

Sickness absence among public workers in the healthcare sector of the Federal District, Brazil

Absenteísmo-doença entre servidores públicos do setor saúde do Distrito Federal

Diogo Sousa Lemos¹ , Patrícia Maria Fonseca Escalda¹,
Leonardo Petruz da Silva Paz¹ , Ana Lúcia de Melo Leão²

ABSTRACT | Background: To describe the profile and indicators of sickness absence for civil servants allocated to the 18 public health units of a Federal District (Brasilia) Health Region, Brazil. **Methods:** Cross-sectional study of all sick leaves longer than 3 days granted in 2014. Sickness absence indicators were calculated and analyzed per sex, marital status, age, educational level, professional category, length in the job, working hours and workplace. **Results:** The analyzed population (n=2,501) was granted 2,205 sick leaves in total, corresponding to 40,755 missed work days. The prevalence of sickness absence was 39%, the leave frequency index 88%, the severity index 16 days, the average sickness absence length 42 days, and the average length of leaves 18 days. More than 85% of the missed work days corresponded to workers with recurrence of sickness absence. Mental and behavioral disorders and musculoskeletal diseases were the main causes of sick leave. **Conclusion:** Planning health actions demands accurate knowledge of the characteristics and morbidity profile of this population of workers. The results of the present study express the magnitude of sickness absence in the public health sector, and point to the need for thorough change in the organization of the work process and innovative interventions in the workplace.

Keywords | absenteeism; public sector; sick leave; occupational health.

RESUMO | Introdução: Descrever o perfil e os indicadores de absenteísmo-doença entre servidores de 18 unidades de saúde pública de uma Regional de Saúde do Distrito Federal (Brasília), Brasil. **Métodos:** Estudo transversal de todas as licenças médicas homologadas em 2014 superiores a três dias. Os indicadores de absenteísmo-doença foram calculados de acordo com sexo, estado civil, faixa etária, nível de escolaridade, categoria profissional, tempo de serviço, carga horária e lotação. **Resultados:** A população de 2.501 servidores apresentou 2.205 licenças médicas que resultaram em 40.755 dias de trabalho perdidos. Os indicadores demonstraram prevalência de absenteísmo-doença de 39%, índice de frequência de licenças de 88%, índice de gravidade de 16 dias, duração média do absenteísmo-doença de 42 dias e duração média das licenças de 18 dias. Mais de 85% dos dias perdidos foram atribuídos aos servidores com recorrência de licenças médicas. Transtornos mentais e comportamentais, além das doenças osteomusculares, representaram maiores causas de afastamento. **Conclusão:** O planejamento das ações em saúde do servidor exige o conhecimento das características dessa população, bem como do perfil de morbidade. Os resultados apresentados expressam a magnitude do absenteísmo-doença no setor saúde do serviço público e apontam para a necessidade de mudanças profundas na organização do processo de trabalho, com intervenções inovadoras nos espaços profissionais.

Palavras-chave | absenteísmo; setor público; licença médica; saúde do trabalhador.

¹Health Science and Technology, Universidade de Brasília - Brasília (DF), Brazil.

²Institute of Tropical Medicine and Public Health, Universidade Federal de Goiás - Goiania (GO), Brazil.

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INTRODUCTION

The subject of the present study — sickness absence — is an increasingly more frequent phenomenon with high direct and indirect costs to society. It should be understood as the result of the social determinants of the population's health, which include the workers, their working conditions, and the organization of work (working time, shifts, hierarchy, division and fragmentation of work, control mechanisms, presence of occupational hazards, etc.)¹. Sickness absence has negative impact on the workers who require sick leaves, including moral suffering, family overload due to reduction in income, and feelings of guilt fostered by managers and society as such — in the latter case, because it promotes the idea that workers fall ill and miss work just because they want². Sickness absence contributes to impair the quality of public services for directly interfering with organizations, the employees who remain at work, and service users. In practice, the aim of the approach to sickness absence from the managers' perspective is to reduce its frequency by increasing measures to control absences, with little or no attention to preventive and health promotion actions³. Work in health care, particularly in the public sector, is performed at institutions which organize their functioning and production process under the influence of several factors, such as the interests of funding sources and local political actors⁴, predominant management styles adopted by the leading economy sectors⁵, available technology applicable to this field^{4,6}, predominant patterns of production of scientific knowledge, and characteristics intrinsic to the healthcare delivery process⁷. The modes of organization of work within the public health setting influence the state of health of workers, and are determinants for the precariousness of work. The overall outcomes are impaired quality and poor continuity of the essential services provided by the Unified Health System (Sistema Único de Saúde–SUS)⁸. For instance, few public calls are made to fill positions. In addition, the stability derived from the employment relationship notwithstanding, instability persists and services are discontinued, especially in times of change of management^{2,7,8}. Work in public health services is

pervaded by excessive bureaucracy and low recognition by the population and the public administration itself. Under these circumstances, workers develop feelings of powerlessness and lack of interest, which give rise to attitudes of resistance and improvisation with potential to exhaust them both physically and mentally, to culminate in disease and sick leave⁹. The number and length of sick leaves and missed work days are higher among employees of public compared to private health-care institutions¹. Analyzing sickness absence at a given institution enables discussions on the future morbidity and mortality of its employees. For instance, study Whitehall II, conducted in England, evidenced 66% increase of the risk of premature death among workers requiring sick leaves longer than 7 days along 3 years¹⁰. Another study found that the risk of death and early retirement increased among the workers from both sexes who required more than 15 days of leave in one year¹¹.

The lack of integrated information on morbidity profiles in epidemiological terms hinders the identification of the reasons which make Brazilian workers fall ill. The data obtained in the present and similar studies are useful to guide trade union actions, and health, safety and environment management systems in public institutions. In addition, public policies on workers' health tend to focus on the employees of private institutions, with a consequent blank in the attention paid to public servants¹².

Given the aforementioned considerations, and the lack of published studies on sickness absence among civil servants in the Federal District, the aim of the present study was to describe the epidemiological profile of and sickness absence indicators for civil servants allocated to the Ceilandia Health Region (CHR), Federal District, in 2014.

METHODS

The present study was conducted at CHR, which is integrated into the SUS network of the Federal District (FD) via the Health Superintendence of the West Region. CSR has health facilities at the primary, secondary and tertiary level, which compose a complex public healthcare network. Such facilities are a general hospital, 12 primary health care

centers, one emergency care unit (ECU), 2 rural primary health care centers, one regional laboratory (RL) and one psychosocial support center for alcohol and drugs users.

The present cross-sectional, epidemiological and descriptive study was based on CHR secondary data for the period from January through December 2014. All civil servants under the regime established in the Law no. 840/2011, allocated to CHR, and directly affiliated with the FD administration were included. In regard to the outcome variable (sickness absence) we considered all sick leaves (SL) longer than 3 days for treatment of the workers' own health. Sick leaves for family care, maternity and other reasons were excluded. SL were analyzed based on their number (which is different from the number of civil servants who fell ill, as one and the same worker could have required more than one SL) and the number of missed work days, namely, the total number of missed work days resulting from all the validated leaves. We built two datasets, one with information on all the workers who fell ill at least once in 2014, and the other with the sociodemographic and occupational data of all CHR employees. For the former, we manually extracted data from Medical Examination Reports (MER), namely, the official documents issued by medical examiners at the time of visits. MER are sent to the Functional Record Units (Núcleo de Cadastro Funcional-NUCAF) of the Health Region authority, where the status of employees is recorded. This dataset included the employees ID number and information on SL, such as length and reason as per International Classification of Diseases (ICD-10) code¹³. For the other dataset, we extracted data from NUCAF information system on human resources, which records sociodemographic and occupational information for all CHR servants. Independent variables were sex, marital status, educational level, working hours, professional category, area allocation, allocation per healthcare level, age, and time in the job.

Some variables were clustered before analysis. Professional category was distributed across six groups: management (managers, administrative technicians, etc.), technical support (healthcare professionals with technical education: radiology, laboratory, etc.), healthcare specialists (healthcare professionals with higher education: pharmacists, physical therapists, etc.), nursing assistants, nurses, and physicians (from all medical specialties).

Variable area allocation was categorized in nine groups: management (management, office, logistic areas), outpatient (outpatient clinics, epidemiological surveillance, etc.), intensive care unit (ICU) and neonatal intensive care unit (NICU), urgency and emergency (adult and pediatric emergency departments, etc.), primary care (all health centers), inpatient (orthopedics, pediatrics, maternity wards, etc.), surgical and obstetric center, specialized support (radiology, laboratory, nutrition, etc.), and secondary care (CAPSad, ECU and RL). The categories were defined considering similarities in the organizational environment, type of exposure to occupational hazards and tasks performed. The second dataset included information on SL corresponding to the employees included in the first dataset, who were identified based on their ID number. The result was a single database with information on sociodemographic and occupational data, and SL of all CHR employees. Indicators were selected according to the recommendations made by the Permanent Commission and International Association on Occupational Health (1973)¹⁴, as well as the ones by Hensing et al.¹⁵. The sickness absence indicators were defined based on the following criteria: number of SL, number of employees granted SL, and number of missed work days due to SL, and were calculated by means of the following equations:

- Prevalence of sickness absence (PSA) (Equation 1):

$$\frac{\text{number of civil servants on sick leave in the year}}{\text{total number of civil servants in the year}} \times 100 \quad (1)$$

- Leave frequency index (LFI) (Equation 2):

$$\frac{\text{number of sick leave granted in the year}}{\text{total number of civil servants in the year}} \times 100 \quad (2)$$

- Severity index (SI) (Equation 3):

$$\frac{\text{number of missed work days in the year}}{\text{total number of civil servants in the year}} \quad (3)$$

- Length of sickness absence (LSA) (Equation 4):

$$\frac{\text{number of missed work days in the year}}{\text{number of civil servants on sick leave in the year}} \quad (4)$$

- Average length of leaves (ALL) (Equation 5):

$$\frac{\text{number of missed work days in the year}}{\text{number of sick leaves granted in the year}} \quad (5)$$

Next we performed descriptive analysis, which included distribution of the absolute and relative frequencies of granted sick leaves and missed work days due to SL, and calculation of the sickness absence indicators. Analysis was performed with software Statistical Package for the Social Sciences (SPSS) version 19. The study was approved by the research ethics committee of School of Health Sciences, University of Brasilia, ruling no. 1,335,457.

RESULTS

The total number of civil servants at CHR was 2,501 in 2014. The data relative to the sociodemographic characteristics of the analyzed population are described in Table 1. Analysis evidenced predominance of women (72.8%), with a partner (58.1%), age 31 to 40 years old (35.5%) and higher education (54.3%). In regard to the occupational profile, the largest proportion was of nursing

assistants (32.6%), with 4 to 10 years in the job (28.3%), working time of 40h per week (75.1%) and allocation to primary care (34.9%) (Table 2). Along the analyzed period, 2,205 SL were granted, corresponding to 977 employees and 40,755 missed work days.

The obtained data were used to calculate the overall indicators of sickness absence for CHR. As Table 1 shows, 39% of the employees were granted at least 1 SL in 2014. More than one SL could be granted to one and the same employee, which is evidenced by the leave frequency index. The results showed 88 SL per 100 employees. According to the severity index, the number of missed work days per employee was 16. Calculation of the length of sickness absence indicated 42 missed work days per employee, on average, and the average length of SL was 18 missed work days per SL.

The results of the analyzed indicators described in Tables 1 and 2 allow estimating the magnitude of sickness absence stratified according to several variables. PSA was higher among women (42.8%), employees aged 51 or older (40.9%), having attended secondary school (40.3%), nursing assistants (48.5%), allocated to urgency/emergency services (50.0%) and with 4 to 10 years in the job (41.8%). Similarly, the values for

Table 1. Absolute and relative distribution of civil servants and sickness absence indicators according to sociodemographic characteristics. Ceilandia Health Region, Federal District, 2014 (n=2,501).

Variables	Civil servants n (%)	Servants on SL n (%)	SL number	Misseed work days	PSA (%)	FLI (%)	SI (days)	LSA (days)	ALL (days)
General	2,501	977	2,205	40,755	39	88	16	42	18
Sex									
Male	680 (27.2)	199 (20.4)	389	7,916	29.3	57.2	12	40	20
Female	1,821 (72.8)	778 (79.6)	1,816	32,839	42.8	100	18	42	18
Marital status									
Without partner	1,049 (41.9)	414 (42.4)	924	17,565	39.5	88.1	17	42	19
With partner	1,452 (58.1)	563 (57.6)	1,281	23,190	38.8	88.2	16	41	18
Age range (years old)									
Up to 30	277 (11.1)	103 (10.5)	190	2,646	37.2	68.6	10	26	14
31 to 40	887 (35.5)	349 (35.7)	849	15,039	39.3	95.7	17	43	18
41 to 50	775 (31.0)	295 (30.2)	648	11,484	38.1	83.6	15	39	18
51 or older	562 (22.5)	230 (23.5)	518	11,586	40.9	92.2	21	50	22
Educational level									
Elementary school	72 (2.9)	21 (2.1)	35	608	29.2	48.6	8	29	17
Secondary school	1,070 (42.8)	431 (44.1)	1,010	18,560	40.3	94.4	17	43	18
Higher education	1,359 (54.3)	525 (53.7)	1,160	21,587	38.6	85.4	16	41	19

SL: sick leave; PSA: prevalence of sickness absence; LFI: leave frequency index; SI: severity index; LSA: length of sickness absence; ALL: average length of leaves.

all the other indicators were higher for the women and employees aged 51 or older.

Clear difference was found as a function of professional category. The values of the analyzed indicators were higher for nursing assistants, LFI in particular, 123.6%, which corresponds to more than 1 SL per 100 employees (Table 2). The employees who worked 20 h per week exhibited the lowest values for all the analyzed indicators, except for ALL (Table 2). The most critical

values corresponded to the urgency/emergency services (PSA 50%, LFI 127.9% and SI 24). On analysis per care delivery level, primary/secondary care services exhibited the highest PSA (43.5%), FLI (97.9%) and SI (17 days), and hospitals the highest LSA (43 days) and ALL (19 days) (Table 2). As Table 3 shows, more than half of the analyzed population (51.7%) were granted more than 1 SL along the period considered. The number of SL varied from 1 to 11. About 85.5% of the missed work

Table 2. Absolute and relative distribution of civil servants and sickness absence indicators according to occupational characteristics. Ceilandia Health Region, Federal District, 2014 (n=2,501).

Variables	Civil servants n (%)	Servants on SL n (%)	SL number	Missed work days	PSA (%)	FLI (%)	SI (days)	LSA (days)	ALL (days)
General	2,501	977	2,205	40,755	39.0	88.0	16	42	18
Occupational classes									
Administration	313 (12.5)	100 (10.2)	210	3,285	31.9	67.1	10	33	16
Health specialists	241 (9.6)	86 (8.8)	147	2,266	35.7	61	9	26	15
Technical support	538 (21.5)	181 (18.5)	392	7,580	33.6	72.9	14	42	19
Nursing assistants	815 (32.6)	395 (40.4)	1,007	18,455	48.5	123.6	23	47	18
Nurses	231 (9.2)	91 (9.3)	185	4,010	39.4	80.1	17	44	22
Physicians	363 (14.5)	124 (12.7)	264	5,159	34.2	72.7	14	42	20
Length of time a job (years)									
Up to 3	627 (25.1)	216 (22.1)	381	5,642	34.4	60.8	9	26	15
4 to 10	708 (28.3)	296 (30.3)	700	13,168	41.8	98.9	19	44	19
11 to 20	569 (22.8)	236 (24.2)	607	11,885	41.5	106.7	21	50	20
21 to 30	445 (17.8)	168 (17.2)	393	8,101	37.8	88.3	18	48	21
31 or more	152 (6.1)	61 (6.2)	124	1,959	40.1	81.6	13	32	16
Weekly working hours									
20	305 (12.2)	91 (9.3)	161	3,189	29.8	52.8	10	35	20
24	220 (8.8)	94 (9.6)	200	3,382	42.7	90.9	15	36	17
30	97 (3.9)	31 (3.2)	74	1,367	32.0	76.3	14	44	18
40	1,879 (75.1)	761 (77.9)	1,770	32,817	40.5	94.2	17	43	19
Workplace									
Outpatient	238 (9.5)	85 (6.7)	184	3,465	35.7	77.3	15	41	19
Specialized support	277 (11.1)	92 (9.4)	196	3,697	33.2	70.8	13	40	19
Primary care	872 (34.9)	390 (39.9)	888	16,132	44.7	101.8	19	41	18
Secondary care	146 (5.8)	53 (5.4)	109	1,543	36.3	74.7	11	29	14
Surgery/obstetrics	104 (4.2)	44 (4.5)	108	2,168	42.3	103.8	21	49	20
Administration	201 (8.0)	49 (5.0)	105	1,749	24.4	52.2	9	36	17
Inpatient	296 (11.8)	107 (11.0)	248	5,555	36.1	83.8	19	52	22
Urgency/emergency	204 (8.2)	102 (10.4)	261	4,895	50	127.9	24	48	19
Adult ICU/NICU	163 (6.5)	55 (5.6)	106	1,551	33.7	65	10	28	15
Levels of healthcare									
Primary/secondary care	1,018 (40.7)	443 (45.3)	997	17,675	43.5	97.9	17	40	18
Hospital	1,483 (59.3)	534 (54.7)	1,208	23,080	36	81.5	16	43	19

SL: sick leave; ICU: intensive care unit; NICU: neonatal intensive care unit; PSA: prevalence of sickness absence; LFI: leave frequency index; SI: severity index; LSA: length of sickness absence; ALL: average length of leaves.

days corresponded to civil servants granted more than 1 SL, who always exhibited longer ALL compared to the ones granted one single SL.

As Table 4 shows, the distribution of SL per ICD-10 code evidenced mental and behavioral disorders as the most frequent clinical reason for SL among the civil servants from both sexes (women: 23.6%; men: 18%). The second most frequent cause was diseases of the musculoskeletal system and connective tissue (women: 20.4%; men: 17.2%). Analysis of ALL per sex showed that the number of missed work days was higher for the men (20 days), especially due to diseases of the nervous system (40 days) and mental disorders (30 days). Analysis further showed that mental disorders and musculoskeletal diseases were the main cause of illness for all professional categories.

DISCUSSION

In the present study, we analyzed a set of official data widely representative of all professional categories of civil servants allocated to a Health Region in the Federal District. Planning health actions demands accurate knowledge of the characteristics of this population of workers. The results of the present study provide information on indicators of sickness absence

and the sociodemographic and occupational profile of civil servants for the analyzed period. More than one-third of the employees were granted at least 1 SL by medical examiners, which corresponds to a PSA of 39%. PSA represents the proportion of employees who fell ill at least once in 2014, and the results agree with the ones of studies conducted with civil servants in Belo Horizonte (31,5%)¹⁶ and Fortaleza (33,9%)¹⁷, Brazil, France (41%)¹⁸ and Sweden (40%)¹⁹. In turn, lower rates were reported for the Secretariat of Health in São Paulo (15.9%)¹ and in Goiania (23%)¹². The FLI found, 88 SL per 100 employees, indicates recurrence of SL among the analyzed population. This rate was lower compared to the ones found for municipal civil servants in Vitória²⁰ and Curitiba²¹, Brazil.

A SI of 16 days points to considerable impact of sickness absence. Similar values were reported for public health services in Campinas, Brazil (15 days)³ and Canada (14.7 days)²².

LSA of 42 missed work days per employee denotes the individual burden of disease. This finding is similar to the one reported by Leão et al.¹², 40 days, but lower than the number of missed work days found for the Secretariat of Health of São Paulo (64.9 days)¹.

ALL, which in the present study was 18 days, is a significant indicator of the severity of diseases. Lower values were found for civil servants in Vitória (10.2 days)²⁰ and Curitiba (6.3 days in 2015)²¹.

Table 3. Distribution of the frequency of recurrent sick leaves and missed work days due to sick leave. Ceilandia Health Region, Federal District, 2014 (n=2,501).

Number of SL	Servants granted SL n (%)	SL number	Missed work days n (%)	ALL
1	482 (49.3)	482	5,894 (14.5)	12
2	197 (20.2)	394	5,734 (14.1)	15
3	116 (11.9)	348	6,280 (15.4)	18
4	70 (7.2)	280	5,607 (13.8)	20
5	41 (4.2)	205	4,935 (12.1)	24
6	32 (3.3)	192	5,158 (12.7)	27
7	21 (2.1)	147	3,271 (8.0)	22
8	9 (0.9)	72	1,496 (3.7)	21
9	6 (0.6)	54	1,657 (4.1)	31
10	2 (0.2)	20	444 (1.1)	22
11	1 (0.1)	11	279 (0.7)	25
Total	977 (100)	2,205	40,755 (100)	18

SL: sick leave; ALL: average length of leaves.

Based on the overall results of the analyzed indicators, and excluding SL shorter than 4 days and leaves due to reasons other than disease — which were not assessed in the present study — we might assert that CHR operates with an extremely low number of effective employees. This situation impairs the administrative, technical and operational functioning of healthcare facilities, with direct impact on the quality of the health care provided to the population.

Analysis of the several studies selected for the purpose of comparison evidenced lack of standardization in measurements, as well in the nomenclature of the sickness absence indicators used. We had to perform comparisons cautiously, because different terms were attributed to one and the same measurement, there was variation in how calculations were made, and some studies did not indicate the cutoff points for inclusion of SL in analysis¹². There is no consensus on the ideal values for each sickness absence indicator²³. Then, the complex and highly diversified situation of the public sector further hinders comparisons of indicators among services. Therefore, one

should consider the actual situation and profile of each institution before attempting external comparisons. In the present study, the proportion and frequency of SL were higher among the women, while they lasted longer among the men. These findings agree with the results of other studies, in which also the frequency of SL was higher among women and their length longer among men^{1,12,16-18,20,22}. Several factors might account for the higher rates of illness among women, especially the ones associated with gender issues. Anatomical and physiological differences, diseases affecting women exclusively — such as the ones related to childbirth, puerperium and the menstrual cycle, and lack of rest at home might be associated with the higher rates of illness among women.

The values of all the analyzed sickness absence indicators, except for LFI, pointed to age range 51 years old and older as the most vulnerable. Similar results were reported by Capelari et al.²⁴ and Bargas and Monteiro²⁵, who found larger proportion of illness and number of missed work days due to SL among older workers. This might be a case of overlapping of effects, to wit,

Table 4. Frequency and average length of sick leaves per gender and ICD-10 code. Ceilandia Health Region, Federal District, 2014 (n=2,501).

ICD-10 codes	Female			Male			Total SL		
	n	%	ALL	n	%	ALL	n	%	ALL
F-Mental and behavioral disorders	428	23.6	24	70	18.0	30	498	22.6	25
M-Diseases of the musculoskeletal system and connective tissue	371	20.4	18	67	17.2	16	438	19.9	17
Z-Factors influencing health status and contact with health services	240	13.2	18	60	15.4	19	300	13.6	20
S/T-Injury, poisoning and external causes	159	8.8	14	52	13.4	21	211	9.6	17
J-Diseases of the respiratory system	125	6.9	11	32	8.2	10	157	7.1	7
O-Pregnancy childbirth and the puerperium	108	5.9	15	0	0	-	108	4.9	16
H-Diseases of the ear and mastoid process	85	4.7	8	12	3.1	3	97	4.4	8
N-Diseases of the genitourinary system	57	3.1	12	10	2.6	4	67	3.0	11
R-Symptoms, signs, and clinical and laboratory findings	47	2.6	14	6	1.5	14	53	2.4	9
K-Diseases of the digestive system	33	1.8	13	10	2.6	8	43	2.0	9
G-Diseases of the nervous system	32	1.8	11	9	2.3	40	41	1.9	22
I-Diseases of the circulatory system	32	1.8	15	33	8.5	25	65	2.9	22
A/B-Some infectious and parasitic diseases	31	1.7	10	14	3.6	27	45	2	17
L-Diseases of the skin and subcutaneous tissue	21	1.2	9	6	1.5	9	27	1.2	9
C-Neoplasms	20	1.0	92	0	0	-	20	0.9	87
Other (E, D, Q and Y)	27	1.5	25	8	2.1	32	35	1.6	110
Total	1,816	100	18	389	100	20	2,205	100	18

ICD: International Classification of Diseases; SL: sick leave; ALL: average length of leaves.

combination of the natural aging of the body with cumulative exposure to hazards inherent to the work environment and work processes¹². We call the attention to the fact that the public health services in Federal District follow the overall trend of evolution (or involution) of the labor relations in Brazil in recent years. The result of this process is the permanence of older workers in services, who are almost always overloaded as a function of a disproportionate distribution of the work demands. Higher frequency and high values of sickness absence indicators among nursing assistants were widely reported in Brazilian and international studies^{1,3,16,22,25,26}. Nursing assistants and technicians are at the front line of work in health care. They are exposed to several occupational and psychosocial hazards, and are almost always overloaded as a function of the high demand of care at SUS facilities, the need to accomplish several functions, lack of input and time to plan activities, and intensive and exhausting pace of work. These factors might explain the higher rates of illness found among this professional category. The higher frequency and proportion of SL among civil servants working 40 h per week agrees with the findings reported in other studies^{27,28}. This result might be associated with fatigue resulting from long working hours, sometimes in shift regimen, which impair the quality of sleep and increase stress, eventually affecting the physical health of workers. Then, employees who work shorter weekly hours have more time to care for their own health, and thus require SL less often.

In the present study, the illness rates were higher among the employees allocated to urgency/emergency services. A possible reason is that in such work environments workers are constantly exposed to stress situations, suffering, death and accidents. In addition, also the working conditions are hard in this setting, including long working hours, weekend and night shifts, heavy and repetitive manual activities, and low number of workers, among other problems which might cause physical and emotional exhaustion²⁸. Independently from the disease that led to SL, the results of the present study show that 85.5% of the missed work days corresponded to employees granted more than one SL along the analyzed period. According to a study with civil servants at a university hospital conducted by Reis et al.²⁹, the first SL is a strong

predictor of future SL. This is to say, the larger the number of SL granted, the higher the odds for a future SL. Those authors further emphasize that the length of the later SL is frequently longer compared to the first one, especially in the case of SL granted for mental disorders²⁹, as was also the case in the present study.

The morbidity profile found is similar to the one reported in several studies performed with civil servants. While the ranking exhibits some variations, mental disorders and musculoskeletal diseases are always the main reasons for sickness absence^{1,12,17-17}. In all the studies the rates of illness were higher among women.

Analysis of the distribution of SL per ICD-10 code and sex showed that the frequency of SL was higher among men for categories such as mental disorders, injury/trauma, and diseases of the nervous system. One possible reason might be that men miss work due to more severe diseases, or remain disabled to return to work longer than women¹².

The higher frequency of sickness absence due to mental disorders might be related with psychosocial risk factors, such as lack of worker autonomy in the organization of their own tasks, precarious infrastructure of the work environment, difficult relationship with supervisors, and lack of social support in the workplace¹². Having local managers establish protocols for prevention of mental disorders is necessary, since the risk of premature death increases up to 60% among the affected workers¹⁸. Similarly, also the high frequency of musculoskeletal diseases is a cause of concern, because these conditions are significant causes of disability retirement^{12,30}. Ergonomic hazards in the work environment and work processes of the health sector, such as awkward posture during the transport and handling of patients and things, and inadequate physical space or furniture, are factors which contribute to impair the health of workers.

The present study has several limitations. First, as we could not include SL shorter than 4 days, it is safe to assume that sickness absence was underestimated. Then, we could not distinguish SL granted for common versus work-related diseases or work accidents. We recommend for future studies to consider these aspects, as well as the influence of the working conditions and work processes on sickness absence indicators, and risk factors associated with recurrence of SL.

CONCLUSION

In the present study, we drew the epidemiological profile of sickness absence corresponding to a large population of civil servants, which enables discussions and mediations targeting prevention and promotion of workers' health. The results point out the groups of workers more prone to miss work days as a function of sociodemographic and occupational characteristics. As such, they might be

useful for local managers in the planning and orientation of interventions targeting the work environment of the groups more likely to fall ill. Given that the composition of Health Regions in the Federal District is rather homogeneous in terms of organization of services and workers' profile, we believe that the results of the present study might serve as point of departure for reflections on sickness absence among managers and civil servants in other Federal District Health Regions.

REFERENCES

1. Sala A, Carro A, Correa A, Seixas P. Licenças médicas entre trabalhadores da Secretaria de Estado da Saúde de São Paulo no ano de 2004. *Cad Saúde Pública*. 2009;25:2168-78.
2. Souza ZB, Reis LM. Entre o atender e o ser atendido: políticas em saúde para o trabalhador do serviço público. *Cad Psicol Soc Trab*. 2013;16:87-106.
3. Gehring Junior G, Corrêa Filho HR, Vieira Neto JD, Ferreira NA, Vieira SVR. Absenteísmo-doença entre profissionais de enfermagem da rede básica do SUS Campinas. *Rev Bras Epidemiol*. 2007;10:401-9. <http://dx.doi.org/10.1590/S1415-790X2007000300011>
4. Santos MAB, Gerschman S. As segmentações da oferta de serviços de saúde no Brasil: arranjos institucionais, credores, pagadores e provedores. *Ciê Saúde Colet*. 2004;9:795-806. <http://dx.doi.org/10.1590/S1413-81232004000300030>
5. Gurgel Júnior GD, Vieira MMF. Qualidade total e administração hospitalar: explorando disjunções conceituais. *Ciê Saúde Colet*. 2002;7:325-34. <http://dx.doi.org/10.1590/S1413-81232002000200012>
6. Lorenzetti J, Trindade LL, Pires DEP, Ramos FRS. Tecnologia, inovação tecnológica e saúde: uma reflexão necessária. *Texto Contexto Enferm*. 2012;21:432-9.
7. Pires D. Reestruturação produtiva e conseqüências para o trabalho em saúde. *Rev Bras Enferm*. 2000;53:251-63. <http://dx.doi.org/10.1590/S0034-71672000000200010>
8. Jackson Filho JM. Desenho do trabalho e patologia organizacional: um estudo de caso no serviço público. *Production*. 2004;14:58-66. <http://dx.doi.org/10.1590/S0103-65132004000300007>
9. Assunção AA, Brito J. *Trabalhar na saúde: experiências cotidianas e desafios para a gestão do trabalho e do emprego*. Rio de Janeiro: FIOCRUZ; 2011.
10. Head J, Ferrie JE, Alexanderson K, Westerlund H, Vahtera J, Kivimäki M, et al. Diagnosis-specific sickness absence as a predictor of mortality: the Whitehall II prospective cohort study. *BMJ*. 2008;337:a1469. <https://doi.org/10.1136/bmj.a1469>
11. Roelen CAM, Koopmans PC, Anema JR, van der Beek AJ. Recurrence of medically certified sickness absence according to diagnosis: a sickness absence register study. *J Occup Rehabil*. 2010;20:113-21. <https://dx.doi.org/10.1007%2Fs10926-009-9226-8>
12. Leão ALM, Barbosa-Branco A, Rassi Neto E, Ribeiro CAN, Turchi MD. Absenteísmo-doença no serviço público municipal de Goiânia. *Rev Bras Epidemiol*. 2015;18:262-77. <http://dx.doi.org/10.1590/1980-5497201500010020>
13. Organização Mundial da Saúde. *Classificação internacional de doenças e problemas relacionados à saúde*. 10a revisão. São Paulo: Organização Mundial da Saúde; 1995.
14. Permanent Commission and International Association on Occupational Health. Sub-committee on absenteeism: draft recommendations. *Br J Ind Med*. 1973;30:402-3.
15. Hensing G, Alexanderson K, Allebeck P, Bjurulf P. How to measure sickness absence? Literature review and suggestion of five basic measures. *Scand J Soc Med*. 1998;26:133-44.
16. Bassi I, Assunção AA, Pimenta AM, Benavides FG, Ubalde-Lopez M. Sickness absence among health workers in Belo Horizonte, Brazil. *J Occup Health*. 2016;58:179-85. <https://dx.doi.org/10.1539%2Fjoh.15-0121-OA>
17. Vale SF, Maciel RH, Nascimento APT, Vasconcelos JWO, Pimentel FHP. Análise de diagnósticos associados às licenças médicas dos servidores públicos do Ceará. *Rev Psicol*. 2015;6:68-81.
18. Ferrie JE, Vahtera J, Kivimäki M, Westerlund H, Melchior M, Alexanderson K, et al. Diagnosis-specific sickness absence and all-cause mortality in the GAZEL study. *J Epidemiol Community Heal*. 2009;63:50-5. <https://doi.org/10.1136/jech.2008.074369>
19. Eriksson H-G, Celsing A-S, Wahlström R, Janson L, Zander V, Wallman T. Sickness absence and self-reported health: a population-based study of 43,600 individuals in central Sweden. *BMC Public Health*. 2008;8:426. <https://doi.org/10.1186/1471-2458-8-426>
20. Bastos VGA, Saraiva PGC, Saraiva FP. Absenteísmo-doença no serviço público municipal da Prefeitura Municipal de Vitória. *Rev Bras Med Trab*. 2016;14:192-201. <https://doi.org/10.5327/Z1679-443520164615>
21. Daniel E, Koerich CRC, Lang A. O perfil do absenteísmo dos servidores da prefeitura municipal de Curitiba, de 2010 a 2015. *Rev Bras Med Trab*. 2017;15:142-9. <https://doi.org/10.5327/Z1679443520176021>
22. Gorman E, Yu S, Alamgir H. When healthcare workers get sick: exploring sickness absenteeism in British Columbia, Canada. *Work*. 2010;35:117-23. <https://doi.org/10.3233/WOR-2010-0963>

23. Oliniski SR, Sarquis LMM. A contribuição de um sistema de informações para a vigilância à saúde do trabalhador: um enfoque sobre o absenteísmo. *Rev Min Enfer.* 2010;14:479-89. <http://www.dx.doi.org/S1415-27622010000400005>
24. Capelari MM, Aznar FDC, Andrade FJP, Freitas AR, Sales-Peres SHC, Sales-Peres A. Absenteísmo e Atestações Médico-Odontológicas no Serviço Público: Um Estudo Retrospectivo. *Odonto.* 2013;21:1-8. <http://dx.doi.org/10.15603/2176-1000/odonto.v21n41-42p1-8>
25. Bargas EB, Monteiro MI. Fatores relacionados ao absenteísmo por doença entre trabalhadores de Enfermagem. *Acta Paul Enferm.* 2014;27:533-8. <http://dx.doi.org/10.1590/1982-0194201400087>
26. Silva LGC, Buss AAQ, Haddad MCL, Vannuchi MTO. The absenteeism of the team of nursing of a public university hospital. *J Heal Biol Sci.* 2016;4(2):88-94. <http://dx.doi.org/10.12662/2317-3076jhbs.v4i2.520.p88-94.2016>
27. Leão ALM, Barbosa-Branco A, Turchi MD, Steenstra IA, Cole DC. Sickness absence among municipal workers in a Brazilian municipality: a secondary data analysis. *BMC Res Notes.* 2017;10:773. <https://doi.org/10.1186/s13104-017-3116-5>
28. Martins PF, Nascimento Sobrinho CL, Silva MV, Pereira NB, Gonçalves CM, Rebouças BS, et al. Afastamento por doença entre trabalhadores de saúde em um hospital público do estado da Bahia. *Rev Bras Saúde Ocup.* 2009;34:172-8. <http://dx.doi.org/10.1590/S0303-76572009000200008>
29. Reis RJ, Utzet M, La Rocca PF, Nedel FB, Martín M, Navarro A. Previous sick leaves as predictor of subsequent ones. *Int Arch Occup Environ Health.* 2011;84:491-9. <https://doi.org/10.1007/s00420-011-0620-0>
30. Almeida GFP, Ribeiro MHA, Silva MACN, Branco RCC, Pinheiro FCM, Nascimento MDSB. Patologias osteomusculares como causa de aposentadoria por invalidez em servidores públicos do município de São Luís, Maranhão. *Rev Bras Med Trab.* 2016;14:37-44.

Correspondence address: Diogo Sousa Lemos - Faculdade de Ceilândia, Universidade de Brasília - Centro Metropolitano, conjunto A, lote 1 - Unidade de Ensino e Docência, 1º andar, sala A1-04/67 - CEP: 72220-275 - Brasília (DF), Brazil - E-mail: dslfarmaceutico@gmail.com