Publica. [serial on the Internet] 2006 January [cited 2009 August 5]; 22(1): [about 5 screens]. Available from: <http://www.scielo.br/pdf/csp/v22n1/24.pdf>
6. Felli VEA, Mininel VA, Sarquis LMM, Bernardino E. Surveillance of the health of nursing workers in Brazil. In: Annals of State-of-the-Art Conference/ Internacional Conference on Occupational Health for Health Care Workers (SOTAC/ICOH). Vancouver (CA): American

- College of Occupational and Environmental Medicine; 2007. p. 4-5.
7. Martins JT, Robazzi MLCC. Nurse's work in intensive care units: feelings of suffering. *Rev. Latino-Am. Enfermagem*. [serial on Internet] 2009 January-February [cited 2010 April 15];17(1) [about 8 screens]. Available from: http://www.scielo.br/pdf/rlae/v17n1/pt_09.pdf
8. Rodrigues AB, Chaves EC. Stressing factors and coping strategies used by oncology nurses. *Rev. Latino-Am. Enfermagem*. [serial on Internet] 2008 January-February [cited 2010 April 15]; 16(1) [about 5 screens]. Available from: http://www.scielo.br/pdf/rlae/v16n1/pt_03.pdf
9. Cavaleiro AM, Moura DF Junior, Lopes AC. Stress in nurses working in intensive care units. *Rev. Latino-Am. Enfermagem* [serial on Internet] 2008 January-February [cited 2010 April 15];16(1) [about 8 screens]. Available from: http://www.scielo.br/pdf/rlae/v16n1/pt_04.pdf
10. Faria DAP, Maia EMC. Nursing professionals' anxiety and feelings in terminal situation in oncology. *Rev. Latino-Am. Enfermagem* [serial on Internet] 2007 November-December [cited 2010 April 15];15(6) [about 6 screens]. Available from: http://www.scielo.br/pdf/rlae/v15n6/pt_11.pdf
11. Health Ministry (BR). National Health Council. Resolution n. 196/96 on research involving human subjects. *Bioetica* 1996;4(2):15-25.
12. Minayo MCS, Cruz O Neto, Deslandes SF, Gomes R. Social research: theory, method and criativity. Petropolis (RJ): Vozes; 1999.
13. Ministério da Saúde (BR). Pesquisa Assistencial Médico-Sanitária 1999. Brasília: DataSus; 1999. Available from <http://tabnet.datasus.gov.br/cgi/ams/amsgloss.htm>
14. Conselho Federal de Enfermagem (Cofen). Law of Professional Practice in Nursing [serial on the Internet] 1995 [cited 2009 August 6]. Available from: <http://www.portalcofen.com.br>
15. Napoleão AA, Robazzi MLCC, Marziale MLP, Hayashida M. Reasons of subnotification of work accidents among nursing workers. *Rev. Latino-Am. Enfermagem*. [serial on the Internet] 2000 Jul [cited 2009 August 6]; 8(3): [about 2 screens]. Available from: <http://www.scielo.br/pdf/rlae/v8n3/12409.pdf>
16. Conselho Federal de Enfermagem (Cofen) (BR). Statistical data about nursing workers composition [serial on the Internet] 2006 Jan [cited 2009 August 6]. Available from: <http://www.portalcofen.com.br>
17. Almeida PJS, Pires DEP. The work in emergency: between the pleasure and the suffering. *Rev Eletr Enferm* [serial on the Internet] 2007 September-December; 9(3) [about 12 screens]. Available from: <http://www.fen.ufg.br/revista/v9/n3/v9n3a05.htm>
18. Murofuse NT, Marziale MHP. Diseases of the osteomuscular system in nursing workers. *Rev. Latino-Am. Enfermagem*. [serial on the Internet] 2005 May-June [cited 2009 August 6]; 13(3):[about 10 screens]. Available from: <http://www.scielo.br/pdf/rlae/v13n3/v13n3a11.pdf>
19. Leite PC. Referred morbidity in nursing workers at a supplies and sterelizations center [dissertation]. São Paulo (SP): Escola de Enfermagem da Universidade de São Paulo;2001.
20. Osorio C. Hospital work: frenzied rhythms, tedious routines. *Cad Psicol Soc Trab*. [serial on the Internet] 2006;9(1) [about 17 screens]. Available from: <http://pepsic.bvs-psi.org.br/pdf/cpst/v9n1/v9n1a03.pdf>
21. Fernandes JD, Ferreira SL, Albergaria AK, Conceição FM da. Mental Health and woman work: nurses images and representation. *Rev. Latino-Am. Enfermagem*. [serial on the Internet] 2002 March-April [cited 2009 August 6]; 10(2):[about 8 screens]. Available from: <http://www.scielo.br/pdf/rlae/v10n2/10515.pdf>
22. Zeferino MT, Santos VEP, Radunz V, Carraro TE, Frello AT. Nurses and the abusing use of illegal drugs: commitment of self care and caring of others. *Rev Enferm UERJ*. 2006;14(4):599-605.
23. Carvalho MB de, Felli VEA. Psychiatric nursing work and workers health problems. *Rev. Latino-Am. Enfermagem*. [serial on the Internet] 2006 January-February [cited 2009 August 6]; 14(1) [about 9 screens]. Available from: URL: <http://scielo.br/pdf/rlae/v14n1/v14n1a09.pdf>
24. Shimizu HE, Ciampone MHT. Social representations of ICU auxiliary nursing personnel from a teaching hospital about their practice. *Rev Esc Enferm USP*. [serial on the Internet] 2002 September [cited 2009 August 6]; 36(2): [about 8 screens]. Available from: <http://www.scielo.br/pdf/reeusp/v36n2/v36n2a06.pdf>
25. Ribeiro EJJ, Shimizu HE. Work accidents involving nursing workers. *Rev Bras Enferm*. [serial on the Internet] 2007 September-October [cited 2009 August 6]; 60(5): [about 6 screens]. Available from: <http://www.scielo.br/pdf/reben/v60n5/v60n5a10.pdf>

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