Comparison between the accredited and non-accredited public hospital working environments

Comparação entre ambiente de trabalho de hospitais públicos acreditado e não acreditado

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Abstract

Objective: To compare and identify the working environment of accredited and non-accredited public hospitals.

Methods: A quantitative approach with two cross-sectional studies in parallel, with 106 nurses from the hospitals, conducted between January and September of 2014. Hospital A was not accredited, and Hospital B was accredited. Data collection used a questionnaire with sociodemographic labor information and the Nursing Work Index - Revised - Brazilian version (B-NWI-R), with 57 items and four domains. The reliability of the instrument was measured using Cronbach's alpha.

Results: The participants included 50 nurses of Hospital A and 56 of Hospital B. Hospitals were compared; there were statistically significant wage satisfaction (Hospital A showed greater salary satisfaction) and working hours (30-36 hours per week in Hospital B;40 hours in Hospital A). The environment was favorable to the four domains of B-NWI-R in both hospitals, regardless of accreditation status.

Conclusion: The administration of the instrument showed that hospital accreditation did not affect the nurses' work environment.

Resumo

Objetivo: Comparar e identificar o ambiente de trabalho de hospitais públicos sendo um acreditado e o outro não.

Métodos: Abordagem quantitativa, dois estudos transversais em paralelo, com 106 enfermeiros dos hospitais entre janeiro a setembro de 2014. Hospital A, não acreditado, e B acreditado. Coleta de dados por meio de um questionário com dados sóciodemográficos laborais e *Nursing Work Index - Revised* - Versão Brasileira (B-NWI-R) com 57 itens e quatro domínios. A confiabilidade do instrumento foi medida pelo alpha de Cronbach.

Resultados: Participaram 50 enfermeiros do hospital A e 56 do B. Comparados os hospitais, houve significância estatística na satisfação salarial (hospital A tem maior satisfação com o salário) e na jornada de trabalho (de 30 a 36 horas semanais no B enquanto no A 40 horas). O ambiente foi favorável aos quatro domínios da B-NWI-R em ambos hospitais, independentemente da acreditação ou não.

Conclusão: A aplicação do instrumento evidenciou que a acreditação hospitalar não interferiu no ambiente de trabalho dos enfermeiros

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Introduction

Health organizations have sought to improve quality of care for patients, which imply the continuous improvement of their practices that are mainly related to people and their development in the work process.

The environment is closely related to job satisfaction of health professionals, among these, nurses and their team, and the quality of care.[1]

In addition to influencing patient outcomes, the work environment also influences nursing outcomes due to work overload, poor working conditions, conflicting interpersonal relationships, lack of professional expectation, minimal professional autonomy, and ambiguity of functions that can compromise the work process as a whole.[2]

The evaluation of the quality of the work environment is a key indicator to support the practice of nurses who, as team leaders, need to have knowledge of the pillars that organize their practice in order to ensure quality of care.[3]

Therefore, an appropriate work environment is fundamental, not only for optimum results in terms of patient care, but also to provide an innovative climate for health staff, as a healthy work environment has a positive impact on the effectiveness of their own work.[4]

One of the possibilities for identifying the work environments of health organizations is the use of instruments that can measure objective aspects present in those environments.

The use of scales contributes to innovation and creation of new models, functions and changes, which can be identified and which contribute to the work of nurses, through the exploration of new ideas.[4]

For emphasizing the importance of this subject, studies were conducted with the prospect of identifying and analyzing the work environment of nurses and how this can affect the quality of care.[1,3-8]

Among the instruments developed, the *Nursing Work Index - Revised* (NWI-R) has been used in different cultures and professional nursing practice environments [7,8] It is an instrument that consists of 57 items, whose "objective is to measure the presence of certain characteristics of the work environment that favor the professional nursing practice"[8] The total number of items has four subscales: autonomy, control over the work environment, relationship between nurses and physicians, and support of organizations.[8]

This instrument was adapted and validated for the Brazilian culture, and the final version of the instrument was titled Nursing Work Index - Revised. - Brazilian version (B-NWI-R)[7.8] For the cultural adaptation of the instrument, some phases were followed: translation of the instrument to the Portuguese language, back translation of the instrument to the original language, evaluation of translated version by a group of experts,and pre-test.[9]

The B-NWI-R consists of 57 original items and the same subscales that contribute to assessing the presence of certain features in the nursing work environment may interfere with the level of professional satisfaction, perceptions of quality of care, turnover staff and *burnout* levels.[8] The challenge to optimize the safety and quality of care provided to patients in health institutions is present around the world. The quality of the nursing work environment interferes with the quality and safety of care provided.[10]

Therefore, the environment in which the working processes are developed is a fundamental aspect of quality, because this may be related to the context of evidence-based practice (EBP), due to its stressors, whether physical or psychological.[11]

Quality certification processes have contributed to health organizations' aiming toward excellence, having as principles scientifically grounded standards and the achievement of involving the organization as a whole.

The National Accreditation Organization (Organização Nacional de Acreditação - ONA) is a nonprofit, non-governmental entity, responsible for coordinating the entire system of accreditation, certifying the existing health organizations in the

country.[12-14] The standards are based on the principles of quality, involving structure, process and outcome.[13] The result of accreditation is reflected in the concepts: non-accredited, accredited (level 1), fully accredited (level 2), and accredited with excellence (level 3).[15]

Scientific production has increased significantly, making methodological approaches necessary that include the synthesis of the best scientific evidence to enable incorporation into health care practice, supporting the diagnostic, therapeutic and management decisions.[16]

Considering the importance of this subject, the lack of studies in Brazil using scales to measure the work environment, and the recognition that the use of instruments contributes to decision-making grounded in evidence justifies this research, which has as its questions: a) how do nurses assess their working environment according to the subscales: autonomy, control over the work environment, relationship between nurses and physicians, and organizational support? b) what is the correation between two public institutions, one accredited and another nonaccredited, with regard to the work environment?

Thus, the aim of this study was to identify and compare the nursing environment of public hospital A (nonaccredited) and B (accredited), by means of the B-NWI-R.

Methods

A quantitative approach was adopted to make the comparison between hospitals, regarding the characteristics of the work environment that favor professional nursing practice. The experiment consisted of two cross-sectional studies.

The survey was conducted in two public hospitals in the area of the Regional Health Department - VI (DRS-VI), which were named hospital A and B. Hospital A serves patients exclusively originating of the Unified Health System (SUS), and is a tertiary hospital, with an estimated population of 1.8 million people; it currently has 529 active beds . Hospital B is a public institution linked to the SUS, which has a level 1 accreditation certificate from ONA. It has 318 operating beds, and 63 additional beds.

The target population constituted of clinical nurses working in adult inpatient units of Hospitals A and B, working between January of 2014 to September of 2014. There was no sampling, because all the nurses (n = 185) who were working in the adult units met the inclusion criteria and were invited to participate. Of these, 106 (57.3%) agreed to participate (50 of Hospital A and 56 of Hospital B).

The B-NWI-R instrument uses a Likert scale, whose score ranges from one to four points. The participant was asked to answer whether they agreed or disagreed with the statement, "this factor is present in my daily work" with the options: totally agree (one point); partially agree (two points); partially disagree (three points), and totally disagree (four points), thus, the lower the score, the greater the presence of favorable attributes. [7,8] Values below 2.5 represent favorable environments for professional practice, and above 2.5 points, unfavorable environments. [17] Each score was calculated by averaging the responses given for the items.

The independent variable was Hospital A (nonaccredited) or B (accredited). The potential confounders listed were: nurse's academic level; weekly work hours (30, 36, 40); double or triple duty (no/yes); shift (day/night); work in long-term patient unit (no/yes); promotion in the last 12 months (no/yes); negative evaluation on the last administrative review (no/yes); satisfaction with remuneration (no/yes).

The dependent variable had the score of the four sub-scales related to B- NWI-R: - Score of the subscale "Autonomy" (range 1-4). This subscale was captured by five items of the B-NWI-R instrument: (items 4, 6, 17, 24 and 35) and measured how much autonomy favored nurses' activities. Score of the subscale "Control over the environment." This subscale was captured by seven items of the B-NWI-R instrument: (items 1, 11, 12, 13, 16, 46 and 48) and measured how the control of the environment favored the nurses'

activities. Score of the subscale "Relations between physicians and nurses." This subscale was captured by three items of the B-NWI-R instrument: (items 2, 27 and 39) and measured how the relationship between physicians and nurses was favorable to the nurses' activities.- Score of the subscale "Organizational Support". This subscale was captured by ten items of the B-NWI-R instrument: (items 1, 2, 6, 11, 12, 13, 17, 24, 27 and 48) and measured how organizational support favored nursing activities.

The scores of the B-NWI-R subscales were measured by direct administration of the questionnaire to nurses from each of the units of Hospitals A and B.

The variables with the potential confounding effect were provided by nurses when they answered the questionnaire.

Statistics were used to analyze the data in two stages. Phase 1 addressed the identification of potential confounders, using the nonparametric chi-square and Fisher's exact test. In Phase 2, the environment was compared to B-NWI-R scores using the non-parametric Mann-Whitney test.

The relationships were considered significant if $p < 0.005$. Analyses were performed using the Statistical Package for the Social Sciences software (SPSS), version 15.0 and R.v2.11.0.

The Cronbach's alpha coefficient was performed, as a statistical tool to evaluate the questionnaire's reliability through internal consistency.

There was no systematic error selection, because it was population-based research, namely, the nurses who worked in Hospitals A and B.

The study was registered in Brazil under the Platform Presentation of Certificate number to Ethics Assessment (CAEE) 23304713.4.0000.5411.

Results

The research sample included 106 nurses from the two hospitals studied, with 50 from Hospital A;41 (82%) were women, and nine (18%) men, with the predominant age group being between 20 to 35 years. Hospital B had 56 subjects, and of these, 52 (93%) were female and four (7%) male, showing the same age group as Hospital A.

The majority of the participating nurses from hospital A were white, 44 (88%), married 13 (26%), and had children, 12 (24%). From Hospital B, 40 (71%) were white, 26 (46%) were married, and 28 (50%) had children.

Regarding the academic level in Hospital A, only one (2%) nurse had a doctoral degree;- three (5%) from Hospital B had doctorates. With regards to the long-term patient unit, 45 (80%) of the Hospital B were working in those units, and from Hospital A , there were 34 (68%). Of the 50 nurses of Hospital A, 20 (40%) worked at night and 12 (24%) had other formal employment; while in Hospital B, 14 (25%) practiced at night, and 16 (28%) nurses had another job.

Regarding the evaluation of professional performance, in Hospital A, 2% of study participants were evaluated negatively, and two (4%) had a promotion in the previous threemonths. In Hospital B, ten (18%) received a promotion and three (5%) had a negative evaluation.

There was statistical significance in relation to the salary satisfaction and work hours. The nurses of Hospital A showed greater satisfaction with their salary (44%) when compared with Hospital B (14%), and the scheduled work of 30-36 hours per week was predominant in Hospital B (80%), while in the other institution , the schedule was equivalent to 40 hours or more per week.

Table 1 compares the two institutions in regard to demographic characteristics and labor.

Table 1 shows the relationship between environment and sociodemographic variables and some work variables; such variables were not considered to be confounding, because they were not related to the B-NWI-R score in any subscale.

Therefore, the comparison between the work locations relative to the B-NWI-R score was performed without the need for correction for any confounding effect (Table 2).

Table 1. Comparison of environment in relation to sociodemographic and work-related variables (n = 106)

Variable	Place of work		p-value
	A (n=50) n(%)	B (n=56) n(%)	
Male sex	9(18)	4(7)	0.137*
Age			
20-35 year old	45(90)	38(68)	0.011**
36-50 years old	5(10)	18(32)	
White ethnicity	44(88)	40(71)	0.036**
Married	13(26)	26(46)	0.029**
Had children	12(24)	28(50)	0.006**
Doctoral degree	1(2)	3(5)	0.620*
Working in a long-term patient unit	34(68)	45(80)	0.145**
Promoted in the last three months	2(4)	10(18)	0.032**
Negative evaluation	1(2)	3(5)	0.620**
Satisfied with salary	22(44)	8(14)	0.001**
Work schedule			
30-36 hours/week	25(50)	45(80)	0.002**
>40 hours/week	25(50)	11(20)	
Working night shift	20(40)	14(25)	0.099**
Another job	12(24)	16(28)	0.594**
Scheduled work shift hours (?)			
12-15h	1(2)	6(11)	0.116*

p< 0,005; * Fisher exact test ; ** chi-square

Table 2. Comparison between environment and the B-NWIR subscales (n = 106)

Variable	Place of work		p-value
	A(n=50)	B(n=56)	
Autonomy	2.0(1.0-4.0)	2.0(1.0-4.0)	0.987
Control over the environment	2.4(1.0-3.7)	2.2(1.1-3.7)	0.656
Relationships between physicians and nurses	2.0(1.0-4.0)	2.3(1.0-4.0)	0.429
Organizational support	2.2(1.0-3.9)	2.2(1.1-3.8)	0.914
General	2.3(1.1-3.7)	2.3(1.1-3.3)	0.737

p < 0.005; Mann-Whitney

Table 3. Reliability of the B-NWI-R

B-NWI-R Subscale	Cronbach's Alpha
Autonomy	0.71
Control over the environment	0.71
Relationships between physicians and nurses	0.73
Organizational support	0.82
General	0.95

The reliability of the scale was analyzed using Cronbach's coefficient that was calculated for each subscale and the total instrument items. Table 3 shows the results.

Discussion

This study had as a limitation the lack of participation of all nurses, of both Hospital A and B, that were working during the study period and also the lack of involvement of other accredited and non-accredited public hospitals ,for better coverage and comparability.

The contribution of the study was to understand, from the perspective of clinical nurses, the public hospital work environment and the differences and similarities of that environment between accredited and nonaccredited hospitals. The administration of this instrument in the nursing work context supports managers in improving that environment.

In the current study, the sample characteristics of the nurses was similar to that in other studies conducted, and the profile of the workers were predominantly young, female adults, which is justified by the historical character of the profession.[7,17,18]

The competitiveness of the market and the need to seek technological innovations in care practice through direct care or quality managers, educators, researchers, have been shown to trigger stress in the nurse.[19]

A statistical significance was observed between the ratio of nurses at the two hospitals in relation to their satisfaction with their salary, in which the nurses from Hospital A proved more satisfied when compared to those who work in Hospital B. In addition to the high competition, lack of contentment with the salary level can lead to stress, which when added to other factors leads to *burnout* syndrome. In this view, this syndrome comes from chronic occupational stress, absorbing negative consequences related to the individual, profession, family, society and institution, which leads the employee to lose the ability to reorganize and find fulfillment in existing demands.[20-22] This situation is also explained considering the features of nursing work, such as extended shifts, multiples jobs, in addition to domestic work that is characteristic with women, leading to a double or even a triple workday.[23]

Work overload, an extensive schedule, limited technical skills, conflict management, lack of social support at work, and failures in problem-solving can lead the professional to exhibit mood disorders.[24] In another study, depression was associated with

burnout syndrome, including emotional exhaustion, which can lead to depersonalization and result in job dissatisfaction.[25]

Most participants reported not having other employment, a finding also obtained in other studies conducted in the country.[7,8]

With regard to the reliability of the scale, the Cronbach's alpha coefficient was satisfactory and similar to the study that validated this scale for use in Brazil.[17] A study that administered this scale to nurses working in intensive care units (ICU) demonstrated that the scale measures what it proposes to measure.[3]

The application of B-NWI-R in this study revealed that the sample of nurses from Hospital A and B had autonomy and control over their environment, respect between physicians and nurses and favorable organizational support, as values presented below 2.5, regardless of where they worked.[7] This finding was similar to the study, cited earlier, conducted in the ICU of public and private hospitals in Brazil, since there was no significant difference related to the four sub-items of B- NWI-R mentioned.[3]

The hospital accreditation process did not interfere by providing a more favorable working environment in the accredited hospital. This finding leads to the conclusion that other factors are involved in the work environment.

The work environment consists of physical and social spaces. Regarding the social environment, interpersonal relationships supported by self-knowledge and knowledge of others may be strategies that favor the quality of work life, humanizing the process.[26]

The organizational context is critically important to the impact of nursing actions and the use of this instrument can capture the environment, thus contributing to the nursing management process.[27]

Conclusion

This research allowed for the analysis of the nursing work environment of two public hospitals, showing, through the use of the B-NWI-R instrument, that the environments were favorable in the dimensions of autonomy, control over the environment, respect between physician and nurses, and organizational support. There was no significant difference in relation to the work environment in the dimensions mentioned above between the accredited and non-accredited hospital. The differences were presented in relation to work hours and satisfaction with salary, as in the nonaccredited organization nurses had fewer work hours and were more satisfied with their salary.

Collaborations

Oliveira PB and Spiri WC declare that they contributed to the study design, relevant critical review of the intellectual content, analysis, data interpretation, article writing, and final approval of the version to be published. Dell'Acqua MCQ and Mondini CCSD collaborated with the relevant critical review of the intellectual content, and final approval of the version of the article to be published.

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