

## Association between variables related to precariousness of work and leave of absence in the nursing field

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**Abstract** *The objective is to verify associations between variables related to precarious employment and absence from work due to health reasons in the nursing field. This was a cross-sectional study of a stratified convenience sample with proportional allocation of 1,075 workers. Study site: 22 public hospitals in Bahia, with data collected between 2015 and 2016. The assessed precarious employment dimensions were: Forms of insertion and intensity of work, Physical effort and working environment, Disorder and disturbances during work. The binary logistic regression was adjusted with the Omnibus test. The variables that were significant for both nurses and for nursing aides and technicians were repetitive effort (OR = 0.44, CI = 0.22-0.91 / OR = 0.54, CI = 0.29-0.98), and history of discrimination (OR = 2.1, CI = 1.6-4.3 / OR = 1.8, CI = 1.2-2.5). For the nurses, the existence of noise in the work environment was significant for work leave (OR = 3.7, CI = 1.7-8.2). Among the nursing aides and technicians, the occurrence of violence at the workplace (OR = 1.4, CI = 1.05-2.0), adequacy of the resting area (OR = 0.6, CI = 0.41-0.89), and type of employment bond (OR = 1.5, CI = 1.009-2.09) were significant. The results reveal the precariousness in the field and that the government favors the illness of these workers by maintaining these working conditions.*

**Key words** Work, Nursing, Sick Leave

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## Introduction

The precariousness of work is conceptualized as a political system of workers' submission to exploitation<sup>1</sup>. The precariousness of work, the foundation of the capitalist economic model, changes according to the historical, social and economic context. What differentiates the precariousness of work in the 21<sup>st</sup> century from that experienced by workers in the 19<sup>th</sup> and 20<sup>th</sup> centuries is the retreat of the role of the government as regulator of the capital-labor relationship, the loss of social protection of labor rights and the weakening of workers' organization types<sup>2-6</sup>.

The precariousness of work is a complex and multidetermined phenomenon. For the Brazilian reality, six types of work precariousness have been identified: (i) vulnerability of the forms of insertion and social inequalities, regarding precarious contracts without social protection or guarantees, as well as forms of insertion in the labor market and unemployment; (ii) work intensification and outsourcing, which are the types of work organization and management, with the use of management through fear, bullying and by imposing unreachable production goals on the worker; (iii) insecurity and health at work, resulting from models of work organization and management without the training of workers, with the omission of information on risk and hazard situations and protective measures, aiming at increasing productivity; (iv) loss of individual and collective identity, increasing the workers' fear of losing their jobs, which isolates workers and forces them to compete with one another; (v) weakening of workers' organization, represented by the difficulty in union organization, with loss of the unions' capacity to mobilize workers; (vi) censure and disregard of labor laws, which, in the current Brazilian situation its represented by the Labor Reform and the Unrestricted Outsourcing Law<sup>5</sup>.

Another characteristic of labor insecurity is that it affects all workers, of both genders, regardless of their qualification, the type of work performed and the type of employment bond. In this context, young individuals, women and black people are more vulnerable to the precariousness of work<sup>7</sup>, which includes workers in the nursing field, mostly black females<sup>8</sup>. Due to this evidence, the political choice of the authors is the use of the feminine pronoun in Portuguese to denominate the nursing professions.

The precariousness of work has been widely studied in sectors such as banking, telemarketing and industry. However, few studies have studied

the precariousness of work in the health and nursing areas. In the health area, this precariousness affects both the worker and the user, as it compromises the quality of care provided and removes the protection of the labor laws from those who work in the health care area. Therefore, health care programs and policies may suffer from discontinuity, as their workers experience an unstable employment bond, which does not replace social guarantees by economic ones<sup>9</sup>.

It is noteworthy that the public sector is the largest employer of nursing workers<sup>8,10</sup>. In precarious work and employment situations, the death or non-fulfillment of a patient's need increases the workers' suffering, since this precarious work is the maximum symbol of the impediment to the assistance performance. This precarious context of the world of work produces a sense of failure in the workers, for not being able to do everything they understand as necessary and in accordance with the prerogatives of their profession<sup>11</sup>.

As of the State Apparatus Reform in Brazil, the precariousness of work in public services has been revealed as the absence of salary increases to almost all workers with a statutory regime; implementation of several types of remuneration; increase in outsourcing; intolerance and authoritarianism towards employee unions<sup>6,12-14</sup>.

However, there are aspects of public service work of which the general population is unaware and that affect the workers' performance: the wrecking of the work infrastructure, fragmentation of tasks, ambiguous administrative models, power conflicts, and lack of planning for jobs, careers and salaries, which equalizes earnings, promotions, appointments or exonerations<sup>14</sup>.

In the case of Brazil, the increase in outsourcing, especially in state services, has brought on a new type of job insecurity. Outsourcing is an exploitation mechanism used by both the government and private companies to reduce social labor costs, to lower wages and increase working hours and intensity. Since outsourced workers have weaker employment bonds, they are also easily subordinated to precarious employment, when compared to statutory workers<sup>13</sup>. The new form of precariousness expands because there is an "Inseparability between the precarious types of labor and employment – expressed in the (de) structuring of the labor market and the role of the government and its social (un)protection – the labor management and organization practices and unions, all contaminated by a very high social and political vulnerability"<sup>6</sup>(p.56).

Considering this problem, work absence due to illness is closely associated with the working organization and condition in which individuals are inserted and has socioeconomic impacts<sup>14,15</sup>.

For the workers in the nursing field, the precariousness of work in state services translates into lack of working conditions, overload of activities and low wages<sup>16</sup>. Other studies show how the work precariousness in state services have affected the work of nurses, nursing technicians and aides<sup>10</sup>. In addition to infrastructure-related working conditions, workplace violence and bullying in the nursing field have been increasing<sup>17,18</sup>.

The existing studies on work in the nursing field address specific aspects, such as working conditions or wages, or working hours. Even research in the field of occupational health follows this same particularity, focusing on ergonomic work conditions. Thus, this article contributes to the construction of knowledge about the precariousness of nursing work. For that purpose, it uses precariousness as a context and associates variables of this precariousness with the absence from work. Studies such as this have not yet been identified in the national literature.

Therefore, the aim of this article is to associate the risk of sick leave due to health reasons in nursing workers and the precariousness of work.

## Method

This is a cross-sectional, analytical, quantitative study, carried out in public hospitals in the state of Bahia, Brazil. All state hospitals were contacted and invited to participate in the survey. Of these, 15 public hospitals with direct administration and 07 hospitals with indirect administration by the Bahia State Health Secretariat (SESAB) agreed to participate and were included. Moreover, they provided records with the number of workers in the nursing area by professional category.

### Sampling

As the population to be sampled was disaggregated and the workers showed distinct characteristics, we chose the stratified sampling technique with proportional allocation at two levels: professional category and type of employment bond. For sample calculation, the STATA program version 11 was used, and the information obtained from the records of the hospital organizations (nurses  $N = 2,148$ ; nursing aides and technicians  $N = 6,673$ ) was considered.

As the prevalence of the studied phenomena was unknown ( $p = 0.50$ ), a sampling error of 3% ( $d = 0.03$ ) was admitted, considering the 95% confidence level ( $\alpha = 0.05$ ). The number found was allocated proportionally in the strata by type of employment bond and by professional category. To the found value, 20% were added for eventual losses ( $n = 190$ ). The workers' sample distribution was calculated, consisting of 265 nurses ( $n = 161$  statutory and  $n = 104$  outsourced) and 810 nursing technicians and nursing aides ( $n = 597$  statutory and  $n = 213$  outsourced), totaling 1,075 workers. The selection system adopted was the direct approach of the active workers in their respective sectors, after authorization by the head of the Organization.

The study power calculation used the following parameters:  $n=1075$ , 50% prevalence, error accuracy of 5% and 95% confidence level. Power = 0.9075 was obtained  $\leq 90\%$  power.

### Data collection

Data collection took place between March 2015 and February 2016, in the different service units of hospitals. The data were collected through a questionnaire containing 96 questions.

### Instrument

The categories that comprise the instrument are: Sociodemographic characteristics; Information about other employment bonds; Information about this job; Information about the work process; Information about working conditions; Information about domestic activities and wages.

The choice of the variables that comprise the questionnaire was carried out based on the literature review in the fields of labor sociology and nursing on the precariousness of work and validated by a group of experts on nursing.

In this article, variables related to the adopted typology of precariousness were selected and considered by the authors as capable of disclosing the association with the variable leave of absence.

The pilot questionnaire was applied in a large public hospital, where there were nursing workers who were similar to the study population's profile.

The adopted selection system was the direct approach of the active workers in their respective sectors. Inclusion criteria were: nurses, nursing technicians and aides with more than 6 months of work at the health institution and availability to answer the questions. Workers who had

worked less than 6 months at the health institution, those on leave of absence for any reason or those participating in the study performance were excluded.

### Data analysis

Considering that the precariousness of work is multidetermined and complex and inspired by the precariousness typology developed by Druck<sup>5</sup>, the dimensions of precariousness and related variables were identified (Chart 1).

For the analysis, the workers were divided into two categories: 1) nurse and 2) nursing aide and technician. The choice of jointly analyzing the nursing technicians and aides is justified by the fact that in daily routine of services, the actual work performed by these two categories is no different.

The dependent variable was “leave of absence from work due to health reasons” (yes and no). The independent variables were processed into five subgroups:

1. *Profile*: Gender (Female and Male); Ethnicity / Skin Color (Black and Non-Black); Marital status (Has a partner and has no partner); Age range

2. *Form of insertion and intensity of work*: Type of employment bond (Statutory and Outsourced); Another employment bond (Yes and No); Works in only one sector (Yes and No); Covers hours outside the working schedule (Yes and No).

3. *Physical effort and work environment*: Repetitive efforts (Yes and No); Presence of noise (Yes and No); Exclusive environment for resting

(Yes and No); Adequacy of the resting area (Yes and No).

4. *Disorder and disturbances at work*: History of violence (Yes and No); history of discrimination (Yes and No); Existence of conflicts (Yes and No).

A binary logistic regression was performed to verify whether the independent variables are associated with the workers' health in the dependent variable “Worker requested an absence of leave due to illness”.

The variables were entered using the “insert” method, for which we use the mathematical method “advance RP”, also known as stepwise, whose independent variables (five subgroups) are added by steps. Before doing the analysis, we defined our covariates into categorical covariates (independent variables); however, the category used for the odds ratio as a reference was “Yes”.

The model adjustment was initially performed for one covariate and then the other covariates were added; the initial variable was randomly chosen (Gender), then the other variables were added.

The Omnibus test was used to make the model adjustment in binary logistic regression, where  $p$  values  $\leq 0.05$  are considered significant. At the Hosmer and Lemeshow test,  $p \geq 0.05$  and its null hypothesis indicates that the predicted categories correspond to the observed categories.

The model adjustments were detailed as follows:  $[X^2(df)=; p<,R2,Negelkerke=]$ , where  $X^2$  = chi-square value in the Omnibus coefficient adjustment,  $df$  = degrees of freedom, Omnibus significant  $p$ , and Negelkerke  $R^2$ . The confidence interval used for the odds ratio was 95%, and the

**Chart 1.** Dimensions of precariousness and related variables.

Dimension of precariousness	Definition	Variables
Form of insertion and work intensity	It corresponds to the type and number of employment bonds, as well as the forms of organization of the work schedule.	Type of employment bond (statutory and outsourced); Another employment bond (yes and no); Work in only one sector (yes and no); Covers hours outside the working schedule (yes and no).
Physical effort and work environment	It corresponds to the conditions for work performance.	Repetitive efforts (yes and no); Presence of noise (yes and no); Exclusive environment for resting (yes and no); Adequacy of the resting area (yes and no)
Disorder and disturbances at work	It corresponds to the existence of violence and other forms of harassment in the working environment.	History of violence (yes and no); history of discrimination (yes and no); Existence of conflicts (yes and no)

significance level ( $\alpha$ ) was  $p \leq 0.05$ . The collected data were tabulated and analyzed using the software SPSS Statistics 22 for Windows.

The research followed the ethical precepts issued in Resolution No 466/12 of the National Health Council and was approved by the Ethics Committee of the School of Nursing of Universidade Federal da Bahia.

## Results

As for the research participants, the largest percentage of nurses (92.5%) and nursing aides and technicians (88.3%) were females. Regarding age, the age range of 31-55 years prevailed both among nurses (74.3%) and nursing aides and technicians (82.3%). Both among nurses (81.5%) and nursing aides and technicians (91.7%) the most often self-reported ethnicity/skin color was black. In the nurse group, 60.0% had a partner, and this percentage was 56.7% among the nursing aides and technicians. None of the variables showed a statistically significant association with leave of absence due to health reasons (Table 1).

As for the dimension 'Forms of insertion and work intensity' (Table 2), regarding the group of nurses, 57% have another employment bond; 78.1% work in only one sector; 57.7% do not cover hours outside the working schedule and 60.8% have a statutory bond. None of the variables showed a statistically significant result (Omnibus test,  $p = 0.62$  and Hosmer and Lemeshow test,  $p = 0.42$ ).

In the group of nursing aides and technicians (Table 2) it was observed that 65.4% have no other employment bonds; 91.6% work in only one sector; 55.1% state that they cover hours outside the working schedule and 73.7% have a statutory bond.

As for the association between leave of absence from work and forms of insertion and intensity of work, a statistical significance was observed between nursing aides and nursing technicians and statutory bond (OR = 1.5; CI = 1.009 – 2.09).

In the dimension Physical effort and work environment (Table 3), 84.2% of nurses and 94.5% of nursing aides and technicians stated they performed repetitive efforts. This variable was significant for nurses (OR = 0.44; CI = 0.22 – 0.9), as well as for nursing aides and technicians (OR = 0.9; CI = 0.65 – 1.3).

The presence of noise in the workplace is reported by 24.8% of nurses and 18.8% of nursing aides and technicians. There was a statistically

significant association between nurses and presence of noise (OR = 3.7; CI = 1.7 - 8.2).

The existence of an exclusive environment for resting was reported by 82.6% of nurses and 65.7% of nursing aides and technicians. For 58.9% of nurses and 67.3% of aides and technicians, the resting area is not adequate.

The variable Adequate resting area showed a significant protection factor for the group of nursing aides and technicians (OR = 1.5; CI = 1.009 – 2.9).

In the dimension Disorder and disturbances at work (Table 4), 50.9% of nurses reported a history of violence at work, while 52.6% of nursing aides and technicians denied this history of violence. There was a statistically significant and positive association between leave of absence of nursing aides and technicians and a history of violence (OR = 1.4; CI = 0.73 – 2.9).

Both in the group of nurses (61.9%) and in the group of nursing aides and technicians (64.7%), the largest percentage of workers denied a history of discrimination at work. Similarly, conflict at work was denied by most nurses (59.2%) and nursing aides and technicians (74.8%).

The history of discrimination at work was significant for nurses (OR = 1.8; CI = 1.2 – 2.5) as well as for nursing aides and technicians (OR = 2.1; CI = 1.06 – 4.3).

## Discussion

The results show that the precariousness of work in public hospitals is associated with leave of absence from work due to health reasons for nursing workers. Suffering violence and discrimination, maintaining a statutory employment bond, noisy work environment and not having an adequate rest area are variables with significant association with leave of absence from work.

An association between more variables of the precariousness dimensions and absence from work due to health reasons was observed for the group of nursing aides and technicians than for the group of nurses. This finding can be explained, among other causes, by the place occupied by different workers in the nursing work process. In this work process, it is the responsibility of nursing aides and technicians to perform care tasks and activities with service users. As workers of the production line in health services, their work is organized according to the Taylorist/Toyotist model, to perform their tasks, demands for material resources and inputs, they receive the

**Table 1.** Association between subject profile and leave of absence due to health reasons according to the professional category. Bahia, 2017.

Variables	Nurse				Nursing Aide and Technician					
	Yes % (n)	No % (n)	P-Value <sup>a</sup>	Odds Ratio	OR CI (95%)	Yes % (n)	No % (n)	P-Value <sup>a</sup>	Odds Ratio	OR CI (95%)
Gender (Female)	92.5 (245)	20 (7.5)	0.59	1.3	0.44 – 4.0	88.3 (715)	11.7 (95)	0.3	2.3	0.84 – 4.0
Has a partner	60 (159)	106 (40)	0.3	0.71	0.36 – 1.4	56.7 (459)	43.3 (351)	0.44	0.61	0.26 – 1.3
Ethnicity/Skin Color (Black)	81.5 (216)	49 (18.1)	0.92	1.03	0.32 – 3.27	91.7 (743)	8.3 (67)	0.16	1.33	0.42 – 2.29
Constant: Leave of absence due to health reasons	34.7(92)	173 (65.3)	0.2	2.1		33.3 (270)	66.7 (540)	0.51	1.1	

OR CI: Odds Ratio Confidence Interval; aBinary Logistic Regression.

**Table 2.** Association between form of insertion and intensity of work and leave of absence from work due to health reasons according to professional category. Bahia, 2017.

Variables	Nurse				Nursing Aide and Technician					
	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)
Another employment bond	57.0(151)	43.0(114)	0.26	0.68	0.34 – 1.3	34.6(280)	65.4(530)	0.67	0.9	0.65 – 1.3
Works in only one sector	78.1(207)	21.9(58)	0.32	0.69	0.33 – 1.44	91.6(742)	8.4(68)	0.89	1.04	0.54 – 2.01
Cover hours outside the working schedule	42.3(112)	57.7(153)	0.82	1.07	0.56 – 2.0	44.9(364)	55.1(446)	0.82	1.03	0.73 – 1.46
Type of employment bond (statutory)	60.8(161)	39.2(104)	0.54	1.2	0.62 – 2.4	73.7(597)	26.3(213)	0.04	1.5	1.009 – 2.09
Constant: leave of absence due to health reasons	34.7(92)	65.3(173)	0.017	2.4		33.3(270)	66.7(540)	0.10	1.8	

OR CI: Odds Ratio Confidence Interval – aBinary Logistic Regression.

Table 3. Association between physical effort and work environment and absence from work due to health reasons according to professional category, Bahia, 2017.

Variables	Nurse				Nursing Aide and Technician					
	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)
Repetitive Efforts (Frequent)	84.2 (223)	42 (15.8)	0.027	0.44	0.2 - 0.9	95.4 (773)	4.6(37)	0.67	0.9	0.65 - 1.3
Presence of noise <sup>b</sup>	24.8 (171)	75.2 (518)	0.001	3.7	1.7 - 8.2	18.8 (387)	81.2(1.675)	0.89	1.04	0.54 - 2.01
Exclusive resting area	82.6 (219)	17.4 (46)	0.51	1.3	0.56 - 3.1	65.7 (532)	34.3 (278)	0.82	1.03	0.73 - 1.46
Adequate resting area	41.1 (109)	58.9 (156)	0.55	1.2	0.57 - 2.8	32.7 (265)	67.3(545)	0.04	1.5	1.009 - 2.09
Constant: Leave of absence from work due to health reasons	34.7(92)	65.3 (173)	0.8	0.92		33.3 (270)	66.7 (540)	0.10	1.8	

OR CI: Odds Ratio Confidence Interval; aBinary Logistic Regression. bAbsolute frequency (Nurses, n = 689; Nursing Aides and Technicians, n = 2,062) refers to the number of workers who reported noise in the workplace. In this question, the workers were asked about the presence of the following variables: cold, heat, humidity, dust, unpleasant odor, noise, none of the alternatives or other information, and they could choose more than one answer. The association between absence from work for health reasons and the conditions of the work environment was found only for the variable noise.

Table 4. Association between disorder and disturbances at work and absence from work due to health reasons according to professional category, Bahia, 2017.

Variables	Nurse				Nursing Aide and Technician					
	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)	Yes % (n)	No % (n)	p-Value <sup>a</sup>	Odds Ratio	OR CI (95%)
History of violence	50.9 (135)	49.1 (130)	0.05	1.4	1.05 - 2.0	47.4 (384)	52.6 (426)	0.27	1.4	0.73 - 2.9
History of discrimination	38.1 (101)	61.9 (164)	0.003	1.8	1.2 - 2.5	35.3 (286)	64.7 (524)	0.03	2.1	1.06 - 4.3
Existence of conflicts	40.8 (108)	59.2 (157)	0.6	1.1	0.75 - 1.62	25.2 (204)	74.8 (606)	0.95	0.98	0.47 - 2.0
Constant: Leave of absence from work due to health reasons	34.7 (92)	65.3 (173)	0.93	0.92		33.3 (270)	66.7 (540)	0.68	1.07	

OR CI: Odds Ratio Confidence Interval; a Binary Logistic Regression.

lowest wages in the field of nursing. Thus, they are more vulnerable to work precariousness<sup>10,19</sup> and to leaves of absence from work.

Discrimination was evidenced as a risk factor for leave of absence for all workers. The participants' profile points to elements of vulnerability to the occurrence of discrimination: they are mostly women and black. Moreover, given that the workforce in the nursing field is predominantly female, the sexual division of work maintains the ideology that the work performed by women has less value and implies less qualification than the work performed by men<sup>20,21</sup>.

Other studies highlight that discrimination is a form of bullying against nursing workers, being among the main types of violence perpetrated by patients, caregivers and co-workers<sup>22</sup>. In Brazil, a research funded by the Federal Council of Nursing identified that nursing aides and technicians suffer more discrimination than nurses<sup>23</sup>.

Another variable with statistical significance among the workers was the occurrence of repetitive efforts, which when uncommon, is a protective factor for workers regarding leave of absence due to health reasons.

One of the consequences of performing repetitive work efforts are musculoskeletal disorders, which are characterized as one of the diseases that most often result in leave of absence from work<sup>24</sup>. A study carried out in public hospitals in the state of Piauí showed a prevalence of musculoskeletal pain or discomfort in 88.3% of nursing workers in the last twelve months<sup>25</sup>. Nursing care work requires the worker to perform repetitive efforts (application of medications, measurement of vital signs, dressings, sponge baths, catheterization, etc.). Repetitive efforts at work are increased when the workplace is understaffed, which is frequent in health services, intensifying the work rhythm<sup>26,27</sup>.

Nurses working in noisy environments were 3.7-fold more likely to go on a leave of absence from work. The working environment in nursing predisposes workers to noise exposure, since many of the devices used to monitor users use a sound system to alert when vital signs or intravenous drip medication are out of the expected parameters.

Exposing nurses to noise increases the risk of occupational accidents, while decreases performance and increases fatigue<sup>28</sup>. Noises measured in a neonatal unit showed that decibel levels ranged from 53 to 75 Db<sup>29</sup>, far above what is considered acceptable, which is between 40 and 55 Db<sup>30</sup>. Another research carried out in a public hospital

showed that the noise in the sectors was above that recommended by the Brazilian Association of Technical Standards (ABNT)<sup>31</sup>.

The association between leave of absence due to health reasons and violence in the workplace is significant for nursing aides and technicians. Violence at the workplace can be characterized by incidents involving abuse, threat or attack in work circumstances and has consequences for the individual's physical and psychological health, with negative implications for health services as it generates workers' leave of absence<sup>22,32</sup>.

Although there are differences between the work process of nurses and nursing aides and technicians, studies that address violence in health services blur this distinction by studying nursing or the nursing staff or nursing workers indistinctly.

We infer that nursing aides and technicians are more vulnerable to violence by patients and their families, as they spent more time with them during their daily work activities. In Australia, research has shown that nurses are the workers with the highest risk of violence committed by patients<sup>32</sup> and in the United States, workplace violence against nurses increased 55% between 2012 and 2014, and the authors of the study consider these data as being underreported<sup>33</sup>.

These differences can be explained by the particularities of the nursing work division in different countries. However, it can be observed that the worker who predominantly performs the care work, such as nursing aides and technicians in Brazil, is the one most at risk of suffering violence.

Another research indicates that poor working conditions and work organization were the causes of conflicts that triggered violence in health services<sup>34</sup>. The negative consequences of violence and discrimination at work result in economic losses to companies and, especially, to the health of the victims, preventing them from performing their work and causing leave of absence from work<sup>35</sup>.

As for the existence of an adequate resting area, this variable showed to be protective for the health of nursing aides and technicians. Nursing work is characterized by working long hours with routine and repetitive activities. Therefore, having access to an adequate resting area is necessary for quality of life at work. However, less than half of the workers in the public (47.3%), private (49.9%) and philanthropic (38.9%) institutions have adequate resting areas<sup>23</sup>.

The existence of an adequate resting area for nursing workers is not regulated by the go-



vernment. Thus, they depend on the permission of their employers to enjoy this condition. The House of Representatives is appreciating Bill 4998/2016<sup>36</sup>, which deals with Dignified Rest for nursing workers. According to this Bill, resting places must be specific for resting, be airy, have a bathroom, adequate furniture and thermal and acoustic comfort.

Finally, it is worth discussing why nursing technicians and aides with statutory employment bond were 1.5 times more likely to require a leave of absence from work due to health reasons than workers with an outsourced employment bond. The sociology of work<sup>2-6,12-14</sup> indicates that statutory workers have the security of the employment bond, which allows for the effectiveness of rights, such as leave of absence when their health is compromised. However, outsourced workers, due to the weak employment bond, are more vulnerable to layoffs, and are therefore subjected to degrading work situations, such as bullying, and do not take leave of absence from work, even when they are sick<sup>6,13</sup>.

## Conclusion

Of the three dimensions of precariousness of work considered in the study, all of them showed variables associated with leave of absence from work due to health reasons. The occurrence of repetitive gestures and discrimination at work showed to be statistically significant and odds ratio for leave of absence from work in both groups. For nurses, noise in the workplace was a significant predictor of absence from work. For nursing aides and technicians, the occurrence of violence at the workplace, the adequacy of the resting area and the type of employment bond were also significant for absence from work.

This shows that the government, by maintaining these working conditions in public hospitals, favors workers' illness and leave of absence from work, contributing to the precariousness of nursing work.

## Collaborations

T Araújo-dos-Santos: Writing, conceptualization and preparation of the manuscript. DO Nunes: Writing and preparation of the manuscript. RB Pereira: Data analysis and calculation of variables. MMCSR Góes: Manuscript review. IQBP Ferreira: Manuscript review. SD Santos: Data Analysis. TC Florentino: Writing of the manuscript (review and editing) and data collection. CMM Melo: Writing, conceptualization and preparation of the manuscript.

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## References

1. Bourdieu P. *Contrafogos: táticas para enfrentar a invasão neoliberal*. Rio de Janeiro: Jorge Zahar Editora; 1998.
2. Antunes R. A nova morfologia do trabalho e suas principais tendências. In: Antunes R, organizador. *Riqueza e miséria do trabalho no Brasil*. São Paulo: Boitempo; 2013, p. 13-27.
3. Antunes R. A sociedade da terceirização total. *Rev ABET* [periódico na Internet]. 2015 Jan-Jun [acessado em 2019 Jan 13]; 14(1):[cerca de 14 p.]. Disponível em: <http://periodicos.ufpb.br/ojs/index.php/abet/article/view/25698>
4. Antunes R, Druck G. A epidemia da terceirização. In: Antunes R, organizador. *Riqueza e miséria do trabalho no Brasil III*. São Paulo: Boitempo; 2014. p. 15-30.
5. Druck G. Trabalho, precarização e resistências: novos e velhos desafios? *Cad CRH* 2011; 24(n. esp.):37-57.
6. Druck G. A precarização social do trabalho no Brasil. In: Antunes R, organizador. *Riqueza e miséria do trabalho no Brasil II*. São Paulo: Boitempo, 2013. p. 55-73.
7. Antunes R. *Adeus ao trabalho?: ensaio sobre as metamorfoses e a centralidade do mundo do trabalho*. 14<sup>a</sup> ed. São Paulo: Cortez; 2010.
8. Machado MH, Aguiar Filho W, Lacerda WF, Oliveira E, Lemos W, Wermelinger M, Vieira M, Santos MR, Souza Junior PB, Justino E, Barbosa C. Características gerais da enfermagem: o perfil sócio demográfico. *Enferm Foco* 2016; 7(n. esp.):09-14.
9. Costa DO, Tambellini AT. A visibilidade dos escondidos. *Physis* 2009; 19(4):953-968.
10. Araújo-dos-Santos T, Silva-Santos H, Silva MN, Coelho ACC, Pires CGS, Melo CMM. Precarização do trabalho de enfermeiras, técnicas e auxiliares de Enfermagem nos hospitais públicos. *Rev Esc Enferm USP* 2018; 52:e03411.
11. Silva NM, Muniz HP. Vivências de trabalhos no contexto da precarização. *Est Pesqui Psicol* 2011; 11(3):821-840.
12. Druck G. A terceirização na saúde pública: formas diversas de precarização do trabalho. *Trab Educ Saude* 2016; 14(supl. 1):15-43.
13. Amorim HS. *Terceirização no serviço público: à luz da nova hermenêutica constitucional*. São Paulo: LTr; 2009.
14. Campos AG. Efeitos da Terceirização sobre a saúde e segurança no trabalho: estimativas com base nos afastamentos. In: Campos AG, organizador. *Terceirização do trabalho no Brasil: novas e distintas perspectivas para o debate* [livro na Internet]. Brasília: Ipea; 2018. p. 187-203. [acessado 2019 Jan 12]. Disponível em: [http://www.ipea.gov.br/portal/images/stories/PDFs/livros/livros/180215\\_terceirizacao\\_do\\_trabalho\\_no\\_brasil\\_novas\\_e\\_distintas\\_perspectivas\\_para\\_o\\_debate.pdf](http://www.ipea.gov.br/portal/images/stories/PDFs/livros/livros/180215_terceirizacao_do_trabalho_no_brasil_novas_e_distintas_perspectivas_para_o_debate.pdf)
15. Schunke L, Giongo CR. Atravessamentos políticos: a cultura organizacional e o sofrimento moral no serviço público. *Rev Psicol Organ Trab* 2018; 18(3):449-456.

16. Estação de Pesquisa de Sinais de Mercado em Saúde (EPSM). *Levantamento sobre a desprecarização do trabalho em saúde no Brasil – 1992 a 2008* [relatório na Internet]. Belo Horizonte: NESCON; 2010. [acessado 2019 Jan 12]. Disponível em: <https://www.nescon.medicina.ufmg.br/biblioteca/registo/referencia/0000002137>
17. Bordignon M, Monteiro MI. Violence in the workplace in Nursing: consequences overview. *Rev Bras Enferm* 2016; 69(5):996-999.
18. Hagopian EM, Freitas GF, Baptista PCP, Assédio moral no trabalho em enfermagem. *Rev Baiana Enferm* 2017; 31(1):e16588.
19. Del Sarto AB; Alves NA, Paixão CJ. Estresse ocupacional e insatisfação com a qualidade de vida no trabalho da enfermagem. *Texto Contexto – Enferm* 2017; 26(1):e3940015.
20. Sousa LP, Guedes DR. A desigual divisão sexual do trabalho: um olhar sobre a última década. *Estud Av* 2016; 30(87):123-139.
21. Hirata H. Mulheres brasileiras: relações de classe, de “raça” e de gênero no mundo do trabalho. *Confins* [periódico na Internet]. 2016 [acessado em 2019 jan 14]; 26:[cerca de 13p]. Disponível em: <https://journals.openedition.org/confins/10754#quotation>
22. Dal Pai D, Sturbelle ICS, Santos C, Tavares JP, Lautert L. Violência física e psicológica perpetrada no trabalho em saúde. *Texto Contexto – Enferm* 2018; 27(1):e2420016.
23. Machado MH, Aguiar Filho W, Lacerda WF, Oliveira E, Lemos W, Wermelinger M, Vieira M, Santos MR, Souza Junior PB, Justino E, Barbosa C. Condições de trabalho da enfermagem. *Enferm Foco* 2016; 7(n. esp.):63-76.
24. Miranda H, Punnett L, Gore RJ. Musculoskeletal pain and reported workplace assault: a prospective study of clinical staff in nursing homes. *Hum Factors* 2014; 56(1):215-227.
25. Pacheco ES, Sousa ARR, Sousa PTM, Rocha AF. Prevalence of musculoskeletal symptoms related to nursing work in the hospital field. *Rev Enferm UFPI* 2016; 5(4):31-37.
26. Araújo-dos-Santos T, Oliveira AS, Santos HS, Melo CMM, Costa HOG. Denúncias das trabalhadoras da enfermagem aos sindicatos: o desafio da resistência e da ação. *Rev Baiana Enferm* 2018; 32:e20453.
27. Souza H, Mendes A. *Trabalho e saúde no capitalismo contemporâneo: enfermagem em foco*. São Paulo: Editora DOC; 2016.
28. Watson J, Kinstle A, Vidonish WP, Wagner M, Lin L, Davis KG, Kotowski SE, Daraiseh NM. Impact of Noise on Nurses in Pediatric Intensive Care Units. *Am J Crit Care* 2015; 24(5):377-384.
29. Jordão MM, Costa R, Santos SV, Locks MOH et al. Ruídos na unidade neonatal: identificando o problema e propondo soluções. *Cogitare Enferm* 2017; (22)4:e51137.
30. Brasileira de Normas Técnicas (ABNT). *NBR 10151 - Acústica - Avaliação do ruído em áreas habitadas, visando o conforto da comunidade – Procedimento* [documento na Internet]. Rio de Janeiro: ABNT; 2000. [acessado 2019 Jan 13]. Disponível em: <http://www.sema.df.gov.br/wp-conteudo/uploads/2017/09/NBR-10151-de-2000.pdf>
31. Fernandes ACF, Teles MB, Brito MMVS, Melo MP, Azevedo Júnior J, Sakay L. Poluição sonora em setores específicos do hospital regional de Gurupi/TO: avaliação dos parâmetros recomendados pelas normas técnicas de acústica da ABNT. *CEREUS* 2017; 9(1):106-117.
32. Pich J, Hazelton M, Sundin D, Kable A. Patient-related violence at triage: A qualitative descriptive study. *Int Emerg Nurs* 2009; 19(1):13-19.
33. Wray K. The American Organization of Nurse Executives and American Hospital Association Initiatives Work to Combat Violence. *J Nurs Adm* 2018; 48(4):177-179.
34. Wei CY, Chiou ST, Chien LY, Huang N. Workplace violence against nurses - Prevalence and association with hospital organizational characteristics and health-promotion efforts: Cross-sectional study. *Int J Nurs Stud* 2015; 56:63-70.
35. Davey MM, Cummings G, Newburn-Cook CV, Lo EA. Predictors of nurse absenteeism in hospitals: a systematic review. *J NursManag* 2009; 17(3):312-330.
36. Brasil. Congresso Nacional. Projeto de Lei nº 4.998, de 12 de abril de 2016. Acrescenta art. 15-A à Lei nº 7.498, de 25 de junho de 1986, para dispor sobre as condições de repouso dos profissionais de enfermagem durante o horário de trabalho. [documento na Internet]. 2016 [acessado 2019 Jan 13]. Disponível em: [https://www.camara.leg.br/proposicoesWeb/prop\\_mos\\_trar\\_integra;jsessionid=AB8DFD606B84C8A072BDF0D093539A80.proposicoesWebExterno1?codteor=1450169&file\\_name=PL+4998/2016](https://www.camara.leg.br/proposicoesWeb/prop_mos_trar_integra;jsessionid=AB8DFD606B84C8A072BDF0D093539A80.proposicoesWebExterno1?codteor=1450169&file_name=PL+4998/2016)

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