

Occupational Stress among Critical Care Nurses: A Comparative Study of Public and Private Sector

Abstract

Background: Occupational stress, and the unfavorable consequences associated with it, is something frequently experienced by nurses. **Materials and Methods:** This cross-sectional study comparing occupational stress experienced in public and private hospitals was conducted in Iran during 2017 and involved 203 critical care nurses. Data were obtained through a self-administered questionnaire and was analyzed using an independent sample *t*-test. **Results:** The overall mean (SD) score of occupational stress experienced by critical care nurses in public hospitals was greater than that experienced in private hospitals; 3.65 (0.77) vs. 3.18 (0.94). This difference was statistically significant ($t = 3.77, p < 0.001$). Among the five dimensions of occupational stress, the highest mean (SD) scores in both public and private hospitals related to organizational policies, the respective scored was 3.66 (0.94) and 3.34 (1.18). **Conclusions:** Hospital managers, especially those in public hospitals, should review existing organizational policies and improve the workplace environment in order to decrease occupational stress.

Keywords: Comparative study, critical care nurses, Iran, occupational stress

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Introduction

The role that nurses have in the provision of first-line care services is significant and their job is naturally stressful.^[1] The occupational stress experienced by nurses has been shown to have negative consequence for patient outcomes^[2] and is associated with low levels of productivity and job performance.^[3] A recent study has shown that 71% of Iranian Intensive Care Unit (ICU) nurses experienced high levels of stress.^[4] Our earlier study conducted in hospitals in Tabriz also showed high levels of occupational stress among critical care nurses.^[5]

An ICU nurse's job is characterized by an excessive workload, a need for fast decision making regarding patient care, and working with highly developed technologies.^[6] ICU nurses are also thought to experience more occupational stress than nurses working on general wards.^[7] It has been argued that because of an increasing elderly population and the growing burden of chronic illnesses, the need for critical care is projected to grow quickly.^[8] Furthermore, differences

in job-related stress between public and private hospitals have been noted.^[9]

According to a National Health Account's (NHA) report, 70% of Iranian hospitals are in the public sector, whereas private hospitals account for almost 15% of the total number of hospitals.^[10] Studies have shown that environmental differences between public and private hospitals can result in stress among nurses^[9,11] and understanding work place stressors and how these are coped with has attracted interest over recent decades.^[6] Recognizing the importance of assessing the workplace stressors that exist in public and private hospitals and the differences between them, the aim of this study was to examine the perceived occupational stress levels experienced by ICU nurses working in both public and private hospitals in Tabriz, Northwest Iran.

Materials and Methods

This cross-sectional comparative study was conducted between July and November 2017 and a two-stage sampling method was used for data collection. The first stage saw the selection of five public and five private hospitals operating in Tabriz, Iran

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with selection based on the inclusion criterion of having a minimum of 200 beds. From these hospitals, 17 ICU managers agreed to participate in the study and 500 nurses working in these 17 ICUs formed the study population. Based on a previous study,^[12] a sample size of 240 nurses, a 95% confidence interval, a precision of 0.05, and a power factor of 0.8 was calculated. At the second stage, a list of critical care nurses was provided by the authorities of the selected hospitals and, based on simple random sampling with replacement methods, the predetermined numbers were selected using the inclusion criteria of being a full-time clinical nurse, having at least 1 year experience and being willing to participate in the study.

To collect data, the morning shifts in the selected hospitals were targeted and eligible nurses were asked to complete a questionnaire, either in the workplace or at home returning them no more than 1 week after the date of completion. A self-administered occupational stress questionnaire together with demographics information was used to collect data. The reliability coefficient of the scale had been computed previously^[8] and the Cronbach's alpha for overall occupational stress was found to be 0.82, in the present study this was established as being 0.93. To assess the validity of the questionnaire, formal and content validity was used. The questionnaire consisted of 30 questions that measured occupational stress in five dimensions that related to task, role-related stress, work-related stress, stress associated with organizational policies, and stress related to relationships between individuals. The questions were designed with a 5-option range (1 = very low, 5 = very high).

Data were analyzed using SPSS 17 (SPSS Inc., IL, Chicago, USA) and at a significance level of <0.05. For normalizing each domain of the occupational stress questionnaire on a 5-point Likert scale, the sum of raw scores of items in each domain was divided by the numbers of questions in each domain and, for overall occupational stress, the sum of raw scores of the items was divided by 30. Justified scores were varied between 1 and 5. The differences of occupational stress levels between private and public hospitals were also tested using independent *t*-tests.

Ethical considerations

This study was approved by the Ethics Committee of Tabriz University of Medical Sciences. (Ethical code: IR.TBZMED.REC.1395.999). Participants were informed that their information would be anonymous and that participation in the study was voluntary. Study data were handled confidentially, and all nurses signed a consent form.

Results

Of the 240 questionnaires distributed, 203 were returned (response rate = 84.58%). Of these respondents, 79.80% (162) were women, 75.86% (154) were married, 93.59% (190) had a bachelor's degree and, in both sectors, 91.62% (186) had an income of less than 300 dollars. The mean (SD) age of the participants was 36.11 (7.76) in the public hospitals and 35.48 (9.04) in the private hospitals. The mean (SD) job experience of the nurses was 11.83 (7.23) years in the public hospitals and 10.70 (8.83) years in the private hospitals.

The overall mean (SD) score of occupational stress was 3.65 (0.77) in the public hospitals and 3.18 (0.94) in the private hospitals. Table 1 shows that the mean score of three subscales relating to "duty related stressors," "working environment-related stressors," and "interpersonal relations-related stressors" of ICU nurses working in the public hospitals was greater than their private hospital colleagues and that these differences were statistically significant ($p < 0.05$). No significant difference was demonstrated between the public and private sector hospitals in respect of the two subscales relating to "role-related stressors" and those relating to "organizational policies."

Discussion

The results showed that the average level of stress experienced by nurses in public hospitals was significantly greater than that experienced by nurses working in private hospitals. This may be seen as a reflection of the fact that burnout^[13] and workload^[14] are both higher for nurses working in public hospitals than for those working

Table 1: Relationship between sectors and occupational stress subscales among critical care nurses

| Job stressors | Total mean (SD) | Mean (SD) | | <i>t</i> | <i>p</i> [†] |
|---|-----------------|-------------|-------------|----------|-----------------------|
| | | Public | Private | | |
| Duty related stressors | 3.28 (0.79) | 3.39 (0.76) | 3.05 (0.82) | 2.90 | 0.004* |
| Role related stressors | 2.96 (0.96) | 3.05 (0.89) | 2.75 (1.01) | 1.90 | 0.060 |
| Working environment related stressors | 3.37 (0.99) | 3.53 (0.91) | 3.04 (1.07) | 3.35 | 0.001* |
| Organizational policies related stressors | 3.56 (1.03) | 3.66 (0.94) | 3.34 (1.18) | 1.93 | 0.056 |
| Interpersonal relations related stressors | 3.21 (1.03) | 3.37 (0.99) | 2.89 (1.16) | 3.08 | 0.002* |
| Total | 3.50 (0.86) | 3.65 (0.77) | 3.18 (0.94) | 3.78 | 0.000** |

[†]The independentsample *t*-test, *Significant at $p < 0.05$ level, **Significant at $p < 0.01$ level

in private hospitals. Greater sense of job security is felt by nurses in private hospitals as compared with those in public hospitals may be seen as an additional reason.^[15] Most Iranian hospitals operating in the public sector are teaching hospitals, they are overcrowded, and nurses have a heavy workload. The work environment in these public hospitals can be said to be inappropriate, staff receive insufficient payments, communications are ineffective, and there are low levels of organizational support for nurses.^[16] Conversely, in private hospitals, more attention is given to the expectations and viewpoints of nurses^[15] and the findings of a study conducted in Sudan^[17] showed lower job stress among ICU nurses working in private hospitals. Although a scarcity of similar studies has made comparison difficult, it would be reasonable to conclude that the different levels of occupational stress experienced by nurses employed in the public as opposed to the private sector is attributed to these differences in workplace environments.

Organizational policies were found to be the most significant stressor in both public and private sector hospitals, a finding that reflects of Labrague *et al.*,^[18] a study of private and public hospitals conducted in the Philippines. Labrague found that policies relating to promotion, encouragement, punishment, and organizational support were contributory factors in the development of workplace stress. A study conducted in Nepal^[19] identified a lack of a psychological readiness and poor communication between colleagues as the principal causes of stress among critical care nurses.

In another study, stress was associated with the high expectations of patients and colleagues, an inadequate workforce, and lack of training,^[11] and in a study conducted by Chatterjee and Roy, differences in organizational culture and in working conditions were observed in public and private sector hospitals. In Chatterjee and Roy's study, nurses employed in private hospitals were found to have more organizational role stress compared with their counterparts in public sector hospitals.^[20] Given the limitations of cross-sectional studies and the generalizability of their results, the researcher recommend that further studies be carried out and that the use of qualitative methods exploring the lived experiences of nurses as a factor affecting occupational stress would add value to any results.

Conclusion

As organizational policies and working environment-related stressors were found to be the main cause of occupational stress in both public and private hospitals, managers should provide nurses with clear information about the purpose, structure, and practice of the hospital and a review of hospital policies should be conducted. A reasonable level of teamwork and socializing is often productive as it can help to create a friendly and safe working atmosphere and establishing proper communication with nurses, supporting

them, and creating an appropriate environment for their professional activities is important.

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Conflicts of interest

Nothing to declare.

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