RESEARCH

RESEARCH ABSENTEEISM DUE TO ILLNESS AMONG NURSING PROFESSIONALS

ABSENTEÍSMO POR ENFERMIDADE EM PROFISSIONAIS DE ENFERMAGEM

ABSENTISMO POR ENFERMEDAD EN PROFESIONALES DE ENFERMERÍA

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Submitted on: 2015/01/26 Approved on: 2015/06/22

ABSTRACT

Cross-sectional study that aimed to characterize absence due to illness among nursing professionals. The sample consisted of 299 professionals from a university hospital in South of Brazil. Data collection used the Management Information System and archives of occupational health service of the institution, during 2012. Data analysis consisted of descriptive statistics. Two hundred and twenty nursing professionals (73.57%) were absent due to illness, totaling 642 sick absences and 6,230 non-working days. Among those nursing professionals, 50 (22.7%) were nurses, 79 (36%) were nursing technicians, and 91 (41.3%) were nursing aids. The most frequent illnesses were: respiratory diseases for nurses, musculoskeletal system and connective tissue diseases among technicians and nursing aids. The prevalence of absenteeism due to illness among nursing staff is high, which requires rethinking the work organization to preserve the health of workers and reduce absenteeism.

Keywords: Absenteeism; International Classification of Diseases; Nursing.

RESUMO

Estudo transversal que objetivou caracterizar o absenteísmo por enfermidade em profissionais de enfermagem. A amostra foi de 299 profissionais de um hospital universitário do Sul do Brasil, com coleta de dados no Sistema de Informações Gerenciais e em arquivos do serviço de Medicina ocupacional da instituição, referente ao ano de 2012. A análise dos dados foi estatística descritiva. Foram 220 (73,57%) profissionais que se afastaram por doença, totalizando 642 atestados e 6.230 dias de afastamento. Destes, 50 (22,7%) foram de enfermeiros, 79 (36%) de técnicos de enfermagem e 91 (41,3%) de auxiliares de enfermagem. As enfermidades mais prevalentes foram: doenças respiratórias nos enfermeiros e doenças do sistema osteomuscular e tecido conjuntivo nos técnicos e auxiliares de enfermagem. É alta a prevalência de absenteísmo por doença na enfermagem, o que demanda repensar a organização do trabalho para preservar a saúde dos trabalhadores e diminuir os afastamentos.

Palavras-chave: *Absenteísmo; Classificação Internacional de Doenças; Enfermagem.*

RESUMEN

Estudio transversal con el objetivo de caracterizar el absentismo por enfermedad en profesionales de enfermería. La muestra consistió en 299 profesionales de un hospital universitario del sur de Brasil, con datos del Sistema de Información de Gestión y de archivos de servicios de salud ocupacional de la institución, en el año 2012. El análisis de datos fue la estadística descriptiva. Doscientos veinte (73,57%) sujetos presentaron absentismo por enfermedad, totalizando 642 certificados y 6.230 días de ausencia. De ese total 50 (22,7%) ocurrieron entre enfermeros, 79 (36%) entre técnicos y 91(41,3%) entre auxiliares de enfermería. Las enfermedades más frecuentes fueron: enfermedades respiratorias entre enfermeros y del sistema músculo-esquelético y enfermedades del tejido conectivo entre técnicos y auxiliares de enfermería. La prevalencia de absentismo por enfermedad entre el personal de enfermería es alta, lo cual requiere un replanteamiento en la organización laboral para preservar la salud de los trabajadores y disminuir las ausencias.

Palabras clave*: Absentismo; Clasificación Internacional de Enfermedades; Enfermería.*

INTRODUCTION

Absenteeism is defined as the sum of periods in which an organization's employee is absent from work. It is categorized according to the type of absence: voluntary absenteeism, which occurs due to extraordinary circumstances; legal absenteeism, such as pregnancy leave; compulsory absenteeism, caused by disciplinary order; and absenteeism due to illness, which encompasses worker's illness and accidents at work.[1,2]

In nursing, absenteeism is considered a complex problem. A study conducted in a Brazilian hospital identified an absenteeism rate of 5.6% among nurses and 9.7% between nursing technicians/aids. The reason that most affected these rates was absenteeism due to illness.[3] Another study identified frequencies of absenteeism due to illness of 20.3% for absences of up to 9 days and 16.6% for 10 or more days off. This study reaffirmed the complexity of this phenomenon, as variables of different levels were related to absenteeism.[4]

Among the factors involved in this process, the working environment of nursing professionals exposes them to various risks, as physical, biological, ergonomic, psychological and accidental. These problems may directly affect workers' health and trigger illnesses, leading to absenteeism.[5]

Besides that, these professionals' own work characteristics frequently determine their exposure to situations that increase physical and emotional distress, which can also cause absenteeism due to illness.[3] A study with Filipino nurses showed that working in shifts and working overtime, common characteristics for the nursing practice, were associated with occupational diseases and absences for more than two days, emphasizing the impact of worked hours in nurses health.[6]

From the evidence showed in the literature, it is noticeable how much absenteeism due to illness is immersed in the routine of nursing professionals. As this working class has the largest number of workers inside a hospital, it is believed that an environment disturbed by absence of professionals results in the disruption of work and in reduced quality of care.[5]

Given that absenteeism affects the patient and nursing professionals practice, it is justified to identify the prevalence and distribution of this issue. It is also important to understand the reasons for absence among these professionals, in order to know the extent of this problem.

Thus, the present study was proposed and aims to characterize absenteeism due to illness among nursing professionals. The relevance of the research is in the ability to know the morbidity profile associated with absenteeism of nursing professionals, and propose means to minimize health hazards.

It is expected that the present work will be able to support the development of practices of health promotion and prevention in health, which will minimize hazards to workers' health. The study emphasized that the multifactorial approach to absenteeism and its reduction in hospitals are essential to decrease economic costs, increase job satisfaction and enhance quality of nursing care.

METHODS

This is a retrospective cross-sectional study conducted in a large university hospital located in south of Brazil. The setting was a surgical nursing service (SEC), constituted of 222 beds divided into seven inpatient units, with some difference among themselves in terms of size.

Two small units, with 22 and 16 beds, are responsible for the care of patients who have health insurance or with private agreements. The third unit, also small, receives only patients who use the Unified Health System (SUS) and has 25 beds, seven designed for palliative care and 18 reserved for minor surgeries. Two units are of medium size with 34 beds each. One is designated for SUS and health insurance patients, and the other for the care of patients coming from transplants of solid organs. The two large units have 45 beds each and receive solely patients from SUS, all from surgical specialties.

It is highlighted that the ratio of patients by professionals is more appropriate in the small units. For example, during daytime shifts, in the larger units the ratio of nurses to patients is as high as one nurse to 23 patients, whereas in small units, the ratio is around one nurse to 15 patients. As for nursing technicians, the ratio is of one technician to eight/nine patients and one to five/six patients, respectively.

The study population consists of SEC nursing teams. The sample was composed of 299 professionals (nurses, nursing technicians and nursing aids) working in the setting, which were followed for year, from January 1st to December 31st 2012.

All professionals registered in the census of nurses, nursing technicians and nursing aids, of all shifts in respective units of SEC were included in the study. There were no exclusion criteria or losses.

Data collection comprised each professional registered in the computerized system Management Information (IG), through the Processor Business Intelligence *5.6* for Windows, and in the occupational health files (SMO) of the institution. At the end of each month, the researchers conducted searches of the records related to absences in that period.

The record of illnesses was based on the International Classification of Diseases (ICD), as standardization by the Subcommittee on Absenteeism of the International Occupational Medicine Society.[7] Absences that were not addressed in the ICD were only recorded, as it was not possible to identify the reason of the absence.

A data collection instrument was developed by the researchers and included variables related to time working in the

institution, sex, age, professional category, shift work, work unit, days, period and absence reasons. In relation to days of leave, the absences were classified according to the criteria from Brazilian law, being: short-term leave – days off equal to or less than 15 days; long-term leaves – days off larger than 15 days.[8]

Data collected by the researchers were typed with double check procedures and coded into an Excel for Windows spreadsheet. After that, data was analyzed through descriptive statistics, using the Statistical Package for the Social Sciences (SPSS) for Windows, version 18. Absolute frequency (n) and relative frequency (%), mean and standard deviation were used for the variable analysis.

The project was approved by the Ethics in Research Committee of the institution under the number 110.404, in accordance with the guidelines and regulatory standards for research involving human subjects. The authors signed a term for use of institutional data, preserving the identity of health professionals and ensuring confidentiality of information.

RESULTS

Records from the 299 nursing team were analyzed. The analysis was conducted in different proportions, since the nursing team is composed by nurses, nursing technicians and nursing aids, and the last two categories have a higher number of professionals. There was a predominance of females, mean age was 43 years and the average time working at the institution was of 10 years (Table 1).

Table 1 - Study sample characterization. Porto Alegre, RS, 2012

Characteristics	N (%)
Professionals	299(100)
Nurses	72(24.1)
Nursing technicians	104(34.8)
Nursing aids	123(41.1)
Sex, female	255(85.3)
Nurses	70(97.2)
Nursing technicians	85(81.7)
Nursing aids	100(81.3)
Age, years*	43.6+ 9.2
Nurses	43.8+10.4
Nursing technicians	38.8+7.8
Nursing aids	47.4+7.5
Time working in the hospital, years*	10.5+8.7
Nurses	12.9+10.8
Nursing technicians	4.8 + 5.3
Nursing aids	13.9 + 7.0

Categorical data presented with n (%); *variable expressed as mean ± standard deviation.

Among the 299 professionals included in the study, 220 (73.57%) presented some type of absence, accounting for 642 sick absences and 6,230 days off.

From the 220 cases of absenteeism due to illness, 50 (22.7%) were from nurses, 79 (36%) were from technicians and 91 (41.3%) were from nursing aids. It is important to highlight that nursing aids have a higher mean age and spend more time working in the institution when compared to the other categories studied. Among the 642 sick absences, 556 (83.6%) were of short duration (15 days or less), which are not covered by hiring temporary employees. These absences are covered by overtime of the team itself. The remaining 86 (13.4%) sick absences were of longer duration (over 15 days), which allowed the hiring of professionals to cover this demand (Table 2).

Table 2 - Distribution and characterization of absences among different nursing categories. Porto Alegre, RS, 2012

Variables	Nurses	Nurs. Tech.	Nurs. Aid.	Total
Absent professionals	50(22.7)	79(36)	91(41.3)	220 (100)
Number of sick absences	138(21.5)	206(32.1)	298(46.4)	642(100)
Absence days	1.258(20.2)	1.554(25.0)	3.418(54.8)	6230(100)
Short-term leave	120(21.5)	183(33.0)	253(45.5)	556(100)
Long-term leave	18(21.0)	23(26.7)	45(52.3)	86(100)
Professional with 1 sick leave	47(21.1)	71(31.8)	105(47.1)	223(100)
Professional with 2 sick absences	23(26.7)	33(38.4)	30(34.9)	86(100)
Professionals with 3 or more sick absences	68(20.4)	102(30.6)	163(48.9)	333(100)

Categorical data presented with n (%).

The five most prevalent reasons for absenteeism due to illness identified using ICD were respiratory diseases among nurses, and musculoskeletal and connective systems between nursing technicians and nursing aids. The number of sick absences with the ICD "factors influencing health status and contact with health services" was also significant in the different categories, which means that the sick absences were used for exams and to accompany family in disease situations. Among all categories, the more prevalent sick absences were external without ICD, which disabled their analysis as to type of illness. The institution offers health insurance to their employees and external sick absences are currently accepted in the institution without the requirement of having an ICD (Table 3).

We observed that units with highest number of beds and professionals presented more sick absences and days off. The unit with the highest number of absent professionals, 35 (85.4%), also had the highest average of number of days of sick

absences per professional, 28 (17%). The unit with more days of sick absences (1,497) is one of the units with the largest number of beds and occupancy rate, which is around 96%. The unit with highest number of sick absences (131) is also one of the units with the largest number of beds.

Table 3 - Five main reasons for absenteeism due to illness affecting nurses. Porto Alegre, RS, 2012

Diseases	Nurses	Nurs. Tech	Nurs. Aid	Total
External sick leave without ICD	32(20.4)	45(28.7)	80(51)	157(100)
Musculoskeletal and connective system disease	1(1.2)	29(34.1)	55(64.7)	85(100)
Factors influencing health status and contact with health services	19(27.5)	26(37.7)	24(34.8)	69(100)
Respiratory diseases	20(32.3)	19(30.6)	23(37.1)	62(100)
Injury, poisoning and external causes consequences	2(6.7)	11(36.7)	17(56.7)	30(100)

Categorical data presented with n (%).

DISCUSSION

Among the 299 studied nurse professionals, 73.91% present at least one sick leave throughout a year of accompaniment, totaling 642 sick absences and 6230 days of absence. The category with the largest number of absence was the nursing aids category, which meets the literature. According to a study done in a public hospital in the state of Minas Gerais, out of 565 analyzed absences, 56.8% corresponded to nursing aids absences.[9]

In the current work, nursing aids also presented the highest age average (47.4+7.5 years old) when compared to the other categories, which could explain the larger number of absences. It is observed that in the daily nursing practice the longer the professional performance period in the field, the greater the risks of occupational illness or work diseases developed from "heavy" or unhealthy activities.[10,11] It was also observed in the current study that the lower the nurse professional hierarchical level, the greater the probability of absenteeism related to illness, similarly to what the literature suggests.[12-14]

Regarding the workers' profiles, there are a majority of females (85.3%) in all professional categories, as already described in other studies.[15,16] It is known that the majority of women in the labor market aggregate different social roles and generally need to conciliate domestic activities and child and family care, a fact that can cause illness development, therefore generating a greater work absence index.

A qualitative study identified that the difficulty of personal rapport and collaboration among the colleagues, mainly in different shifts, along with personal and family demands, as the children and family responsibilities, interfered in the absenteeism increase. Therefore, the authors suggested setting up meetings among the workers of all shifts aiming to improve companionship and find the best solutions to solve the divergences.[16] In this study, the absences for accompanying family, among different professionals, were also expressive, which is culturally done by women.

There was a predominance of the short length sick absences – inferior or equal to 15 days off – in three professional categories, hampers the nurse team working process, overcharging the team with a bigger work.[8] In this situation, the working process is also altered by the need of training the new worker. In both situations, in order to take care of the patients it is necessary to provide a replacement, which overwhelms management and the double shift workers, either due to extra hours or compensatory time off.

In this study, the staff dimensioning of the researched inpatient units is planned to supply the replacement needs for the employees' vacations and days off, however, they cannot predict the need for replacement of workers in case of absence caused by illness.

In this context, the Brazilian study verified that the absenteeism due to illness in the nursery team yielded in an extra payroll expenditure of 5.2% for the company, caused by the need for staff replacement due to the colleague's absence.[17]

By analyzing the most prevalent diseases, it was observed that the external sick notes without ICD are the most frequent in the three categories. This data is worrying, as the lack of knowledge concerning the reason of the absences hampers the planning of preventive measures. This data was sent to the occupational medicine service of the institution in order for them to verify the possibility of knowing the reasons that led to these labor absences.

It can be inferred that emotional demands expected in this kind of work could be related to the occurrence of these absences, because according to international studies, there is a relationship between psychological demand and the number of absences caused by illness in the nurse working community.[18,19] A Norwegian study done with 1,582 nurses found an association between low labor satisfaction and greater probability of absence due to illness, including longer periods, of 31 days or more.[20] In another study done with 60 nursing workers, the lack of motivation for work was one of the main reasons cited for the occurrence of absences.[21]

A researched done in a hemodialysis service of a private in-hospital company, in agreement with SUS, identified mental disorders as the third highest cause of absence for the nursing personal, being depression and bipolar affective disorder the most cited problems.[22] Another study that evaluated the mental and behavioral disorders identified that mood and neurotic disorders were the main cause of absence in the work team, and attributed the psychological suffering to the labor hierarchy in work along with the decrease of professional autonomy.[16]

According to the literature, the smaller the autonomy of the worker in his or her activity organization, the greater the likelihood to develop mental disorders.[16] Furthermore, the mental health of the worker directly affects the productivity and the quality of the work, since diseases could be developed when work is not satisfying or does not yield into personal realization, undermining the physical and psychological integrity of the individual.

On the other hand, it was found that there is a predominance of diseases of the musculoskeletal system and connective tissue among the nursing technicians and nursing aids. This kind of disease is frequent in the daily life of the nursing workers, due to the ergonomic risk to which they are exposed in the work.[5] Taking that into account, the decade between 2000 and 2010 was designated as the bone and articulation decade, since musculoskeletal diseases and injuries affect the population and constitute one of the most frequent causes of labor absenteeism and permanent disability.[23] Complementing these findings, in a Greek study done with 350 nursing workers, 51% claimed lumbar spine pain and 23% complained about knee pain, both due to physical efforts during work.[24]

Concerning the nurses, the most prevalent disease was the one related to the respiratory system, that could occur due to the risk of breathing chemical and biological elements in the work environment or also flu, pneumonia or another respiratory disease.[5] It is important to highlight that the climate in the southern region of Brazil contributes to the occurrence of respiratory diseases.

Regarding the characteristics of the units, it was sought to analyze if the distinct size of the same units interfered in the absenteeism percentage. It was identified that the smaller units, where the quantitative staff is better set out, presented a smaller number of absences. It is inferred that smaller teams tend to build more intense bonds and therefore more responsibilities with the work team, which collaborates to the decrease of absence. Along with that, a smaller work environment with fewer beds under the responsibility of one worker can also be favorable to the working organization and, therefore, creating a healthier work environment.

However, the building of a favorable working environment depends on various factors, starting by the relationships among the colleagues, the appreciation of each member by the team leaders, the readjustment of the number of workers in the team according to the working demand and the psychological support to help the worker to face the losing situations through the process of suffering and death of patients. These elements reveal the need for strategic planning that evolves into solutions and alternatives to be implemented.[15]

Thus, it is thought that human resources well adjusted to each unit demand are important quality indicators, which reflect into the satisfaction of the patient, as well as in the good nurse team relationships. Along with that, studies indicate that the occurrence of absenteeism among the health professionals diminishes the satisfaction of the patient, especially when it involves nursing professionals, a fact that should be observed by health managers.[20,25]

It is considered as a study limitation the fact that the data were collected retrospectively in the computerized system of the institution and in the archives of the occupational medicine service, which did not make possible the listening of the involved professionals.

CONCLUSIONS

It was concluded that the absenteeism caused by illness among the nurse professionals is a problem that is present in the studied hospitalization units, since 73.57% of the accompanied professionals presented some sort of absence during the studied period. Considering the professional category, it was noticed that the lower the hierarchical level of the worker, the higher the number of absences caused by illness, since the nursing aids were the ones who had more need for working absence.

The external sick absences without ICD were the most frequent ones in the three categories, which is worrying, considering that the lack of knowledge of the reasons hampers the preventive measures planning. Nevertheless, the prevalence of respiratory diseases among the nurses and the musculoskeletal system diseases and connective tissue among the technicians and nursing aids show that the physical effort demanded in the patient care process is related to the absences.

The absenteeism caused by illness generates various disorders, for the absent worker as well for the nursing team that remains working. The absences imply overwork for the nursing team and can reverberate in a negative way for the quality of care to the patients. Thus, it is indispensable to the matter to encourage the effective participation of the managers in order to plan the intended strategies to adjust the human resources focusing on mitigating or solving the absence generating factors.

As implications for the practice, these findings reinforce the need for stimulating the nursing professionals to adopt preventive measure, in a way to control the risks to which they are exposed. It is also verified that there is a need for an appropriate dimensioning procedure that considers a technical safety index for the provision of the absences compatible with the institution's reality.

Lastly, it is suggested to conduct studies that could accompany the absent professionals, looking for mitigating the health problems with preventive measures appropriated with the presented comorbidities.

ACKNOWLEDGEMENT

Thanks to the Fund for Incentive of Research and Events of the Porto Alegre Hospital and Clinics for the financial support to the project.

REFERENCES

1. Chiavenato I. Recursos humanos na empresa. 3ª ed. São Paulo: Atlas; 1994.
2. Sala A, Carro ARL, Correa AN, Seixas PHD'Â. Licenças médicas entre trabalhadores da Secretaria de Estado da Saúde de São Paulo no ano de 2004. Cad Saúde Pública. 2009; 25(10):2168-78.
3. Sancinetti TR. Taxa de absenteísmo da equipe de enfermagem como indicador de gestão de pessoas. Rev Esc Enferm USP. 2011; 45(4):1007-12.
4. Ferreira RC, Griep RH, Fonseca MJM, Rotenberg L. Abordagem multifatorial do absenteísmo por doença em trabalhadores de enfermagem. Rev Saúde Pública. 2012; 46(2):259-68.
5. Martinato MCNB, Severo DF, Marchand EAA, Siqueira HCH. Absenteísmo na enfermagem: uma revisão integrativa. Rev Gaúcha Enferm. 2010; 31(1):160-6.
6. Castro AB, Fujishiro K, Rue T, Tagalog EA, Samaco-Paquiz LPG, Gee GC. Associations between work schedule characteristics and occupational injury and illness. Int Nurs Rev. 2010; 57(2):188-94.
7. Couto HA. Teorias de saúde ocupacional – coletâneas dos Cadernos ERGO. Belo Horizonte: ERGO; 1987.
8. Brasil. Tribunal Regional do Trabalho. 2ª Região. Consolidação das Leis do Tabalho. Serviço de Jurisprudência e Divulgação. São Paulo: TRT; 2005.
9. Costa FM, Vieira MA, Sena RR. Absenteísmo relacionado às doenças entre membros da equipe de enfermagem de um hospital escola. Rev Bras Enferm. 2009; 62(1):38-44.
10. Vituri DW, Lima SM, Kuwabara CCT, Gil RB, Évora YDM. Dimensionamento de enfermagem hospitalar: modelo OPAS/OMS. Texto Contexto Enferm. 2011; 20(3):547-56.
11. Sancinetti TR. Absenteísmo por doença na equipe de enfermagem: taxa, diagnóstico médico e perfil dos profissionais [tese]. São Paulo: Universidade de São Paulo; 2009.
12. Mininel VA, Felli VEA, Silva EJ, Torri Z, Abreu AP, Branco MTA. Cargas de trabalho, processos de desgaste e absenteísmo-doença em enfermagem. Rev Latino-Am Enferm. 2013; 21(6):1290-7.
13. Carvalho LSF, Matos RCS, Souza NVDO, Ferreira REDS. Motivos de afastamento por licença de saúde dos trabalhadores de enfermagem. Ciênc Cuid Saúde. 2010; 9(1):60-6.
14. Estorce TP, Kurcgant P. Licença médica e gerenciamento de pessoal de enfermagem. Rev Esc Enferm USP. 2011; 45(5):1199-205.
15. Abreu RMD, Gonçalves RMDA, Simões ALA. Motivos atribuídos por profissionais de uma Unidade de Terapia Intensiva para ausência ao trabalho. Rev Bras Enferm. 2014; 67(3):386-93.
16. Umann J, Guido LA, Leal KP, Freitas EO. Absenteísmo na equipe de enfermagem no contexto hospitalar. Ciênc Cuid Saúde. 2011;10(1):184-90.
17. Junkes MB, Pessoa VF. Gasto financeiro ocasionado pelos atestados médicos de profissionais da saúde em hospitais públicos no Estado de Rondônia, Brasil. Rev Latino-Am Enferm. 2010;18(3):114-21.
18. Clausen T, Nielsen K, Carneiro IG, Borg V. Job demands, job resources and long-term sickness absence in the Danish eldercare services: a prospective analysis of register-based outcomes. J Adv Nurs. 2012; 68(1):127-36.
19. Roelen C, Van Rhenen W, Schaufeli W, Van der Klink J, Magerøy N, Moen B, *et al*. Mental and physical health-related functioning mediates between psychological job demands and sickness absence among nurses. J Adv Nurs. 2014; 70(8):1780-92.
20. Roelen CA, Magerøy N, Van Rhenen W, Groothoff JW, Van der Klink JJ, Pallesen S, *et al*. Low job satisfaction does not identify nurses at risk of future sickness absence: results from a Norwegian cohort study. Int J Nurs Stud. 2013; 50(3):366-73.
21. Mudaly P, Nkosi ZZ. Factors influencing nurse absenteeism in a general hospital in Durban, South Africa. J Nurs Manag. 2013; 30:1-9.
22. Dissen CM, Beck CLC, Prestes FC, Freitas NQ, Coelho APF, Sangoi TP. Caracterização do absenteísmo – doença em trabalhadores de enfermagem de um serviço de hemodiálise. Rev Enferm UFPE online. 2014; 8(2):272-8. [Cited 2014 Jan 12]. Available from: www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/.../8439
23. Sancinetti TR, Gaidzinski RR, Felli VEA, Fugulin FMT, Baptista PCP, Ciampone MHT, *et al*. Absenteísmo - doença na equipe de enfermagem: relação com a taxa de ocupação. Rev Esc Enferm USP. 2009; 43(2):1277-83.
24. Alexopoulos EC, Tanagra D, Detorakis I, Gatsi P, Goroyia A, Michalopoulou M, *et al*. Knee and low back complaints in professional hospital nurses: occurrence, chronicity, care seeking and absenteeism. Work. 2011; 38(4):329-35.
25. Moret L, Anthoine E, Paillé C, Tricaud-Vialle S, Gerbaud L, Giraud-Roufast A, *et al*. Relationship between inpatient satisfaction and nurse absenteeism: an exploratory study using WHO-PATH performance indicators in France. BMC Res Notes. 2012; 31(5):83:1-7.