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Comparison of level of Stress among Bedside Nurses Working in Different Specialties at Private Sector Tertiary Care Hospital in Karachi, Pakistan

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Abstract

Background: Stressful situation are among the challenging experiences especially in clinical setting. The aim of this study was to compare the level of work-related stress among nurses working in Intensive Care Units (ICUs), General ward and Emergency setting.
Methods: This cross-sectional study was conducted at different private tertiary hospitals of Karachi in 2017-2018. Two stage sampling technique including quota and convenient sampling technique was used to collect the data. A total of 225 participants were recruited. Pre-validated questionnaire was used which contained different stress related categories. Midwives, nursing assistants, part time nurses and nurses employed at management positions were excluded from the study. Data were presented as frequency and percentage and mean and standard deviation. The chi-square test was used for examine association of categorical variables. The SPSS used for data analysis.
Results: The mean age of participants was 26.5±2.4 years. Stress among nurses working in emergency department was found to be highest in all categories. Management related stress was 77.3% and 69.3% due to criticism by supervisor and inadequate support by supervisor, respectively. Patient related stress was 72% and 64% due to health risk posed by patient contact and communication about death to patient. About 81.3% of the nurses of emergency department reported high level of stress due to covering work for another employee followed by 66.7% related to working overtime. Moreover, 86.7% and 62.7% of participants had high level of stress due to inadequate salary and lack of recognition.
Conclusion: The study concludes that the level of stress varies within different departments in the hospitals. There are several work-related stressors that found more in Emergency department than ICU or General ward.

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Introduction

Stress is considered as a natural phenomenon and a normal part of a human life. Stress is considered healthy if it is limited and does not harm the health of an individual in any way (1). Similarly, it is considered effective and productive in the professional lives of individuals if it does not negatively affect the professional's health and it ultimately results in better performance (2). It is observed that the care and the scope of services along with work setting also affect the stress level among nurses. These challenging situations increase the risks of developing physical, psychological and emotional problems. These risks make nursing personnel prone to stress and may lead to burnout, turnover and shortage of professional nurses (3, 4).

Emergency department is completely a different setting from general ward and critical care so it is important to identify which hospital setting is more stressful among nurses and the reasons behind it (5). Moreover, today nurses are at different positions in hospitals, NGOs and other health facility and the stress at different position at different health setup and facility would also be different (6). Therefore, along with assessing and comparing the level of stress and its risk factors among nurses in different clinical setting, this study would only focus on the stress level of the nurses who work at bedside. As many studies have shown significant turnover rates in bedside nursing (7).

Studies have been done in order to assess and compare the stress level among nurses working in general ward and critical care areas (8, 9). However, there are very few studies which compare the stress level among nurses working in General ward, ICU and Emergency care units (6, 10). Therefore, this study aims to assess and compare the level of stress among nurses at different clinical settings (General ward, Emergency department and ICU) along with the risk factors associated with it. This study would help us in initiating and designing recommendations in order to decrease stress level among nurses and improve health care facility for patients, increase efficiency and effectively and decrease turnover.

Methods

This cross-sectional study was conducted for a year from August 2017 till August 2018 at three different private tertiary care hospitals of Karachi. Although, there are quite a few private tertiary care hospitals in Karachi but these hospitals were selected because their total number of beds exceeded 500 and they had an associated nursing college. A total of 240 self-administered questionnaires were distributed of which 230 were returned with a response rate of 95.8%; 5 were incomplete and therefore, not included in the study. The sample size was calculated with RaoSoft sample size calculator with 95% confidence interval, margin of error 5%. Two stage sampling technique was used in order to conduct the research. Firstly; qouta sampling was done that is nurses' population was divided into strata of Emergency care, ICU and General ward. Next, 75 participants were selected through convenient sampling within each stratum who agreed to participate in the study voluntarily and who fall under the inclusion criteria. A Pre-validated questionnaire called "Nursing Stress Indicator" which is freely available on internet was used for data collection (11) (See Appendix I). The questionnaire comprised of 58 set of questions on different stress related factors including patient related factors, management related factor, increased workload, lack of recognition and high job demands scoring the stress level on global rating scale of 1 -9 from low to high. Registered nurses with at least one year of experience and having valid registration with Pakistan Nursing Council were the inclusion criteria for the study. However, midwives, nursing assistants, part time nurses and nurses employed at management positions were excluded from the study. Ethical consideration was taken and participation to the study was entirely voluntary. Written informed consent was obtained from all the participants. The study was approved from the Ethics Review Committee of Bhitai Dental and Medical College.

Data was analyzed in SPSS statistics for windows, version 16.0 (SPSS Inc., Chicago, III., USA) all qualitative variables were presented as frequencies and percentages and all the quantitative variables were presented as mean and standard deviation. The chi-square test was used to examine the significance of the association between two or more categorical variables.

Results

Table 1 shows the demographic data of all the participants. The mean age of participants was 26.5+ 2.4 years. Among 225 participants, there were 101 (44.9%) male nurses and 124 (55.1%) female nurses. The latest education status of nurses was diploma (66.7%), post-diploma (7.1%) and bachelors (26.2%).The work experience of the nurses was 1-5 years (91.6%), 6 -10 years (6.2%) and 11 -15 years (1.3%).

Table 2 shows the mean scores of the stress score among nurses in different departments. The highest stress was found in nurses working in the emergency department in either of the category.

Table 3 shows the association between nurses of different department and their stress related to inadequate support by their supervisors and management. Significant association has been found. The results indicate that there was highest level of stress in emergency department (69.3%), moderate level of stress in intensive care unit (33.3%) and lowest level of stress in general ward (29.3%).

Regarding criticism by their respective supervisors, the highest level of stress was found in emergency department (77.3%), moderate level of stress in ICU (62.7%) and low stress in general ward (14.7%).

Table 4 highlights the relation between nurses working in different department and their stress level regarding high risk to get exposed with infected patients which were found to be significant. Highest level of stress was observed in emergency department (72%) and ICU (53.3%). There was moderate level of stress in general ward (44%).

Majority of nurses (64%) had high level of stress in emergency department, moderate level of stress in general ward (46.7%) and intensive care unit (68%) related to communicating with the patient about death. Finding in Table 5 shows the association of stress related to working overtime and different departments of hospital area. It revealed that high level of stress was more in emergency department (66.7%) related to this issue whereas moderate level of stress was found in general ward (60%) and intensive care unit (57.3%).

Regarding covering work for other employees, majority of nurses working in emergency and general ward had high level of stress i.e. 81.3% and 40% respectively whereas, nurses of ICU had moderate (45.3%) to high level (45.3%) of stress.

Table 6 shows association between the stresses regarding lack of recognition for good work among nurses of three different departments. This revealed that nurses of emergency department had high stress (62.7%), whereas nurses of ICU and general ward had moderate stress i.e. 50.7% and 41.3% respectively.

Stress level due to inadequate salaries in three different departments was found to be high in emergency department (86.7%) and in general ward (52%) and moderate in ICU (38.7%).

Table 1. Demographic characteristic of the studies subjects (N=225)

Demographic characteristics		N	%
Gender	Male	101	44.8
	Female	124	55.1
Work experience (years)	1-5	207	92.0
	6-10	14	6.2
	11-15	4	1.7
Educational background	Diploma	150	66.6
	post diploma	16	7.1
	Bachelors	59	26.2

Table 2. Mean Stress Score of ICU, General ward and Emergency Department

Variables	Categories	General ward M± SD	Intensive care unit M± SD	Emergency ward M± SD
Management related stress	Inadequate support by supervisor/manager	5.75± 2.67	5.43± 2.67	6.96± 2.69
	Criticism by supervisor/manager	5.93± 3.12	5.15± 2.63	7.08± 2.18
Patient related stress	Health risk posed by contact with patient	5.91± 2.76	5.96± 2.43	7.11± 2.64
	Communicating with the patient about death	6.05± 2.71	5.77± 2.56	6.44± 2.58
High job demand	Working overtime and emergency hours	5.55± 2.56	5.61± 2.67	6.89± 2.31
	Covering work for another employee	5.61± 2.32	5.88± 2.19	7.09± 2.63
Lack of recognition	Lack of recognition for good work	5.97± 3.05	5.61± 2.48	6.93± 3.03
	Inadequate salary	6.45±3. 25	5.85± 2.79	7.71± 3.34

Table 3. Management Related Stress in the studies subjects (N=225)

	Low	Moderate	High	P-value
Health risk posed by contact with patient				
General ward	13 (17.3%)	33 (44%)	28 (37.3%)	
Intensive care unit	12 (16%)	23 (30.7%)	40 (53.3%)	< 0.001*
Emergency ward	1 (1.3%)	20 (26.7%)	54 (72%)	
Communicating with the patient about death				
General ward	9 (12%)	35 (46.7%)	30 (40%)	
Intensive care unit	6 (8%)	51 (68%)	18 (24%)	< 0.001*
Emergency ward	8 (10.7%)	19 (25.3%)	48 (64%)	

* Chi square test (p-value < 0.05 was significant)

Table 4. Patient Related Stress in the studies subjects (N=225)

	Low	Moderate	High	P-value
Health risk posed by contact with patient				
General ward	13 (17.3%)	33 (44%)	28 (37.3%)	
Intensive care unit	12 (16%)	23 (30.7%)	40 (53.3%)	< 0.001*
Emergency ward	1 (1.3%)	20 (26.7%)	54 (72%)	
Communicating with the patient about death				
General ward	9 (12%)	35 (46.7%)	30 (40%)	
Intensive care unit	6 (8%)	51 (68%)	18 (24%)	< 0.001*
Emergency ward	8 (10.7%)	19 (25.3%)	48 (64%)	

* Chi square test (p-value < 0.05 was significant)

Table 5. High Job Demand in the studies subjects (N=225)

	Low	Moderate	High	P-value
Working overtime & emergency hours				
General ward	7 (9.3%)	45 (60%)	23 (30.7%)	
Intensive care unit	11 (14.7%)	43 (57.3%)	20 (26.7%)	< 0.001*
Emergency ward	1 (1.3%)	24 (32%)	50 (66.7%)	
Covering work for another employee				
General ward	16 (21.3%)	27 (36%)	30 (40%)	
Intensive care unit	7 (9.3%)	34 (45.3%)	34 (45.3%)	< 0.001*
Emergency ward	2 (2.7%)	12 (16%)	61 (81.3%)	

Chi square test (p-value < 0.05 was significant)

Table 6. Lack of Recognition in the studies subjects (N=225)

	Low	Moderate	High	P-value
Lack of recognition for good work				
General ward	14 (18.7%)	31 (41.3%)	28 (37.3%)	
Intensive care unit	11(14.7%)	38 (50.7%)	26 (34.7%)	0.002
Emergency ward	4 (5.3%)	24 (32%)	47 (62.7%)	
Inadequate salary				
General ward	12 (16%)	22 (29.3%)	39 (52%)	
Intensive care unit	15 (20%)	29 (38.7%)	30 (40%)	<
Emergency ward	0 (0)	10 (13.3%)	65 (86.7%)	0.001

Chi square test (p-value < 0.05 was significant)

Discussion

There are many studies that have been done in order to assess the stress level of nurses and to find out stress related factors (4, 12, and 13). But, rarely any study would have focused on comparing the stress level of nurses in three different departments together. A study by Saleh A et al. showed that stress level among Intensive care nurses (84.5%) and emergency department nurses (70%) was high as compared to general ward nurses (54%) (14). Similarly, the overall result of our study showed that the stress among emergency nurses (89.3%) and ICU (82.7%) nurses is high as compared to general ward nurses (57.3%). There was a study conducted by Yang Y et.al using Professional Stress Scale (PSS) that showed that emergency department nurses perceived more stress (mean 1.58) as compare to general ward nurses (mean 1.30) regarding lack of resources, organizational structure and conflict with other professionals (15). This supports our study that revealed that the stress level among emergency department nurses was high than general ward and even from ICU nurses regarding many factors like inadequate support by supervisors, Inadequate salary etc., as discussed in the results above.

There was a study conducted by Mehta R S et.al to assess the job related stress of the critical care nurses. This study showed that 25.5% of the critical care nurses including emergency and ICU had very much stress because of inadequate support from supervisors (16). This supports our study that showed 44% (ICU) and 69% (emergency) nurses had high stress regarding same cause. Similarly, the study also showed that stress because of lack of recognition (29.9%) and inadequate salary (31.9%) was very much high and moderate respectively among critical care nurses (16). In our study, stress because of lack of recognition was high i.e. 34.7% in ICU and 62.7% in emergency. Similarly stress related to inadequate salary was also high in both 40% (ICU) and 86.7% (Emergency).

Our study indicated that the mean of stress in general ward due to inadequate salary was 6.45 in General ward, 5.85 in ICU and 7.71 in emergency department. Similarly, a study conducted by Saleh A et al. identified inadequate salary as cause of occupational stress among nurses with the mean 5.76 (14). A research done by Sabih M et al. on assessing the stressors of Jordanian nurses in different hospital setting showed that the mean stressors scores like working overtime and death and dying of patients is high in ICU (15.07, 16) than general ward (15.0, 15.5) and Emergency (14.7, 15.5) (17). Whereas, our study showed that stressors like working overtime and death and dying of patients is high in Emergency (6.8, 6.4) than general ward (5.5, 6.04) and ICU (5.61, 5.7).

There was another study conducted by Ahmadi et al. (2014) to evaluate burnout and stress among nurses of wards, ICU and emergency department that showed the burnout among nurses of wards was less as compare to ICU and emergency department (P =0.01). This further supports our findings which showed the stress among nurses of general ward was significantly less than nurses of ICU and emergency department (P =0.001) (18).

Conclusion

The study concluded that the work setting does affect the stress level of nurses. There are several work-related stressors that are more in Emergency department than ICU or General ward. These includes factors like inadequate support by supervisors, inadequate salaries, working overtime, covering work for another employees, risk of getting exposed to infectious diseases and death, dying of patients.

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