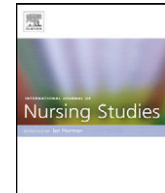




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Nurses' work environment and intent to leave in Lebanese hospitals: Implications for policy and practice

Fadi El-Jardali^{a,*}, Mohamad Alameddine^{a,1}, Nuhad Dumit^{b,2}, Hani Dimassi^{c,3},
Diana Jamal^{a,4}, Salwa Maalouf^{a,5}

^a Department of Health Management and Policy, Faculty of Health Sciences, American University of Beirut, Lebanon

^b School of Nursing, Faculty of Medicine, American University of Beirut, Lebanon

^c School of Pharmacy, Lebanese American University, Beirut, Lebanon

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ABSTRACT

Background: The dual burden of nursing shortages and poor work environments threatens quality of patient care and places additional pressures on resource-stretched health care systems, particularly in the Eastern Mediterranean Region (EMR). There is a paucity of research in the EMR examining the quality of nurses' work environment and its association to nurses' intent to leave their jobs/countries.

Objectives: Systematically examine the characteristics of nurses' work environment and their relation to nurses' intent to leave their jobs within the context of Lebanon. A secondary objective is to assess the utility and validity of the NWI-R within the context of the EMR.

Methods: A cross-sectional survey design was utilized to survey a total of 1793 registered nurses in 69 Lebanese hospitals. The survey instrument included questions on nurses' background, hospital characteristics, intent to leave, and the Revised Nurse Working Index (NWI-R). Data analysis included descriptive statistics for demographic characteristics, *t*-test and ANOVA to assess differences in agreement scores, and a multinomial logistic regression model to predict intent to leave. Thematic analysis of open-ended questions was utilized to extract themes that fit under issues relating to nurses' work environment in Lebanese hospitals.

Results: The NWI-R subscale with the lowest mean score related to control. Younger nurses had lower scores on organizational support and career development. Regression analysis revealed that for every 1 point score decrease on career development there was a 93% increase in likelihood of reporting intent to leave country. Likewise, for every 1 point score decrease on participation there was an observed 51% and 53% increase in likelihood of reporting intent to leave country and hospital, respectively. Findings show that hospital characteristics (size, accreditation status and presence of a recruitment and retention strategy) were significantly associated with NWI-R subscales.

Conclusions: Participation, control and career development were key work environment challenges contributing to the attrition on nurses from Lebanese hospitals. Although some

* Corresponding author. Tel.: +961 01 350000x4692; fax: +961 01 744470.

E-mail addresses: fe08@aub.edu.lb (F. El-Jardali), ma164@aub.edu.lb (M. Alameddine), ny00@aub.edu.lb (N. Dumit), hani.dimassi@lau.edu.lb (H. Dimassi), dj06@aub.edu.lb (S.S. Jamal), sm80@aub.edu.lb (S. Maalouf).

¹ Tel.: +961 01 350000x4693; fax: +961 01 744470.

² Tel.: +961 01 350000x5955; fax: +961 1 744476.

³ Tel.: +961 9 547254x2269; fax: +961 9 944851.

⁴ Tel.: +961 01 350000x4689; fax: +961 01 744470.

⁵ Tel.: +961 01 350000x4686; fax: +961 01 744470.

of the issues identified are country specific, others would certainly be relevant to other countries in the EMR. Addressing these challenges would require a strong and coordinated action from governments, professional bodies, policy makers and health managers.

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What is already known about the topic?

- The global shortage of nurses extends to the Eastern Mediterranean Region where Lebanon has one of the poorest nurse-population ratios in the region.
- The characteristics of nurses' work environment can act as push or pull factors influencing nurses' decision to remain employed.
- Recent evidence shows that one in five bachelor prepared Lebanese nurses emigrate within 2 years of graduation.

What this paper adds

- This paper highlights the importance of career development and participation in nurse retention in Lebanon.
- Hospital characteristics such as size, accreditation status and presence of a recruitment and retention strategy are significantly associated with better work environment.
- Nurses reported a number of work environment characteristics influencing their physical, emotional and professional well-being.

Implications for practice and policy

- Recognizing work environment challenges for nurses and the importance of effective retention strategies should be a priority for policy makers and top managers in Lebanon and the EMR.
- Health care managers must make better use of the accreditation program in order to improve work environment for nurses.
- Sound nursing human resources management practices in hospitals will lead to improved nurse retention.
- An evidence-based national nursing strategy that identifies and addresses work environment issues and retention is required in Lebanon and the EMR.

1. Introduction

Nurses' work environment has been highlighted as a priority for health care organizations given its importance in improving retention and reducing shortages (Shields and Ward, 2001; Zurn et al., 2004; El-Jardali et al., 2009a). Researchers have established that poor work environments are the primary underlying cause for nurses' attrition and turnover, and that healthy work environments improve nurses' well-being and satisfaction and contribute to improving retention (O'Brien-Pallas et al., 2003; Baumann et al., 2001; Shamian and El-Jardali, 2007). Enhancing the quality of nurses' work environments is critical in light of the existing global shortages of qualified nurses (Aiken et al., 2004), particularly in developing

countries (El-Jardali et al., 2008). The dual burden of shortages and poor work environments threatens quality of patient care and places additional pressure on resource-stretched health care systems (Kingma, 2007; Labonte et al., 2006; Aiken et al., 2002). Creating safer and more attractive work environments is pivotal for reducing high nursing turnover rates and subsequent shortages. This requires a better understanding of the interplay between the various aspects of the nurses' work environment and how they relate to nurses' intent to quit their current job to pursue other opportunities whether in the country or abroad (El-Jardali et al., 2009b). This paper systematically examines the various aspects of nurses' work environment and how it relates to intent to leave within the context of Lebanese hospitals.

2. Background

Healthy work environments have been defined as mechanisms, programs, policies, initiatives, actions and practices that provide health workers with the physical, mental, psychological and organizational conditions that can improve their health and well-being (Shamian and El-Jardali, 2007). This is linked to better quality of care, enhanced patient safety and societal outcomes in addition to better organizational performance (Griffin et al., 2006 as cited in Shamian and El-Jardali, 2007, page 7). Work environment has been systematically investigated as a determining factor in nurses' retention and intent to leave (Latham et al., 2008), as well as a significant predictor of professional performance of nurses (Kirk, 2006; Lacey et al., 2008; Estryn-Béhar et al., 2007; Stuenkel et al., 2007). A number of researchers have critically examined nurses' work environment in an attempt to identify improvement opportunities and design retention strategies for qualified nursing staff (Estryn-Béhar et al., 2007; McGillis Hall et al., 2008). Evidence shows that work environment issues can act as push or pull factors and thus influence nurses' decision to remain employed. Shamian and El-Jardali (2007) have identified a multitude of factors that can hinder the ability of a healthcare organization to retain its nurses, including: heavy workloads, inflexible scheduling, excessive overtime, poor management, weak leadership and limited opportunities for professional development.

Having a sufficient number of adequately trained nurses is also crucial for provision of quality care and maintenance of patient safety. For example, hospitals with unstable staffing and excessive workloads have relatively higher levels of staff injuries in addition to challenges in providing quality care and maintaining patient safety (Kelloway and Day, 2005; Shamian and El-Jardali, 2007). Conversely, healthy and productive work environments promote nurse retention by improving morale and empowerment, reducing absenteeism and turnover,

improving efficiency and performance, decreasing burn-out, and enhancing employee motivation (Chu et al., 2000; Kramer and Cole, 2003; Laschinger, 2004; Laschinger and Leiter, 2006; Whitehead, 2006; Shamian and El-Jardali, 2007; Laschinger et al., 2009).

Within the context of the Eastern Mediterranean Region (EMR) evidence continues to indicate shortages across countries, particularly low and middle income countries (El-Jardali et al., 2007). The region suffers from a dearth of research exploring work environment issues, particularly for the nursing workforce. This is critical given the strong link between health worker densities and population health outcomes (El-Jardali et al., 2007). To our knowledge, no studies in the region systematically addressed work environment issues and its relationship to nurse retention, but some existing studies discuss some aspects of job satisfaction. One such study conducted in Jordan reported poor job satisfaction among nurses, particularly with salaries and financial rewards (Mrayyan, 2007). Another study by Abualrub and Al Zaru (2008) described high levels of stress among Jordanian nurses which was negatively associated with their intent to stay.

2.1. The Lebanese context

According to the World Health Organization (2006), Lebanon has the 8th lowest nurse density (1.18 per 1000) in the Middle East and North Africa (MENA) region as compared to a regional average of 2.20 per 1000 and a global average of 4.06 per 1000.

Three main issues negatively influence the nursing labour market in Lebanon: poor surveillance and lack of longitudinal datasets, low enrollment in nursing programs and high attrition from the labour market. The status of nurses in Lebanon is not very clear and little is known about the supply and distribution of nurses in the country due to the lack of a proper surveillance system from which accurate estimates can be derived. The absence of a national recruitment plan for young and adult males and females to study nursing and the lack of a national retention strategy for nurses also poses additional challenges. This condition is aggravated by the ongoing active recruitment of Lebanese nurses from countries in the Arabian Gulf, the culture of migration which exists in Lebanon (Akl et al., 2007) and the reported difficulty in retaining skilled and competent nurses in Lebanon (El-Jardali et al., 2009c).

Recent studies indicate that a staggering 67.5% of surveyed nurses reported intent to leave their job within 1–3 years and 1 in 5 Lebanese nurses actually emigrate abroad within 2 years of receiving their Bachelors of Nursing degree (El-Jardali et al., 2008, 2009b). One main retention challenge faced by nursing directors was the presence of better job opportunities for Lebanese nurses outside the country, particularly in Arabian Gulf countries (El-Jardali et al., 2009c).

Although previous studies in Lebanon have revealed serious issues relating to nurses' job satisfaction and intention to quit and/or migrate from the country, little has been done to systematically investigate the quality of work

environment at Lebanese hospitals and the way it relates to nurses' intention to quit their jobs.

The results from the aforementioned studies clearly indicate that Lebanon will continue to lose valuable nursing resources if no action is taken to systematically assess nurses' work environment and formulate evidence-based strategies to address their work life issues.

3. Objective

The objective of this study is to systematically examine the various aspects of nurses' work environment in Lebanese hospitals and how they relate to nurses' intent to leave their jobs. A secondary objective is to assess the utility and validity of the NWI-R within the context of the EMR.

4. Methodology

4.1. Study design

A cross-sectional design was utilized to survey nurses currently practicing in Lebanese hospitals. Nurses were eligible to participate in this study if they had at least 1 year of work experience in the hospital and if they had completed one of the following educational programs: Bachelors of Science in Nursing (BSN), or Baccalaureate Technique (BT), or Technique Superior (TS), or License Technique (LT) and Diploma. Nursing programs in Lebanon are of two types, university programs which provide BSN degrees and technical programs which provide BT degrees (Huijter et al., 2005). It is noteworthy that BSN, TS and LT are considered of the same professional level while BT and Diploma nurses are considered semi-professional by the Lebanese law. One-hundred and twenty hospitals in Lebanon were initially contacted, 76 gave an initial response to a preliminary assessment, and 69 (57.5%) consented to participate. Of the sampled hospitals, 47 (61.8%) were small-sized having 20–100 beds, 15 (19.7%) were medium-sized having 101–200 beds and 7 (9.2%) were large-sized having more than 200 beds.

4.2. Survey instrument

This study is part of a larger national research initiative evaluating nurses' recruitment and retention practices, intent to leave, job satisfaction and work environment (El-Jardali, 2009b). The self-filled survey instrument utilized in this study included questions on nurses' background, hospital characteristics, nurses' intent to leave, and the Revised Nurse Working Index (NWI-R; Aiken and Patrician, 2000). The questionnaire also included an open-ended question to garner additional input into other issues that affect the work environment of nurses in Lebanese hospitals.

The survey instrument was developed and revised by a panel of nursing professionals, including a nursing director, a nursing specialist and a nursing researcher. The instrument was revised and the wording of a few items was slightly modified to fit the context of Lebanese

hospitals without changing the original meaning of the items. Two translators familiar with healthcare terminology and Lebanese healthcare context translated the survey instrument to French and Arabic. Back-translation to English was subsequently performed by two other translators with no differences detected when comparing to the original. All language versions were piloted with 15 nurses prior to data collection; these nurses were excluded from the final sample.

4.3. The revised nursing work index

Among the several instruments developed to assess the quality of the work environment for nurses (McGillis Hall, 2003; Lake, 2007), the Nursing Work Index (NWI) is one of the most widely used. Stemming from a thorough investigation of the organizational traits that distinguish “Magnet” hospitals from other hospitals (Kramer and Hafner, 1989), the NWI, originally a 65-item questionnaire, was revised (became NWI-R) and shortened by Aiken and Patrician (2000). The NWI-R characterizes nursing work environments in 4 areas: autonomy, control over practice, relationships with physicians, and organizational support. The NWI-R is composed of 49 items scored on a 4-point Likert scale (1 for Strongly Disagree, 2 for Somewhat Disagree, 3 for Somewhat Agree, and 4 for Strongly Agree).

4.4. Sampling and data collection

Hospitals were invited to participate in this study through a letter sent, in collaboration with the syndicate of private hospitals, explaining the objectives and importance of the study. The research team contacted hospitals a few days after the letter was sent to inquire about their willingness to participate. Hospitals were asked to assign a contact person to oversee distribution and collection of questionnaires. The nursing directors at the sampled hospitals were asked to distribute the questionnaires to their nurses that meet the aforementioned eligibility criteria.

Ethical approval for this study was obtained from the university’s research board.

The questionnaire had an introductory section explaining the purpose of the study, the freedom to fill the questionnaire, and assurance of anonymity of respondents. To ensure anonymity of participating nurses, respondents were asked not to write or sign their names on any page of the questionnaire. Respondents were requested to place completed questionnaires in a sealed envelope and return

them to the contact person so they could be picked up by the research team.

In an attempt to sample at least 50% of nurses practicing at the participating hospitals, small-sized hospital (20–100 beds) were asked to return 21 questionnaires, medium-sized hospitals (101–200 beds) were asked to return 46 questionnaires and large-sized hospitals (>200 beds) were asked to return 90 questionnaires. The decision to sample nurses according to this criteria was made by the study’s research panel and was based on input from the expert panel, syndicate of hospitals (established in 1965 to serve as the official representative of all private hospitals in Lebanon) and order of nurses (established in 2002 to promote the professional status of the nursing profession). A total of 1793 of the 2354 distributed questionnaires were returned thus resulting in an overall response rate of 76.17%.

4.5. Data management

After completing the data collection, a random sample of 10% of the questionnaires was checked for accuracy and completeness to ensure quality and integrity of the collected data. To minimize data entry errors, a data entry interface was developed using CSPro 3.2 (2008). Twenty percent of entered questionnaires were audited for data quality and errors. Data were exported to the Statistical Package for Social Science 16.0 (SPSS, 2008).

4.6. Subscale creation using NWI-R

Subscale scores for the NWI-R were created by summation of the items within the scales and dividing by the number of items with non-missing values. This produced a score that varies between 1 and 4 for each subscale with higher scores indicating higher agreement. This method allowed the research team to obtain scores for respondents who completed more than half of subscale items; respondents who had missing values for more than half of the subscale items were not included in the analysis. Moreover, missing values comprised less than 15% of responses which did not compromise our analysis given that we calculated means, standard deviations and proportions which do not include missing values within summary statistics.

To test the internal consistency of the scale, Cronbach’s alpha was computed for each of the subscales. While all subscales had a Cronbach’s alpha above 0.6, two had an alpha higher than 0.7 (see Table 1). The calculated alpha scores, although lower than the more common 0.7 cut-off

Table 1

Means, standard deviations, Eigen values, % of variance explained and alpha Cronbach of NWI subscales.^a

	Items	Mean (SD)	Eigen value	% of variance explained	Alpha Cronbach
Autonomy	4, 6, 17, 21 and 32	2.82 (0.54)	2.073	41.46%	0.640
Control	1, 11, 12, 16 and 45	2.56 (0.56)	2.256	45.11%	0.682
Nurse/physician relationships	2, 24 and 36	2.99 (0.60)	1.903	63.45%	0.710
Organizational support	1, 6, 12, 17, 21, 24 and 45	2.75 (0.48)	2.377	33.96%	0.671
Career development ^a	3, 7, 8, 10, 19, 26, 27 and 37	2.75 (0.61)	4.000	50.00%	0.841
Participation ^a	43, 46, 47 and 48	2.80 (0.59)	1.890	47.24%	0.619

^a New subscales derived through factor analysis.

point, are indicative of internal consistency when using psychological constructs due to the diversity of the constructs being measured (Field, 2009). Furthermore, some researchers validate lower alpha values. For example, Bowling (1997) argues that a Cronbach's alpha value of 0.5 or above is indicative of good internal consistency.

Subscales were based on the model created by Aiken and Patrician (2000). This model proposed a score creation based on four subscales: autonomy (measured through questions 4, 6, 17, 21 and 32), control (measured through questions 1, 11, 12, 16 and 45), nurse/physician relationships (measured through questions 2, 24 and 36), and organizational support (measured through questions 1, 6, 12, 17, 21, 24 and 45). This scoring technique utilizes only 20 of the 49 items in the NWI-R. As such, factor analysis was conducted (with orthogonal rotation) for two purposes: (1) to verify the four Aiken and Patrician (2000) subscales; and (2) derive additional subscales that may emerge in the Lebanese context. The factor analysis confirmed the loading of the four Aiken and Patrician subscales and identified two additional subscales. These two additional subscales related to career development (measured by items 3, 7, 8, 10, 19, 26, 27 and 37) and participation (measured by items: 43, 46, 47 and 48).

Table 1 details Eigen values and percent of variance explained for the four original Aiken and Patrician (2000) subscales and the two additional subscales identified by factor analysis. Eigen values ranged from 1.903 for the subscale measuring nurse/physician relationships to 4.0 for the subscale measuring career development. The subscale with lowest % variance explained measured organizational support while that with the highest % variance explained measured nurse/physician relationships.

The two additional subscales were defined and reviewed by a panel of experts including the authors and the statisticians. They were compared to existing subscales but with no significant resemblance except for their naming. The career development scale encompassed items such as orientation for new employees and preceptor programs, continuing education and career ladders, support for innovative ideas in patient care, opportunities to work with clinical educators, and opportunities for advancement and pursuing higher degrees. The participation scale included items assessing opportunities to work in specialized units, participating in schedule development, participating in developing patient care policies and procedures for clinical units, and not having to float from designated units.

4.7. Intent to leave

Nurses were divided into three mutually exclusive groups: those with intent to leave employment at their current hospital, those with intent to leave the country and those who had no intent to leave their current job.

4.8. Data analysis

Descriptive statistics including mean, standard deviation, frequency, and percentage were calculated to summarize the demographic characteristics of the sample

including gender, age, marital status and educational level. Furthermore, the means and standard deviations of the Aiken and Patrician (2000) subscales and the two additional subscales were also calculated.

At a second stage, comparison of means, using the *t*-test and ANOVA *F* test, were done to examine the differences in subscales scores between different demographic groups of nurses.

Finally, a multinomial logistic regression was created to model the intent to leave the hospital and the intent to leave the country. Both intents to leave levels were contrasted to the "no intent to leave" level. The independent variables included the model were the subscales in the NWI-R while controlling for gender, age, degree type, years of experience, hospital size, hospital accreditation status, and presence of a recruitment or retention strategy. The coefficients produced by the model were exponentiated to produce odds ratios (OR) and standard errors were used to calculate the 95% confidence intervals (CIs). All analyses were carried at the 0.05 significance level.

4.9. Qualitative component

As for the qualitative component of this study, thematic analysis was used to extract themes that fit under issues relating to nurses' work environment in Lebanese hospitals (Boyatzis, 1998). A total of 326 nurses responded to the open-ended question, providing 621 unique answers. Open coding was initially conducted whereby nurses' responses were broken into sections that relate to similar concepts or ideas. This was followed by axial coding which comprised the organization of the emerging concepts into themes and patterns. Analysis was conducted by two members of the research team with a high level of agreement between the two.

5. Results

5.1. Univariate analysis

Table 1 details the distribution of means and standard deviations across the six subscales. The subscale with the highest mean score was the one measuring nurse/physician relationships (mean = 2.99, SD = 0.60). The subscale with the lowest mean score was the one measuring control (mean = 2.56, SD = 0.56). Results indicate that although nurses were satisfied with their interaction and relationship with physicians, they were displeased with the control they have over their work.

5.2. Bivariate analysis

A comparison of means was conducted to observe the differences in agreement scores on the six NWI-R subscales across demographic groups (see Table 2). Statistically significant differences were observed for the variable on marital status (agreement scores were consistently lower for single nurses on all NWI-R subscales except participation); educational level (university-trained nurses had a lower agreement score on

Table 2
Bivariate analysis of demographic and hospital characteristics against NWI-R subscales.*

	Autonomy Mean (SD)	Control Mean (SD)	Nurse/physician relationships Mean (SD)	Organizational support Mean (SD)	Career development Mean (SD)	Participation Mean (SD)
Gender						
Female	2.83 (0.55)	2.55 (0.56)	3.00 (0.60)	2.76 (0.48)	2.75 (0.61)	2.82 (0.59)
Male	2.80 (0.50)	2.59 (0.55)	2.98 (0.59)	2.75 (0.47)	2.78 (0.58)	2.77 (0.58)
<i>p</i> -Value	0.220	0.293	0.432	0.643	0.583	0.152
Marital status						
Never married	2.79 (0.55)	2.52 (0.55)	2.97 (0.61)	2.73 (0.49)	2.69 (0.63)	2.79 (0.58)
Ever married	2.87 (0.52)	2.60 (0.56)	3.04 (0.59)	2.79 (0.46)	2.84 (0.57)	2.83 (0.60)
<i>p</i> -Value	0.003	0.003	0.017	0.007	<0.001	0.245
Degree type						
University	2.82 (0.57)	2.54 (0.56)	2.97 (0.59)	2.74 (0.48)	2.69 (0.63)	2.81 (0.58)
Technical	2.83 (0.53)	2.57 (0.56)	3.01 (0.60)	2.76 (0.48)	2.79 (0.60)	2.80 (0.59)
<i>p</i> -Value	0.735	0.266	0.243	0.492	0.002	0.624
Age classification						
Below 30 years	2.79 (0.54)	2.53 (0.55)	2.98 (0.60)	2.73 (0.47)	2.68 (0.61)	2.75 (0.59)
Between 30 and 45 years	2.89 (0.52)	2.61 (0.56)	3.02 (0.59)	2.81 (0.47)	2.87 (0.59)	2.89 (0.59)
Between 46 and 55 years	2.88 (0.59)	2.66 (0.62)	3.08 (0.66)	2.82 (0.51)	3.12 (0.54)	2.87 (0.60)
Over 55 years	2.56 (0.67)	2.48 (0.657)	2.73 (0.92)	2.57 (0.36)	2.79 (0.89)	2.54 (0.97)
<i>p</i> -value (1)	0.002	0.029	1.000	0.024	<0.001	<0.001
<i>p</i> -value (2)	1.000	0.664	1.000	1.000	0.041	1.000
Years of experience						
0–3 years	2.80 (0.55)	2.51 (0.55)	2.97 (0.60)	2.74 (0.47)	2.68 (0.60)	2.73 (0.58)
3–5.9 years	2.80 (0.54)	2.54 (0.59)	2.97 (0.57)	2.72 (0.49)	2.65 (0.68)	2.82 (0.60)
6–10.9 years	2.84 (0.54)	2.54 (0.53)	2.97 (0.60)	2.75 (0.47)	2.77 (0.58)	2.81 (0.59)
≥11 years	2.89 (0.57)	2.58 (0.60)	3.06 (0.64)	2.81 (0.51)	2.93 (0.59)	2.99 (0.59)
<i>p</i> -Value (3)	1.000	0.699	0.349	0.733	<0.001	<0.001
<i>p</i> -Value (4)	0.298	1.000	0.342	0.203	<0.001	0.002
<i>p</i> -Value (5)	1.000	1.000	0.480	1.000	0.037	0.001
Hospital size						
<100 beds (small)	2.86 (0.54)	2.60 (0.55)	3.02 (0.59)	2.76 (0.48)	2.76 (0.63)	2.76 (0.58)
100–199 beds (medium)	2.80 (0.52)	2.54 (0.53)	3.02 (0.59)	2.74 (0.44)	2.82 (0.54)	2.88 (0.61)
≥200 beds (large)	2.80 (0.57)	2.51 (0.59)	2.94 (0.61)	2.74 (0.50)	2.69 (0.63)	2.83 (0.58)
<i>p</i> -Value (6)	0.223	0.223	1.000	0.800	0.265	0.001
<i>p</i> -Value (7)	0.363	0.037	0.093	0.640	0.214	0.140
<i>p</i> -Value (8)	1.000	1.000	0.120	1.000	0.006	0.583
Is hospital accredited						
Yes	2.84 (0.53)	2.55 (0.56)	3.00 (0.59)	2.76 (0.47)	2.77 (0.60)	2.83 (0.58)
No	2.77 (0.57)	2.57 (0.54)	2.98 (0.61)	2.75 (0.48)	2.71 (0.64)	2.74 (0.61)
<i>p</i> -Value	0.021	0.490	0.389	0.685	0.112	0.008
Hospital has a recruitment and retention strategy						
Yes	2.83 (0.53)	2.56 (0.56)	3.02 (0.58)	2.76 (0.47)	2.77 (0.60)	2.81 (0.59)
No	2.69 (0.43)	2.56 (0.59)	2.82 (0.66)	2.70 (0.51)	2.56 (0.67)	2.78 (0.60)
<i>p</i> -Value	<0.001	0.982	<0.001	0.095	<0.001	0.431

(1) *p*-Value to assess significance between nurses under 30 years of age and those between 30 and 45.(2) *p*-Value to assess significance between nurses between 30 and 45 and those between 46 and 55.(3) *p*-Value to assess significance between nurses with ≥11 years of experience and those with 0–3 years of experience.(4) *p*-Value to assess significance between nurses with ≥11 years of experience and those with 3–5.9 years of experience.(5) *p*-Value to assess significance between nurses with ≥11 years of experience and those with 6–10.9 years of experience.(6) *p*-Value to assess significance between nurses working in hospitals with <100 beds and those with 100–199 beds.(7) *p*-Value to assess significance between nurses working in hospitals with <100 beds and those with ≥200 beds.(8) *p*-Value to assess significance between nurses working in hospitals with 100–199 beds and those with ≥200 beds.* Significant *p*-values are indicated in bold and italic font.

the career development subscale); age groups (nurses below 30 years of age had consistently lower scores than those aged between 30 and 45 for all subscales except the one on nurse/physician relationships); years of experience (nurses with 3–5.9 years of experience had the lowest agreement scores on the career development subscale, while those with 6–10 years of experience had the lowest agreement scores on the participation subscale).

Significant differences were also observed for the variable on hospital size. For example, nurses working in small hospitals had a higher mean score on control compared to their counterparts in large hospitals. For the subscale on career development, a significant association was observed for medium and large-sized hospitals whereby the latter had the lower mean score.

Statistically significant differences also emerged between nurses working in accredited vs. non-accredited

hospitals. Nurses working in accredited hospitals had significantly higher agreement scores on the subscales measuring autonomy and participation. Similarly, nurses working in hospitals having recruitment and retention strategies had significantly higher agreement scores on the subscales measuring autonomy, nurse/physician relationship and career development. As such, it appears that hospitals with accreditation status and/or recruitment and retention strategies provide their nurses with a relatively better opportunity to practice their professional autonomy, offer better career development prospects, support nurse participation and have stronger team cohesion (nurse/physician relationship).

5.3. Multivariate analysis

To further explore the association between the NWI-R subscales and the nurses' demographic characteristics as they relate to intent to leave, a regression model was constructed. The regression model was controlled for age, years of experience, marital status, degree type, presence of recruitment and retention strategies and hospital accreditation status (see Table 3). Analysis highlighted noteworthy differences in the NWI-R subscales between nurses who intend to leave their hospital job and those who intend to leave the country on one hand and those who reported the intent to stay in current job on the other hand. For every 1 point score decrease on career development there was a 93% increase in the likelihood of reporting an intent to leave the country (OR = 1.93, 95% CI = 1.30–2.87). Likewise, for every 1 point score decrease on nurse Participation there was an observed 51% and 53% increase in the likelihood of reporting intent to leave the country and the hospital respectively (OR = 1.51, 95% CI = 1.08–2.11 AND OR = 1.53, 95% CI = 1.14–2.06).

5.3.1. Qualitative component

Thematic analysis was used to identify specific concerns that nurses had in their respective organizations.

The findings came to confirm and elaborate on many of the findings of the quantitative analysis. Responding to the open-ended questions, most nurses' offered additional insight on some troubling aspect of their work environment and/or suggested corrective actions and strategies. In contrast, a few nurses praised particular aspects of their work setting. Seven main themes emerged out of this analysis: lack of control and autonomy; concern over aspects of physical, psychological and professional work environments; need for professional development; salaries and benefits; role, achievements and shortcomings of national organizations; poor image of the nursing profession and miscellaneous (such as the effect of the general political and national situation on the nursing profession).

Only 13 out of 326 responses (3.98%) were expressing satisfaction about particular aspects of current employment. The remaining comments (96.01%) were used to complain about a particular aspect of their work environment or professional status.

In responding to the open-ended questions of the survey, nurses elaborated on what they deemed as core issues affecting the quality of their work environment and influencing their retention in their respective organizations. It also provided valuable input on the specific type of challenges that they encounter in their work environments.

Thematic analysis revealed that more than half of the nurses responding to the open-ended questions expressed frustration with the degree of control and autonomy they have at work which comes to validate findings of the quantitative analysis. For example, nurses expressed concern about a general lack of appreciation, consideration and support from the supervisors, as well as the lack of a clear scope of practice. Nurses also complained about their lack of control related to the scheduling and workload schemes in their organizations, including: long working hours, heavy workload, administrative overload (i.e. paper work that takes over patient care), inflexible schedules and the need for more breaks during a shift. Below are examples of quotes highlighting nurses'

Table 3
Outcome of multinomial logistic regression analysis modeled against intent to stay.^{a,*}

	Intent to leave country vs. intent to stay OR (CI)	p-Value	Intent to leave hospital vs. intent to stay OR (CI)	p-Value
Lower agreement on				
Autonomy	1.52 (0.84–2.77)	0.168	1.28 (0.74–2.18)	0.371
Control	0.79 (0.45–1.39)	0.414	0.79 (0.49–1.30)	0.358
Nurse/physician relationships	0.95 (0.65–1.38)	0.782	1.15 (0.83–1.10)	0.409
Organizational support	1.01 (0.38–2.67)	0.991	1.37 (0.58–3.24)	0.478
Career development	1.93 (1.30–2.87)	0.001	1.34 (0.94–1.93)	0.108
Participation	1.51 (1.08–2.11)	0.017	1.53 (1.14–2.06)	0.005
p-Value	<0.001			
N	1205			
Goodness of fit				
Pearson	0.377			
Deviance	0.179			

^a This analysis is controlled for age, years of experience, marital status, degree type, presence of recruitment and retention strategies and hospital accreditation status.

* Significant p-values are indicated in bold and italic font.

concerns with the degree of autonomy and control they have in their organizations:

“Sometimes I feel like a robot and not like a decision maker.”(hospital 11, nurse 3)

“... we are not allowed to take initiatives. We have to be encouraged to love our job.”(hospital 58, nurse 10)

“I love my job and the people I work with yet the only thing I hate about my job is that we have to work sometimes as clerks or secretaries which devalues our noble mission.”(hospital 3, nurse 3)

More than half of nurses also voiced concern over aspects of their physical, psychological and professional work environments. Concerns over nurses' physical well-being included fatigue, exhaustion, back pains, varicose veins, exposure to radiation and risk of accident, disease contraction and a general feeling of insecurity. Other expressed concerns in regard to working conditions included frustration over the presence of nepotism and the need to improve the generally poor standards of the profession.

“I work in a very insecure environment.”(hospital 11, nurse 7)

“I hope that qualifications are the only basis upon which people are hired ...and that the rights of employees are met to the fullest extent so that we are deserving of our positions and that the organization is deserving of us.”(hospital 113, nurse 6)

Nurses also described the effect of their current positions on their psychological well-being reporting work-related stress, withdrawal, emotional and moral exhaustion and/or burnout. Below is a quote that highlights such types of concerns.

“All in all, I am overloaded and I am feeling inferior and withdrawn. I am burnt out.”(hospital 11, nurse 5)

The need for professional development was voiced by many of the respondents who expressed concerns over the lack of opportunities for them to enhance their skill set and expand their knowledge base. There was a general denunciation of the lack of encouragement, opportunities and time available to the nurses to pursue their education. The need for permanent follow up on nurses' performances and competence was also expressed. The quote below offers an example of such complaints by nurses:

“I regret to say that during the 15 years that I spent at this hospital I did not have rights to any advancement. ... which makes me disappointed and obliged to continue to work in this institution waiting to find other job offers.”(hospital 10, nurse 1)

Concerns about salaries and benefits were also highlighted by many of the respondents, including: poor salaries, insufficient holidays and vacation days, a requirement for better maternity benefits, subsidizing childcare and school expenses, retirement planning and insurance

coverage. Similar to salaries, nurses asked that benefits should be tailored according to the level of education, tenure and seniority of a nurse.

Many nurses elaborated on the role, achievements or shortcomings of national governing entities, specifically, the order of nurses, the syndicate of hospitals and the ministry of public health.

Nurses believed that it is the mandate of these governing entities to improve the standards of the nursing profession and the nurses' status in Lebanon. The need to create a stronger collaboration between national governing entities was also expressed. Another less frequently expressed concerns included the need to enhance the image of the profession as it effects entry into practice, satisfaction and intent to leave among other issues.

6. Discussion

Study findings indicate that Lebanese nurses are facing critical work environment issues, some of which are strongly associated with intent to leave. Low agreement scores on the subscale measuring participation were highly associated with intent to leave the country and the hospital. This indicates a need to involve nurses in decisions related to their professional practice. Involving nurses in such decisions, even simple aspects of their profession such as scheduling, can empower them, improve their satisfaction and increase professional lifespan (Chandra, 2003). The significance of the subscale measuring nurse participation highlights the importance of non-financial incentives in improving work environment. Increasing nurses' opportunities to participate in making decisions that determine their practice environment, particularly the ones related to direct patient care, scheduling, quality of care and others, can improve productivity. This is consistent with western studies that linked nurses' participation in decision-making with improved patient outcomes (Laschinger and Havens, 1996; Laschinger and Leiter, 2006).

Special attention should be dedicated to new nursing graduates and nurses at the early stages of their careers; including those with less than 6 years of experience, aged 30 years or less and single nurses. These nurses constitute the main supply to the nursing labour market in Lebanon, yet are the group that had the highest risk of attrition from the Lebanese market (El-Jardali et al., 2009b). Our analysis indicates that these nurses had the lowest mean scores on the participation subscale, significantly lower mean scores on the organizational support subscale and lower agreement scores on the professional and career development subscale. This is of critical importance since insufficient access to professional and career development opportunities and low organizational support were significantly associated with intent to leave the country. Empowering these nurses, enhancing their sense of participation at their work environments and improving their access to professional development opportunities are essential to address the nursing shortage in Lebanon.

Lower agreement scores on the professional and career development subscale were also observed for nurses working in small hospitals and in hospitals that lack

retention strategies. This highlights a need to establish career development programs that align nurses' aspiration for professional development and career growth with the strategic objectives of the employing hospital. Offering continuing education and implementing professional clinical/career ladders have been cited as effective strategies towards improving retention (Shields and Ward, 2001; Gullatte and Jirasakhiran, 2005). A well-developed career ladder program would be beneficial to nurses and management as well, improving patient care, promoting retention and lowering turnover rates (Roussel and Swansburg, 2009).

Our findings revealed a serious concern with the degree of nurses' leverage in decision-making related to issues affecting their work environment. Specifically, single nurses had significantly lower mean scores on this subscale, as did nurses who worked in non-accredited hospitals and hospitals that lacked a retention strategy. Lebanese nurses appear to be marginalized with respect to governance, decision and policy making in their institutions. Several studies report that autonomy is highly related to nurses' provision of quality patient care and is linked to job satisfaction and intention to leave their jobs (Finn, 2001; Kramer and Schmalenberg, 2003; Stewart et al., 2004). This flags a priority for enhancing the competencies of nurse managers in hospitals to enable them to provide the nurses they supervise with an expanded scope of professional autonomy.

The low agreement scores related to control over work environment are of concern as they influence job satisfaction and can also affect quality of care provided (Larrabee et al., 2003; Gullatte and Jirasakhiran, 2005). Moreover, nurses are more likely to remain employed if they perceive themselves to be in control of their practice and have a certain level of autonomy (Larrabee et al., 2003). Study findings indicate that much can be done to improve nurses' perception when it comes to control over work environment. This was specifically observed for single nurses and those working in large hospitals. For instance, adopting a shared governance system was shown to empower nurses (Estryn-Béhar et al., 2007) and enhance their organizational commitment (Lynn and Redman, 2005; Takase et al., 2007).

An interesting observation in this study was the impact of accreditation on the subscales measuring autonomy and participation. A recent study conducted in accredited Lebanese hospitals found that hospital size was a significant predictor of quality results in accredited hospitals in Lebanon (El-Jardali et al., 2008). Hospital size was also significantly associated with work environment, particularly for the subscales measuring control, career development and participation. These findings were attributed to the impact of hospital size on administrative and managerial styles. Homogenous cultures are generally more common in smaller sized hospitals which have an effect on organizational values (El-Jardali, 2003) whereas hierarchical and bureaucratic styles prevailed in large hospitals which posed a challenge on performance (Shortell et al., 1995). This may partly explain some of the study findings but more research is needed to better understand the impact of hospital size on nurses' work environment.

Closely related to issues on administration and management styles is the issue of the ability of nursing directors to improve nurse retention, particularly through striving to improve the work environment. A recent study called for the need for more information on the management and leadership capacities of Lebanese nursing directors as not all retention challenges were addressed in the reported retention strategies (El-Jardali et al., 2009c).

Developing proper recruitment and retention strategies to better manage the health workforce was highlighted in a recent priority setting exercise conducted in nine low and middle income countries in the region (El-Jardali et al., 2009c). The critical shortage of nurses was also highlighted in study countries as a major hindrance for planning and decision-making (El-Jardali et al., 2009a). Having recruitment and retention strategies is also a requirement of the Lebanese Hospital Accreditation Program. Integrating issues around work environment within such strategies are crucial if health care organizations are to properly retain their nurses.

7. Conclusions

Several work environment issues facing nurses in Lebanese hospitals have been unearthed in this study, including: degree of nurses' participation, control and career development; particularly for younger nurses who are at a higher risk of turnover and migration.

The aforementioned issues are not beyond the control of nursing stakeholders and do not necessarily require substantial financial investment. However, they require a paradigm shift in the way some of the organizations view their nursing workforce. The additional resources needed to improve the quality of nurses' work environment should be viewed as strategic investment that can bring forward both monetary and non-monetary benefits to health care organizations in the future.

Extending the professional life span of nurses in Lebanese hospitals mandates hospital managers and decision makers to make better use of accreditation programs in order to devise sound human resources management practices; empowering nurses to participate in making decisions that affect the quality of their work environment (workload, scheduling, etc.); and develop targeted recruitment and retention strategies addressing the above-mentioned challenges.

Governments should work collaboratively with professional bodies, academic institutions and hospital stakeholders to devise an evidence-based national nursing strategy that addresses work environment issues and retention. Such a strategy should, for example, stipulate the annual professional development mandate for nurses and revise accreditation standards in order to ensure effective representation for nurses' in the governance structure of health care organizations.

Research on nurse work environment issues is still at its infancy in Lebanon and the EMR. It is important that further research be conducted and finding be translated into policy and practice. It is hoped that study findings would prompt policy makers, managers and professional associations to start a policy dialogue process and to align

resources towards addressing the critical work environment issues that have been identified in this study.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.ijnurstu.2010.07.009](https://doi.org/10.1016/j.ijnurstu.2010.07.009).

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