



Exploring the relationship between work environment, job satisfaction, and intent to stay of Jordanian nurses in underserved areas



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ABSTRACT

Aims: The aims of this study are to (1) examine the relationships between work environment, job satisfaction and intention to stay at work; and (2) explore the predicting factors of intention to stay at work among nurses in underserved areas.

Background: Developing and fostering creative work environment are paramount especially in underserved areas, where the work conditions present many challenges.

Methods: A descriptive correlational design was utilized to collect data from 330 hospital nurses who worked in two underserved governorates in Jordan. A set of instruments were used to measure the variables of the study.

Results: The results showed a strong positive association between job satisfaction and work environment. The results of logistic regression indicated receiving housing, job satisfaction, and work environment were the predicting variables of the level of intention to stay at work.

Conclusion: It is critical to improve work conditions and create a culture of supportive work environment in underserved area.

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1. Introduction and background

The global nursing shortage and its negative impact on health care has been a challenge for nurse administrators all over the world. Research evidence points out that adequacy of health care providers is critical for maintaining population health (Aiken et al., 2012; Alenius, Tishelman, Runesdotter, & Lindqvist, 2014). There are also disproportionate concentrations of health workers in some areas at the expense of others (Kuehn, 2007). It is widely acknowledged that nurses are an important part of health systems, providing up to 90% of direct patient care (O'Brien-Pallas et al., 2003); yet there are large global shortages of nurses with inequities in the distribution of the nursing workforce (Goulette, 2010).

It is well evidenced that residents in rural areas receive less health care than those from urban areas (Bennett, Bellinger, & Probst, 2010; Jackson et al., 2009; World Health Organization [WHO], 2006). The WHO reports that over half of the world's population resides in rural

areas but they are served by only 38 and 25% of the global nursing workforce and physician workforce respectively (WHO, 2006). Such problems with the inequitable distribution of nursing workforce contribute to the global burden of disease and poor health outcomes (Blaauw et al., 2010; Paquette, Zuckerman, & Finlayson, 2011). The WHO defined underserved areas as "geographical areas where populations have limited access to qualified health-care providers and quality health-care services. They include remote and rural areas, small or remote islands, urban slums, conflict and post-conflict zones, refugee camps, minority and indigenous communities, and any place that has been severely affected by a major natural or man-made disaster" (WHO, 2010, page 9). A total of 57 countries around the world face critical health workforce shortages as identified in the WHO, 2006 report. These countries have fewer than 2.3 nurses, doctors and midwives per 1000; which is believed to be too few to deliver the basic level of care needed (WHO, 2006). Moreover, the East Mediterranean Region is suffering from a shortage of nurses that has reached alarming rates and is believed to impact health outcomes (El-Jardali, Jamal, Abdallah, & Kassak, 2007). Preliminary research in the region suggested that many nurses prefer working in urban areas thus leaving rural areas underserved (AbuAlRub, El-Jardali, Jamal, Iblasi, & Murray, 2013; El-Jardali, Makhoul, Jamal, & Tchaghchaghian, 2008), raising concerns about wide discrepancies in access to care between urban and rural areas, and highlighting the need for detailed research on the problem of underserved areas.

To effectively tackle the problem of nursing shortage, efforts should focus on redesigning the work environment. Creating and fostering

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supportive work environment are most important especially in underserved areas; where the work conditions present many challenges (AbuAlRub & Khawaldeh, 2013; Lagarde & Blaauw, 2014). Understanding the factors that might affect job turnover or intention to stay may provide feasible solutions to nursing shortage. For the most part, a supportive work environment is the base for retaining nurses (Kirwan, Mathews, & Scott, 2013; Tervo-Heikkinen, Partanen, Vehviläinen-Julkunen, & Laaksonen, 2008). The assessment of nurses' perceptions of their work environment is paramount when dealing with workforce issues (Al-Kandari & Thomas, 2008). Thus, the objectives of the present study were to (1) examine the relationships between job satisfaction, work environment and intention to stay at work; and (2) explore the predicting factors of intention to stay at work among nurses in underserved areas.

There is a scarcity of research worldwide and in the Middle Eastern countries about work conditions of nurses in underserved areas. In general, international and regional literature showed that nurses working in supportive urban work environment intend to stay more in their work and have less intent to leave their organizations (AbuAlRub, 2010; Aiken et al., 2011; Ganz & Toren, 2014; Lansiquot, Tullai-McGuinness, & Madigan, 2012; Zhang et al., 2014). Job satisfaction has been linked positively with nurses' retention (Ganz & Toren, 2014; Kaddourah, Khalidi, Abu-Shaheen, & Al-Tannir, 2013). Research studies that were conducted in urban areas in developed countries showed that positive perceptions of work environment enhanced the levels of nurses' satisfaction and retention (Ganz & Toren, 2014; Zhang et al., 2014; Rochefort & Clarke, 2010). Such a positive impact of practice environment on job satisfaction was also recently asserted by Lambrou, Merkouris, Middleton, and Papastavrou (2014) who conducted a systematic review of 14 research studies to examine the impact of work environment on nurses' job satisfaction. Moreover, data from 137 hospitals in Pennsylvania from 1999 to 2006 were analyzed by Kutney-Lee, Wu, Sloane, and Aiken (2013) to explore if nursing outcomes such as dissatisfaction and turnover are related to changes in nursing practice environment over time. The findings asserted that nursing outcomes were improved over time due to improvement in practice environment.

Literature from the region documents the challenges pertaining to socio-cultural aspects in developing a local nursing workforce. Nurses' social status is a discouraging factor to remain in the profession. Additionally, many female nurses leave the profession after marriage (AbuAlRub et al., 2013; Zarea, Negarandeh, Dehghan-Nayeri, & Rezaei-Adaryani, 2009). Socio-cultural factors make recruitment and retention of nurses from the region difficult, due to both the nature of the work (females having to work with males, evening/night shifts) and poor perceptions of nursing as nurses are perceived as patients' maids and doctors' assistants (Al-Jarallah, Moussa, Hakeem, & Khanfar, 2009).

1.1. Context of Jordan

Jordan is one of the Middle Eastern countries. Its population is around 6.66 million of which 78% are living in urban areas (Department of Statistics [Jordan] and Macro International, 2014). El-Jardali et al. (2008) pointed two of the key challenges that face Jordanian health workforce as geographical imbalances of health workers and excessive out migration. The average turnover rate of nurses was reported as 36.6% by Hayajneh, AbuAlRub, Athamneh, and Almakhzoomy (2009).

The levels of job satisfaction and intention to stay among hospital nurses in Jordan are on the borderline (AbuAlRub, 2010; Altaany & Jassim, 2013). Jordanian nurses suffer from poor work conditions such as stress, dissatisfaction, and unsupportive work environment (AbuAlRub, 2007, 2010); which enhanced turnover among Jordanian nurses (AbuAlRub, 2007; Hayajneh et al., 2009). Research studies conducted in urban areas in Jordan showed a positive association between job satisfaction and intention to stay work among nurses (AbuAlRub, Omari, & Al-Zaru, 2009).

This is the first study to explore the underlying causes of Jordanian nurses' shortage and retention in underserved areas. Most of the studies that investigated the organizational variables of job satisfaction, nurses' intention to stay at work and work environment were conducted in urban areas in Jordan. There is only one recent qualitative study that was conducted by AbuAlRub et al. (2013) to explore the views of nurses who work in underserved areas, directors of health care institutions and policy makers regarding nurses' retention in underserved areas. The results showed that non supportive work environment, lack of nursing schools in these areas, poor public transportation and lack of financial motivations were some of the reasons that underlie nurses' turnover in Jordanian underserved areas.

Investigating the perceptions of nurses concerning their work environment and job satisfaction and the effect of such variables on nurses' intention to stay at work would help nurses administrators and policy makers in designing effective strategies to promote retention of nurses in underserved areas.

2. Methods

This study utilized a descriptive correlational design. This study was a part of a larger multi-country project (El-Jardali et al., 2012).

2.1. Setting and sample

The study sampled all health care centers and hospitals in two underserved governorates (Mafrq and Ma'an) in Jordan. Both governorates have remote and rural areas and were acclaimed as underserved areas by key informants in a previous study (AbuAlRub et al., 2013). All public hospitals and comprehensive health care centers; 3 hospitals and 7 centers in Mafrq and 2 hospitals and 6 centers in Ma'an were targeted for the present study.

The accessible population was all registered nurses and midwives in the targeted hospitals. A convenience sampling method was employed. Five hundred thirty-five questionnaires were distributed. Three hundred thirty completed questionnaires were returned, which indicated a response rate of 61.68%.

2.2. Instruments

A structured survey was utilized for data collection. The questionnaire consisted of a demographic form and the following instruments:

Job satisfaction was measured by the McCloskey Mueller Satisfaction Scale (MMSS). This scale contains 31 items on a rating range from 1 to 5; where 1 indicates "very dissatisfied", and 5 indicates "very satisfied". For the present study, a total of 6 items were dropped by a panel of nursing research experts as they were perceived to be not significant to nurses in underserved areas. Moreover, the items were rated on a four-point Likert scale instead of a five-point Likert scale that included a neutral point (El-Jardali, Dimassi, Dumit, Jamal, & Mouro, 2009). The overall alpha coefficient for the scale was 0.89 (Mueller & McCloskey, 1990). In this study, the alpha coefficient for the scale was 0.95.

Work environment was measured by a scale that consisted of 14 questions that were rated on a four-point Likert scale (ranging from strongly disagree to strongly agree). Some of the items were taken from the Revised Nurse Working Index (NWI-R) (Aiken & Patrician, 2000); and additional ones were added by the research team as seen relevant to nurses' work in underserved areas based on reviewed literature. The overall alpha coefficient for the scale in the present study was .93.

Intention to stay was measured by one question, rated on a four-point Likert scale (ranging from strongly disagree to strongly agree), that asked participants to respond to "Are you likely to remain in your current job for the foreseeable future (the coming 1 to 3 years)?" This variable was also measured by asking participants to respond by "yes" or

“no” to the statement “I would remain in my current job for the coming 1 to 3 years”. Global measures which ranged from 1 to 3 items have been used in research studies for measuring some of the organizational variables (Blegen & Mueller, 1987; Scotter & Motowidlo, 1996).

All instruments were originally developed in English. Translation and back translation process was utilized to translate the instruments into Arabic language. Cognitive interviewing of the content of the instruments was done with a sample of nurses to examine the clarity and wording of items.

2.3. Data collection procedures and ethical issues

The approvals to conduct the study were granted by the Ethical Review Committees of the WHO, the Ministry of Health in Jordan, and the American University of Beirut. The purpose and significance of the study were explained to all potential participants. They were informed that their participation was voluntary, their responses were confidential and that refusing to participate would not negatively affect them. Participants were asked to complete the questionnaires and put the sealed envelopes in a box in the manager's office. Then the researcher collected the questionnaires.

2.4. Data analysis procedure

The Statistical Package of Social Sciences (SPSS) version 17 was used for data analysis. Descriptive statistics, Pearson's correlation, and logistic regression were utilized to analyze the data. The significance level for the study variables was set at .05.

3. Results

The mean age of participants was 28.7 years ranging from 20 to 55. Over half of participants (58%) were female, and 46% of them were married. Over half of participants (52%) have baccalaureate degrees. The mean of the total years of nursing experience was 7 years ranging from 1 to 30. Most participants worked full-time (88%). Around 45% of participants took them more than 1 hour to drive to their workplace (one-way). Over half of participants (62%) were not satisfied with their salaries compared to salaries of nurses who worked in cities; and almost 94% indicated that they did not receive additional allowance for transportation. The background data of participants are presented in Table 1.

The overall levels of job satisfaction and intention to stay and the overall perceptions of work environment were examined using descriptive statistics. The results showed that the mean of overall job satisfaction was on the borderline (mean [SD] = 2.20 [.54]); whereas the mean of intention to stay at work was high (mean [SD] = 3.11 [.98]). For the work environment, the results showed that nurses perceived their work environment as unsupportive; as the overall mean was less than 2 (mean [SD] = 1.92 [.64]).

The correlations between the intention to stay at work, work environment and job satisfaction were examined using the Pearson correlation coefficient. The correlation between intention to stay and work environment was positive and significant ($r = 0.19, p < .01$); which means that nurses who perceived their work environment as supportive reported higher intention to stay at work than nurses who perceived their work environment as unsupportive. The results also indicated that there was a positive and significant weak correlation between nurses' job satisfaction and nurses' intention to stay at work ($r = 0.15, p < .01$); which means that nurses who were satisfied intended to stay longer at work than nurses who were less satisfied. Moreover, the findings revealed a strong positive correlation between job satisfaction and work environment ($r = 0.65, p < .01$); which means that nurses who perceived their work environment as supportive were more satisfied than nurses who perceived it as unsupportive. Data about correlations are presented in Table 2.

Table 1

Background data of the sample ($N = 330$).

Variable	Mean (SD)
Age (years)	28.7 (6.1)
Total nursing experience (years)	7.18 (6.0)
Nursing experience at current facility	5.8 (6.2)
Variable	Number (%)
Gender	
Female	191 (57.9)
Male	139 (42.1)
Marital status	
Married	150 (45.5)
Single	170 (51.5)
Divorced	9 (2.7)
Widowed	1 (3)
Education	
Associate	32 (9.7)
Diploma	100 (30.3)
BSN	172 (52.1)
Master's	26 (7.9)
Time to travel to workplace	
Less than 10 minutes	26 (8.3)
10 to 29 minutes	78 (24.8)
30 to 60 minutes	68 (21.7)
More than 1 hour	158 (45.2)
Time commitment	289 (87.6)
Full-time	41 (13.4)
Part-time	
Satisfaction with salary compared to nurses who work in cities	124 (37.6)
Yes	206 (62.4)
No	
Receiving additional salary	
Yes	119 (45.2)
No	144 (54.8)
Receiving housing	
Yes	122 (37)
No	208 (63)
Receiving transportation allowance	
Yes	20 (6.1)
No	310 (93.9)
Satisfaction with accommodation	
Yes	193 (58.5)
No	110 (33.3)
Not applicable	27 (8.2)
Unit	44 (13.3)
Emergency	39 (1.8)
ICU and cardiology	19 (5.7)
Medical/surgical	27 (8.2)
Obstetrics/gynecology	8 (2.4)
Outpatient clinics	20 (6.1)
Pediatrics	17 (5.1)
Operating/Postanesthesia/recovery	65 (19.7)
Floating across different departments	20 (6.1)
Renal	71 (32.6)
Others	44 (13.3)

Logistic regression was done to investigate the variables that predict the level of intention to stay at work in underserved areas from the study variables. The dependent variable was measured categorically as intention to stay or not. The background variables, job satisfaction, and work environment were the independent variables. All nominal variables were recoded as “yes or no” and other categorical variables with more than two categories were recoded as dummy variables. The results

Table 2

Pearson correlations for job satisfaction, work environment, and intention to stay ($N = 330$).

	Job satisfaction	Work environment	Intention to stay at work
Job satisfaction	1	.64**	.15**
Work environment	.64**	1	.19**
Intention to stay at work	.15**	.19**	1

** $p < .01$.

showed that the Omnibus Tests of Model Coefficient was significant at $p < .0001$. The chi square value was 65 with 15 degrees of freedom. The pseudo R square indicates that Cox and Snell R^2 is 0.36 and the Nagelkerke R^2 is 0.56; indicating that between 36 and 56% of the variability in intention to stay at work is explained by the set of variables in the model. The results of logistic regression indicated receiving housing, job satisfaction and work environment were the predicting variables of intention to stay at work. All other demographic and background variables did not contribute significantly to the model. Receiving housing was a significant predictor ($p = .017$); the odds of a nurse reporting an intention to stay at work is 6.6 times higher for someone who reports receiving housing, all other factors being equal. Job satisfaction was also a significant predictor ($p = .004$); the odds of a nurse reporting an intention to stay at work is 17.5 times higher for nurses who are satisfied with their jobs. The results also showed that work environment was a significant predictor for the level of intention to stay at work ($p = .014$); the odds of a nurse answering yes, he/she intends to stay at work is 5.2 times higher for someone who perceives his/her work environment as supportive. Data about logistic regression are presented in Table 3.

4. Discussion

The results of the current study showed that the level of job satisfaction of participants was at borderline, and work environment was perceived as unsupportive. Despite such results, the participants in the present study reported a high level of intention to stay at work. An explanation of the high rate of the level of intention to stay in underserved areas despite the perceptions of unsupportive work environment might be related to the fact that most of nurses who work in underserved areas are either from the same region who feel settled down or from other regions in which they could not find jobs; and thus agree to come and serve in underserved areas for financial reasons. Nonetheless, it would be important to conduct further studies to explore other variables that might positively or negatively affect the level of intention to stay at work among nurses in underserved areas.

The results also showed a weak but significant positive correlation between intention to stay at work and each of the variables job satisfaction and work environment. These results are consistent with the studies that were conducted internationally and nationally in urban areas and found that supportive environment and enhanced job satisfaction have a positive impact on the level of intention to stay at work (AbuAlRub et al., 2009; Ganz & Toren, 2014; Lambrou et al., 2014; Zhang et al., 2014). It is worth noting that Hauenstein et al. (2014) developed a model that can guide the integration of rural content into nursing education

Table 3
Binary logistic regression for intention to stay as a dependent variable ($N = 330$).

Variable	B	S.E.	Wald	Df	p value	Exp(B)
Age	0.14	0.12	1.343	1	.247	1.145
Total nursing experience	0.01	0.101	0.203	1	.653	1.046
Nursing experience at current facility	-0.08	0.109	0.510	1	.475	0.925
Unit (emergency)	0.66	0.934	0.491	1	.483	1.925
Time to travel to workplace [>1 hour (one way)]	-0.74	0.746	0.984	1	.321	0.477
Working hours (full time)	-0.18	0.895	0.039	1	.844	0.838
Gender (female)	0.23	0.733	0.095	1	.757	1.254
Marital status (married)	0.84	0.689	1.500	1	.221	2.326
Education (BSN)	-0.58	0.807	0.509	1	.476	0.562
Satisfaction with salary compared to nurses who work in cities	-0.19	0.563	0.113	1	.737	0.828
Receiving additional salary	-0.66	0.955	0.474	1	.491	0.518
Receiving housing	1.889	0.792	5.695	1	.017	6.615
Receiving transportation allowance	-1.019	0.895	1.296	1	.255	0.361
Job satisfaction	2.860	1.003	8.137	1	.004	17.460
Work environment	1.652	0.674	6.006	1	.014	5.216

programs. The adoption of such models might help in creating a generation of nurses who can value working in rural settings.

On the other hand, the results showed a strong correlation between job satisfaction and supportive work environment. Such results were also congruent with the results of other international studies, which also found that work environment is strongly and positively related to job satisfaction (Kaddourah et al., 2013; Zhang et al., 2014). It is necessary for nurse administrators to consider work environment conditions in hospitals located in underserved areas and create more supportive and positive conditions; which might play a role in enhancing the level of job satisfaction, which was shown to be on the borderline for participants in the present study. It is worth noting that 62% of participants in the present study are not satisfied with their salaries compared to nurses' salaries who worked in central areas.

The results of logistic regression showed that receiving housing, job satisfaction and supportive work environment were predictors of intention to stay at work. Nurses who received housing, were more satisfied with their jobs, and perceived their work environment as supportive intended to stay at work more than other nurses. Such results are consistent with the literature which showed the positive impact of job satisfaction, and supportive work environment on the retention of nurses (Kutney-Lee et al., 2013; Lambrou et al., 2014). Receiving housing was one of the important predictors for the level of intention to stay at work in underserved areas. In the present study, 63% of participants indicated that they did not receive housing or any additional allowance for housing. It is worth mentioning that none of the demographic variables or even receiving transportation allowance contributed to the prediction of the level of intention to stay at work in underserved areas. Thus, policy makers need to consider providing housing for nurses in underserved areas when allocating budgets for staffing these areas.

Limitations of the study were (1) using a convenience sample might limit the generalizability of the results; and (2) variables of the study were only measured subjectively. However, despite such limitations, the results of the study implicate the importance of enhancing the work environment conditions and levels of job satisfaction; and securing housing for nurses in underserved areas.

5. Implications for nursing and health policy

Based on study findings, nurse administrators and manager should (1) improve work environment conditions and create a culture of supportive work environment; (2) implement strategies that enhance the level of job satisfaction especially that the level of job satisfaction of participants is on the borderline; and most participants were not satisfied with their salaries compared to salaries of nurses who worked in urban cities; and (3) assist in instituting policies to secure housing for each nurse who is not from the region and has agreed to work in underserved areas. Moreover, AbuAlRub et al. (2013) emphasized also the importance of establishing an incentive system, securing transportation allowances as well as opportunities for professional development to enhance nurses' retention in undeserved areas.

6. Conclusion

Study results necessitate the improvement of work environment conditions as well as job satisfaction levels among nurses in underserved areas. Current deficits in securing housing for nurses in underserved areas seem to have a negative impact on their level of intention to stay at work. The findings also demonstrated the positive impact of supportive work environment and job satisfaction on enhancing the intention to stay at work among nurses. Nurses administrators along with policy makers have to design strategies that focus on redesigning the structure of work environment in underserved areas to enhance work conditions and job satisfaction; securing housing for every nurse who come from other regions to work in underserved areas; and instituting an incentive system that would reduce the

difference between salaries of nurses who worked in central areas and those who worked in underserved areas to enhance their retention.

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