



Occupational Stress and Associated Factors among Nurses: Bangladesh Perspective

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ABSTRACT

Nursing, by its nature, is an occupation subject to a high degree of stress. This profession involves working with people who are themselves suffering a considerable degree of stress. Occupational stress compromised quality of service delivery and also leads as employees' burnout, turnover and absenteeism. The Objective of the study is to determine the level of occupational stress and associated factors among nurses. The study employed facility based cross sectional study. All nurses who served at least for 6 months in Dhaka & Gazipur areas hospitals were asked using self-administered structured questionnaire. The collected data was checked manually, edited, coded and entered into SPSS and finally it was exported in to statistical package for social science for cleaning and analysis. Descriptive statistics were used to estimate frequency percent and mean. Dependent variables (occupational stress) were computed based on the respondents having average score of mean and above in expanded nursing stress scale. In this study, more than half of nurses had occupational stress, thus, hospitals collaborative with concerned stakeholders to design stress reduction program for tackling occupational stress among nurses.

Keywords: *Occupational stress, nurses, associated factors, Bangladesh*

INTRODUCTION

Nursing is the main workforce at hospital institutions and these professionals' work is fundamental, as they are responsible for direct and uninterrupted care to the patient, 24 hours per day, seven days per week. As a care manager, the nurse has a unique perspective on patient care and hospital operations and stands at the frontline of these health services. These professionals are submitted to different occupational risks though, mainly psychosocial risks. The nurses experience a harsh physical and psychologically exhaustive work process, with high and complicated demands and long work journeys; they work in shifts, with a work burden motivated by the insufficient number of professionals to attend to the overcrowded services. In addition, in this environment, permeated by complex interpersonal relationships with the multi-professional team, there is a lack of acknowledgement, autonomy and devaluation of this group; there is the daily contact with suffering, high performance requirements for the teams and concerning patient safety. These and other factors trigger occupational stress and produce physical and mental health problems for these professionals.

The National Institute for Occupational Safety and Health (NIOSH) defines occupational stress as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Nurses play a pivotal role in any health care institution and encompass the largest workforce in any health care institution. Nurses are direct caregivers and caring is an interpersonal procedure defined by expert nursing, interpersonal sensitivity and intimate relationships, including positive communication and implementation of professional knowledge and skills.

Sometimes nurses are required to serve for a long period of time without having adequate rest. As a result, nursing occupation is subject to a high degree of stress. Moreover, the profession involves working with people who are themselves suffering a considerable degree of stress. Sometimes patients can be difficult, frightened and angry and nurses can find themselves responding with a growing sense of irritability and

frustration, which may lead to quitting the profession. According to the Health and Safety Executive organization 2010 report, stress has consistently been the second most commonly reported type of work-related illness in the world. For instance, in the United Kingdom stress is responsible for the loss of 49% of total working days. Although, people are increasingly accustomed with occupational stress and how to manage it, the problems have persisted and even seem to be increasing. However, in some developing countries, people are not aware of the importance of dealing with occupational stress.

Occupational stress may affect significantly nurse's quality of life, and simultaneously reduce the quality of nursing care, and it also affects performance at work. It resulted in loss of compassion for patients and increased incidences of practice errors and therefore is unfavorably associated to quality of care. Numerous studies show that stress has a direct or indirect impact on the delivery of care and on patient results.

SIGNIFICANCE OF THE STUDY

Studies of the source, level and associated factors of occupational stress were conducted in different part of the world and also stress is a complex phenomenon which results from interaction between an individual and the environment factors that ends with poor quality of health service delivery, employees' burnout, turnover and absenteeism. Therefore, this study provides information for nurse professionals, hospitals administrators and health policy makers concerning the level and associated factors of occupational stress. The information generated will be useful in designing appropriate interventions to develop stress reduction strategies and program. Furthermore, this study will also generate knowledge that can contribute to ongoing research efforts and also will be used as additional input for further study in the same area of inquiry.

LITERATURE REVIEW

Level of Occupational Stress among Nurses

According to Cross-sectional study in Isfahan, Iran on nurses the study revealed that 34.9% of nurses reported their job was very or extremely stressful. It is consistent with cross sectional study conducted in selected hospitals of Udipi and Mangalore districts Karnataka, India. Majority of the subjects i.e. 60.38% experience low stress, 38.46% experience moderate stress and stress was high among 1.15% of the subjects. Another study conducted on two tertiary hospitals Delhi revealed that majority of nurses (87.4%) found their jobs stressful with 32.2% reporting severe or extreme stress. Similarly, in relation to stress in their daily life, 87.4% reported some stress while 28.7% (25/87) reported severe/ extreme stress. However, there was not much difference in stress levels depending upon the type of hospital ($p=0.54$).

The cohort study conducted in hospitals on nurses in Gaza-Palestine. Revealed that the most severe occupational stressors were: Not enough staff to adequately cover unit (mean=1.58), followed by Watching a patient suffer (mean=1.52) and Lack of drugs and equipment required for nursing care (mean=1.46). The least frequent item of perceived occupational stressors is Listening or talking to a patient about his/her approaching death. Also, it shows that the most severe occupational stressors item appears to be not enough staff to adequately cover the unit (mean=2.97) followed by lack of drugs and equipment required for nursing care (mean=2.88) and unpredictable staffing and scheduling (mean=2.66). The least item of perceived severe occupational stressor is criticism by a physician (mean=1.72). The study conducted Darul Ehsan, in Malaysia revealed that work overload is the prominent factor of occupational stress among nurses working in hospital. This study results similar with the study conducted Al Ahsa, Saudi Arabia hospital. Also the cross-sectional exploratory study was carried out selected government hospitals in Gombe state; Nigeria the study revealed that - a work load stressor sub-scale with an estimated mean stress level of 3.36. Workload stress occasioned by not enough staff to adequately cover the unit. A cross-sectional exploratory study was carried out among bed side Nurses in five selected government hospitals in Gombe state, Nigeria the study revealed that death and dying the main factor stressors next to workload with mean stress level of death and dying was 2.78.

Factors Associated with Occupational Stress among Nurses

Socio-Demographic Factors

The study conducted in selected hospitals of India significant association is also observed between stress and marital status, ($p=0.04$) married subjects being more stressed than subjects who are single. Another study conducted Dammam, Eastern Saudi Arabia majority of nurses Work related stress is more common among married nurses (85.5%, $P < 0.05$). Cross sectional study conducted in public hospitals of Khartoum

state, Sudan revealed that the marital status was associated significantly to overall stress. $P=0.001$. The study conducted in Addis Ababa public hospitals indicated that Widowed and divorced nurses were 10 times more likely to experience occupational stress than married nurses.

The Cohort study conducted among nurses in Gaza-Palestine revealed that Severity of occupational stressors was significantly associated with age, ($F=3.283$, $p=0.020$). Whereas other cross sectional study conducted in Delhi, India have found that there was statistically significant between age and stress the mean age of nurses claiming that their jobs are extremely stressful was 33.71 yrs, whereas it was 28.73 yrs for those with stress free jobs. ($p=0.14$). The descriptive study conducted in selected hospitals of Udipi and Mangalore districts Karnataka, India. The study revealed that there is no relationship between age and stress of nurses. The Spearman Rho calculated was 0.037 with p value of 0.238 which was not significant at 0.05 levels.

METHODOLOGY OF THE STUDY

Cross-sectional, analytic-descriptive study, developed at three hospitals, called A, B and C here, located in a Dhaka & Gazipur city in Bangladesh. Institution A is a tertiary hospital, offering 313 beds and 127 nurses. Hospitals B and C deliver health care up to the secondary level, offering 130 and 113 beds, respectively, with 47 nurses each. The study population consisted of 221 professionals. The following inclusion criteria were established: being a clinical nurse or nurse supervisor; having worked at one of the institutions for at least one year as, after this period, most professionals have already adapted to their work environment; and not being on leave of absence from work. A stratified sample was calculated, considering a proportion of 50% as the prevalence of stress among nurses from public hospitals is unknown. The confidence level was 95% and the absolute sampling error 5%. Hence, the minimum number of participants at the secondary hospitals would be 78, against 97 nurses at the tertiary hospital, totaling 175 professionals.

Study Design: Facility based cross-sectional study was conducted.

Source Population: The source population for this study was all nurses who are working in Dhaka & Gazipur areas hospitals, Bangladesh.

Study Population: Individual nurse's working in research areas hospitals for more than six months.

Inclusion Criteria: All nurses who were qualified as diploma holder and above were included in the study.

Exclusion Criteria:

1. All nurses who had a work experience of less than 6 months at the time of the study was excluded because these nurses had not faced the true situation of the hospital environment, and the first six month for newly employed nurses were considered as a trial period.
2. Nurses who were: free service workers at the time of data collection were excluded.

Study Variable

Dependent Variable: Occupational stress.

Independent Variables: Socio-demographic factors (Age, Sex, Educational status, work experience in nursing, marital status, Presence of children and salary)

Workplace factors:

1. Type of ward/unit
2. Responsibility
3. Role ambiguity

Working Time factors:

1. Hours worked/day
2. Working shift

OPERATIONAL DEFINITION

1. Occupational stress:-defines as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker”. Stress experienced by the nurse related to psychological, physical and social factors Occupational stress was measured by a scale which has a total of 54 items, and sum score range minimum score of 54 and maximum of 216. It is categorized based on the respondents having average score and above the mean score were classified as having occupational stress while those score below the mean were considered as not having occupational stress.
 - a) Psychological factors: refers to sources of stress which was measured by three variables: death and dying, inadequate motional preparation and uncertainty concerning treatment in Expanded Nursing Stress Scale.
 - b) Physical factor: refers to the source of stress which was measured workload of nurses in ENSS.
 - c) Social factors: it indicates that the sources of stress which was measured three variables: conflict with physician, problems with peers and problems with supervisors in ENSS.
2. Workplace factors: refers to factors related to the employee work place which was measured type of ward, responsibility and Role ambiguity
3. Working Time factors: refers to factors related to the employee working time which was measured hours worked and working shift.

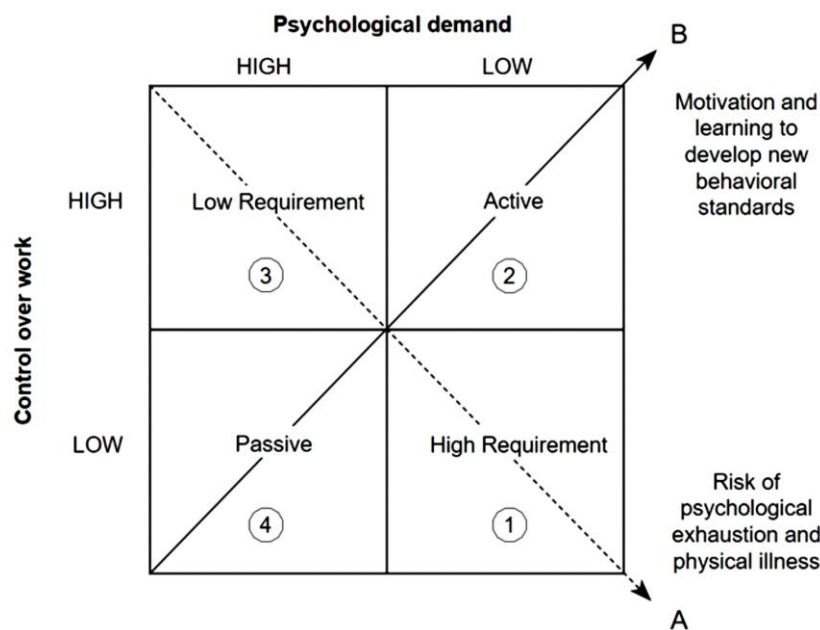


Figure 1: Relationship model between control and demand, adapted from Theorell; Karasek. Washington, DC, United States, 1996

RESULTS

Table 1: Socio-demographic characteristics of respondents for the study of Occupational stress and associated factors among nurses working in public hospitals

Variables	Categories	Frequency	Percent
Sex	Male	209	54.9
	Female	172	45.1
Age	<25 years	57	15
	25-30 years	240	63
	>30 years	84	22
Religion	1. Orthodox	215	56.4
	2. Muslim	88	23.1
	3. Protestant	75	19.7
	4. Other (specify)*	3	0.8
Ethnicity	1. Oromo	273	71.7
	2. Amhara	94	24.7
	3. Guragey	9	2.4
	4. Others**	5	1.3
Marital status	Ever married ⁺⁺	199	52.2
	Never Married	182	47.8
Have children	Yes	124	32.5
	No	257	67.5
Salary	<3137	41	10.8
	3138-3579	44	11.5
	3580-4080	79	20.7
	>4085	217	57.0
Education	1. Diplomaholder	112	29.4
	2. Bachelor degree and above	269	70.6
Experience	<5years	267	70.1
	5-10years	85	22.3
	>10years	29	7.6

Table 2: Frequency and mean score of response of nurse to Work place and time related characteristics

Variables	Categories	Frequency	Percent
Hour worked	≤8 hours	336	88
	>8 hours	45	12
Work shift	Fixed	345	90.6
	Rotating	36	9.4
Department	Inpatient department	310	81.4
	Outpatient department	71	18.6
Role ambiguity	Yes	173	45.5
	No	208	54.5
Extra Responsibility	Yes	41	10.3
	No	340	89.7

Table 3: Frequency and mean score of response of nurse to psychological factors of ENSS

Subscales	Never Stressful	Slightly Stressful	Moderately Stressful	Very much Stressful	Mean
	N (%)	N (%)	N (%)	N (%)	
Death and dying	3 (0.8)	141 (37)	147 (38.6)	90 (23.6)	2.85
Inadequate emotional preparation	28 (7.3)	181 (47.5)	144 (37.8)	28 (7.3)	2.45
Uncertainty concerning treatment	25 (6.6)	145 (38.1)	145 (38.1)	66 (17.3)	2.66

Table 4: Frequency and mean score of response of nurse to Social factors of ENSS

Subscales	Never Stressful	Slightly Stressful	Moderately Stressful	Very much Stressful	Mean
	N (%)	N (%)	N (%)	N (%)	
Conflict with physician	57 (15)	177 (46.5)	130 (34.1)	17 (4.5)	2.28
Problems with peers	41 (10.8)	197 (51.7)	126 (33.1)	17 (4.5)	2.31
Problems with supervisors	34 (8.9)	167 (43.8)	152 (39.9)	28 (7.3)	2.45
Patient and their family	44 (11.5)	192 (50.4)	131 (34.4)	14 (3.7)	2.3

Table 5: Frequency and mean score of response of nurse to Physical factors of ENSS

Subscales	Never Stressful	Slightly Stressful	Moderately Stressful	Very much Stressful	Mean
	N (%)	N (%)	N (%)	N (%)	
Workload	11 (2.9)	127 (33.6)	128 (33.6)	115 (33.6)	2.9

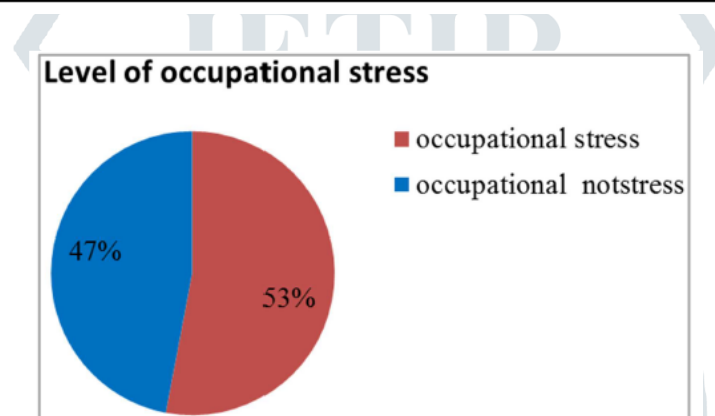


Figure 1: Level of occupational stress among nurses working

Table 6: Occupational stress by demographic variables of nurses

Variables	Category	Occupational stress		
		Yes, N (%)	Not, N (%)	Total N (%)
Sex	Male	81 (38.8)	128 (61.2)	209 (54.9)
	Female	121 (70.3)	51 (29.7)	172 (55.1)
Age	<25 years	35 (61.4)	22 (38.6)	57 (15)
	26-30 years	109 (45.4)	131 (54.6)	240 (63)
	>30 years	58 (69)	26 (31)	84 (22)
Marital status	Never married	71 (35.7)	128 (64.3)	199 (52.2)
	Ever Married	131 (72)	51 (28)	182 (47.8)
Children	Yes	88 (71)	114 (44.4)	124 (32.5)
	No	36 (29)	143 (55.6)	257 (67.5)
Working Experience	<5 years	121 (45.3)	146 (54.7)	267 (70)
	5-10 years	60 (70.6)	25 (29.4)	85 (22.4)
	>10 years	21 (72.4)	8 (27.6)	29 (7.6)
Educational status	Diploma holder	73 (65.2)	39 (34.8)	112 (29.40)
	Bachelor degree and above	129 (48.1)	140 (51.9)	269 (70.60)
	<3137	26 (63.4)	15 (36.6)	41 (10.8)
Salary	3138-3579	24 (54.5)	20 (45.5)	44 (11.5)
	3580-4080	33 (41.8)	46 (58.2)	79 (20.7)
	>4085	119 (54.8)	98 (45.2)	217 (57)

DISCUSSION

This study revealed that the prevalence of occupational stress among nurses were 202 (53%) with which was much higher than the studies conducted in Bangladesh that the prevalence of stress was (34.9%) and the prevalence of occupational stress among nurses were (37.8%). The discrepancy may be due to the tool difference and the sample size and the other possible explanation might be Bangladesh had better

implementation on regulation of health service delivery and occupational health and safety precautions. The prevalence of occupational stress this study was much lower than the study conducted in Bangladesh the prevalence of stress among nurses were (87.4%). The discrepancy may be due to sample size and tool different. The prevalence of occupational stress this study lower than the study conducted in Bangladesh and the prevalence of stress among 178 nurses was (57.3%). The discrepancy may be due to sample size and staffing/ workload.

CONCLUSION

The main finding of this study is that more than half of nurses' professional workings in Bangladesh were occupationally stressful. Occupational stress was significantly associated with sex, marital status, working hours and role ambiguity. Whereas the measurement scale of occupational stress indicates that workload, death and dying, uncertain concerned treatment and problems with supervisor were the most stressful expanded nursing stress scale respective of their order. Therefore, Dhaka and Gazipur areas hospitals' emphasis needed on the occupational stress and associated factors among nurses to overcome this high level of occupational stress among nurses. Passive and high-demand work was predominant in the research sample, indicating negative consequences for the nurse's physical and mental health. The factors associated with the high-demand work were the negative perception of the care support services, the continuing education programs, the limited time and the opportunities to solve the problems deriving from the care and the participation in administrative decisions. Longer experience at the institution and perceived social support were related with lower perceptions of exhausting work.

RECOMMENDATIONS

Based on the study findings we would like foreword the following recommendations.

1. Job description should be developed for all nurse staff per department unit to decrease role ambiguity regarding nurse professionals.
2. The hospital director, human resource managers and nurse administration collaborative with concerned staff shall provide induction and orientation during hiring of new nurse professionals.
3. Hospital administrative bodies should hire adequate nurse professional to decrease workload.
4. Training program should be organized for nurse supervisors in the field of administration this enables them to take planning measures on important stressors.

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