

Absenteeism-disease in university employees: a cross-sectional study of the reasons for leave from 2013 to 2018

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ABSTRACT

The Server's Integrated Health Subsystem is used to register health treatment licenses in the Federal Public Service, enabling knowledge about absenteeism-illness. To subsidize health promotion actions, it is intended to know its motivating causes in a Federal Education Institution in Minas Gerais. A cross-sectional study on leave between 2013 and 2018 was carried out. The variables were: position, sex, number of days off and the motivating code of the leave. Descriptive and inferential analyzes were performed using Poisson Regression. The main motivations found were: musculoskeletal disorders, followed by mental health in the group of professors and respiratory disorders in the group of administrative technicians, among whom, technicians up to 50 years old are associated with sick leave due to respiratory tract disorders and civil servants over 50 years old for musculoskeletal reasons. There was no difference in age with regard to mental disorder in this group. The static ergonomic risk associated with respiratory and psychic outcomes, and the risk due to dynamic activities in the absence of musculoskeletal disorders. Based on the data presented, it is possible to propose measures for Health Policy, aimed at improving the environment and work process, minimizing its risks and protecting the health of the employee.

Keywords: Absenteeism; Health profile; Worker's health

1 INTRODUCTION

Absenteeism deals with the act of absent in some activity or function. When it occurs due to health condition it is characterized by the term Absenteeism-

disease (PERMANENT, 1973). It is a complex phenomenon because it is multicausal (VIJAYALATHA; BRINDHA, 2014) and related to the areas of health, psychosocial (GONÇALVES *et al.*, 2016) and motivational (ALVES, 2003).

Thus, a health condition inherent to the worker may cause incapacity to work. The generating reason is reported in the form of an acronym with letter and number, known by ICD, as directed by the World Health Organization (WHO) its descriptions are in the 10th edition (ICD-10) of the International Classification of Diseases (DI NUBILA; BUCHALLA, 2008).

Within the scope of the federal public servant, the right to abstain is regulated by the Single Legal Regime (SLR) (SILVA; LICORIO; SIENA, 2014). Therefore, on the occasion of the health treatment license (HTL), the server presents the certificate at the Occupational Health and Safety Service (OHS) of the institution, it will be registered by the administrative or, according to the official health expertise manual from the federal public servant (BRASIL, 2017), health expertise is carried out in dental or medical areas. Each record is given a motivating ICD. Each event is considered independently. Recurrences or extensions are not considered. The HTL is granted by online registration in the Integrated Subsystem for Health Care of the Federal Public Servant (SIASS – in Portuguese).

SIASS was implemented in 2009 (DECREE No. 6,833 / 2009), with the proposal of establishing a link between surveillance and actions for health promotion and disease prevention (ALVES, 2003; SILVA; LICORIO; SIENA, 2014). It presents an opportunity to generate data, identify trends and subsidize actions and programs, both individually and collectively, regarding improvements in the work environment. SIASS units are headquartered at the institution and their human resources are responsible for developing expertise actions (BRASIL, 2017; DECREE No. 6.833 / 2009), health promotion (PN No. 3/2013), surveillance at work stations and journals (SILVA; LICORIO; SIENA, 2014; DECREE No. 6,856 / 2009).

The occupational environment surveillance program consists of identifying and anticipating exposure risks (CRANER, 2016). Risk expresses the probability of something occurring, which in terms of prevention establishes an area of activity. Occupational risk is the probability of damage occurrence to the health of the employee due to their exposure to risk factors in the work environment (CAMPOS; LIMA, 2016b). The physical, chemical, biological, ergonomic (psychosocial and

mechanical risks) and accidents at work risks are recognized (CRANER, 2016; CAMPOS; LIMA, 2016a). Three of them were selected to be discussed.

The chemical risk (CR) is classified by the possibility of dust, fumes or similar reach the organism through the respiratory tract or contact with the skin (CAMPOS; LIMA, 2016a); moreover, its occupational exposure is responsible for a list of pathologies, with cutaneous, ocular, respiratory, psychic, carcinogenic lesions and others (HARRISON, 2016). Biological risk (BR) is characterized by the presence of live infectious contagious microorganisms and their toxins (CAMPOS; LIMA, 2016a; BRASIL, 2008). Ergonomic risk, in turn, is related to the server at his / her workstation and the way tasks are performed (REMPEL; JANOWITZ, 2016).

There are many factors involved in the construction of a federal public worker health program (ALVES, 2003; BIZZARIA, 2014). Permanent participation of OHS agents and server membership are required. Other important players in the process are the purchasing, construction, project, training, personal training and Health Care Service sectors. The first step is to know the epidemiological data and establish priorities for better use of university resources (PN N°03 / 2010). The initial strategy is to identify homogeneous groups of exposure and establish relationships with the diseases.

The public educational institution has civil servants with different careers: technical-administrative (TA) (LEI N° 11.091 / 2005) and teachers (LEI N° 12.772 / 2012). The TA group has a diversity of positions and the descriptions of activities are carried out by the career plan named PCCTAE. It is divided into five categories (A, B, C, D, E) of servers with homogeneous schooling, responsibility, experience, risks and degree of physical effort to perform their duties (PN N°03 / 2010). The teachers are divided into 02 groups: Higher Teaching Career (HTC) and Basic, Technical and Technological Teaching Career (BTTTC) (LAW No. 11.091 / 2005).

In order to test the hypothesis that a homogeneous exposure group has similar patterns among its members and different patterns when compared with another group, the evaluation of reasons for absenteeism-disease at a Federal University in the interior of Minas Gerais is proposed, registered at SIISS between 2013 and 2018. For this purpose, it is intended to characterize the highest frequency of illnesses in each group and establish relationships with possible risk factors.

2 METHOD

This is a cross-sectional observational study on the causes of sick leave for health reasons from 2013 to 2018. It was carried out at a university in Minas Gerais with three campuses. The studied population are federal servants represented by the HTL registered in SIASS. As an inclusion criterion are absences due to sick leave from the employee in the period from 2013 to 2018. Work accidents, occupational diseases, maternity leave, family support and administrative time off were excluded.

The database was made available by e-mail by the General Coordination of Health, Safety and Quality at Work, Ministry of Planning, Development and Management, in two EXCEL® spreadsheets, without identification of the server. The first table referring to the certificates registered by an administrative assistant, with 3,042 occurrences, meeting the criterion of up to five days of absence. The second table referring to HTL granted by health experts, totaling 5,424 leaves. Data were excluded without information about the pathology and without the number of days of leave, and finally 4,998 skills characterized by the ICD-10 were recorded. The HTL reported 8,040 events between 2013 and 2018, among them, Technical-administrative staff had 7,207 occurrences (89.6%), the teachers 822 (10.2%) and eleven occurrences did not inform the position (0.01%).

The variables used were: Age, Sex, Position, ICD-10 and the number of days off (NDO) for health treatment. The data were transferred to the Statistical Package for the Social Sciences (SPSS) 23.0 software. Some variables were treated and prepared for further analysis.

The reasons for the removal were grouped by the chapters of the ICD, representing the major human physiological systems and classified by the first letter of the codification. Initially, they were categorized from letter A to Z, later, the five highest frequencies were separated and the rest were allocated to the group called others. In order to try to establish relationships on the three main causes found, such as musculoskeletal, respiratory and psychological disorders, they were considered an outcome and were individually categorized into dichotomous variables on the presence or absence of the ICD chapter as the reason for absence.

The servers were divided into two large groups of AT and Faculty, and the analyzes were carried out differently in two databases. The first group includes teachers with two different careers, BTTTC and HTC. The second group is composed of civil servants with different positions that were redistributed according to the functional classification levels: A, B, C, D, E. In addition, a dichotomous variable that refers to the requirement of higher education, such as the level of schooling, a peculiar criterion of the level E group of civil servants was created.

In addition, some dichotomous “yes and no” variables about the possibility of exposure to chemical (CR) or biological (BR) agents in work activities were formulated. A variable on biomechanical ergonomic risk was also categorized and the positions were divided into predominantly static (SER) or dynamic (DER). This risk probability was substantiated by the careful analysis of the description of the activities in each professional category of the PCCTA, through analysis and the researchers' own perception of the activities developed.

In the group of teachers, the frequency of absence by sex, teaching career and the five main reasons for STL was analyzed. Subsequently, for each of the 3 main outcomes found, Pearson's Chi-square analysis ($p < 0.05$) was performed to assess differences in frequency between genders and careers. For continuous variables NDO and age, the Kolmogorov-Smirnov normality test ($p < 0.05$) was used to determine measures of central tendency and dispersion. Subsequently, univariate analysis ($p < 0.05$) was used when comparing age and NDO for each of the three main reasons listed.

For the AT group, regarding the continuous variables age and NDO, the central tendency and dispersion were evaluated. Kolmogorov-Smirnov was used in the distribution test. In the univariate analysis, the differences between the central tendency were assessed using the T-tests, in the case of non-parametric variables, the Mann-Whitney was applied. Pearson's Chi-square was used to assess the relationship between two categorical variables. The significance value of 5% was considered in all analyzes. The explanatory variables that reached p value above 20% of significance were not considered to perform the association measure.

To identify the factors associated with the outcomes, the Poisson log-linear counting model or Poisson regression was used. The robust estimator was applied and the exponential parameter estimates were used to establish the Prevalence

Ratio (PR) in the Beta Exponential. Predictors were: NDO, sex, age, higher education requirement, exposure to chemicals or biological risk (CR, BR) and Ergonomic risk (ER). The regression was performed for the three main outcomes of causes of leave. The Omnibus test explains the general model if $p < 0.05$. Wald's confidence interval for significance was analysed and the robust Beta Exponential was assessed. The variables with less significance were removed from the model, one by one, until ending with the adjusted analysis in which all variables have significant p ($p < 0.05$). Using the exponential of Beta, it was evaluated the prevalence ratio, establishing the risk of the independent variables with the outcomes.

The research was approved by the Research Ethics Committee (REC) with human beings at the Federal University of Viçosa. For the initial approval and also later, an extension of the years of studies was requested through an amendment. The research was approved by opinion number 3,331,080 in accordance with CNS resolution 466/2012.

3 RESULTS

The motivating diagnosis of leave from work characterized by the ICD chapter revealed that the musculoskeletal group presents the highest frequency (20.5%), considering 8,040 events, followed by respiratory diseases (12.4%), diseases of the digestive system (9.5%), injuries from external causes (8.9%) as well as, mental and behavioral disorders (8.1%).

After dividing the servers into two groups, it was noted that the teachers totaled 822 occurrences. Teachers' age showed a non-parametric distribution, median at 47 years old and interquartile range 18, with a minimum of 24 and a maximum of 71 years old and 55% of events with teachers over 50 years old. The predominant female sex (57%) and the position of higher teaching (83%). The outcome variable with NDO showed a non-parametric distribution, ranging from one to 360 days, median in 15 days and interquartile range 26. The characterization of absentee teachers is described in table 1.

Table 1 – Description of absenteeism in the positions of Professor and Technical-administrative

TEACHERS	N	N %
POSITIONS	822	100,00
BTTTC	140	17,03
HTC	682	82,96
SEX	747	90,88
FEMALE	427	57,16
MALE	320	42,83
CID-10	421	51,22
TOM	109	25,89
TCM	90	21,37
TAR	80	19,00
TAD	68	16,15
CET	74	17,57
ADMINISTRATIVE-TECHNICIANS	N	N %
NDO	7207	100,00
FROM 1 TO 7 DAYS	3767	52,30
MORE THAN 7 DAYS	3440	47,70
SEX	6687	92,78
FEMALE	2470	36,90
MALE	4217	63,10
AGE	7207	100,00
UP TO 50 YEARS OLD	3508	48,70
MORE THAN 50 YEARS OLD	3699	51,30
EE HIGH LEVEL	7207	100,00
YES	870	12,10
NO	6337	87,90
CHEMICAL RISK	7207	100,00
YES	2705	37,50
NO	4502	62,50
BIOLOGICAL RISK	7207	100,00
YES	1024	14,20
NO	6183	85,80
ERGONOMETRIC RISK	7207	100,00
STATIC	4714	65,40
DYNAMIC	2493	34,60
CID-10	4411	61,20
TOM	1536	21,30
TAR	914	12,70
CET	704	9,80
TAD	693	9,60
TCM	564	7,80

N, absolute number; N%, Percentage; CMEST, Basic and technological teaching career; CMS, Higher teaching career; NDO, Number of days off; EE, Education Required, TOM, Musculoskeletal Disorder; TCM, Behavioral and mental disorder; ART, Respiratory system disorder; TAD, Digestive System Disorder; CET, External or Traumatic Cause

The ICD chapters reveal musculoskeletal injuries (13%) as the main reason for the absence of teachers, with a predominance of spinal disorders, followed by psychiatric disorder (11%), with more than 50% of events due to depressive symptoms. In the third reason are diseases of the respiratory system (9.7%) motivated by acute infectious processes of the upper airway, consisting of only 2 episodes with voice disorder. The five main causes classified by the ICD chapter represent 51.22% of these absences. In the category of other pathologies, dengue, prostate cancer, diarrhea and surgical convalescence were noted.

The outcomes: musculoskeletal, respiratory and psychological disorders were chosen for univariate analyzes. There was no significant difference between genders for any of the outcomes. The frequency of absence between professors' careers was also no different, except for respiratory disorders with greater frequency in the teaching career. The data are shown in table 2.

Table 2 – Analysis of the frequency of absence in the professor's career, separated by sex and position, for the outcomes of Musculoskeletal, Psychiatric and Respiratory Disorders

	Osteomuscular Disorder					Psychiatric Disorder					Respiratory Disorder				
	YES		NO		p-value	YES		NO		p-value	YES		NO		p-value
	n	n%	n	n%		n	n%	N	n%		n	n%	N	n%	
Sex															
Female	67	65,7	360	55,8	0,06*	45	51,1	382	58,0	0,22*	42	58,3	385	57,0	0,83*
Male	35	34,3	285	44,2		43	48,9	277	42,0		30	41,7	290	43,0	
Position															
BTTTC	22	20,2	118	16,5	0,34*	14	15,6	126	17,2	0,69*	25	31,3	115	15,5	0,00
HTC	87	79,8	595	83,5		76	84,4	606	82,8		55	68,8	627	84,5	

Pearson's Chi-Square p-value, * $p > 0.05$ - there is no difference

CMEST, Basic and technological teaching career; CMS, Higher teaching career

The median age showed no difference in the outcome of psychological disorders ($p = 0.47$; 47 years old) and musculoskeletal ($p = 0.20$; 50 years old),

however the age was lower for respiratory disorders ($p = 0.00$; 42 years old). The number of days off did not show a different median in the musculoskeletal outcome ($p = 0.05$; 15 days), but it was lower for respiratory disorders ($p = 0.00$; 03 days) and higher for psychiatric disorders ($p = 0.00$; 30 days).

In the analysis of the second group of servers trained by the technical-administrative staff, a total of 7207 events were observed. Age and NDO showed non-parametric distribution with medians at 50 years old and 7 days off. Out-of-office servers are shown in table 1.

The five main causes of absence from this group represent 61.20%, totaling 4411 events. The order of frequency was: musculoskeletal disorder (21.30%), respiratory system disorder (12.7%), external causes (9.8%), digestive system disorders (9.6%) and behavioral disorders and mental (7.8%). In the group of other outcomes, the ICDs of Diarrhea (6.2%), Dengue (5.1%), Arterial hypertension (3.10%) stands out.

The three outcomes chosen in the group of teachers were for univariate analysis in the group of technical-administrative, table 3 presents the data. There was no difference in departures from the exposure group for biological risk in outcomes for musculoskeletal and mental disorders.

Table 3- Analysis of the frequencies of leave in the career of administrative technicians for the outcomes of Musculoskeletal, Respiratory and Psychiatric Disorders

	OSTEOMUSCULAR DISORDER				p-value	RESPIRATORY DISORDER				p-value	TRANSTORNO TPSIQUIÁTRICO				p-value
	YES		NO			YES		NO			YES		NO		
	N	n%	n	n%		n	n%	n	n%		n	n%	n	n%	
NDO															
FROM 1 TO 7 DAYS	461		3306		0,00	817		2950		0,00	146		3621		0,00
MORE THAN 7 DAYS	1075		2365			97		3343			418		3022		
SEX															

Continuation...

Conclusion																		
	OSTEOMUSCULAR DISORDER					RESPIRATORY DISORDER					TRANSTORNO TÍPSIQUÍATRICO							
	YES		NO			p-value	YES		NO			p-value	YES		NO			p-value
	N	n%	n	n%	n		n%	n	n%	n	n%		n	n%	n	n%		
FEMALE	369	24,8	2101	40,4	0,00	407	50,8	2063	35,0	0,00	289	55,4	2181	35,4	0,00			
MALE	1118	75,2	3099	59,6		394	49,2	3823	65,0		233	44,6	3984	64,6				
AGE																		
UP TO 50 ANOS	491	32,0	3017	53,2	0,00	613	67,1	2895	46,0	0,00	319	56,6	3189	48,0	0,00			
MORE THAN 50 YEARS OLD	1045	68,0	2654	46,8		301	32,9	3398	54,0		245	43,4	3454	52,0				
EE HIGH LEVEL																		
YES	122	7,9	748	13,2		144	15,8	726	11,5		97	17,2	773	11,6%				
NO	1414	92,1	4923	86,8	0,00	770	84,2	5567	88,5	0,00	467	82,8	5870	88,4	0,00			
CHEMICAL RISK																		
YES	701	45,6	2004	35,3		281	30,7	2424	38,5		133	23,6	2572	38,7				
NO	835	54,4	3667	64,7	0,00	633	69,3	3869	61,5	0,00	431	76,4	4071	61,3	0,00			
BIOLOGICAL RISK																		
YES	196	12,8	828	14,6		162	17,7	862	13,7		77	13,7	947	14,3				
NO	1340	87,2	4843	85,4	0,06*	752	82,3	5431	86,3	0,01	487	86,3	5696	85,7	0,69*			
ERGONOMIC RISK																		
STATIC	769	50,1	3945	69,6	0,00	720	78,8	3994	63,5	0,00	453	80,3	4261	64,1				
DYNAMIC	767	49,9	1726	30,4		194	21,2	2299	36,5		111	19,7	2382	35,9	0,00			

Pearson's Chi-Square p-value; * $p > 0.05$ - there is no difference; EE, Education required

Table 4 describes the multivariate analyzes for the three outcomes. For musculoskeletal disorders, certificates lasting more than 7 days are prevalent, with a median of 15 days off ($P = 0.00$). The median age is 54 years old ($p = 0.00$), with a prevalence of 33% of employees over 50 years old (RP33%). Male servants were more affected (RP21%) and developed activities requiring biodynamic movements (RP33%). They are predominantly servants of agricultural assistants and construction workers. The most prevalent pathological entities are related to low back pain, expressed in different ICD codifications.

For the outcomes of respiratory disorders, attestations of up to 7 days of absence were prevalent and the median NDO was 3 days ($p = 0.0$), the female gender with a prevalence of 17%, the age below 50 years old (RP30%) with a median of 38 years old ($p = 0.00$). The predominantly static work was 17% more prevalent. The most affected positions were assistant and assistant in administration, as well

as assistant and technician in laboratory. The main causes were: Common cold, Acute sinusitis, Tonsillitis, Flu and less frequently, Acute and Chronic Asthma, Pharyngitis, Laryngitis and Pneumonia.

Table 4 - Poisson regression for the outcomes of Musculoskeletal, Respiratory and Psychiatric Disorder for the technical-administrative position

	OSTEOMUSCULAR DISORDER		RESPIRATORY DISORDER		PSYCHIATRIC DISORDER	
	GROSS	ADJUSTED	GROSS	ADJUSTED	GROSS	ADJUSTED
	RP(IC95%)	RP(IC95%)	RP(IC95%)	RP(IC95%)	RP(IC95%)	RP(IC95%)
NDO						
FROM 1 TO 7	0,45(-0,89; -0,69)	0,45 (-0,89; -0,69)	7,14(1,74; 2,18)	7,16 (1,74; 2,19)	0,27(-1,49; -1,10)	0,28 (-1,46; -1,08)
MORE THAN 7						
SEX						
FEMALE	0,82(-0,32; -0,07)	0,82 (-0,31; -0,07)	1,15(0,00; 0,28)	1,17 (0,02; 0,30)	1,88(0,43; 0,81)	1,97 (0,50; 0,85)
MALE						
AGE						
UP TO 50	0,75(-0,39; -0,17)	0,75 (-0,39; -0,17)	1,30(0,11; 0,41)	1,30 (0,11; 0,41)	1,20(0,00; 0,37)	
MORE THAN 50						
EE HIGH LEVEL						
NO	1,09(-0,09; 0,26)		0,98(-0,19; 0,16)		0,93(-0,28; 0,16)	
YES						
CHEMICAL RISK						
NO	1,04(-0,05; 0,14)		1,03(-0,13; 0,20)		1,34(0,09; 0,53)	1,37 (0,10; 0,53)
YES						
BIOLOGICAL RISK						
NO	0,94(-0,19; 0,07)		0,88(-0,30; 0,05)			
YES						
ERGONOMIC RISK						
STATIC	0,74(-0,41; -0,18)	0,75 (-0,38; -0,18)	1,16(-0,03; 0,35)	1,19 (0,00; 0,34)	1,50(0,14; 0,65)	1,58 (0,21; 0,70)
DYNAMIC						

95% CI = 95% Wald Confidence Interval, B - Beta of Poisson Regression, NDO - Number of days off, EE - Education Required.

In the outcomes of mental disorders, a higher prevalence of attestations with more than 7 days of leave was identified. The median of 15 days of absence ($p = 0.00$), the median age was 46 years old ($p = 0.00$). Higher prevalence in females (RP97%), possibility of not being exposed to chemicals (RP37%) and predominantly static work (58%). The positions of assistant and technician in administration and

laboratories were the most affected. The main causes were: Depression, Anxiety Disorders, and Reaction to stress and adaptation. Bipolar disorders, Disorders due to alcohol use and Dementia appeared less frequently.

4 DISCUSSION

The results indicate a higher frequency of absence for musculoskeletal disorders in the two groups of servers. Psychological disorders are identified as the second reason for STL in the group of teachers and respiratory disorders, in turn, as a second cause in the group of administrative technicians and third in the group of teachers.

The International Labor Organization (ILO) calls attention to hidden epidemics of occupational diseases, pointing out mental disorders and osteoarticular conditions as conditions resulting from exposures of current work demands (ILO, 2013). At the same time, these entities represent the major reasons for absenteeism-disease described in the literature. This result was presented in the integrative review of Santi, Barbieri, Cheade (2018) on servers of a state bank (SILVA; PINHEIRO; SAKURAI, 2007), employees of the Santa Catarina health department (CUNHA; BLANK; BOIN, 2009) and from the state of São Paulo (SALA *et al.*, 2009) and also in studies carried out at Oswaldo Cruz foundation (SANTA-MARINHA *et al.*, 2018a, 2018b).

Others present inversion, with Mental Disorders as the main cause, followed by musculoskeletal disorders, as for example in the public servants from Ceará (VALE *et al.*, 2015), in the municipal public servants from Goiânia (LEÃO *et al.*, 2015), civil servants of health in the Federal District (LEMOS *et al.*, 2018) and at the Federal University of Espírito Santo (MARQUES; MARTINS; SOBRINHO, 2011). A small difference is reported in the city of Porto Alegre (SANTOS; MATTOS, 2010). Considering STLs longer than 15 days, a higher prevalence was found in mental disorders and, in third place, musculoskeletal causes.

From the perspective of absences due to bone, muscle or connective tissue injuries, attention is needed to injuries due to repetitive efforts, activities in uncomfortable positions, demands for intense physical efforts or weight lifting, as these are statistically neglected situations due to underreporting of occupational diseases (ILO, 2013). It is also important to evaluate the return to work after leaving, providing a reorganization and allowing the server to return to activities with work capacity.

At this point, it is highlighted that Ergonomics is the science that studies the physical and cognitive demands of the worker to ensure safety in the workplace (REMPEL; JANOWITZ, 2016). For example, when identifying uncomfortable posture sustained in a static position, it allows the workstation to be adapted to the server, reducing positions and movements that present a risk to health, promoting adequate breaks and furniture adapted to biometrics (REMPEL; JANOWITZ, 2016).

A study with university employees in the state of Bahia used the Nordic Questionnaire to map the presence of musculoskeletal symptoms by body regions associated with jobs and real ergonomic conditions (MOTA *et al.*, 2014).

The group of servers with predominantly biodynamic risk was more prevalent for musculoskeletal absences. The results are significant for males and those over 50 years old. The result points to the need for an ergonomic evaluation of this group of servers with implementations of specific protective measures.

In the concept of biomechanical activity, it is recommended to keep the joints in neutral positions, once this way the musculature gains power and the ligaments are less stressed when performing the activity. It is important to keep the weight closer to the body, not to lean the trunk forward, to avoid bumps and to keep the head close to the vertical. Shortening the duration of continuous effort and preventing muscle exhaustion are necessary daily measures (CAMPOS; LIMA, 2016^a; REMPEL; JANOWITZ, 2016).

The outcome for respiratory disease was significant in the municipal public servant from Vitória (ANDRADE *et al.*, 2008; BASTOS; SARAIVA; SARAIVA, 2016), it

was the second cause of absenteeism-illness in the group of administrative technicians and the third reason for absence in professors in the university studied. There was no evidence of an association of voice-related illnesses in teachers' positions.

The main causes registered for the two groups were due to acute infectious reasons, with a low number of days off and a higher prevalence in civil servants working in static work stations. It is possible to think that poorly ventilated environments facilitate the spread of acute infectious respiratory diseases. To reduce its incidence, it is possible to alert the servers about preventive measures, such as increasing hand hygiene, among others.

Occupational lung diseases are important for public health and can be prevented by interventions in the workplace; however, the aging of workers, incorporation of new agents in practice, associated with pre-existing health conditions, are conditional factors and represent new challenges for the diagnosis and treatment of occupational lung diseases in Europe. (DE MATTEIS *et al.*, 2017).

The finding of the disease installed on the remote server is a fact, but its direct relationship with the work environment is not clear. A risk factor may be associated with the development of a disease, but it is not enough to cause it. There is a complex relationship between environmental exposure and health outcome. Labor exposure to wood dust, insecticides, pesticides, organic solvents, gases and other chemicals, as well as to biological agents can harm airway inhalation. It is dependent on physical and chemical properties, degree of intensity and duration of exposure, in addition to individual conditions. The effects can be acute and transient to chronic or lethal (BALMES, 2016). Early risk recognition should be recommended.

In the event of exposure to chemical products, it is advisable to know about the existence of the Safety Information Sheet for Chemical Products (SISCP) which has essential information such as: hazard identification, toxicology, first aid measures, among others. After a technical visit to verify the environmental

exposure to chemical products, the first prevention strategy is the substitution for less toxic materials, if this is not possible, it is necessary to establish collective and individual protective equipment, in addition to behavioral changes (BALMES, 2016).

A study on absences of municipal teachers in Belo Horizonte presented mental and behavioral disorders as the main cause, followed by diseases of the respiratory system and diseases of the musculoskeletal system. It was concluded that teachers have a higher risk of psychological distress (GASPARINI; BARRETO; ASSUNÇÃO, 2005). In the outcomes of psychiatric disorders, there was an important prevalence in teachers and, as well as in the federal employees of Tocantins (OLIVEIRA; BALDAÇARA; MAIA, 2015), the main results are linked to depressive episodes, severe reaction to stress, adaptation disorders and anxiety disorders. The study reaffirms that mental health responds to current job exposures and believes in an individualized approach to detect environmental factors as predisposing (OLIVEIRA; BALDAÇARA; MAIA, 2015).

The study of causal factors is fundamental for epidemiology, which aims to know them in order for a modification (BONITA; BEAGLEHOLE; KJELLSTRÖM, 2010). Causal inference attempts to link the cause to the outcome, but it is known that causality is multifactorial. Establishing the relationship between health leave and a possible environmental risk, allows one to see a pathway in the health-disease process; however, it is important to overcome the chronic view of the causal relationship between disease and risk factor, in order to consider subjectivity. (BIZZARIA, 2014; MARQUES; MARTINS; SOBRINHO, 2011; BONITA; BEAGLEHOLE; KJELLSTRÖM, 2010)

The best way is a primary prevention in the workplace by using collective and individual protective equipment, eliminating the source of risk with measures of a prevention plan. Associated with this, it is necessary to implement the safety culture by the worker himself, who must know how to make decisions for his own safety and well-being.

Along with the first stage, secondary prevention can be performed through the early detection of exposure or risk of disease by clinical surveillance exams, combined with laboratory monitoring. Tertiary prevention is performed with the treatment of the disease and removal from work, when necessary (CRANER, 2016).

It is worth evaluating the implementation of new programs for health management, such as the airway preservation program, hearing and voice preservation program, ergonomics program, health promotion program and also by prioritizing safety engineering strategies and occupational medicine (CAMPOS; LIMA, 2016a). It is necessary to format training, lectures, campaigns and measures aimed at the life quality of the worker. As a health promotion tool, weekly safety dialogues can be carried out, which through technical texts and weekly ten-minute meetings, enable the exchange of knowledge and promote organized, hygienic environments with good ergonomic practices.

Authors also assess the profile of absenteeism by categorizing it by professionals and question the priority of action planning for vulnerable occupational groups (LEÃO *et al.*, 2015), call on workers to discuss health (MARQUES; MARTINS; SOBRINHO, 2011), in addition to provoking the establishment of environmental policies seeking the interaction of subjectivity in a process aimed at professional humanization (SALA *et al.*, 2009).

The study's limitation is the failure to predict recurrences or extensions of STLs and the fact that the risk of exposure was characterized by the tasks described and not by actual occupational exposure. However, the data presented enabled to establish groups with their own illness profile and allowed openings in the field of public health in this institution.

5 CONCLUSION

SIASS licensed employees were mainly affected by musculoskeletal, respiratory and behavioral disorders. Each outcome presented different characteristics of servers, regarding age, sex and position and number of days in duration.

Musculoskeletal disease was the main reason for AT and teachers. The remote group had a higher prevalence for AT employees over 50 years old, male with activities of biomechanical requirement.

Leave for respiratory reasons is related to short-term attestations, female gender and age below 50 years old. It was the second cause in technical-administrative and the third in teachers, most frequently in the position of higher teaching. Behavioral and mental disorders were more prevalent in the female gender of the technicians, with no prevalence for age, they are the second reason for absences for teachers and the fifth cause in technicians.

Based on the results, it is possible to discuss actions aimed at improving the work environment through the implementation of a worker health policy.

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