

ORIGINAL PAPER**The Assessment Of Nurses' Work Environment: The Case of a Greek General Hospital**

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Abstract

Background: Nurses work environment has been recognized as a major factor affecting both nurses' and patients' outcomes.

Objective: To assess nurses' work environment, concerning the five work environment aspects that emanate from the study instrument.

Methodology: A cross sectional study was conducted in a 536-bed Greek general hospital of the capital city of Greece, Athens. One hundred seventy four randomly selected nurses and assistant nurses were participated (response rate 91.6%). The Practice Environment Scale of the Nursing Work Index (PES-NWI) was used to assess nurses work environment.

Results: The participants assessed their work environment as non favorable. They rated low (\square 2.5) both the total PES-NWI (mean=2.16, SD=0.38) and 4 of the 5 the work environment aspects. In particularly, participants rated Staffing and resource adequacy lower of all aspects (mean=1.79, SD=0.44), Nurses participation in hospital affairs rated mean=1.97 (SD=0.48), Nursing foundations of quality scored mean=2.14 (SD=0.42) and Nurse manager ability, Leadership and support of Nurses rated mean=2.49 (SD=0.63). The only favorable aspect of nurses' work environment was Nurse-Physician collegial relations (mean=2.69, SD=0.55). Nurses' participation in continuous educational programs (CEP) was found as a statistical significant demographic characteristic ($p=0.001$) that is correlated with the work environment. Nurses that participated in CEP rated higher the overall PES-NWI, compared with those that didn't. Also, participation in CEP was significantly associated with the subscales Nurses participation in hospital affairs ($p=0.001$), Quality foundation ($p=0.005$) and Nurse manager ability ($p=0.04$).

Conclusions: Hospitals' administration and nurse leaders have to assess nurses work environment, recognize weaknesses and non favorable aspects and centre their efforts on its improvement, if they wish to establish and sustain safe and quality health services provision.

Keywords: Hospital, nurse, outcomes, patient, work environment.

Introduction

The healthcare organizations internationally, under the pressure of decreased budgets, ask from healthcare professionals to increase their effectiveness and efficiency. Nurses are playing a significant role in cost restriction as they constitute the numerous and front-line professionals in the hospital. The work environment is a major factor that affects their effectiveness-efficiency, their physical and mental health together with the provision of safe and quality health services. Using the term work environment in the present study, authors include the five work components as they emanate from the study instrument: The Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002). The components are: Staffing and Resource adequacy, Collegial Nurse-Physician relations, Manager ability-Leadership and Support of Nurses, Nurses participation in hospital affairs and Nursing foundation for quality of care.

Nursing researches have demonstrated the effect of these work environment components on both nursing staff and quality of patients care. Understaffed hospitals have increased mortality rates compared with those with better staffing (Aiken et al., 2011). In addition patients are more likely to experience complication or an adverse event during their hospitalization (McCloskey & Diers, 2005; Amaravadi et al., 2000). Resources deficiency together with nurses' shortage is responsible for increased needlestick injuries and near misses among nursing staff (Clarke et al., 2002).

Hospitals constitute work places that are characterized by highly interdependency between healthcare professionals, particularly between nurses and physicians. Their good relationships and collaboration affect positively patients' outcomes, reduce error likelihood, while at the same time nurses report more satisfaction from their job with lower chances to experience burnout (Morey et al., 2002; Rafferty et al., 2001; Baggs et al., 1992).

Nurse manager keeps a pivotal role in creating and sustaining a healthy work environment for nurses. Some of the major managers' duties essential for nurses motivation and performance improvement are: Human resources issues, such as nurses' attraction and retention, collaboration

promotion, conflict management and resolution and finally ensuring of adequate resources (Brady, Germain & Cummings, 2010; Anthony et al., 2005).

Nurses are the numerous healthcare professionals and spend more time with patients than any other one. They apply and assess treatment, can provide quality and cost-effective services via evidence based practices and involve oneself' in clinical and administration researches. Although nurses participation in hospital administration and decision making would be considered given, however they tend to express frustration for their exclusion of participation in policy decisions (Aiken et al., 2001).

Foundation and promotion of quality health services is a major priority for hospitals' administration worldwide. Nurses being front-line caregivers that provide 95% of care that patient receives during hospitalization (American Hospital Association, 1980), can play an active role in quality establishment. Continuous educational programs provide sufficient, up to date knowledge in order to make them more competent in the provision of safe and quality health services (Fairchild et al., 2013).

Methodology

The aim of the study was the assessment of nurses' work environment which has recognized as vital factor to nurses performance and patients outcomes.

A cross-sectional study was conducted. A randomly selected sample of nurses and assistant nurses of a 536-bed public general hospital of the capital city of Greece, Athens, was participated in the study. Permission was granted from the ethics committee of the hospital. The questionnaires were given in an envelope accompanied by a cover letter, where the researchers' personal data, the aim of the study and the ethical aspects were described. The period during which the study was implemented was July 1st to September 30th 2012. One hundred seventy four completed questionnaires were returned out of the 190 that were given (response rate 91.6%).

Data analysis

Continuous variables are expressed as mean (standard deviation), while categorical variables

as absolute and relative frequencies. The normality assumption was evaluated both using Kolmogorov-Smirnov criterion ($p > 0.05$ for all variables) and normal probability plots. Scores on PES-NWI's subscales followed the normal distribution. A two sided p-value of less than 0.05 was considered statistically significant. The Statistical Package for Social Sciences (SPSS) program, version 19.0 (Chicago, Illinois, USA) was used for statistical analysis.

Instrument

The Practice Environment Scale of the Nursing Work Index (PES-NWI) was used to assess nurses' work environment (Lake, 2002). The PES-NWI is a 31 item instrument that describes organization characteristics common to magnet hospitals. The 31 items were divided in 5 subscales: Staffing and Resource adequacy, Collegial Nurse-Physician relations, Nurse manager ability, Leadership and support of

Nurses, Nurse participation in hospital affairs and Nursing foundations for quality of care. Permission for the use of the Greek translated version of the PES-NWI was granted by Prezerakos et al., (2013). The instrument was used in a numerous studies worldwide (Warshawsky & Sullivan Havens, 2011) and has endorsed by the National Quality Forum (NQF) as a nursing care performance measure (NQF, 2004). A 4-point Likert scale (strongly disagree, disagree, agree, strongly agree) was used to rate the extent to which the items are present in participants' current work place. Each item could rated on a scale of 1 to 4. Score above mean 2.5 indicate agreement that the item is present in the work place and score below 2.5 indicate disagreement. Cronbach's α for the subscales in the present study ranged from 0.70 to 0.80 and for the overall PES-NWI was 0.89, indicating acceptable reliability (Table 1).

Table 1. Cronbach α 's for Over-all and PES-NWI subscales

	Cronbachs' α
Nurse Participation in Hospital Affairs	0.80
Nursing Foundations for Quality of Care	0.71
Nurse Manager Ability, Leadership, and Support of Nurses	0.77
Staffing and Resource Adequacy	0.70
Collegial Nurse-Physician Relations	0.70
Over-all PES-NWI	0.89

Results

Demographic characteristics of the participants are shown in Table 2. The participants rated low (2.5) both the total PES-NWI (mean=2.16, SD=0.38) and 4 of the 5 the subscales. In particularly, participants rated Staffing and resource adequacy lower of all subscales (mean=1.79, SD=0.44), Nurses participation in hospital affairs rated mean=1.97 (SD=0.48), Nursing foundation of quality scored mean=2.14 (0.42) and Nurse managers' ability rated mean=2.49 (SD=0.63). The only subscale that rated as a favorable aspect of nurses work environment was Nurse-Physician collegial

relations (mean=2.69, SD=0.55). PES-NWI overall and subscales mean scores and standard deviations are shown in Figure1.

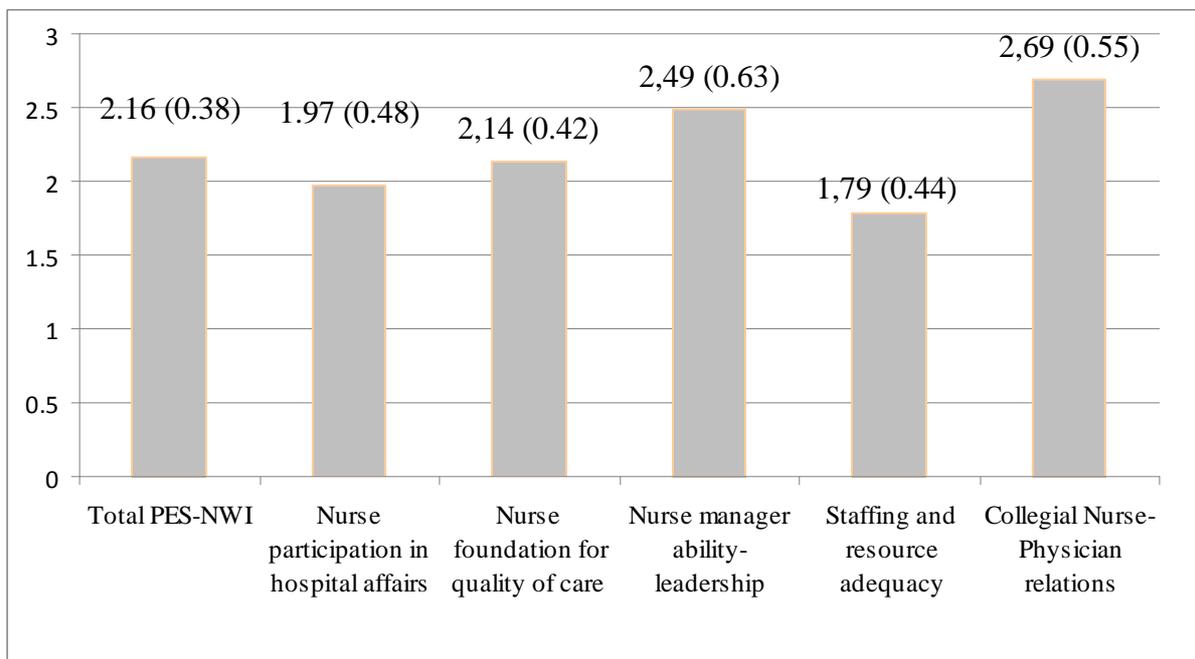
Nurses' participation in continuous educational programs (CEP) was found as a statistical significant demographic characteristic ($p=0.001$) that is correlated with the work environment. Nurses that participated in CEP rated higher the overall PES-NWI, compared with those that didn't. Also, participation in CEP was significantly associated with the subscales Nurses participation in hospital affairs ($p=0.001$), Quality foundation ($p=0.005$) and Nurse manager ability ($p=0.04$).

Table 2. Demographic characteristics of the participants

Characteristic	N (%)
Gender	
Female	143 (82.2)
Male	31 (17.8)
Age	38.9 (6.5) [†]
Profession	
Registered Nurse	84 (48.3)
Assistant nurse	90 (51.7)
Years as a nurse	10.3 (7.1) [†]
Participation in continuous educational programs	
Yes	102 (58.6)
No	72 (41.4)

[†] mean (standard deviation)

Legend of Figure 1: PES-NWI overall and Subscales Mean Scores and Standard Deviations (n=174)



Discussion

The results of the study indicate a non favorable work environment for the nursing staff, as 4 of the 5 subscales of the PES-NWI rated below 2.5. Collegial nurse-physician relations demonstrated as a positive aspect of the work environment. Most of the times, patients' treatment is a complex procedure, demanding the involvement of many healthcare professionals. However, nurses and physicians constitute the core caregivers of this procedure, which spend more time with patients and provide the majority of the healthcare services than any other. Their relationship doesn't restrict in a physicians prescription and its implementation by the nurse, but it's a continual interaction and interdependency, with nurse to monitor and assess the administered treatment and give feedback to the physician. Their good communication and collaboration have been recognized as an indispensable prerequisite for safe and quality health services provision. At the same time good nurse-physician relations increase nurses' satisfaction from their job and reduce the possibility to experience burnout or to leave their job (Manojlovich & DeCicco, 2007; Rafferty, Ball & Aiken, 2001; Baggs et al., 1999).

Nurses gave to staffing and resource adequacy the lower score. Health sector in Greece and especially public hospitals have been affected adversely by the economic crisis. Nursing staff shortages have been arisen as a major problem, since for every 5 nurses' retirement, only 1 is being hired. Moreover, temporary nurses' contracts were not renewed Kaitelidou & Kouli, 2012). Falls, hospital infections, pressure ulcers and deep vein thrombosis are adverse patient events that are correlated with nursing shortage which also increases mortality, morbidity, cost and length of stay (Pappas 2008; Rafferty et al., 2007; McCloskey & Diers, 2005; Aiken et al., 2002). Resources lack is a major problem that Greek healthcare professionals have to face up daily, because of the hospitals' dept both to pharmaceutical and consumables companies (Kaitelidou & Kouli, 2012).

Nurse managers' ability and leadership rated marginally as a non favorable aspect of the participants work environment. Although a non favorable work environment affect negatively

patient/nurse outcomes, nurse manager can play a counterbalance role across this situation. The modern healthcare organizations are complex and constantly transformational work places. In this dynamic environment the traditional nurse manager role isn't sufficient enough to cope with the challenges that emanate from this environment such as health system reform, budget reduction, continual evolving biomedical technology, resource scarcity and demand for safe and quality health services provision. The knowledge and skills relatively with the issues above are essentials for their effective management (Huston, 2008). Concerning work force, a nurse manager who choose to adopt emotional intelligence and transformational leadership style, focusing on people and relationships, promotes nurses emotional health, enhance their job satisfaction and performance while at the same time helps to establish teamwork and collaboration among nurses and physicians (Cummings et al., 2010; Cummings, Hayduk & Estabrooks, 2005).

Participation in CEP is correlated with the foundations of quality by the nursing staff. Every year nursing researchers, professional organizations and accreditation agencies implement studies, publish papers, reports and guidelines, presenting new or updated knowledge with regard to clinical and administrative fields. The acquisition of the up to date knowledge combined with nurses' experience is essential for their professional development and improvement, also for the provision of safer and quality health services. In addition they are important factors which contribute to the reduction of patients' length of stay and hospitalizations' cost (Panagiotopoulou & Brokalaki, 2012; Apisarnthanarak et al., 2007; Pierrakos et al., 2006).

Limitations

The relatively small sample (n=174) and study size, which took place into a certain hospital, must considered as major limitations of the study and the results must be interpreted and generalized with great attention.

Conclusion

Nurses work environment has been demonstrated as a multidimensional factor affecting both nursing and patient outcomes. Hospitals'

administration and nurse leaders have to assess nurses work environment, recognize weaknesses and non favorable aspects and centre their efforts on its improvement, if they wish to establish and sustain safe and quality health services provision.

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