Nurses' professional practice environment in Brazilian university hospitals: a multicenter cross-sectional study

Ambiente de prática profissional dos enfermeiros em hospitais universitários brasileiros: estudo transversal multicêntrico

Ambiente de práctica profesional de los enfermeros en hospitales universitarios brasileños: estudio transversal multicéntrico

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Abstract

Objective: To analyze and compare the professional practice environment of nurses in three university hospitals in Brazil and verify possible associations with sociodemographic and professional variables.

Methods: Multicenter, cross-sectional study with a quantitative approach, carried out with a total of 427 nurses from three university hospitals in the south and southeast regions of Brazil, using the Nursing Work Index Revised (NWI-R). For data analysis, we used descriptive and inferential statistics.

Results: The means of the NWI-R and its subscales of the three institutions were less than 2.5. The mean in the subscale "Autonomy" in the hospital in Rio Grande do Sul (2.25) is higher when compared to the mean in the hospital in Sao Paulo (2.01), and the mean in the subscale "Physician-Nurse Relations" in the hospital in Rio Grande do Sul (2.30) is higher than the other means (SP mean: 1.99 and SC mean: 2.09).

Conclusion: It is concluded that the environment of the investigated institutions is favorable to the professional practice of nurses, as they have autonomy, control over the environment, good relationships with physicians and organizational support. The perception of the practice environment is related to working time and intention to leave the job.

Resumo

Objetivo: Analisar e comparar o ambiente da prática profissional de enfermeiros de três hospitais universitários do Brasil e verificar possíveis associações com variáveis sociodemográficas e profissionais.

Métodos: Estudo multicêntrico, transversal com abordagem quantitativa, realizado com 427 enfermeiros de três hospitais universitários das regiões sul e sudeste do Brasil, por meio da aplicação do *Nursing Work Index Revised* (NWI-R). Para análise dos dados foi utilizada a estatística descritiva e inferencial.

Resultados: As médias do NWI-R e suas subescalas das três instituições foram menores que 2,5. A média na subescala "Autonomia" no hospital do Rio Grande do Sul (2,25) é maior quando comparada com a média do hospital de São Paulo (2,01), e a média na subescala "Relações Médico-Enfermeiro" no hospital Rio Grande do Sul (2,30) é maior do que as demais médias (média SP: 1,99 e média SC: 2,09).

Conclusão: Conclui-se que o ambiente das instituições investigadas é favorável à prática profissional dos enfermeiros, pois tem autonomia, controle sobre o ambiente, boas relações com os médicos e suporte organizacional. A percepção do ambiente de prática está relacionada ao tempo de trabalho e intenção de deixar o emprego.

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Conflicts of interest: none to declare.

Resumen

Objetivo: Analizar y comparar el ambiente de la práctica profesional de enfermeros de tres hospitales universitarios de Brasil y verificar las posibles asociaciones con variables sociodemográficas y profesionales.

Métodos: Estudio multicéntrico, transversal con abordaje cuantitativo, realizado con 427 enfermeros de tres hospitales universitarios de las regiones sur y sureste de Brasil, por medio de la aplicación del *Nursing Work Index Revised* (NWI-R). Para el análisis de los datos se utilizó la estadística descriptiva e inferencial.

Resultados: Los promedios del NWI-R y sus subescalas en las tres instituciones fueron inferiores a 2,5. El promedio en la subescala "Autonomía" en el hospital de Rio Grande do Sul (2,25) es más alto cuando comparado con el promedio del hospital de São Paulo (2,01), y el promedio en la subescala "Relaciones Médico-Enfermero" en el hospital Rio Grande do Sul (2,30) es más alto que el de los demás promedios (promedio SP: 1,99 y promedio SC: 2,09).

Conclusión: Se concluye que el ambiente de las instituciones investigadas es favorable a la práctica profesional de los enfermeros, pues tiene autonomía, control sobre el ambiente, buenas relaciones con los médicos y soporte de la organización. La percepción del ambiente de práctica está relacionada con el tiempo de trabajo y la intención de dejar el trabajo.

Introduction

Health care has been constantly improved due to the complexity of patients' illnesses, requiring trained professionals with extensive knowledge. Nursing is one of the professions that is part of the group of workers who promote care for these patients, exerting an important influence on the results to be achieved. However, the challenge of promoting quality care often comes up against work environments with a low number of workers, limited professional qualification, excessive number of patients, lack of material resources and inefficient management.[1,2]

Therefore, the practice environment is seen as an essential factor and can be defined by the characteristics of the workplace that make it easier or hinder the provision of care, work organization and quality of care.[3] The positive characteristics of the work environment, that is, those that make it easier tend to promote a work environment with greater involvement of professionals, with autonomy, leadership and greater satisfaction from them.[4] On the other hand, an environment with negative characteristics implies demotivation, lower productivity, emotional exhaustion, high turnover, health problems in workers and unsafe practices.[5-7] Therefore, the promotion of favorable practice environments is essential for a healthy work process, as well as for the qualification of nursing care.

Thus, several studies have been developed aiming to ratify the importance of a favorable practice environment for nurses' work. Studies show that positive practice environments are those in which leaders and managers are more engaged, encouraging professionals and seeking better resources for the practice environment, in addition to enabling the development of professionals' skills, reducing the occurrence of incidents and improve the relationship among multidisciplinary teams.[8,9]

In addition, the possibility of associating the practice environment with other scales, such as: Maslach Burnout Inventory (MIB); Safety Attitudes Questionnaire (SAQ); Grid & Leadership in Nursing – ideal behavior; Professional Satisfaction Index (PSI), provides an opportunity to know more consistently the nurse's practice environment and its various interfaces.

It is noteworthy that there is a certain limitation in recent international studies that used the NWI-R, since in the international context studies are more frequently using the PES-NWI. The PES-NWI has already been adapted and validated in several countries such as Australia, Belgium, China, Spain, Finland, Ireland, Netherlands, England, New Zealand, Norway, Switzerland, Sweden. In Brazil, it was recently validated by Gasparino and Guirardello (2015) and allows us to assess the presence of certain organizational characteristics present in the hospital environment that support professional nursing practice.

Therefore, it is evident in the literature that research has been carried out to characterize the work environment of nurses and its repercussions, with a focus on national and international studies.[1,10,11] In Brazil, several studies have been directed towards to assess the nurses' work environment. However, focusing mainly on the intensive care unit environment (ICU).[12-15]

Thus, it is essential to develop investigations to understand the characteristics of the nurses' practice

environment in other health care sectors and in the hospital context in a broader way, considering different national realities. It is believed that, with the development of these studies, it is possible to identify weaknesses in the practice environment and provide subsidies for the implementation of strategies that favor the professional practice of nurses and, consequently, the quality of care and professional satisfaction and contribute to the advance of knowledge on this subject.

Given the above, this research was developed with the aim of analyzing and comparing the professional practice environment of nurses in three Brazilian university hospitals and verifying possible associations with variables of sociodemographic and professional characterization.

Methods

This is a multicenter, cross-sectional, quantitative study carried out in three University Hospitals, located in the states of Rio Grande do Sul, Santa Catarina and Sao Paulo, Brazil. The three institutions are characterized as large teaching hospitals, with professionals linked through the Single Legal System (RJU) and the Consolidation of Labor Laws – CLT.

The hospital in Rio Grande do Sul is large and its attention is focused on the development of education, research and health care and serves 100% of patients through the Unified Health System – *Sistema Único de Saúde* (SUS). It covers a population of 1.2 million inhabitants, being a reference in medium and high complexity, as well as in urgent and emergency care for the population of 45 cities in the Middle-West Region of Rio Grande do Sul. It currently has a total of 403 inpatient beds, managed by the Brazilian Hospital Services Company (Ebserh).

The Santa Catarina hospital is also public and linked to the Brazilian Hospital Services Company. It provides care exclusively by the Unified Health System in four major basic areas: Clinical Medicine, Surgery, Pediatrics and Gynecology. In addition, it has emergency care working continuously, for adults and children, in increasing numbers and reaching an average of 400 patients/day. Also, it is a state reference in complex, clinical and surgical pathologies, with great demand in the area of cancer and major surgery, in various specialties.

Sao Paulo Hospital is a tertiary hospital of high complexity, currently with 436 beds and is primarily attended by SUS. It offers multidisciplinary health care in outpatient, inpatient and urgent and emergency modalities. The service coverage area is 5 million people in São Paulo, but it also serves patients from other states.

The study population consisted of clinical nurses working in intensive care, adult and pediatric inpatient units, emergency room, operating room, recovery room, clinics, and support services, who met the following inclusion criteria: being in professional practice at the time of data collection, working in the same sector for at least three months. The definition of this period was based on the assumption that this would be the minimum time for the nurse to be adapted to the work sector and could contribute more effectively to the study. Nurses who were on vacation or on leave for any reason during the data collection period were excluded.

All nurses were invited to participate in the survey. However, to avoid biases, the minimum sample criterion was adopted. To estimate the sample size, 95% confidence was used, sample error or maximum margin of error for a proportion of 5%. Therefore, from a total of 616 nurses, when applying the minimum sample calculation, a minimum of 238 participants were obtained, who would need to compose the sample. However, a total of 427 nurses participated in the study.

Data were collected from June 2018 to June 2019. Nurses who met the inclusion criteria were approached in person, in the workplace, and invited to participate in the research. After acceptance, the envelope was delivered, which contained the Informed Consent Form (ICF) and the data collection instruments, as well as the date for collection, which usually occurred on the next shift.

The data collection instruments were a sociodemographic and professional characterization form and the Brazilian version of the Nursing Work

Index – Revised (NWI-R).[16] The sociodemographic and professional characterization form contained the variables age, gender, marital status, education, position, employment relationship (CLT or RJU), work shift, other employment relationship, length of professional experience, length of work in the hospital, experience in the sector, number of patients per work shift, weekly workload, satisfaction with the job, assessment of patient care and intention to leave the current job next year.

Job satisfaction and patient care assessment were assessed using a four-point Likert scale. The higher the score, the greater the nurses' satisfaction with their work and the better the professionals' perception of nursing care for the patient. Intention to leave the job was assessed using a visual analogue scale with two extremes: no intention (zero) and high intention (ten) to leave the job in the next year.

The NWI-R was translated, adapted[17] and validated for the Brazilian context,[18] comprising 15 items, conceptually distributed into three subscales: autonomy, control over the environment and relationships between physicians and nurses. Of these 15 items, ten were grouped to derive the fourth subscale: organizational support.[16]

The autonomy and control over the environment subscales represent the freedom nurses have in solving problems that affect the quality of nursing care. The subscale relationships between physicians and nurses involves professional respect for the construction of effective communication with regard to patient care. The organizational support subscale comes from the three previously mentioned subscales, and is related to situations in which the organization provides support for nurses to develop their professional practice.[16]

The measurement scale of the NWI-R is of the Likert type, with a score ranging from one to four points, where "one" is totally agree and four totally disagree. The analysis is obtained by calculating the mean of the scores of the participants' answers, by item, by subscale and, finally, the total mean of the instrument. The lower the mean, the greater the presence of characteristics favorable to the professional practice of nurses.[16-19] Values below 2.5 points are considered favorable environments for professional practice and above 2.5 points are considered unfavorable environments.[20]

Data were analyzed using the Statistical Package for Social Sciences (SPSS), version 21. Descriptive statistical analyzes of frequency, central tendency and dispersion were performed, as well as some inferential analyzes between the NWI-R and professional variables.

The normal distribution was verified with the Shapiro-Wilk test, noting abnormalities in the variables: professional experience (years), length of work in the hospital (years), length of work in the sector (years), number of patients per work shift, weekly workload (hours) and intention to leave the current job in the next year, which were expressed as median and interquartile range. The other quantitative variables were expressed as mean and standard deviation.

To compare the means of the NWI-R questionnaire between hospitals, analysis of variance was performed and, when significant, analyzed using Tukey's post-hoc test. The correlations between the NWI-R and the professional variables studied were analyzed using the Spearman correlation test. A significance level was considered when p ≤ 0.05.

The research was approved by the Research Ethics Committee, protocol #2465337 (CAAE: 81601817200005346), and complied with the determinations of Resolution No. 466, of December 12, 2012 of the National Health Council.

Results

A total of 427 nurses from the three institutions investigated participated in the study. Table 1 contains information related to the personal and professional characterization of the participants, by institution.

According to table 1, there was a statistical difference between the three hospitals in the following variables: professional training, job satisfaction, assessment of the quality of nursing care provided, experience time, working time, time working in the sector, weekly workload and intention to leave the job. Table 2 presents data related to the analysis of the characteristics of the nurses' practice environment among the different institutions that constituted the study setting.

Table 1. Personal and professional characteristics of nurses, by institution

Variables	Rio Grande do Sul Mean (SD)	Sao Paulo Mean (SD)	Florianopolis Mean (SD)	p-value*
Age	38.5(8.6)	35.8(7.9)	38.2(7.9)	0.081
	n(%)	n(%)	n(%)	p-value**
Gender				
Female	209(88.6)	49(87.5)	118(88.1)	0.972
Male	27(11.4)	7(12.5)	16(11.9)	
Marital Status				
With a partner	187(79.9)	46(83.6)	101(75.9)	0.448
No partner	47(20.1)	9(16.4)	32(24.1)	
Employment Bond				
Public server	140 (59.8)	56 (100)	78 (58.2)	0.846
CLT regime	94 (40.2)	0 (0)	56 (41.8)	
Category				
Care nurse	221(93.2)	56(100)	121(90.3)	0.053
Manage nurse	16(6.8)	0(0)	13(9.7)	
Professional training				
Graduation	24(10.1)	4(7.3)	12(9)	<0.001
Residence	139(58.6)	23(41.8)	3(2.2)	
Specialization	62(26.2)	4(7.3)	57(42.5)	
Master's degree	9(3.8)	15(27.3)	53(39.6)	
PhD	3(1.3)	9(16.4)	9(6.7)	
Shift				
Morning	57(24.1)	23(41.1)	38(28.4)	0.017
Afternoon	59(24.9)	15(26.8)	31(23.1)	
Night	72(30.4)	11(19.6)	51(38.1)	
Others	49(20.7)	7(12.5)	14(10.4)	
Is there another relationship?				
Yes	22(9.3)	15(26.8)	20(14.9)	0.002
No	215(90.7)	41(73.2)	114(85.1)	
How do you feel about your current job?				
Very unsatisfied	23(9.7)	9(16.1)	3(2.2)	<0.001
Unsatisfied	18(7.6)	1(1.8)	22(16.4)	
Satisfied	142(60.2)	29(51.8)	96(71.6)	
Very satisfied	53(22.5)	17(30.4)	13(9.7)	
How do you assess the quality of nursing care provided to the patient?				
Bad	6(2.6)	1(1.8)	5(3.8)	<0.001
Good	121(51.9)	16(28.6)	109(82)	
Very good	106(45.5)	39(69.6)	19(14.3)	
	median [q1; q3]	median [q1; q3]	median [q1; q3]	p-value***
Experience time	12 [6; 17]	1 [0; 1]	1 [1; 2]	<0.001
Working time	3 [3; 12]	1 [1; 3]	1 [1; 2]	<0.001
Time acting in the sector	3[2; 5]	1 [0; 3]	1 [1; 2]	<0.001
Number of patient/shifts	18 [9; 27]	12 [6; 19]	15 [10; 28]	0.004
Weekly working hours	36 [31; 36]	40 [36; 44]	36 [30; 36]	<0.001
Intention to leave the job [0-10]	0 [0; 4]	0 [0; 1]	1 [0; 6]	<0.001

*Analysis of Variance; **Chi-square test; ***Kruskal-Wallis nonparametric test

Table 2. Analysis of the nurses' practice environment in the three institutions

NWI-R/SUB-Scales	Rio Grande do Sul (n= 235)	Santa Catarina (n= 134)	Sao Paulo (n= 56)	p-value*
Autonomy	2.25±0.52	2.12±0.61	2.01±0.65	0.008
Control over the environment	2.39±0.58	2.42±0.54	2.40±0.54	0.832
Physician/Nurse Relations	2.30±0.62	2.09±0.65	1.99±0.63	0.001
Organizational Support	2.26±0.47	2.23±0.52	2.18±0.46	0.523
NWI-R total	2.32±0.48	2.26±0.51	2.19±0.48	0.142

*Analysis of variance

According to table 2, the "Autonomy" and "Physician/Nurse Relationships" subscales showed significant differences in relation to the different institutions. When performing a pair-by-pair (post-hoc) test by Tukey, it was found that the mean of the "Autonomy" subscale in the hospital of Rio Grande do Sul (mean: 2.25) is higher when compared with the means of hospitals in Sao Paulo (mean: 2.01) and Santa Catarina (mean: 2.12). The mean of the

Table 3. Spearman's correlation coefficient between NWI-R subscales and professional variables

NWI-R/subscales	Experience Time	Working Time	Time working in the sector	Patient/ shift number	Weekly working hours	Intention to leave the job [0-10]
	r (p-value)	r (p-value)	r (p-value)	r (p-value)	r (p-value)	r (p-value)
Autonomy	0.084 (0.084)	0.051 (0.299)	0.095 (0.052)	-0.058 (0.253)	-0.027 (0.591)	0.142 (0.004)
Environment Control	-0.084 (0.085)	-0.047 (0.339)	-0.024 (0.619)	0.057 (0.259)	0.002 (0.969)	0.132 (0.007)
Physician/Nurse Relationships	0.122 (0.012)	0.099 (0.042)	0.079 (0.104)	0.059 (0.242)	-0.003 (0.944)	0.111 (0.023)
Organizational Support	-0.016 (0.745)	-0.004 (0.928)	0.022 (0.650)	-0.003 (0.960)	0.014 (0.781)	0.130 (0.008)
Total	0.024 (0.629)	0.018 (0.706)	0.043 (0.382)	0.025 (0.621)	-0.001 (0.982)	0.146 (0.003)

r = Spearman's correlation; Underlined correlations were significant

"Physician/Nurse Relationships" subscale in the hospital in Rio Grande do Sul (mean: 2.30) is also higher when compared to the other means (mean SP: 1.99 and mean SC: 2.09).

In the assessment of the NWI-R, four items obtained means above 2.5, which indicates that they are unfavorable for professional practice: "Enough staff to do the job" (2.67±0.99), "Sufficient time and opportunity to discuss, with other nurses, problems related to patient care" (2.59±0.85), "Adequate support service that allows me to dedicate time to patients." (2.51±0.81), and "Team with a sufficient number of nurses to provide patients with quality care" (2.50±1.02).

The existence of correlations between the NWI-R subscales was also evaluated, as well as the general mean with the quantitative variables: Experience Time; Working Time; Sector Performance Time; Number of patient/shifts; Weekly working hours; Intention to leave the job. These data are shown in table 3.

The data point to a positive correlation between the experience and working time variables with the subscale "Relationships between physicians and nurses", suggesting that the greater the experience and working time of nurses, the worse the perception of the relationship between physicians and nurses. The variable "Intention to leave the job" showed a positive correlation with all subscales of the NWI-R, that is, nurses who have a greater intention to leave the job evaluate the environment of professional practice worse.

Discussion

In recent years, Brazilian researchers have been encouraged to produce scientific evidence and innovative solutions to equip management and make actions more effective in the area of health and nursing. The achievement of this objective necessarily permeates the discussion on the characteristics and specificities of the professional nursing practice environment.

In this perspective, this study showed that the participants of the three institutions are predominantly female nurses, with a partner, bound by the Single Legal System, are performing care activities, have no other employment relationship, and feel satisfied with their work. When comparing the sociodemographic and labor characteristics between the investigated institutions, differences were observed in the variables professional training, job satisfaction, the assessment of the quality of nursing care provided, experience time, working time, time working in the sector, weekly working hours and intention to leave the job, which may be influencing the perception of the practice environment in the different institutions studied.

Thus, in order to contribute to the management and aiming at better nursing care processes, this study evaluated the practice environment of three university hospitals in Brazil, from the perspective of nurses, through the NWI-R. The findings reveal scores below the midpoint of 2.50, in the three subscales of the instrument and in the total assessment, which indicates favorable environments in the three institutions, especially the hospital in Sao Paulo, Brazil. Previous studies[14,21,22] that used the same practice environment assessment instrument also observed favorable results, while studies[23] that used, as an instrument, the Practice Environment Scale (PES), showed unfavorable environments. The difference observed in the studies mentioned

here may be related not only to the instrument used, but also to the study scenarios.

The environment, when favorable to professional practice, results in better results for patients, professionals and institutions. For patients, in order to reduce the mortality rate and increase satisfaction with the services.[24,25] In relation to professionals, it results in more job satisfaction and an improvement in the quality of care provided to the patient.[13] On the other hand, institutions have the benefit of reducing staff turnover and costs.[25]

Regarding the NWI-R subscales, "Autonomy" had a favorable average in the three hospitals, and the institution in Sao Paulo, Brazil, was more favorable when compared to the others. This result reveals that the nurses of the three institutions have control over their practice and freedom to make important decisions in patient care and at work, in addition to the nursing management supporting the team, in the face of decisions, even if these are contradictory with the from other professionals. It is worth noting that autonomy is related to the knowledge and skills acquired in professional practice.[26] In contrast, in a study carried out in Jordan, the assessment of organizational characteristics of hospitals, from the nurses' point of view, showed that related items the autonomy subscale were characteristic of an unfavorable environment, with a mean of 2.4.[27]

The results show a difference between the institutions studied. However, the fact that this subscale is considered favorable from the perspective of nurses participating in this study is positive. A Brazilian study, carried out with a total of 745 nurses from 40 public health institutions in Sao Paulo, showed a positive relationship between the autonomy subscale and the occurrence of burnout, inferring that it may have a protective effect on the development of the syndrome.[21]

As for "control over the environment", although this subscale was favorable in all hospitals that constituted the study setting, it had the highest means, that is, less favorable for the practice environment. It is noteworthy that all items that were assessed by nurses as unfavorable make up this subscale, which are environmental factors that involve the organization of work and are mainly related to human and material resources to handle the high demand for care.

Thus, these results can be explained by common characteristics in public or partially public hospitals, such as routine overcrowding, the high demand for patient care, which requires agility in care from professionals, due to the complexity and risk of life of the cases attended. Even so, when compared with other national[15] and international[28] studies in the three institutions, this subscale was better evaluated. In a study carried out with nurses from Estonia, the "control over the environment" ranged from 2.56 to 2.72.[28]

As for the Physician/Nurses ratio, the results showed a favorable mean for professional practice in the investigated institutions, with the hospital in Rio Grande do Sul being significantly larger than the others, suggesting a worse perception in this domain. It is noteworthy that this institution had the longest experience and work of professionals, variables that correlated with the physician/nurses relationship, since the longer this time, the worse this relationship. It is noteworthy that, at the hospital in Sao Paulo, Brazil, this subscale proved to be the most favorable for the professional practice environment. Other studies also showed a good relationship between physicians and nurses, also indicating that this is one of the most favorable practices and most related to satisfaction with the work environment. [14,29]

The organizational support, which is related to providing support for nurses to develop their professional practice, as well as the other subscales, was also evaluated as favorable to professional practice in the three investigated institutions. International studies have shown that factors such as: workplace, years in the profession, type of hospital and bed capacity can have implications for the nurses' practice environment.[10,30] It is noteworthy that the three institutions investigated in this study are large, have a differentiated structure, with a distinct number of professionals from all areas. The characteristics lead these institutions to follow some standards of structure, physical area, resources and staff, which automatically provide support for nurses to develop their professional practice.

The existence of correlations between the NWI-R and the quantitative variables studied was also evaluated. A positive correlation can be verified between the variables Experience and Working time with the subscale "Relationships between physicians and nurses", inferring that the greater the experience and working time of nurses, the worse the perception of the "Relationship between physicians/nurses". An inverse analysis of this data shows that nurses with less experience and working time tend to better assess the relationship between physicians and nurses. In this perspective, in a study with newly graduated nurses, who also assessed the practice environment as favorable, it was found that the most positive aspects were associated with the relationship between the physician and nurses, and the least positive aspects were associated with the adequacy of personnel and resources.[31]

The variable "Intention to leave the job" showed a positive correlation with all subscales of the NWI-R, that is, nurses who have a greater intention to leave the job evaluate the professional practice environment worse. In line with this result, a study carried out in Saudi Arabia shows that the nursing practice environment, together with the patient-nurse ratio, were predictors of burnout and dissatisfaction at work, leading to the intention to leave the job.[6] Another investigation[5] reveals, in addition to a similar association, a relationship of the practice environment inversely to the allocation of personnel and resources. Thus, the characteristics and conditions of the work environment, when favorable, provide healthier environments, allowing for lower rates of absenteeism and greater professional satisfaction.[32] Otherwise, an unfavorable work environment leads to worker dissatisfaction and, consequently, the intention to leave the current job.[33]

Thus, the study results contribute to the understanding of the professional practice environment of nurses in the hospital context. It was evident that autonomy and the relationship between physicians and nurses are the attributes of the practice environment that are best evaluated by research participants in the institutions studied. The characteristics of the nurses' practice environment, when favorable, provide better quality management, optimizing the care provided through safe care and professional satisfaction with the work environment.

As limitations, the study adopted a non-probabilistic sampling, which does not allow the generalization of its findings. Although more current instruments are available to measure the professional practice environment of nurses, at the time of designing the research project, the NWI-R was the longest validated instrument to be used in Brazil. In addition, the option to use the instrument is also related to the researchers' interest in studying the "autonomy" variable in the context of the multicentric macroproject developed.

Although the results point to a favorable environment in the three institutions, some findings suggest directions for the implementation of actions aimed at a favorable environment for nurses' professional practice.

It is recommended that workers constantly seek professional qualification, since the possession of knowledge implies autonomy of action, allowing respectability and reliability among professionals, solution of patients' needs and rational and effective action before the institution. On the part of organizations, the importance of providing opportunities for this improvement is pointed out, freedom, rewards for innovation at work and visibility in activities carried out within institutions.

The importance of nurses' involvement in multiprofessional committees/commissions is also highlighted, to actively participate in institutional decisions. In addition, it reiterates the need to create spaces that provide opportunities for workers to participate actively, with openness to suggestions about the organization of work and the care process. Another important aspect is the dimensioning of professionals, so that the number of human resources is adequate and allows nurses to dedicate themselves to care actions.

Conclusion

This study demonstrated that the environment of the investigated institutions is favorable to the professional practice of nurses. They judged to have autonomy, control over the environment, good re-

lationships with physicians and organizational support. It was also found that the greater the experience and working time of nurses, the worse the perception of the relationship between physicians and nurses, nurses who have a greater intention to leave their jobs evaluate the professional practice environment worse. Regarding the different institutions surveyed, it was observed that participants from the hospital in Sao Paulo, Brazil, were the ones who best evaluated their practice environment, especially with regard to the relationship between physicians and nurses. The hospital in Rio Grande do Sul, with the exception of the "control over the environment" subscale, had the highest means, which means a worse perception of the practice environment. Although, in general, the practice environment was evaluated as favorable, the study pointed out the importance of evaluating these characteristics, pointing to gaps to be improved, especially in relation to control over the environment. Thus, it is believed that studies like this one are essential to help nursing managers in planning actions to improve the quality of care and professional satisfaction. Therefore, these situations must be analyzed in order to elaborate strategies that allow improvements in the nurses' work environment, improving the results for the patient and bringing better results for the hospital organizations.

Collaborations

Camponogara S, Santos JLG, Balsanelli AP, Moura LN, Schorr V, Mello TS, Imasato LH and Freitas EO declare that they contributed to the conception of the study, analysis and interpretation of data, writing of the article, relevant critical review of the intellectual content and approval of the final version to be published.

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