Original Article

The Impact of Nurses Job Stress Level on Patients Care in Tertiary Care Hospital

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ABSTRACT

Nursing is dynamic in nature and nurses are often in high level of job stress because of hard job, work load and burden of responsibilities. These stressors can have negative effect on patient care. The focus of study was to evaluate the correlation of nurses' job stress and quality of care delivered to patients. **Objective:** To assess the nurses job stress level and the association of job stress and patient care at tertiary care hospital. **Methods:** The descriptive cross-sectional study was conducted with 144 participants working in tertiary care hospital. The nurses were selected via convenient sampling technique. The duration of study was 6 months. The data were collected by demographic characteristics, Caring Dimension Inventory (CDI-25) and NIOSH Generic Job Stress Questionnaire. **Results:** The results of this study showed that numbers of females were more 126 (87.5%) and majority of participants in age limit of 21-30 were 92 (63.9%). Most of the participants were bachelor degree holder 137 (95.1) and official job holders were 127 (88.2) at that institute. Large numbers of participants were bed side nurses 124 (86.1%). Most of the nurses felt moderate level of job stress (76.4%) and provide poor patient care (43.1%). The p-value of 0.001 was indication of the conclusion that there were association between nurses' job stress and patient care delivered to patient. **Conclusions:** There was significant relation between the job stress and patient care. The job stress had negative effect on patient care delivered to patient by nurses. It also reduced the nurses' performance which maybe factor of poor patients' outcome.

INTRODUCTION

Stress is the natural feeling of emotional and physical tension. Stress in general term is physical, emotional and chemical response that causes bodily and mental tension. Job stress is type of stress which is associated with the unusual conditions at work place like work load, conflicts, responsibilities and dis-satisfaction [1]. Nursing is a dynamic job and the nursing employs experienced more stress as compare to other health care professional [2]. In the developing country like Pakistan this job stress is due to multiple causes like, increased patient load and responsibilities, work hazards, conflicts at work, stressful policies or dis-satisfaction with health care team. Due to low health care facilities and current shortage of nurses the nurse patient ratio is far from international standards. Nurses have to deal with many patients in a time and high level of responsibility is expected from her/him which led to stress. According to a studies in Iran, mental exhaustion and job stress caused 7.4% of nurses to be absent from their job, which is 80% more than other professionals [3]. According to American institute of stress 80% of all occupational injuries and 40% of financial burden in the workplace lead to stress [4]. The statistics provided by International Counsel of Nursing states that the cost of job related stress are approximately $200-300 million annually in United States and 90% of employees medical problems are related to stress [5]. Stress is conceived as a part of modern nursing and also is useful in small amount. In addition to it stress lead to the low job satisfaction, Anxiety, dispute with colleagues, diminished decision making ability and reduced nobility of profession. These all things

lead to profession related injuries which in result compromise patient care. Many studies show that job stress directly or indirectly strike the care of patients [6]. According to the result received about 35% of the people were worried about the workplace bullying and they stated that it impacts their work execution. Overall workplace bullying and job performance were negatively correlated with each other and had significant association. More educated workers were about 1.7 times more worried about the workplace bullying than their counterparts. Junior practitioners were 1.6 times more worried about the workplace bullying than their counterparts [7]. The group who has been exposed to workplace bullying and the group that has previously experienced workplace bullying were both more worried about the workplace bullying. Overall the study found out that about 80% of the people said that the workplace bullying impacted their job performance in one way or the other. So the job performance is largely influenced by the workplace environment and a healthy workplace environment lead to a better patient care [8]. A study evaluated the relationship between the job stress and job performance among Chinese nurses in 2019. To perform a cross-sectional study, a sample of 1594 health workers was selected from typical community hospitals in eastern, central and western China. In this study the focus was on the relation of job stress to public service motivation and job performance [9]. In the results it was possible to see how job stress affects the job performance. Two factors of job stress are studied in this research, one is hindrance stress other is challenge stress. Hindrance stress cause burnout in nurses and had inverse relation with job performance [10]. A descriptive correlational survey studied the relation of work load, work environment and nurse's performance with job stress. 113 nurses from district hospitals were participated in this survey. Survey was conducted by distributing questionnaires to nurses and response collected on 5 categories-based Likert scale. The results showed that the sources of job stress are work load, night shifts, jobs overload and too much tasks performed by nurses [11].

METHODS

In this research descriptive cross-sectional design was used. This study was conducted in Services Hospital, Lahore Pakistan. The duration of study was 6 months. Convenience sampling technique was used to collect data in this study. The sample size was collected through Slovin'sFomula. The targeted Population size of nurse is (N) 500 and margin of error (e) was 0.07. The calculated sample size (n) was 144 by this formula. Sample size $n = N / (1+Ne^2)$. Population size = N=500. Margin of error = e = 0.07, n = 500/(1+500*0.07) and n = 144. All staff nurses, both gender male and female, Nurses having age limit between 21 to 50 years, Nurses working on clinical side and Nurses having at least 2-year experience. Nurses who were not willing to participate in research, Nurses who were working in double shifts. The equipment of this study was Likert scale-based questionnaire which include: NIOSH (National institute of occupational safety and Health) Generic job stress Questionnaire. Caring Dimension inventory (CDI-25). This instrument is used in this research questionnaire to evaluate the caring behavior of nurses. The ethical clearance from the hospital, institution and ethical committees was received. After clarifying the concept and procedure of the study and obtaining their consent to carry out research, participants were recruited and organized. The data analysis of this research was divided into two parts. The data were analyzed through frequency table and presented through graphs. Frequencies and percentage were utilized to examine the job stress level and degree of patient care. As the data of both variables are in ratio so chai square test with significant value $p < 0.05$ was performed to test the association between the nurse's job stress and patient care by nurses in Government hospitals. Data normality was assessed through Kolmogorov–Smirnov test.

RESULTS

Table 1 showed that from the 144 total participants 126 were females (87.5%) and numbers of males (12.5%) were less than females. In the age limit most of participants (92) were in the age limit of 21-30 (63.9%),40 participants had their ages in between 31–40 (40%), few (8) participants were in between 41 to 50 years of age (5.6%), very less numbers participants were <21 year old (2.1%), and only 1 participant was >50 years of ages (0.7%). In the total count of 144, un-married participants (50.7%) were more than married (49.3%).

Table 1: Demographic Variables

Variables		N(%)
Gender	Male	18(12.5)
	Female	126(87.5)
Age	<21	3(2.1)
	21-30	92(63.9)
	31-40	40(27.8)
	41-50	8(5.6)
	>50	1(.7)
Marital status	Married	71(49.3)
	Unmarried	73(50.7)
Education status	Bachelor	137(95.1)
	Masters	7(4.9)
Employment status	Official	127(88.2)
	Contractual	17(11.8)
Working position	Supervisor	12(8.3)

	Head-nurse	8(5.6)
	Nurse	124(86.1)
Shift	Morning	86(59.7)
	Evening	28(19.4)
	Night	30(20.8)

Demographic variables with frequency (n) and %age

It is displayed in Table 1 that 137 participants were bachelor degree holder (95.1%) and 7 participants were master degree holder (4.9%). The official job holders in hospital (88.2%) were much more than contract based job holders in hospital (5.6%). From the all 144 respondents, 124 were bed-side nurse (86.1%), 12 were supervisors (8.3%) and head nurse (5.6%) of their respective wards are less than bed side nurse and supervisors. Majority of participants were performing morning shifts (59.7%), the participants of night shifts (20.8%) and evening shift (19.4%) were less than morning shift.

Table 3: Level of patient care in Services hospital

Variables	N (%)	Mean ± SD
Poor patient care: <14	62(43.1)	
Average patient care: 14-19	49(30.0)	1.80±0.790
Good patient care: 20-32	33(22.9)	

Table 3 showed that majority of participants (43.1%) had poor patient care, (30.0%) respondent scored in range of 14-19 and they had provided average level of care to patients and (22.9%) respondent scored in range of 20-32 and they had been providing good patient care. The results showed that out of 144 nurses, higher number of nurses provides poor patient care were 62 (43.1%) Furthermore the mean was 1.80 ± 0.790 which stated that most of the nurses provide poor patient care (43.1%) in Services hospital.

Table 4: Association of job stress and patient care at Services hospital

Nurses level of stress	Patient care level			p-value
	<14 poor patient care	14-19 average patient care	20-32 good patient care	
<40 low level of stress	3	2	1	
40-60 moderate level of stress	52	28	30	0.001
61-84 high level of stress	7	19	2	
Total	62	49	33	

Chi-square test with a significance level p<0.05

The association between the nurses' job stress and patient care was checked through chai-square test. The stages of nurses' job stress are <40 low level of stress, 40-60 moderate level of stress and 61-84 high level of stress. Same this, the patient care is also categorized into 3 stages which are <14 poor patient care, 14-19 average patient care and 20-32 good patient care. The p-value is 0.001 which is less than 0.05 (<0.05) and the results are significant which means that nurses' job stress effect the patient care. Table 4 showed that highest number of participants (52) which have moderate level of stress but could not provide proper patient care and their caring behavior toward patients was poor. The conclusion of results analyses was that numbers of females were more 126 (87.5%) and majority of participants in age limit of 21-30 were 92 (63.9%). Most of the participants were bachelor degree holder 137 (95.1) and official jobholders were 127 (88.2) at that institute. Large numbers of participants were bed side nurses 124 (86.1%). Most of the nurses felt moderate level of job stress (76.4%) and provide poor patient care (43.1%). The p-value of 0.001 was indication of the conclusion that there were association between nurses' job stress and patient care delivered to patient.

DISCUSSION

In this study, age (63.9 % 21-30 years), gender (87.5% female), marital status (50.7% married), education status (95.1% bachelor), employment status (88.2% official), working position (86.1% clinical nurses) and job shifts (59.7% morning shift) are discussed and have significant impact on results. The previous study conducted by Babapour *et al.*, also discussed the same demographic variables also included the department in which nurse perform its job [15]. In this study the nurses' job stress ($X=53.75 \pm 9.475$) was measured by self-perception, work hazards and work load which has significant impact on patient care. The job stress is increased by work load and increased work hazards. Al-Nuaimi *et al.*, finds out the same results that the variable such as work environment, relations between workers, work load and lack of perception had impact on occupational stress and a negative relation was there in between nursing occupational stress and their job performance [13]. This study finds out the same results to Bartram *et al.*, that the retention of nurses in hospital has been linked to the job satisfaction and job stress [14]. And the factors which contribute to job stress are extra work, shift workload which may be associated to issues of work/family balance, dual responsibility associated role conflicts like administration and patient care. The results of this study find out that majority of nurses are in job stress and maximum nurses experience moderate job stress (76.4%) and provide poor patient care (43.1%) which shows the caring ability of nurses is affected by their job stress. Zabin *et al.*, discussed the relationship between occupational stress or job stress and patient safety culture. The findings of these studies showed that a significant negative relationship was found between job stress and patient safety culture. That is because these factors could

increase nurses' stress, making them more prone to mistakes and adverse events, which in turn has been associated with patient safety. This study shows the significant relation of job stress (p-value= 0.001) and level of performance of those nurses in their particular departments. The performance is badly affected by increased job stress. Akgül and Aksoy explained that practice errors, compromised patient safety and poor health care quality were caused by stress which health care personnel's encountered during their jobs. The safety of patient was negatively associated to work-related stress [16]. The results of this study show the similar findings of caring behavior that the nurse performance is affected significantly and negatively (43.1%) directly by workload on nurses performance. In context of this result Lu *et al.*, stated that the nurses job performance is low, where the work load is high. Same like this, the work environment is also positively and significantly associated to job performance. In the good and favorable work environment the job performance is maximum. This study gives the clear evidence of association (p-value= 0.001) of job stress to patient care. The job stress (76.4%) is measured through satisfaction level, self-perception, perceived hazards and work load which may lead to emotional burnout and psychological problems in nurses. The nurses with stressed mind could not provide proper care to its patients (43.1% poor patient care). Yosiana *et al.*, showed that the direct relation of job stress and nurse performance were negatively significant [18]. It was said that when the job stress was high the performance was low and if the job stress was decreased the performance automatically got improved. In this study results show the strong significant relationship between the patient care provided by nurse (43.1%) and stress level perceived by nurse during its job (76.4%). Maximum responses are in favor and maximum participants perceived some degree of stress due to work load, job satisfaction, job hazards and responsibilities. Other study also determined the relation between nurse practice environment and performance out comes. Falguera *et al.*, explained that the nurse relation to health care team, manager role and other activates increase the burden on nurse which affects the performance [19, 20].

CONCLUSIONS

The conclusion of this study was that there was significant association between stress experienced by nurses on their jobs and patient care delivered by nurses. Results explained that if the job stress increased the patient care decreased and vice versa.

Authors Contribution

Conceptualization: MTY
Methodology: MY, SA
Formal Analysis: NR
Writing-review and editing: MTY, NR HA, RA

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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