Occupational risks and illness among mental health workers

Riscos ocupacionais e adoecimento de trabalhadores em saúde mental

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Keywords
Occupational risks; Health personnel; Mental health; Occupational health; Occupational diseases

Descritores
Riscos ocupacionais; Pessoal de saúde; Saúde mental; Saúde do trabalhador; Doenças profissionais

Submitted
August 18th, 2014

Accepted
August 26th, 2014

Abstract

Objective: To analyze the association between illness and occupational risks among mental health workers.
Methods: An epidemiological cross-sectional study was conducted with 163 professionals who were members of a multidisciplinary mental health team at a psychiatric hospital, split into two groups: those who had and those who had not taken medical leaves of absence. Data were collected using a questionnaire examining the studied variables and by accessing records of medical leaves of absence.
Results: The identified occupational risks were primarily exposure to bacteria and virus (87.12%), tobacco smoke (82.82%), noise (81.60%), adopting inadequate body posture due to ergonomic inadequacies (72.39%) and stress (71.17%). Approximately 64.42% of workers became ill during the period of the study and 270 diagnoses were recorded.
Conclusion: More than half of the mental health workers presented health problems, however, only a small portion of their diagnoses was included on the list of occupational diseases. There were statistically significant associations among the variables illness, chemical risk and psychosocial risk.

Resumo

Objetivo: Analisar a associação entre o adoecimento de trabalhadores em saúde mental e os riscos ocupacionais.
Métodos: Estudo epidemiológico, transversal, realizado com 163 profissionais da equipe multidisciplinar de saúde mental atuante em um hospital psiquiátrico, divididos em dois grupos: com e sem licença saúde. O instrumento de pesquisa foi um questionário com as variáveis de estudo e os registros de licenças saúde.
Resultados: Os riscos ocupacionais identificados foram principalmente; exposição a bactérias e vírus (87,12%), tabaco (82,82%), ruídos (81,60%), indução a adoção de postura corporal inadequada devido a inadequações ergonômicas (72,39%) e ao estresse (71,17%). Cerca de 64,42% dos trabalhadores adoeceram no período de estudo sendo registrados 270 diagnósticos.
Conclusão: Mais da metade dos trabalhadores de saúde apresentam problemas de saúde, no entanto, pequena parte dos diagnósticos registrados consta da lista de doença ocupacional. Houve associação estatisticamente significativa entre a variável adoecimento e risco químico e risco psicossocial.

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DOI
http://dx.doi.org/10.1590/1982-0194201400088

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Conflicts of interest: There are no conflicts of interest to declare.

Introduction

The International Labour Organization (ILO)[1] estimates that 2.34 million people die every year due to work-related accidents and diseases, of which 2.02 million (86.3%) are caused by occupational diseases and 321 thousand are due to work accidents. Every day, there are 6,300 work-related deaths, 5,500 of which are caused by professional diseases. Such figures are unacceptable and indicate the need for more intense actions in the quest for decent work (i.e. work which delivers fair income and is exercised in conditions of freedom, equity and security, as well as ensuring a dignified life).

The risks ensuing from technological, social and organizational changes (consequences of globalization) severely affect the health of workers, despite the fact that some traditional risks have been reduced due to greater security, improved regulations and better technical resources employed. Parallel to this, emerging risks have given rise to new types of occupational diseases, such as those caused by deficient ergonomic conditions, exposure to electromagnetic radiation and psychosocial situations.[1]

In the specific case of workers in mental health services, due to the accumulated experience of one of the authors of this study as a worker and a manager in psychiatric institutions, we believe that more attention should be given to the work situations experienced by such professionals. In addition to the common occupational risks to which workers in health institutions in general are exposed, these mental health professionals perform their activities with individuals affected by mental illness in a setting imbued with high emotional tension due to the unpredictability of their patients' behaviors.[2]

Brazil's National Worker's Health Policy recognizes health promotion as a means for pursuing equity and stimulating intersectorial actions. Furthermore, it is also a form of strengthening social participation, promoting changes in organizational culture, incentivizing research and disseminating initiatives directed at the health promotion of health workers, managers and users of the Unified Health System (SUS, as per its acronym in Portuguese).

The issue of occupational diseases among mental health workers due to exposure to occupational risks as well as the consideration of national and international worker's health guidelines motivated the development of the present study to answer the following question: Do mental health workers recognize the occupational risks to which they are exposed and which can make them ill? The objective of this study was to examine the association between illness and occupational risks among mental health workers.

Methods

This was a retrospective and epidemiological cross-sectional study using a quantitative approach, which was conducted at a psychiatric hospital in the city of Teresina, Piauí, Brazil. The target population was a multidisciplinary health team consisting of 185 workers from 12 different professional categories, of which 163 (88.1%) participated in the study and met the selection criteria of working in the institution in the period between 2010 and 2012. Workers who were on vacation or leaves of absence during the period of data collection, which took place between October 2012 and March 2013, were excluded.

Data were collected using a survey with closed-ended questions regarding the workers' sociodemographic, occupational and health information (this instrument was assessed and approved by five researchers with regard to its objectivity and adequacy for the study). Data were also collected by consulting the hospital's records for medical leaves of absence, whose diagnoses were described as per the International Statistical Classification of Diseases and Related Health Problems (ICD 10).

To verify the association between workers' health problems and occupational risks, research subjects were assigned to one of two groups. The first group comprised workers who had taken medical leaves of absence (GA), whereas the second consisted of those who had not taken leaves of absence (GB). The occupational risks identified by the subjects

were then analyzed, and the two groups were finally compared to each other.

Based on data from GA, the authors determined whether medical diagnoses for leaves of absence were included in the Brazilian Ministry of Health's List of Work-Related Diseases.[3] In the sequence, the possible relationship between health problems presented by workers and their reported occupational risks was analyzed.

Data were recorded in Microsoft Excel spreadsheets and transferred to the Statistical Package for the Social Sciences (SPSS) program, version 19.0, for descriptive statistical analysis. Fisher's test was used to analyze how the health problems presented by workers were related to their occupational risks.

The development of this study complied with national and international ethical guidelines for research involving human subjects.

Results

Most subjects were female, between the ages of 40 and 59 years (127-77.92%), married (82-50.31%), brown-skinned (self-reported) (103-63.19%), had less than a college education (67-41.10%), resided with a partner or spouse (89-54.60 %) and had one child (125-76.69%), worked 30 hours a week (80-49.08%) or 40 hours a week (43-26.38%). Most did not smoke (153-93.87%) or drink alcohol (130-79.75%). A great number reported frequently practicing leisure activities (65-39.88%), although 42(25.77%) subjects did not report carrying out any leisure activity. Table 1 presents the results of occupational risks reported by mental health workers as per work sector.

Among the occupational risks in the Inpatient Unit, the most common were: physical (noise 57-61.96%); biological (bacteria 86-87.76% - and viruses 69-70.41%); chemical (tobacco smoke 87-92. 55%); ergonomic (inadequate posture 52-62.65%); and psychosocial risks (stress 64-78.05% - and physical assault 40 - 43.48%).

In the Urgent and Emergency Care Sector, the most commonly reported risks were: physical (noise 12-60.0%); biological (bacteria 14-70.0% - and viruses 10-50.0%); chemical (tobacco smoke 18 - 85.71%); ergonomic (inadequate posture 9-50.0% - and monotony and repetitiveness 6 - 33.33%); and psychosocial risks (stress 14 - 70.0%, physical assault 11 - 55.0 %).

The most commonly reported risks in the Day Hospital were: physical (noise 9 - 90.0%); biological (bacteria 8 - 80.0% - and viruses 6 - 60.0 %); chemical (tobacco smoke 9 - 81.82%); ergonomic (inadequate posture 7 - 77.78%); and psychosocial risks (stress 6 - 66.67% - and physical assault 5 - 50.0 %).

In the Outpatient Unit, the main risks identified were: physical (noise 15 - 83.33%); biological (viruses 21 - 100 % – and bacteria 20 - 95.24 %); chemical (tobacco smoke 9-52.94%); ergonomic (inadequate posture 11 - 68.75 %); and psychosocial risks (stress 11 - 84.62%).

In our search to answer the question on what makes psychiatric hospital workers ill, the medical leave of absence records of all 163 participants were analyzed. Of this sample, 105(64.42%) workers took a total of 297 leaves of absence and 58 did not have any records of a leave of absence during the period investigated in this study.

The highest prevalence of medical leaves of absence took place in 2012 (105 - 35.35%), followed by 2011 (98 - 33.00%) and 2010 (94 - 31.65%).

In 2010, 48 workers were absent due to medical leaves of absence, of which 14(29.17%) received diagnoses included on the List of Work-Related Diseases and 34(70.83%) workers took leaves of absence due to health problems that were not included on this list. In 2011, 48 workers were absent due to medical leaves of absence, of which 12(25.0%) were due to diagnoses included on the List of Work-Related Diseases and 36(75.0%) were workers whose diagnoses were not listed. In 2012, 54 workers took a medical leave of absence, of which 17(31.48%) were diagnosed with diseases included on the List of Work-Related Diseases and 37(68.52%) had diagnoses that were not listed.

The results of this documentary research show that the 297 medical leaves of absence recorded

Table 1. Occupational risks to which mental health workers are exposed in psychiatric hospitals by work sector (n= 163)

Risks	Work sector					
	Inpatient Unit	Urgent and Emergency Care	Day Hospital	Outpatient Unit	Food and Nutrition Services	Laboratory
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
Physical						
Noise	57(61.96)	12(60)	9(90)	15(83.33)	3(75)	3(100)
Temperature	29(31.52)	4(20)	4(40)	1(5.56)	4(100)	-
Humidity	13(14.13)	-	-	2(11.11)	-	-
Vibrations	10(10.87)	-	2(20)	5(27.78)	-	-
Abnormal pressure	6(6.52)	1(5)	-	-	-	-
Radiation	-	-	-	1(5.56)	-	-
Biological						
Bacteria	86(87.76)	14(70)	8(80)	20(95.24)	2(100)	4(100)
Viruses	69(70.41)	10(50)	6(60)	21(100)	1(50)	4(100)
Bacilli	67(68.37)	11(55)	6(60)	10(47.62)	1(50)	3(75)
Parasites	61(62.24)	9(45)	5(50)	9(42.86)	2(100)	4(100)
Protozoa	43(43.8)	7(35)	2(20)	11(52.38)	1(50)	4(100)
Animals	8(8.16)	-	2(20)	1(4.76)	2(100)	-
Plants	3(3.06)	-	1(10)	-	-	-
Others	2(2.04)	1(5)	-	-	-	-
Chemical						
Tobacco smoke	87(92.55)	18(85.71)	9(81.82)	9(52.94)	1(33.33)	1(33.33)
Dust	32(34.04)	5(23.81)	5(45.45)	6(35.29)	1(33.33)	2(66.67)
Chemical products	25(26.6)	4(19.05)	2(18.18)	3(17.65)	2(66.67)	1(33.33)
Vapors	8(8.51)	1(4.76)	1(9.09)	3(17.65)	3(100)	-
Gases	5(5.32)	-	2(18.18)	2(11.76)	2(66.67)	1(33.33)
Others	4(4.26)	-	-	2(11.76)	-	2(66.67)
Smog	-	-	-	-	-	-
Fog	-	-	-	1(5.88)	-	-
Ergonômicos						
Inadequate posture	52(62.65)	9(50)	7(77.78)	11(68.75)	1(100)	3(75)
Monotony and repetitiveness	33(39.76)	6(33.33)	3(33.33)	6(37.5)	-	2(50)
Physical strain	30(36.14)	3(16.67)	2(22.22)	4(25)	-	1(25)
Carrying weight	20(24.1)	1(5.56)	1(11.11)	-	-	1(25)
Strict productivity control	5(6.02)	1(5.56)	-	-	-	-
Others	1(1.2)	1(5.56)	-	1(6.25)	-	-
Psychosocial						
Stressful situation	64(78.05)	14(70)	6(66.67)	11 (84.62)	3(100)	2(66.67)
Physical assault	40(43.48)	11(55)	5(50)	3(16.67)	1(25)	1(33.33)
Working night shifts	24(29.27)	8(40)	-	1(7.69)	-	-
Relationship with boss, coworkers and patients	24(29.27)	9(45)	2(22.22)	1(7.69)	-	-
Heightened environmental stress	23(28.05)	4(20)	3(33.33)	3(23.08)	-	-
Long working hours	12(14.63)	1(5)	1(11.11)	-	-	1(33.33)
Intense work routine	1(1.22)	2(10)	-	1(7.69)	-	2(66.67)
Others	1(1.22)	-	-	1(7.69)	-	1(33.33)

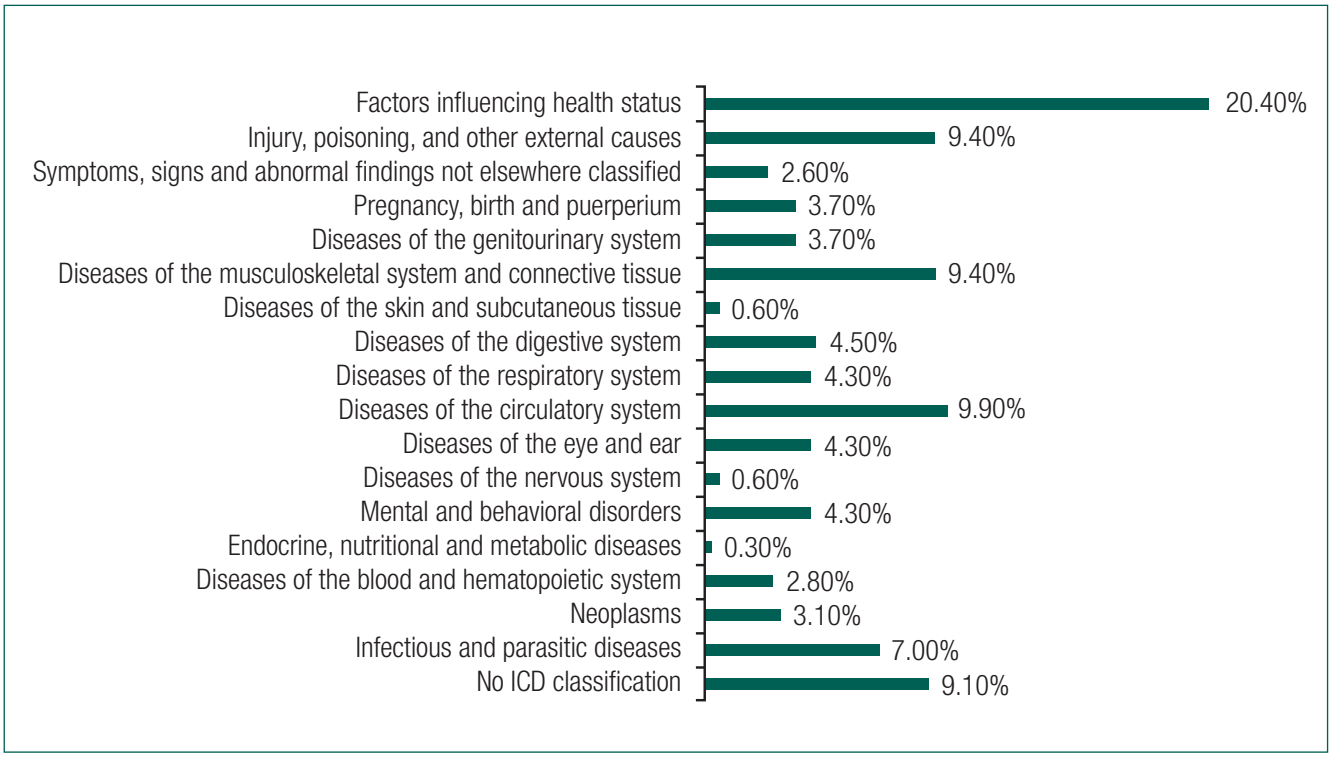

Figure 1. Diagnoses of the disease or health problem, grouped according to the ICD 10, as recorded for medical leaves of absence of the psychiatric hospital workers (n= 297)

in the three-year period of 2010-2012 involved 64.41% of the workers and resulted in a total of 4671 days of absences.

Figure 1 illustrates the distribution of medical diagnoses recorded for the 297 leaves of absence, grouped according to the ICD-10.

The group that was most commonly recorded for medical leaves of absence was that of factors influencing health status (60.58 - 20.40%), followed by diseases of the circulatory system (29.40 – 9.90%); diseases of the musculoskeletal system and connective tissue (27.91 - 9.40%); injury, poisoning and other external causes (27.90 - 9.40%) and infectious and parasitic diseases (20.79 - 7.00%).

Of the 270 medical diagnoses recorded for leaves of absence, 62(23.33%) were included on the List of Work-Related Diseases and 208(77.03%) were not. Table 2 presents the results regarding workers' illnesses and their relation with the occupational risks reported by the psychiatric hospital workers.

Fisher's test resulted in a statistically significant association between the variables medical leave of absence and chemical risks over the years of 2010 and 2011, p=0.03352 and p=0.008281, respectively. In 2010, a statistically significant association was found between the variables medical leave of absence and psychosocial risks, p=0.03161. In 2012, no associations among the studied variables were found.

Discussion

The limitations of our results include the study's retrospective design, which does not allow the establishment of cause-and-effect relationships.

The results, however, identified new scientific knowledge that support the planning of health promotion actions, preventing factors that negatively affect health in the work place, especially in hospital institutions in the northeastern region of Brazil, where this theme is still underexplored.

The sociodemographic data illustrate the characteristics of the studied population. In this respect, it is important to highlight that 77.92% of subjects were between the ages of 40 and 59 years, which di-

Table 2. Mental health workers' leaves of absence from 2010 to 2012, by presence or absence on the List of Work-Related Diseases, types of occupational risks and year of occurrence(n_{2010}=61; n_{2011}=56; n_{2012}=65)

Risks	Year of leave of absence								
	2010			2011			2012		
	On the list n(%)	Not on the list n(%)	Total n(%)	On the list n(%)	Not on the list n(%)	Total n(%)	On the list n(%)	Not on the list n(%)	Total n(%)
Occupational									
Yes	14(23.0)	33(54.1)	47(77.0)	12(21.4)	35(62.5)	47(83.9)	17(26.2)	34(52.3)	51(78.5)
No	-	1(1.6)	1(1.6)	-	1(1.8)	1(1.8)	-	3(4.6)	3(4.6)
Physical									
Yes	13(21.3)	30(49.2)	43(70.5)	11(19.6)	28(50.0)	39(69.6)	14(21.5)	30(46.2)	44(67.7)
No	1(1.6)	4(6.6)	5(8.2)	1(1.8)	8(14.3)	9(16.1)	3(4.6)	7(10.8)	10(15.4)
Biological									
Yes	13(21.3)	30(49.2)	43(70.5)	11(19.6)	33(58.9)	44(78.6)	15(23.1)	31(47.7)	46(70.8)
No	1(1.6)	4(6.6)	5(8.2)	1(1.8)	3(5.4)	4(7.1)	2(3.1)	6(9.2)	8(12.3)
Chemical									
Yes	14(23.0)	25(41.0)	39(63.9)	8(14.3)	32(57.1)	40(71.4)	14(21.5)	28(43.1)	42(64.6)
No	-	9(14.7)	9(14.7)	4(7.1)	4(7.1)	8(14.3)	3(4.6)	9(13.8)	12(18.5)
Ergonomic									
Yes	10(16.4)	29(47.5)	39(63.9)	9(16.1)	27(48.2)	36(64.3)	15(23.1)	28(43.1)	43(66.2)
No	4(6.6)	5(8.2)	9(14.7)	3(5.4)	9(16.1)	12(21.4)	2(3.1)	9(13.8)	11(16.9)
Psychosocial									
Yes	9(14.8)	28(45.9)	37(60.7)	8(14.3)	29(51.8)	37(66.1)	13(20.0)	27(41.5)	40(61.5)
No	5(8.2)	6(9.8)	11(18.0)	4(7.1)	7(12.5)	11(19.6)	4(6.2)	10(15.4)	14(21.5)

verge from other studies, such as a study conducted in 22 mental health services in the state of Goiás, Brazil, which found that 66,4% of healthcare professionals were no older than 39 years old.[4]

Regarding occupational characteristics, one positive finding was that 49.08% of the psychiatric hospital health professionals worked 30 hours per week, as reducing work hours has been a demand of Brazilian health professionals. On a national level, nursing professionals are waiting for the Senate Bill 2.295/2000 to be voted on, better known as *PL 30 Horas* (30 hours bill), which would establish a maximum weekly workload of 30 hours for nurses, nursing technicians and nursing aides.[5]

Considering the variables that influence health status, we found that 39.88% of workers carried out leisure activities routinely and 25.77% did not. This finding is worrisome, for leisure is considered a psychosocial necessity. It is a form of mitigating the harmful effects of unpleasant events, especially because of its socializing aspects, one of the fundamental factors to well-being and that contributes to health, especially mental health.[6]

Most of the workers at the psychiatric hospital did not report abusive drinking. However, the study demonstrated that alcohol abuse was commonly mentioned by workers who reported using drinking as a way to relax and relieve the tension experienced at work, marked by pressure from superiors, risks, high level of attention and/or responsibility.[7]

The analysis of the identified occupational risks according to work place indicate that subjects from different work places reported being exposed to similar risk agents. Among these, the most common physical risk in all units was noise; among biological risks, bacteria; chemical risks, tobacco smoke; ergonomic risks, inadequate body posture; and stress and physical assault (violence) among psychosocial risks.

In a study conducted with nursing technicians and aides in a psychiatric hospital, researchers found that these professionals were exposed to objects such as knives and pieces of wood that could be used by patients in physical assaults.[8] However, in general, physical assaults are expressed with kicking, punching, slapping and strangulation attempts.

In some psychiatric units, the rates of violence against workers surpasses the figure of 100 cases per 100 workers a year.[9] A study conducted with fo-

rensic psychiatric nurses in England and Wales examined the impact of violence at work on workers' mental health and found that individuals who had experienced a high level of stress adopted palliative behaviors such as alcohol use.[10]

In the case of hospital workers, biological risks are mainly represented by infections caused by bacteria, viruses, chlamydiae, fungi and parasites such as protozoa, helminthes and arthropods.[11] In psychiatric institutions, workers are frequently exposed to risks while administering injectable drugs or manipulating sharp instruments. In addition, special mention goes to the risks of infection due to parasites and contact with human bodily secretions, since by caring for patients with mental illness who are also infested with lice and/or scabies health workers consequently expose themselves to the risk of infestation.[12]

Other biological agents identified by all twelve categories of workers in the psychiatric hospital were parasites and protozoa. The presence of felines, rodents and plants as potential risk agents to worker and patient health were also mentioned.

The use of tobacco by patients was mentioned as an important chemical risk factor, in addition to manipulating chemical substances such as medications, sterilization and cleaning solutions.

The most commonly mentioned physical agent was noise 67.67% coming from patients with mental illness, as altered speech is common in most psychopathologies, especially logorrhea, echolalia, increased flow, coprolalia and tachylalia.

Considering ergonomic risks, inadequate body posture, monotonous/repetitive tasks and physical effort exerted when performing routine activities were all factors mentioned by most workers. Their work activities were considered both repetitive and unpredictable: repetitive due to their routine nature and unpredictable due to unexpected behavioral changes of some psychiatric patients.

Stressful situations were the only psychosocial risk factor identified by workers across all professional categories. In this sense, work-related stress is cause for concern due to its consequences for workers' health. Cases of psychological harassment, intimidation, moral and sexual harassment and other forms of violence are increasingly present in work environments. In an attempt to deal with such stress, professionals may resort to unhealthy behaviors, such as alcohol and drug abuse. Researchers have identified a relationship between stress and diseases of the musculoskeletal, cardiac and digestive systems. The economic crisis and recession have also led to an increase in work-related stress, anxiety, depression and other mental disorders, even causing some people to go to the extreme of committing suicide.[1]

A study states that health institutions present a complex context, as their work environments are permeated with a diversity of tense inter-relations, in which several different subjects participate, among them managers, workers and users, with differing, heterogeneous and conflicting needs. These situations lead to satisfaction and/or dissatisfaction, due to the conflict resulting from the fact that the institution's interests are not always in consonance with those of its workers.[13]

Dissatisfaction with and lack of enthusiasm for one's work generate unease, which coupled with tiredness and fatigue constitute important factors that lead to psychological distress among psychiatric hospital workers. Work satisfaction is an important protective factor regarding work-related mental illness. Thus, when a situation is unfavorable, mental disorders may occur.[8]

A study conducted with mental health workers in a psychosocial care center in Fortaleza, Ceará, Brazil, found that direct contact with users led to work satisfaction, whereas work conditions and low wages were reasons for dissatisfaction. Dissatisfaction with work had several effects on these individuals' organizational life, as well as on their physical and mental health.[14]

Regarding health problems obtained in this documentary research, 297 records of medical leaves of absence between 2010-2012 were found, which involved 64.41% of the psychiatric hospital's health professionals and resulted in 4,671 days of absences (working days lost). These results are worrisome, for more than half of the workers were ill during this

three-year period, resulting in losses for workers, institution and patients.

In 2008, the number of cases of social security benefits that were conceded in Brazil due to work disability lasting longer than two weeks, and which were the consequence of work-related mental and behavioral disorders, surpassed 12 thousand.[15]

Of the 270 medical diagnoses recorded for leaves of absence during the analyzed three-year period, 62 (23.33%) were on the List of Work-Related Diseases published by the Brazilian Ministry of Health and 208 (77.03%) were not.

Although our analyses found statistically significant associations between psychiatric hospital workers' health and chemical or psychosocial risks, it is important to state that establishing causal relationships between work and disease is complex. This is especially true when considering psychological and emotional illness, such as depression.

Conclusion

Psychiatric hospital health workers across all professional categories recognized and identified occupational risks to which they are exposed, as well as the possibility of becoming ill. More than half of mental health workers presented health problems; however, only a small portion of diagnoses were included on the list of occupational diseases. There were statistically significant associations between the variables disease and chemical risks and disease and psychosocial risks.

Acknowledgements

This study was funded by the Coordination for the Improvement of Higher Education Personnel (CAPES) in partnership with the Inter-institutional Doctoral Project incorporating the Fundamental Nursing Graduate Program of the University of São Paulo at Ribeirão Preto School of Nursing (EERP/USP) with the Federal University of Paraíba (UFPB) and the Federal University of Piauí (UFPI).

Collaborations

Fernandes MA and Marziale MHP declare that they contributed to the project conception, data analysis and interpretation, drafting of the article, critical review of its important intellectual content and approval of the final version to be published.

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