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Work ability and intending to leave the nursing profession in São Paulo

Capacidade para o trabalho e intenção de saída da profissão na enfermagem de São Paulo

Capacidad de trabajo e intención de dejar la profesión en enfermería en São Paulo

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ABSTRACT

Objective: to identify the profile of work ability and intention to leave the nursing profession. **Method:** in this cross-sectional study of 3051 nurses in São Paulo state, data on personal and occupational characteristics, working conditions, work ability and intention to leave were collected through the Internet. Descriptive analysis was performed and associations were identified using the chi-square test. **Results:** 55.4% of the nurses' work ability was impaired and 33.5% intended to leave. Intention to leave increased as impairment of fitness for work increased ($p < 0.001$). Inadequate physical and psychosocial work conditions were identified. **Conclusion:** impaired work ability and the intention to leave the profession were frequent among professional nurses, and their work was found to suffer from inadequate labour conditions.

Descriptors: Occupational Health; Health Personnel; Work Capacity Evaluation; Working Conditions.

RESUMO

Objetivo: identificar o perfil de capacidade para o trabalho e intenção de saída da profissão na enfermagem. **Método:** um estudo transversal junto a 3051 profissionais do estado de São Paulo, com coleta de dados realizada por meio da internet avaliando características pessoais, ocupacionais, condições de trabalho, capacidade para o trabalho e ISP. Foi feita análise descritiva dos dados e associações verificadas por meio do teste qui-quadrado. **Resultados:** entre os profissionais, 55,4% tinham capacidade para o trabalho comprometida e 33,5% tinham intenção de saída presente. A intenção de saída aumentava na medida em que aumentava o comprometimento da capacidade para o trabalho ($p<0,001$). Foram identificadas condições físicas e psicossociais inadequadas de trabalho. **Conclusão:** o comprometimento da capacidade para o trabalho e a presença de intenção de saída da profissão a foram frequentes entre os profissionais de enfermagem, sendo que condições laborais inadequadas estão presentes no trabalho desse contingente profissional.

Descritores: Saúde do Trabalhador; Trabalhador da Saúde; Avaliação da Capacidade de Trabalho; Condições de Trabalho.

RESUMEN

Objetivo: identificar el perfil de capacidad para el trabajo e intención de dejar la profesión en enfermería. **Método:** estudio transversal junto a 3051 profesionales del estado de São Paulo, con recolección de datos realizada a través de internet, evaluando características personales y ocupacionales, condiciones de trabajo, capacidad para el trabajo e intención de abandonarlo. Se realizó un análisis descriptivo de los datos y asociaciones verificadas mediante la prueba de chi-cuadrado. **Resultados:** Entre los profesionales, el 55,4% tenía capacidad de trabajo comprometida y el 33,5% tenía presente intención de dejarlo. La intención de abandonarlo crecía a medida que aumentaba la discapacidad para el trabajo ($p<0,001$). Se identificaron condiciones de trabajo físicas y psicosociales inadecuadas. **Conclusión:** la disminución de capacidad para el trabajo y la presencia de intención de dejar la profesión fueron frecuentes entre los profesionales de enfermería; se presentan también condiciones de trabajo inadecuadas en el trabajo de este contingente profesional.

Descriptores: Salud Laboral; Personal de Salud; Evaluación de Capacidad de Trabajo; Condiciones de Trabajo.

INTRODUCTION

Nursing is a key element to attain the sustainable development goals and the universal health coverage objectives[1]. However, the working conditions in this profession are characterized by intense physical and mental loads, including intensification of the exposure to adverse psychosocial factors[1-4]. Inadequate working conditions represent risks that can impair work ability (WA), and this impairment can be followed by increased intention to leave the profession (ILP)[1-3].

WA is the condition that workers have to perform their work and is the result of the relationships between individual resources (physical and mental capacity, skills and knowledge, lifestyles, sociodemographic conditions and values), physical, mental and social work demands, organizational culture and work environment[5-7]. WA impairment exerts negative effects, with illness, dissatisfaction at work, productivity loss, lower employability and early abandonment of the profession standing out[3,7].

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ILP regards the desire to leave the profession, being a predictor of a final decision to abandon it[3]. Early abandonment of the profession can be the result of pressure and attraction factors. The pressure factors are adverse aspects that lead people to the desire to stop working, such as negative working conditions or health problems. The attraction factors are incentives such as the possibility of further studies, another professional career or retirement regulation[3].

Follow-up studies and/or with large population groups have been conducted since the 1990s along with Nursing in Europe, investigating the issues related to WA and ILP[3]. In Brazil, the research studies are punctual and/or conducted in specific groups[1,2,7]. The country has more than 2,400,000 Nursing workers and 25.2% of them are in the state of São Paulo[8]. The objective of this study is to identify the profiles of WA and of ILP, in addition to describing individual characteristics and stressors of the physical and psychosocial work environment in this workforce.

METHOD

A cross-sectional study conducted with Nursing professionals from the state of São Paulo. Data collection took place between October 2018 and March 2019, when there were 495,602 professionals actively enrolled in the São Paulo Regional Nursing Council (*Conselho Regional de Enfermagem de São Paulo*, COREN-SP), distributed in 14 regional subsections.

The exclusion criterion was not having any valid electronic address registered (nearly 17.0% of the professionals). The research was made available to all of the 411,162 eligible professionals. Of these, 13.3% opened the message sent, 1.8% accessed the form, and 1.0% (3,993 individuals) completed it. Among the respondents, 942 (23.6%) were not active in the profession (although they did have an active enrollment in COREN-SP) and 3,051 (76.4%) were active. Among the non-active, 9.1% migrated to other professions/activities, 10.7% were unemployed, 2.1% were on leave or retired due to illness/accident/disability, and 1.7% were retired due to age and/or length of service. The 3,051 active respondents corresponded to an adherence rate of 0.74% in relation to those eligible. The analysis of losses showed a greater proportion in the sample than among non-participants regarding the age group under 40 years old (50.1% *vs* 48.3%, p=0.046), living in the Capital (36.8% *vs* 35.0%, p=0.049) and working as registered nurses (61.6% *vs* 26.8%, p<0.001).

COREN-SP sent an email message to the professionals containing information about the research and the link to access the *Google F*orm via Internet, as well as two other posts encouraging their participation.

The first module of the form contained questions about sociodemographic characteristics (sex, age, marital status, municipality of residence, monthly family income, COREN-SP subsections), lifestyle (tobacco use, alcohol consumption and CAGE questionnaire for the assessment of risky alcohol consumption, practice of physical activity and body mass index), occupational history (age at entrance into the workforce, length of service, schooling/degree, employment situation, employment contract, area of performance, position/function, second job, work shift, weekly working hours, recent history of work-related disease or injury).

The second module started with the Brazilian version of the WAI (Work Ability Index), providing a score from 7 to 49 points, based on 7 dimensions: current WA compared with the lifetime best; WA in relation to the demands of the job; number of current diseases diagnosed by physician; estimated work impairment due to diseases; sick leave during the past year (12 months); own prognosis of WA two years from now; mental resources[6,10]. The score was categorized as excellent, good, moderate or low WA, and the variable was dichotomized into impaired WA (moderate or poor) and preserved WA (excellent or good)[5,7,9].

ILP was assessed based on the "How often during the course of the past year you thought about giving up nursing?" question from the NEXT study[3]. The variable was dichotomized into "intention to leave the profession" (they consider the possibility several times a month or more often) and "no intention to leave the profession" (they consider the possibility a few times a year or never)[3].

To assess the risk of psychosocial stress at work, the Job Stress Scale was used, adapted for use in Brazil from the Job Content Questionnaire, based on the Demand-Control Model[10]. The scale has 17 questions that encompass the demands, control and social support dimensions[10]. The demands and control dimensions were dichotomized by the mean value of each score and combined into 4 categories: high-strain, active, low-strain, and passive job[7,10]. The social support at work dimension was dichotomized by the mean value of the score.

The stressors in the psychosocial work environment were assessed using the Brazilian version of the Effort-Reward Imbalance questionnaire, structured on the theoretical model of the same name and consisting of 23 questions covering 3 dimensions: effort, reward and overcommitment[10]. To classify imbalance, the ratio between effort and reward is calculated and multiplied by 6/11, providing a coefficient that varies from 0.17 to 5.00 points, and this score was categorized into tertiles[10]. Overcommitment was dichotomized by means of the mean value of the score.

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To assess characteristics of the physical environment that could contribute to musculoskeletal disorders, the version validated for use in Brazil of the Work-related activities that can contribute to job-related pain and/or injury questionnaire was used, providing a score from 0 to 150 points[10]. The scores were categorized in tertiles.

Sleep quality and presence of insomnia were assessed by means of the Portuguese version of Karolinska Sleep Questionnaire[11].

The questionnaires' reliability was investigated using the Cronbach's Alpha coefficient. A descriptive analysis was performed and the associations were verified using the chi-square test, adopting a descriptive level of $p<0.050$.

The study was approved by the COREN-SP Board. The researchers did not have access to the registry databases or to the professionals' identification, adhering to the COREN-SP premises of information safety. The study was approved by the Research Ethics Committee of the Public Health School of the University of São Paulo (No. 2,614,513) and was conducted according to the principles of the Declaration of Helsinki and of the World Medical Association. The workers' participation was voluntary, by signing the Free and Informed Consent Form, and confidentiality of the individuals' data was ensured.

RESULTS

The sociodemographic and lifestyle qualitative characteristics are presented in Table 1.

Table 1: Descriptive analysis of the study population according to demographic and lifestyle characteristics. São Paulo, SP, Brazil, 2019.

Variable		n	%
Sex	Female	2,612	85.6
	Male	436	14.3
	I don't want to answer	3	0.1
Age (Years)	Up to 30.0	476	15,6
	31.0 to 40.9	1,180	38.7
	41.0 to 50.9	797	26.1
	51.0 to 60.9	513	16.8
	61.0 and more	85	2.8
Marital status	Married / living with a partner	1,857	60.9
	Divorced / widowed	408	13.4
	Single	786	25.8
Monthly family income (national minimum wages)	10.1 and more	297	9.7
	7.1 to 10.0	509	16.7
	5.1 to 7.0	541	17.7
	3.1 to 5.0	881	28.9
	Up to 3.0	744	24.4
	I don't want to answer	79	2.6
Subsections	São Paulo – Capital	1,124	36.8
	Campinas	462	15.1
	Others	1,465	48.0
Tobacco use	No	2,769	90.8
	yes	282	9.2
Alcohol consumption	Never or rarely	1,738	57.0
	Eventually	1,201	39.4
	Often	112	3.7
Risky alcohol consumption	No	2,916	95.6
	Yes	135	4.4
Regular practice of physical activity	Yes	1,298	42.5
	No	1,753	57.5
Body mass index	Malnutrition	34	1.1
	Eutrophic	981	32.2
	Overweight	1,080	35.4
	Obesity	918	30.1
	Not reported	38	1.2
Sleep quality	Good	1,655	54.2
	Intermediate	880	28.8
	Poor	516	16.9
Insomnia symptoms	No	1,135	37.2
	Yes	1,916	62.8
	Total	**3,051**	**100.0**

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Most of the participants were women (85.6%) and married/with a partner (60.9%). The participants were young adults, with 54.3% younger than 41.0 years old. A monthly family income of up to 5.0 minimum wages was reported by 53.3% of the workers. The Subsections with the highest percentage of participants were São Paulo (36.8%) and Campinas (15.1%). It was observed that 90.8% stated that they did not smoke. Most had no routine consumption of alcoholic beverages (57.0%), but 4.4% of the participants showed risky consumption; 57.5% reported regular physical activity, 35.4% were overweight and 30.0% were obese. Regarding sleep, 45.8% reported medium/low sleep quality as a result of sleep disorders, and 62.8% reported insomnia symptoms.

Table 2: Descriptive analysis of the study population according to occupational characteristics. São Paulo, SP, Brazil, 2019.

Variable	n	%
Age at entrance into the workforce (years)		
Up to 14.0	330	10.8
14.0 to 17.9	1,165	38.2
18.0 and more	1,556	51.0
Time in the Nursing profession		
Up to 6.0	430	14.1
6.0 to 10.9	693	22.7
11.0 to 15.9	576	18.9
16.0 and more	1,352	44.3
Professional category		
Registered nurse	1,879	61.6
Nurse technician	993	32.5
Nurse assistant	179	5.9
Main employment contract		
Formal contract in a private institution	1,497	49.1
Civil servant	1,151	37.7
Others	403	13.2
Main area of performance		
Hospital	1,444	47.3
Primary heath care	660	21.6
Emergence services	315	10.3
Educational	146	4.8
Home services	105	3.4
Others	381	12.5
Position/function		
Direct patient care	2,025	66.4
Headship / leadership	596	19.5
Teaching / research	154	5.0
Others	176	9.0
Work-related disease or injury in the past 12 months		
No	2,100	68.8
Yes	951	31.2
Second job in the past 12 months		
No	1,977	64.8
Yes	1,074	35.2
Working at night shift (1st and/or 2nd job)		
No	2,164	70.9
Yes	887	29.1
Total weekly working hours – at job and at home		
Up to 39.9	151	4.9
40.0 to 49.9	419	13.7
50.0 to 59.0	567	18.6
60.0 to 69.0	677	22.2
70.0 to 79.0	569	18.6
80 and more	668	21.9
Total	**3,051**	**100.0**

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Among the workers, 49.0% started working before age 18.0 and 44.3% were active in the profession for at least 16.0 years. Among the participants, 61.6% were registered nurses, 32.5% were nursing technicians, and 5.9% were nursing assistants. The predominant employment contracts were private institutions (49.1%) and civil servants (37.7%). The main working areas were the hospital sector (47.3%) and primary health care (21.6%). The predominant positions/functions were provision of direct care to the patient/client (66.4%) and department head/leadership (19.5%). Work-related accidents/diseases in the last 12 months were reported by 31.2% of the professionals. Among the professionals, 35.2% had more than one job and 29.1% worked at night, with a total weekly workload (employment + housework) equal to or greater than 60.0 hours in 62.7% of the participants.

Figure 1 shows that inadequate work situations were more frequent in terms of high psychosocial demands (86.8%), high overcommitment (45.1%), high exposure to work-related activities that lead do pain and/or injury (36.2%) and high imbalance between effort and reward (31.6%).

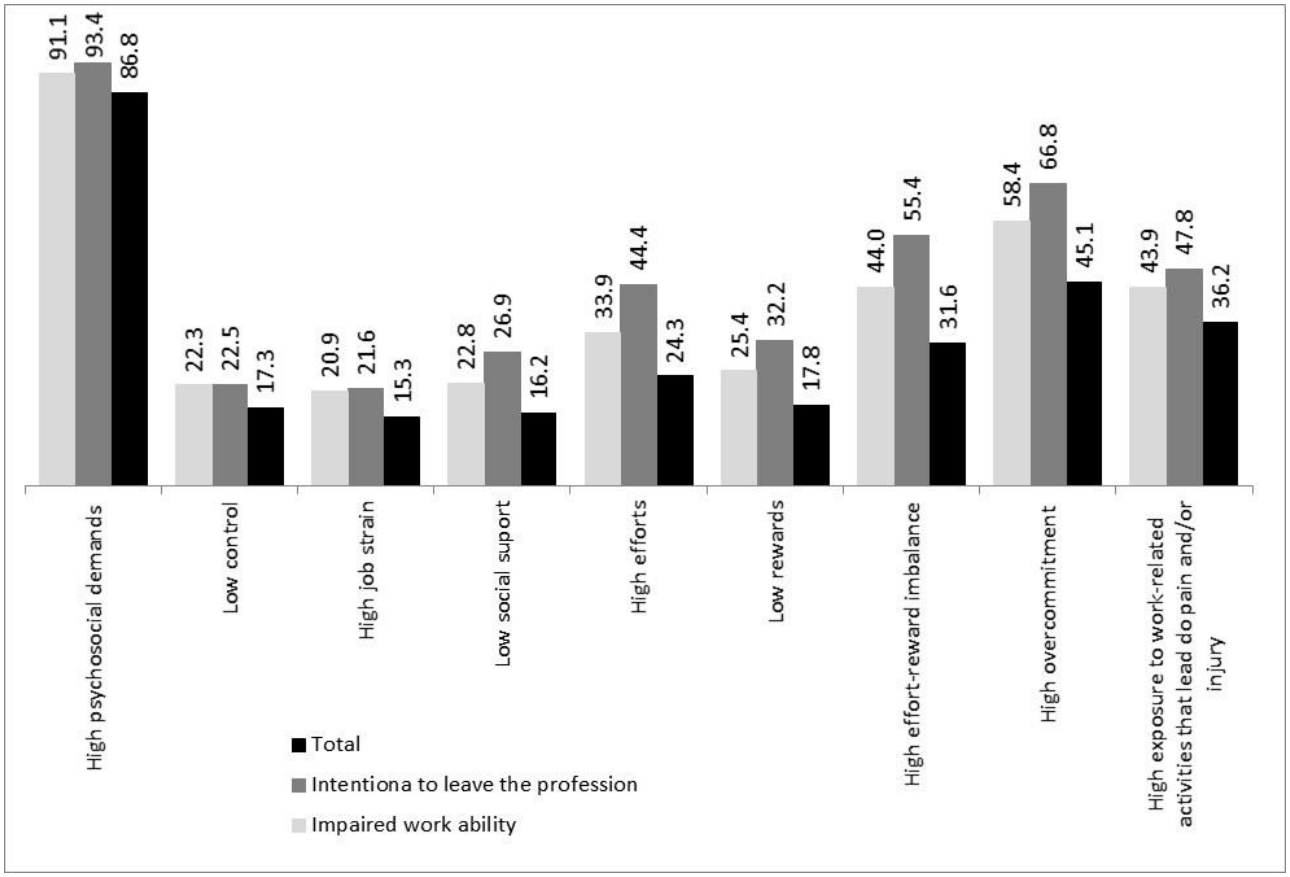

FIGURE 1: Frequency (%) of exposure to stressors in the psychosocial environment and working conditions according to the presence of intention to leave the profession, impaired work ability and for the total of participants, Nursing (n=3,051). São Paulo, 2019.

There was more frequent exposure among registered nurses and nursing technicians regarding high work demands (p=0.008); more frequent exposure among nursing technicians and nursing assistants regarding low control (p<0.001), high strain (p<0.001) and high and moderate exposure to work-related activities that lead do pain and/or injury (p<0.001); and more frequent exposure among registered nurses regarding high effort-reward imbalance (p=0.004) and high overcommitment (p<0.001).

The most frequent health problems reported were as follows: musculoskeletal disease on the back, arms, legs or elsewhere (62.9%); mild mental disorder (59.3%); injury resulting from an accident (58.9%); metabolic/endocrine disease (42.8%); respiratory disease (39.8%); neurological disease or sensory conditions (39.6%); and digestive disease/problem (38.8%).

Among the participants, 11.0% presented excellent WA; 33.6%, good; 36.4%, moderate; and 19.0%, poor, which indicates that 55.4% presented impaired WA. Registered nurses presented impaired WA with a lower frequency (51.7%) than technicians (60.7%) and assistants (64.2%) (p<0.001). As for ILP, 33.7% of the participants never thought about

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leaving Nursing; 32.5% thought about doing so a few times a year; 12.1% a few times a month; 9.7% a few times a week; 11.7% did so every day; and 0.2% did not answer, indicating that 33.5% of the workers often thought about leaving Nursing. ILP did not present any difference across the professional categories (p=0.128).

There was an association between WA and ILP (p<0.001), with an increase in ILP as WA decreased: 11.0% among the workers with excellent WA, 20.6% among those with good WA, 38.4% among those with moderate WA, and 60.1% among those with poor WA. Figure 1 illustrates that, among the professionals with impaired WA and among those with ILP, exposure to psychosocial factors and inadequate working conditions was more frequent than among the group of participants (p<0.001 for all the variables).

DISCUSSION

A high frequency of Nursing professionals with impaired WA and with ILP was observed. There was also moderate or intense exposure to the psychosocial factors at work (PSFW), especially to the psychosocial demands, which represent risks for stress, illness, work disability and intention to leave the profession. These results point to a worrisome situation in the Nursing workforce in the state of São Paulo.

There was predominance of females, young individuals, married/with a partner, with low family income and living in the São Paulo Subsection, a profile that is characteristic of the profession. Nursing work is historically undervalued and permeated by gender issues, which translates into inadequate working conditions, precarious work, low pay, and responsibility for partial or complete family income[1,7].

There was low frequency of smoking habit and risky alcohol consumption, but overweight/obesity and sedentary lifestyle were frequent, situations that can be favoured by inadequate working conditions, resulting in chronic diseases and impaired WA[7].

An important percentage of the workers started working at a very young age and were active in the profession for many years, indicating exposure to work risks for a long period of time. The predominant positions/functions were provision of direct care to the patient/client and department head/leadership positions at the intermediate level. The implementation of Nursing work processes takes place through vertically hierarchical structures, with division and fragmentation of activities and responsibilities, where nursing technicians and assistants primarily perform care tasks and nurses are in management activities[12].

Long and frequent double shifts were observed, including night work. These situations are associated with negative outcomes such as fatigue, illness, sleep disorders, impaired social/family relationships, productivity loss and errors in the provision of care[3,15]. A large portion of the workers reported insomnia symptoms and intermediate or poor sleep quality, which can be due both to exposure to an inadequate psychosocial environment and to working during the night or in shifts[7,11].

Exposure to inadequate working conditions was observed, including psychosocial and physical factors of the environment. These work characteristics favor the occurrence of mental distress, strain and illness[1,3,4,7]. These results were corroborated by the recent history of work-related accident or disease and self-reported health problems (musculoskeletal problems, injuries resulting from accidents and mental disorders). In Nursing activities, physical efforts are intense, many times potentiated by the unavailability of adequate material resources[3,4]. Growing mental illness in Nursing is also noteworthy, linked to exposure to inadequate situations in the psychosocial work environment, increased demands and precariousness of work[1,2,7,10]. In a recent study, 52.0% of the Nursing professionals reported having suffered some mental illness (especially anxiety, depression and exhaustion), mainly due to work overload, working conditions and organizational climate[8].

In this research, more than half of the Nursing professionals presented impaired WA. Even considering methodological and population differences, the result pointed to a more worrying profile than in other Brazilian studies, with values close to 40.0%[14,15]. A study conducted with nurses working in hospitals from 10 European countries evidenced impaired WA in 23.0% of the participants[3]. WA impairment is manifested as difficulties and hindrances that workers perceive when developing their work activities[3,6,7].

The place that workers occupy in work organization will determine what and how they will carry out their activities, conditioning different forms of exposure to the risks and different forms of illness. Registered nurses present impaired WA with a lower frequency than nursing technicians and assistants. This condition was observed in other studies, given that the division of the work among nursing professionals makes those performing tasks with greater physical loads present more intense and earlier illnesses[7,14].

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Nearly one third of the professionals had ILP, with no differences across the professional categories. This frequency was higher than that observed in other studies conducted in Brazil and in Europe, with variations from 16.0% to 24.9%[1-3]. ILP in Nursing is a public health problem when considering the relevance of these professionals in management and care practices, the unequal regional distribution, and the growing demand resulting from population aging[1].

This study showed a strong association between WA and ILP, and the literature evidences that workers with impaired WA have a higher risk of leaving their jobs[2,3]. The decision to leave the Nursing profession is preceded by the intention to leave, which in turn is influenced by a series of underlying factors, including negative aspects of the working conditions and of work organization, as well as personal and macro-social situations, in addition to impaired health and WA[1,3].

The psychosocial and physical stressors at work identified in this study occurred more frequently inappropriately among workers with impaired WA and with ILP. Exhausting physical and/or mental work increases susceptibility to illness, with a consequent limitation in WA, and leads workers to wanting to leave their jobs in the configuration in which they are, predicting ILP and contributing to voluntary or involuntary job termination[3,7]. Other studies point to the discrepancy between poor working conditions and WA, favoring ILP, with an emphasis on the unsatisfactory conditions of appreciation and development opportunities, excessive emotional demands and exhausting physical loads, and experience of exposure to violence[1-3].

The results of this exploratory study provide a profile of the situation and point to implications for public policies and institutional management in terms of promoting WA and preventing workers from leaving the profession. The strength of this study is that it is the first with state coverage of São Paulo, encompassing the different professional Nursing categories and their areas of performance, showing the characteristics of the problem (impairment of WA and ILP).

The option to collect the data via Internet was due to operational practicality in a statewide study. The response rate was 0.74%, close to the effectiveness expected by COREN-SP for email marketing actions[13], with greater participation of registered nurses than of nursing technicians and assistants. It is to be noted that low adherence does not eliminate the contribution that a study with volunteers can offer to deepen the understanding of clinical and social events and provide relevant information[16].

Despite institutional initiatives that have been developed in favor of Nursing[8], there is still much to be done to ensure that this workforce is healthy, capacitated and available to meet the needs of the population. Issues such as promotion of WA, prevention of ILP and improvement of the working conditions and of work organization, including adequate workloads, protection against occupational risks, professional appreciation and adequate remuneration, should be part of the public and institutional policies, with different types of intervention, adequate to the needs and expectations of each situation[1-3,7,12].

CONCLUSION

WA impairment and ILP in Nursing in São Paulo presented high percentages. These professionals often work in inadequate working environments and conditions, especially with regard to high psychosocial demands, imbalance between effort and reward received at work, high job strain at work, situations that–lead to musculoskeletal pain/injuries, and overcommitment at work.

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