Original Article

# Association between nurses' quality of life and work environment

## Associação entre qualidade de vida e ambiente de trabalho de enfermeiros

## Asociación entre calidad de vida y ambiente de trabajo en enfermeros

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**Keywords**
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**Abstract**
**Objective:** To verify the association between demographic and labor data, quality of life and work environment of nurses.
**Methods:** Cross-sectional and correlational study conducted in a tertiary university hospital from January to June 2017 with 143 nurses through self-administered instruments. The relationship between scores of quality of life, work environment, and demographic and labor data was analyzed by adjusting multiple linear regression models with a normal response for each domain of the instrument. Relationships were statistically significant if $p<0.05$.
**Results:** The work environment presented a mean value of 2.3 and the quality of life 14.1. The following associations showed negative statistical significance: work in special and closed units in the physical and psychological domains; promotion in the previous 12 months in the psychological domain; positively evaluated in the social domain; organizational support in the social domain; and working 36-40 hours per week in the environment domain. The positive associations were: satisfaction with the salary in the psychological and environment domains; control over the environment in the social domain; and working time of six to 15 years and >20 years in the environment domain.
**Conclusion:** The scales presented favorable scores for quality of life and work environment. The associations showed statistical significance in better quality of life scores for those satisfied with the salary and with work time of over six years, and lower scores for those working in closed and special units, for 36-40 hours a week and who were promoted and evaluated positively in the previous 12 months.

**Resumo**
**Objetivo:** Verificar a associação entre dados demográficos e laborais, qualidade de vida e ambiente de trabalho dos enfermeiros.
**Método:** Pesquisa transversal e correlacional em hospital universitário terciário. Participaram 143 enfermeiros, por meio de instrumentos autoaplicáveis no período de janeiro a junho de 2017. A relação entre escores da qualidade de vida, ambiente de trabalho e dados demográficos e laborais foi analisada pelo ajuste de modelos de regressão linear múltipla com resposta normal para cada domínio do instrumento. Relações foram estatisticamente significativas se $p<0,05$.
**Resultados:** O ambiente de trabalho apresentou média de 2,3 e a qualidade de vida 14,1. As associações mostraram significância estatística negativa: trabalho em unidades especiais e fechadas nos domínios físico e psicológico; receberam promoção nos últimos 12 meses no domínio psicológico; avaliados positivamente no domínio social; suporte organizacional no domínio social e trabalham de 36-40 horas semanais no domínio ambiental. As associações positivas foram: estão satisfeitos com o salário nos domínios psicológico e ambiental; controle sobre o ambiente no domínio social e tempo de trabalho de seis a 15 e >20 anos no domínio ambiental.
**Conclusão:** As escalas apresentaram escores favoráveis para qualidade de vida e ambiente de trabalho. As associações mostraram significância estatística em melhores escores de qualidade de vida para os que estão satisfeitos com o salário e com tempo de trabalho acima de seis anos e escores menores para os que trabalham em unidades fechadas e especiais, 36-40 horas semanais e que foram promovidos e avaliados positivamente nos últimos 12 meses.

**Resumen**
**Objetivo:** Verificar la asociación entre datos demográficos y laborales, calidad de vida y ambiente de trabajo de los enfermeros.
**Método:** Investigación transversal y correlacional en un hospital universitario terciario, a través de instrumentos autoaplicables. Participaron 143 enfermeros en el período comprendido entre enero y junio de 2017. La relación entre puntuaciones de la calidad de vida, ambiente de trabajo y datos demográficos y laborales fue analizada por el ajuste de modelos de regresión lineal múltiple con respuesta normal para cada ámbito del instrumento. Las relaciones fueron estadísticamente significativas si $p <0,05$.
**Resultados:** El ambiente de trabajo presentó un promedio de 2,3 y la calidad de vida 14,1. Las asociaciones que mostraron significación estadística negativa fueron: trabajo en unidades especiales y cerradas, en los campos físico y psicológico; han recibido promoción en los últimos 12 meses, en el ámbito psicológico; evaluados positivamente, en el ámbito social; apoyo organizacional, en el ámbito social, y trabajan de 36-40 horas semanales, en el ámbito ambiental. Las asociaciones positivas fueron: están satisfechos con el salario, en los ámbitos psicológico y ambiental; control sobre el medio ambiente, en el ámbito social, y tiempo de trabajo de seis a 15 y> 20 años, en el ámbito ambiental.
**Conclusión:** Las escalas presentaron puntuaciones favorables para calidad de vida y ambiente de trabajo. Las asociaciones mostraron significancia estadística en mejores puntuaciones de calidad de vida para los que están satisfechos con el salario y con el tiempo de trabajo por encima de seis años y puntuaciones menores para los que trabajan en unidades cerradas y especiales, 36-40 horas semanales, y que fueron promovidos y evaluados positivamente en los últimos 12 meses.

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## Introduction

In the hospital setting, nursing professionals are in direct contact with pain and suffering by taking care of basic human needs with emphasis on physical and emotional needs. Thus, these workers may have physical and mental impairment, which contributes to the reduction of labor capacity and interferes in quality of life (QoL).[1]

When evaluating the QoL of the nursing team in the Intensive Care Unit (ICU), as well as sociodemographic and work factors, researchers found a relatively low QoL in all dimensions studied.[2] In another study, the objective was to investigate specific patterns of the nursing profession and the existence of associations that could affect QoL, and it was found impairment in sleep quality, especially in females.[3]

Thus, health workers' satisfaction is directly related to the environment where they are inserted, and this can influence the quality of care provided, reduce the level of burnout, decrease the mortality rate and, consequently, decrease turnover and absenteeism.[4]

Resources for the development of work are also very important for workers' health and wellbeing, as they promote work engagement and produce positive results in teamwork and interprofessional collaboration, thereby reducing stress and burnout, and making the exercise of professionals' autonomy possible.[5]

The degree of satisfaction in the work environment (WE) is also related to job interest, rewards, interpersonal relationships with colleagues and managers, workplace risks, including stress and fatigue, as well as other specific factors of the profession.[6]

Work overload, its conditions, interpersonal conflicts, frustrated expectations, lack of autonomy and double work shifts can harm the work process in general, whereas the healthy and innovative workplace has a positive influence on patient care, as well as on professionals' wellbeing.[7,8]

Therefore, both QoL and the workplace interfere in nurses' work process, in spite of the scarcity of the literature on how these aspects are articulated.

The justification for this study is the relevance of correlating the quality of life and work environment of nurses with the purpose of promoting changes that may interfere positively in this quality of life with impact on the care provided.

With the question "Does nurses' work environment interfere in their quality of life?", the objective of this study was to find the association between demographic and labor data, quality of life and nurses' work environment.

## Methods

A quantitative cross-sectional study developed at a large tertiary care level university public hospital located in the state of São Paulo that is a reference of the Health Care Network 9. It was approved by the Research Ethics Committee (Protocol number 62214116.7.0000.5411).

The study used an intentional non-probabilistic sample composed of 143 nurses who were working in the period of January-June 2017, available and accepted to participate in the study. They corresponded to 52% of the hospital nurses.

The instruments used for data collection were the World Health Organization Quality of Life (WHOQOL-Bref) and Nursing Work Index Revised (B-NWI-R) in validated Brazilian versions. They were self-completed by interviewees themselves.[9,10]

The WHOQOL-Bref is a generic QoL instrument composed of 26 items and four domains, namely the physical, psychological, social and environment in a 1-5 Likert scale. The mean score in each domain indicates individuals' perception of their satisfaction in every aspect of their lives regarding their quality of life. The higher the score the better that perception. In the calculation, was considered the Raw Score (RS) by summing the scores of each question and then generating a Transformed Score (TS 4-20) of values ranging from 4 to 20.[9] The closer to 20, the better the perception of QoL.

The B-NWI-R instrument is composed of 57 items with four subscales, namely: autonomy, control over the work environment, physician-nurse re-

lationship and organizational support. It is a Likert scale with scores ranging from 1 to 4, as follows: totally agree; partially agree; partially disagree and totally disagree. Values below 2.5 represent favorable environments to professional practice, and values above 2.5 points represent unfavorable environments.[11] Each score was calculated by the mean value of answers given in their items.

Demographic and employment variables include sex, ethnicity, marital status, weekly working time, work in unit with patients hospitalized above five days, promotion in the previous 12 months, negative evaluation of professional performance, work shift, other formal employment, time of work, satisfaction with the salary, academic level and workplace.

According to the characteristic of the study scenario organization, workplaces were grouped in: wards; closed units (CU) composed of surgical center, materials and sterilization center and intensive care units; special units (SU) that included hemodialysis service, diagnostic imaging center, emergency department, immunization reference center, antalgic therapy, laboratories, radiotherapy service, nutritional therapy service, organ procurement organization unit; and nursing management (NM) composed of internal regulation nucleus, infection control commission related to health care and unit of orthoses and prostheses.

The dependent variables were the scores of the B-NWI-R subscales and scores of the WHOQOL-Bref domains.

The relationship between scores of QoL domains of the WHOQOL-Bref, B-NWI-R and demographic and labor factors was analyzed by adjusting multiple regression models with normal response for each WHOQOL-Bref domain. Relationships were considered statistically significant if $p<0.05$. The SPSS software (Statistical Package for the Social Sciences) version 21.0 was used in the analysis.

## Results

The predominant characteristics of the study sample were the following: female sex, white ethnicity, no partner, 36-40 hours of weekly work in the daytime or nighttime in units with patients hospitalized above five days; no other formal job and less than five years of working time. As for professional performance, the majority was evaluated positively, was not promoted in the previous 12 months and was not satisfied with the salary. The high percentage of nurses with an academic level higher than graduation is noteworthy (Table 1).

**Table 1.** Nurses' demographic and labor data (n=143)

| Variable | n(%) |
|---|---|
| Sex | |
| Female | 127(88.8) |
| Male | 16(11.2) |
| Ethnicity | |
| White | 117(81.8) |
| Mixed race | 19(13.3) |
| Black | 07(4.9) |
| Marital status | |
| No partner | 75(52.4) |
| With partner | 68(47.6) |
| Weekly working time | |
| 30h | 49(36.7) |
| 36–40h | 82(57.3) |
| Double (work) day | 12(8.4) |
| Work in unit with patients hospitalized for more than five days | |
| Yes | 75(52.4) |
| No | 68(47.6) |
| Promotion in the previous 12 months | |
| Yes | 16(11.2) |
| No | 127(88.8) |
| Negative evaluation of professional performance | |
| Yes | 06(4.2) |
| No | 137(95.8) |
| Workshift | |
| Day or night | 131(91.6) |
| Day and night | 12(8.4) |
| Another formal employment | |
| Yes | 18(12.6) |
| No | 125(87.4) |
| Working time | |
| <5 years | 69(48.3) |
| 6 to 10 years | 31(21.7) |
| 11 to 15 years | 24(16.8) |
| 16 to 20 years | 11(7.7) |
| >20 years | 08(5.6) |
| Satisfaction with salary | |
| Yes | 43(30.1) |
| No | 100(69.9) |
| Academic level | |
| University graduate | 31(21.7) |
| Specialization | 91(63.6) |
| Master's degree | 19(13.3) |
| PhD | 02(1.4) |
| Workplace | |
| Wards | 44(30.8) |
| Closed units | 40(28.0) |
| Special units | 43(30.1) |
| Management services | 16(11.2) |

The application of the B-NWI-R scale showed that the mean of overall items of the instrument and its subscales was less than 2.5, as shown in table 2.

**Table 2.** B-NWI-R scale and the subscales: control over the environment, autonomy, physician-nurse relationship and organizational support (n=143)

| Scales | Mean | Minimum | Maximum |
|---|---|---|---|
| B-NWI-R-Overall | 2.3 | 1.2 | 3.7 |
| B-NWI-R-Control over environment | 2.4 | 1.0 | 3.9 |
| B-NWI-R-Autonomy | 2.1 | 1.0 | 3.6 |
| B-NWI-R-Physician-nurse relationship | 2.3 | 1.0 | 4.0 |
| B-NWI-R-Organizational support | 2.2 | 1.0 | 3.6 |

B-NWI-R: Nursing Work Index – Revised – Brazilian version

The QoL measured by the WHOQOL-Bref demonstrated a mean value greater than 14 in the different domains and overall (Table 3).

**Table 3.** Quality of life - WHOQOL-BREF and the physical, psychological, social and environment domains (n=143)

| Domains | Mean | Minimum | Maximum |
|---|---|---|---|
| Overall | 14.1 | 4.0 | 20.0 |
| Physical | 15.5 | 8.0 | 20.0 |
| Psychological | 14.2 | 8.0 | 19.3 |
| Social | 15.2 | 6.7 | 20.0 |
| Environment | 14.1 | 8.0 | 19.0 |

WHOQOL-BREF: World Health Organization Quality of Life – Abbreviated version

The statistically significant associations between demographic and labor factors, the WHOQOL-Bref with its domains (physical, psychological, social and environment), and B-NWI-R with its subscales (autonomy, control over the environment, physician-nurse relationship and organizational support) are described in table 4.

**Table 4.** Multiple linear regression for the association of demographic and labor factors with the WHOQOL-Bref domains and B-NWIR with p<0.05

| Variable | β | 95%CI | | *p-value* |
|---|---|---|---|---|
| Physical domain | | | | |
| Special units | -1.53 | -2.49 | -0.57 | 0.002 |
| Closed units | -1.25 | -2.05 | -0.45 | 0.002 |
| Psychological domain | | . | . | . |
| Special units | -1.11 | -2.07 | -0.16 | 0.023 |
| Closed units | -1.19 | -1.98 | -0.39 | 0.004 |
| Received promotion | -1.14 | -2.08 | -0.20 | 0.017 |
| Satisfied with salary | 0.76 | 0.04 | 1.48 | 0.039 |
| Social domain | | | | |
| Positive evaluation of professional performance | -2.73 | -4.72 | -0.75 | 0.007 |
| B-NWI-R Control over environment | 3.65 | 1.39 | 5.91 | 0.002 |
| B-NWI-R Organizational support | -4.91 | -8.11 | -1.70 | 0.003 |
| Environment domain | | | | |
| 36-40 | -0.74 | -1.33 | -0.14 | 0.015 |
| Working time >20 years | 2.65 | 1.18 | 4.12 | 0.000 |
| Working time 11 to 15 years | 1.01 | 0.17 | 1.85 | 0.018 |
| Working time 6 to 10 years | 1.02 | 0.33 | 1.70 | 0.004 |
| Satisfied with salary | 1.09 | 0.47 | 1.71 | 0.001 |

Thus, in the association with the physical domain, work in the SU was on average 1.53 points (p=0.002) and in the CU was 1.25 points (p=0.002) lower than in the other unit types. The association of the psychological domain of QoL with demographic and labor factors and the B-NWI-R scale showed that, on average, the score was 1.11 points (p= 0.023) lower among those working in the SU, 1.19 points (p=0.004) lower among those working in the CU, and 1.14 points (p=0.017) lower among those who received promotion in the previous 12 months. As a positive factor, the association is, on average, 0.76 points (p=0.039) higher among those satisfied with the salary. Data showed that the association between the social relationships domain of the WHOQOL-Bref, B-NWI-R scale and demographic and labor factors are statistically important for those evaluated positively, since on average, it is 2.73 points (p=0.007) lower among those with organizational support, with a mean of 4.91 points (p=0.003) lower, and among those who have control over the environment with a mean 3.65 points (p=0.002) higher. In the association of the environment domain of the QoL scale with the B-NWI-R scale and demographic and labor factors, the statistical significance was related to those working 36-40 hours, since the score in this domain is on average 0.74 points (p=0.015) lower. However, aspects with a higher mean score in terms of working time stood out in this domain, as follows: 2.65 points (p=0.000) among those who have been working for more than 20 years, 1.01 points (p=0.018) among those working between 11-15 years, and 1.02 points (p=0.004) among those working 6-10 years. Another highlight is the favorable aspect related to those satisfied with the salary, since the score in this domain is, on average, 1.09 points (p=0.001) higher.

## Discussion

The results of this study enable the conduction of other studies and represent knowledge advancement on the interrelationship between the work environment and nurses' quality of life. This may

contribute to the development of strategies for improving this environment that impact on these professionals' quality of life and the quality of care provided to patients and their families through better work processes.

A limitation of the study was the collection of data through self-administered questionnaires hence, honesty in the answers was exclusively of the participating professionals.

Demographic and labor data showed a predominance of female professionals, which reinforces the national and international profile of nursing.[12] In a Brazilian study, it was found that approximately 86% of nurses are female and 52% are in the age group of up to 35 years, thereby demonstrating a female profession of young adults.[13]

The workload of 36-40 hours a week, single work shift and less than five years of professional activity also prevailed. These data are corroborated by the nursing profile in Brazil, since 41.5% have a weekly workload of 31-40 hours, 71% work during the daytime period and 36.5% have less than five years of work in the area.[13]

Workers with exclusive dedication to their work have less exposure to infectious agents and a lower risk of falling ill. Furthermore, they can spend time with the family and build affective and social bonds that interfere positively in health promotion and disease prevention.[1]

In working in units where patients remain hospitalized for more than five days, nurses pass time with patients and their family members, which allows bonding that favors care, as well as emotional involvement. According to the literature, nursing teams working in the hospital environment are those with the greatest dedication of time, attention and care to physiological and emotional needs of patients and their families and exposure to their pain and suffering, which may impact on their own personal lives.[1]

The results demonstrated the predominance of nurses with a specialization course. These data are in agreement with the profile of nurses of the State of São Paulo, since 73.2% finished a lato sensu postgraduation course (specialization course).[14] A study conducted in this same hospital showed a similar profile to those found in the present study.[15] Therefore, the conclusion that nurses have sought professional improvement through formal courses.

The evaluation of professional performance was positive, in spite of no promotion in the previous 12 months and the evident dissatisfaction with salary. Another study corroborates these findings, highlighting the following factors that influence nursing professionals' QoL in the hospital environment: exposure to physical and emotional damages, poor environmental structure, lack of material resources, dissatisfaction with salary, work overload, inadequate dimensioning, exhausting work process, work accidents and lack of appreciation and professional recognition.[16]

A study conducted with nurses in Greece found that nurses satisfied with their work positively evaluated their QoL, especially by comparing their health with the health of patients they assisted and for having organizational support. However, they reported dissatisfaction with the workload, salary, professional prospects and continuing education.[6]

The WE measured by the B-NWI-R scale demonstrated a favorable environment both in overall items of the instrument and in its subscales of autonomy, control over the environment, physician-nurse relationship and organizational support. A study conducted in two public hospitals (one accredited and the other not) revealed that nurses from both hospitals have autonomy, control over the environment, respect among physicians and nurses, and favorable organizational support, regardless of where they work.[15] Another study that adapted and validated the B-NWI-R scale found similar results and the mean value of subscales was below 2.5.[17]

Similarly, a study conducted in Intensive Care Units (ICUs) of public and private hospitals in Brazil also showed no differences in scale application and favorable environment.[14] Environments with favorable characteristics to nurses' work are directly related to the quality of care, satisfaction and professional wellbeing.[11,18,19]

Nurses' perception of QoL and its measurement by the WHOQOL-Bref showed both an overall score as in physical, psychological, social and en-

vironment domains close to 20, which indicates satisfaction. This study is corroborated by another study in which nurses' QoL was analyzed, and the predominance of nursing professionals' satisfaction in the work exercise was evident.[20]

The positive perception of QoL indicates capacity for work and demonstrates the importance of work in the process of personal and professional self-realization.[1]

Even though overall QoL and WE are considered favorable, the physical domain score of the WHOQOL-Bref for those working in the SU and CU was lower compared to other environments and factors. This result is characterized by the presence of discomfort and fatigue (among other aspects), and is corroborated by another study that sought to analyze the WE characteristics of nurses working in emergency hospital services. It was found that the limitations of resources and inadequate working conditions for care can generate demotivation, workers' physical and psychological overload, and have direct interference in the quality of the service provided.[21]

The relationship of the psychological domain that includes learning, memory and concentration and feelings, among others, also showed a lower score among those working in the SU and CU. In a study, were evaluated the characteristics of nurses' professional practice environment and their relation with Burnout in 17 Brazilian ICUs, and was found an influence of the environment on job satisfaction, perception of quality of care and intention to quit the job, when mediated by feelings of emotional exhaustion.[19] There are difficulties in the WE of SUs, as they are related to overcrowding, and lack of resources and professionals, which makes the performance of activities difficult.[21]

In this same sense, nurses who got promoted in the previous 12 months showed impaired psychological domain of QoL. The promotion can be related to changes in working hours and days that are desired by the nurse, but not necessarily to a better salary. However, at the same time, the area of practice and its relationships and different competencies, such as those required by management, may present as challenges by involving negative feelings such as anxiety and suffering.

On the other hand, nurses satisfied with their salary presented higher scores in the psychological domain. In a different direction, but corroborating this result, Brazilian and Portuguese professionals dissatisfied with their salary reported professional devaluation, career instability and malaise as consequences of poor remuneration.[22]

When analyzing the social domain (relationships and social support), nurses with control over the environment obtained a higher score, as measured in the B-NWI-R subscale, and this shows that a favorable WE to nurses' daily practice can provide healthy relationships in the personal and professional environments. These findings indicate that certain competencies such as autonomy, communication, interpersonal relationship, leadership, risk control, emotional balance, among others focused during these professionals' training and practice, may reflect positively on their social relations.[23,24]

In this study, data on the lowest score in the social domain of nurses' QoL were in contrast, even though organizational support was provided in the work environment. In opposition, studies indicated that organizational support is the result of a management model in which nurses can exercise their work process and manage with well-defined criteria. The importance of support and communication with the nursing leadership in the WE was also emphasized in such studies.[14,21]

Still in the social domain, the score was lower among nurses who obtained a positive evaluation regarding their professional performance. This result diverges from the perspective that professionals who meet institutional expectations would have satisfactory relationships and social support.

In a study, was analyzed the evaluation process of nurses' performance in health organizations. Emphasis was given to the complexity of this process and to the fact that developing an evaluation system in which is considered the nurses' perception of justice can increase work satisfaction and motivation, the level of performance, citizenship behaviors and organizational commitment inherent to the act of evaluating.[25]

The findings related to the environment domain involving aspects such as physical safety, recreation/

leisure and transportation opportunities showed a higher score for nurses who have been working for more than six years and were satisfied with their salary. These results were related to a study in which were found higher levels of job satisfaction among older health professionals in aspects such as: promotion possibilities, schedule, variety of tasks, employment stability, relationship between the board and employees and training opportunities and overall satisfaction.[26]

On the other hand, a lower score in the environment domain was evidenced among nurses who worked 36-40 hours a week. These data referred to a reflection study on the working conditions and sickness of nursing workers determined by workdays of over 30 hours. There were factors closely related to aspects of professionals' QoL in this domain, such as lower work capacity and absenteeism caused by the disease, higher costs of work leaves, impact on the morbidity and mortality profile of workers, and implications on the quality of care.[27]

## Conclusion

There was a predominance of female white nurses, specialists, without partner, working 36-40 hours per week in units with patients hospitalized for more than five days, during day or night shifts, with no other formal job and dissatisfied with the salary. Nurses' responses to the specific instruments indicated good QoL and favorable WE. The associations showed negative statistical importance in the following data: work in special and closed units in physical and psychological domains; promotion in the previous 12 months in the psychological domain; positively evaluated and organizational support in the social domain; and working 36-40 hours in the environment domain. There were associations of positive statistical importance in the following: satisfaction with the salary in psychological and environment domains; control over the environment in the social domain; and working time from six to 15 years and greater than 20 years in the environment domain.

## Collaborations

Santos RR, Paiva MCMS, Spiri WC contributed to the design of the study, analysis and interpretation of data, writing of the article and approval of the final version to be published.

## References


1. Queiroz DL, Souza JC. Quality of life and capacity for work of nurses. Psicol Inf. 2012;16(16):103-26.
2. Paschoa S, Zanei SS, Whitaker IY. Qualidade de vida dos trabalhadores de enfermagem de unidades de terapia intensiva. Acta Paul Enferm. 2007;20(3):305-10.
3. Palhares VC, Corrente JE, Matsubara BB. Association between sleep quality and quality of life in nursing professionals working rotating shifts. Rev Saúde Pública. 2014;48(4):594-601.
4. Cucolo DF, Perroca MG. Factors involved in the delivery of nursing care. Acta Paul Enferm. 2015;28(2):120-4.
5. Kaiser S, Patras J, Martinussen M. Linking interprofessional work to outcomes for employees: a meta-analysis. Res Nurs Health. 2018;41:265-80.
6. Ioannou P, Katsikavali V, Galanis P, Velonakis E, Papadatou D, Sourtzi P. Impact of job satisfaction on greek nurses' health-related quality of life. Saf Health Work. 2015;6(4):324-8.
7. Cunha AP, Souza EM, Mello R. Os fatores intrinsecos ao ambiente de trabalho como contribuintes da sindrome de burnout em profissionais de enfermagem. Pesqui Cuid Fundam. 2012;(Supl):29-32.
8. Ditomassi M. A multi-instrument evaluation of the professional practice environment. J Nurs Adm. 2012;42(5):266-72.
9. Fleck MP, Leal OF, Louzada S, Xavier M, Chachamovich E, Vieira G, et al. Desenvolvimento da versão em português do instrumento de avaliação de qualidade de vida da OMS (WHOQOL-100). Rev Bras Psiquiatr. 1999;21(1):19-28.
10. Gasparino RC, Guirardello EB. Translation and cross-cultural adaptation of the Nursing Work Index Revised into Brazilian Portuguese. Acta Paul Enferm. 2009;22(3):281-7.
11. Panunto MR, Guirardello EB. Ambiente da prática profissional e exaustão emocional entre enfermeiros de terapia intensiva. Rev Lat Am Enfermagem. 2013;21(3):765-72.
12. Mullen K. Barriers to work–life balance for hospital nurses. Workplace Health Saf. 2015;63(3):96-9.
13. Conselho Federal de Enfermagem – COFEN. Pesquisa do Perfil dos Profissionais de Enfermagem no Brasil [Internet]. Brasília (DF): COFEN; 2015 [citado Abr 2018 2]. Disponível em: http://www.cofen.gov.br/perfilenfermagem/blocoBr/Blocos/Bloco1/bl_ident-socio-economica-enfermeiros.pdf.
14. Balsanelli AP, Cunha IC. The work environment in public and private intensive care units. Acta Paul Enferm. 2013;6(26):561-8.
15. Oliveira PB, Spiri WC, Dell'Acqua MC, Mondini CC. Comparison between the accredited and nonaccredited public hospital working environments. Acta Paul Enferm. 2016;29(1):53-9.

16. Amaral JF, Ribeiro JP, Paixão DX. Qualidade de vida no trabalho dos profissionais de enfermagem em ambiente hospitalar: uma revisão integrativa. Espaço Saúde. 2015;16(1):66-74.

17. Gasparino RC, Guirardello EB, Aiken LH. Validation of the Brazilian version of the Nursing Work Index-Revised (B-NWI-R). J Clin Nurs. 2011;20(23-24):3494-501.

18. Aiken LH, Sloane DM, Bruyneel L, Van den Heede K, Griffiths P, Busse R, et al.; RN4CAST Consortium. Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. Lancet. 2014;383(9931):1824-30.

19. Nogueira LS, Sousa RM, Guedes ES, Santos MA, Turrini RN, Cruz DA. Burnout and nursing work environment in public health institutions. Rev Bras Enferm. 2018;71(2):336-42.

20. Freire MN, Costa ER, Alves EB, Santos CM, Santos CO. Quality of life of nursing professionals in the hospital work environment. Rev Enferm UFPE Online. 2016,10(Supl 6):4286-94.

21. Santos JL, Menegon FH, Pin SB, Erdmann AL, Oliveira RJ, Costa IA. Ambiente de trabalho do enfermeiro em um serviço hospitalar de emergência. Rev Rene. 2017;18(2):195-203.

22. Silva MC, Gomes AR. Stress ocupacional em profissionais de saúde: um estudo com médicos e enfermeiros portugueses. Estud Psicol. 2009;14(3):239-48.

23. Peres AM, Ezeagu TN, Sade PM, Souza PB, Gómez-Torres D. Mapping competencies: identifying gaps in managerial nursing training. Texto Contexto Enferm. 2017;26(2):e06250015.

24. Holanda FL, Marra CC, Cunha IC. Construção da matriz de competência profissional do enfermeiro em emergências. Acta Paul Enferm. 2014;27(4):373-9.

25. Pereira NM, Moreira V. Avaliação de desempenho dos profissionais de enfermagem: percepção de justiça dos avaliados. Pensar Enfermagem. 2015;19(2):18-53.

26. Carrillo-García C, Solano-Ruíz MC, Martínez-Roche ME, Gómez-García CI. Influência do gênero e da idade: satisfação no trabalho de profissionais da saúde. Rev Lat Am Enfermagem. 2013;21(6):1314-20.

27. Felli VE. Condições de trabalho de enfermagem e adoecimento: motivos para a redução da jornada de trabalho para 30 horas. Enferm Foco. 2012;3(4):178-81.