

Original Article

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Occupational Stress among Nurses Working in Secondary Level Hospital

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Abstract:

Background: Stress is an inherent component of human existence which is address as a global epidemic. Stress at workplace lowers the standard of nursing care and raises the possibility of medical errors.

Methods: A hospital based cross-sectional study was carried out to the level of occupational stress among nurses working in Bogra 250 bed Mohammad Ali District Hospital and Joypurhat 250 bed District Hospital from January 2022 to December 2022. The 'Kessler Psychological Distress Scale' (K10) was used to measures the level of stress.

Results: The mean age of the respondents was 37.9± 8.8 years. The mean of the working experience was 9.1±6.9 years. The Majority of the nurses (91.4%) had no stress, 5.2% had mild stress and 3.4% was experienced moderate stress in last 30 days. Level of stress among the nurses was statistically significant with ability to take break, sudden change in roaster, confidence in clinical decision making, ability to have healthy meal, missed social events, opportunity to spend time with family and friends, and supports from seniors (p<0.05).

Conclusion: Study reveals mild to moderate level of stress was found among one out of ten nurses. It has been found that excessive occupational stress lowers the level of nursing care. Addressing the identified precipitating factors may help relieve stress among nurses and in turn, improve their work efficiency.

Keywords: Stress, workplace, nurses, secondary level hospital, Bangladesh.

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Introduction:

One of the most significant workplace health dangers for workers around the world is stress at work.

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Stress at work has been identified as the biggest concern facing the nursing profession globally and has a detrimental emotional, physical, and psychological impact on the nurse.¹ It differs depending on factors such as age, gender, mental capacity, and environmental factors.²

Job stress is a term used to describe a person's reaction to aspects of the workplace that seems threatening. It results from a person's sense of an imbalance between the demands of their job and their capacity to handle that expectations.³ Stress is a reaction to stimuli and can have either a positive or negative vibe.⁴

Stress at work had a substantial effect on medical professionals worldwide. Stress at work is a widespread issue among nurses. Stress at work had a harmful effect on both individuals and organizations. The following are some examples of how work-related stress affects the economy and social life: when an employee becomes ill or suffers an occupational hazard, their employer pays for their care and provides compensation, which lowers their productivity.⁵

Job stress in nursing is influenced by a number of variables, including patient care requirements, professional concerns, work environment, and organization policies and procedures.^{6,7} Job stress causes co-worker conflict, health disorders, job dissatisfaction, reduced creativity, decreased professional satisfaction, reduced correct and timely decision-making, inadequacy and depression feelings, disgust and fatigue from work, reduced energy and work efficiency, and reduced quality of nursing care.⁸

Nursing is a career in the health care industry that focuses on providing care to people in order to help them attain, maintain, or improve their best health and better their lives. Most people consider nursing to be a tough career. Stress among nurses has increased along with the rise in demand and advancement of the nursing profession.⁹ Workplace stress can influence compassion, due to nurses' excessive activity, workload and increased responsibility.¹⁰ Because it raises stress levels, work-related stress can harm a person's physical and mental health as well as their productivity on the job¹¹ and occupational stress in particular is considered to be an important factor that affects quality of life.¹² Many different sorts of professionals can have a number of stress reactions as a result of long-term, high-intensity occupational stress.¹³ Compared to other professionals, nurses face higher levels of occupational stress, which is accompanied by higher turnover, absenteeism, and a higher prevalence of chronic health issues.¹⁴ Because of the serious illnesses and patient deaths that nurses encounter, nursing is a very stressful career.⁵ The stressful nature of the nursing profession has long been acknowledged, but it cannot just be attributed to the increased

workload. For a variety of causes, occupational stress in nurses is substantial. There is evidence to support the idea that work-related stress has a negative impact on patient care and nursing work quality.¹⁵

Methods

Study design and settings

This cross-sectional study was commenced to assess the level of occupational stress among nurses working in the two district hospitals purposively selected named Bogra 250 bed Mohammad Ali District Hospital and Joypurhat 250 bed District Hospital.

Sample selection

Participants conveniently selected 232 nurses, who had at least 1 year of working experience in the selected study places.

Data collection procedures

The studied nurses were interviewed by a pretested semi-structured questionnaire through the face-to-face interview from January to December 2022. The 'Kessler Psychological Distress Scale' (K10) was used to measure the level of stress. Kessler Psychological Distress Scale also known as K10 scale is a 10 items questionnaire intended to yield a global measure of stress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 30 days' period. Scores will range from 10-50. Scores <20 are likely to have no stress; scores on ≥ 20 indicates presence of stress. Scores 20-24 are likely to have mild stress, scores 25-29 are likely to have moderate stress, and score >30 are likely to have a severe stress.

Statistical analysis

The data were analyzed into IBM SPSS v26. Descriptive statistics such as mean, standard deviation and percent were computed for continuous variables of the participants. Chi-square was used to assess the significance of associations between two nominal variables and a p-value of <0.05 at a 95% confidence interval was taken as significant. The results were presented in tables and charts.

Ethical approval

Informed written consent was obtained from each participant. Ethical approval was obtained from the Institutional Review Board (IRB) of the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka 1212, Bangladesh. (NIPSOM/IRB/2017/09)

Results

Table I depicts the particulars of the nurses. The mean age of the respondents was 37.9± 8.8 years and more than half (58.7%) of them were in the age group 30-49 years. Most of the respondents was female (96.6%) and married (94.8%). One-fifth of the nurses (19.4%) completed post-graduation (MPH). The mean of the working experience was 9.1±6.9 years. The mean of their monthly salary was 35,909.5±10,173.6 BDT.

Table II demonstrates work related factors of the nurses. Among the 232 nurses, 33.6% were posted in Medicine department, 31.9% were in Surgery department, 29.3% were posted in Obstetrics and Gynaecology department and remained 5.2% were in other departments. Cent percent nurses works 8 hours in a day. More than half of the nurses (53.4%) slept ≤6 hours in a day. Three-fourths of the nurses (74.6%) did duty at night shift in past one month and among them, more than half (53.2%) were given >5-night duty in past one month. Regarding the factors related to working environment, 73.7% could take break during working period, 82.8% experienced sudden change in their roster, 76.3% participated in the academic activities, 62.5% could avail casual leave anytime, 61.6% nurses had fear of hospital acquired infection and 99.1% respondents had confidence in own clinical decision making. Regarding the personal and social factors, cent percent was comfortable in communicating in local language, 72.0% had not ability to take meal at appropriate time, 82.8% had ability to take healthy meal, 88.4% missed social events during work time and 52.6% got opportunity to spend time with family and friends.

Figure 1 illuminates the distribution of nurses by support from seniors, co-workers, doctors. Among the 232 respondents 97.8% got support

from seniors, 99.1% respondents got support from co-workers and 97.0% got support from doctors. Regarding conflict, 13.8% experienced conflict with seniors, 19.0% respondents experienced conflicts with their co-workers and 17.2% respondents had conflict with doctors.

Figure 2 portrays that 59.5% nurses were decided about their future field of career and the rest 40.5% did not decide about their future field.

Table I: Particulars of the nurses (n=232)

Particulars		Frequency (n)	Percent (%)
Age groups (years)	<30	70	30.2
	30-49	136	58.7
	≥50	26	11.2
	Mean±SD		37.9± 8.8
Sex	Female	224	96.6
	Male	8	3.4
Marital status	Married	220	94.8
	Single	12	5.2
Education	Diploma	116	50.0
	B.Sc	71	30.6
	MPH	45	19.4
Work experiences (years)	<5	91	39.2
	6-10	62	26.7
	≥10	79	34.1
	Mean±SD		9.1±6.9
Monthly salary (BDT)	≤25,000	15	6.5
	25,001-35,000	69	29.7
	35,001-45,000	28	12.1
	45,001-55,000	28	12.1
	>55,000	92	39.7
	Mean±SD		35,909.5±10,173.6

Table II: Work related factors of the nurses (n=232)

Particulars		Frequency (n)	Percent (%)
Department posted	Medicine	78	33.6
	Surgery	74	31.9
	Obstetrics and Gynaecology	68	29.3
	Others	12	5.2
Working hours per day (hours)	8	232	100.0
	>8	0	0
Sleeping hour per day (hours)	≤6	124	53.4
	>6	108	46.6
	Mean±SD		6.6±1.1
Night shifts in past one month	Yes	173	74.6
	No	59	25.4
Number of night shifts in past one month (n=173)	≤5	81	46.8
	>5	92	53.2
	Mean±SD		4.4±2.9
Factors related to working environment (n=232)			
Ability to take break	Yes	171	73.7
	No	61	26.3
Sudden change in roster	Yes	192	82.8
	No	40	17.2
Participation in academic activities	Yes	177	76.3
	No	55	23.7
Ability to take casual leave anytime	Yes	145	62.5
	No	87	37.5
Fear of hospital acquired infection	Yes	143	61.6
	No	89	38.4
Confidence in clinical decision making	Yes	230	99.1
	No	2	0.9
Personal and social factors (n=232)			
Local language comfort	Yes	232	100
	No	0	0
Ability to have meal at appropriate time	Yes	65	28.0
	No	167	72.0
Ability to have healthy meal	Yes	192	82.8
	No	40	17.2
Missed social events	Yes	205	88.4
	No	27	11.6
Opportunity to spend time with family and friends	Yes	122	52.6
	No	110	47.4

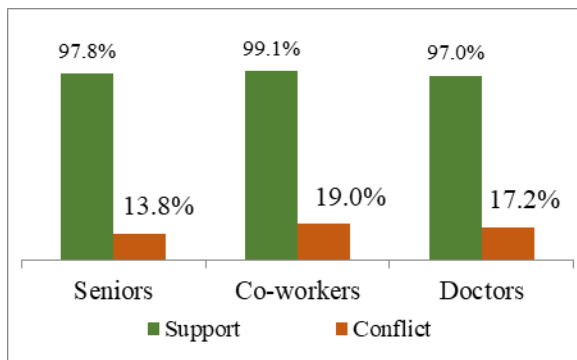


Figure 1: Supports and conflict in workplace (n=232)

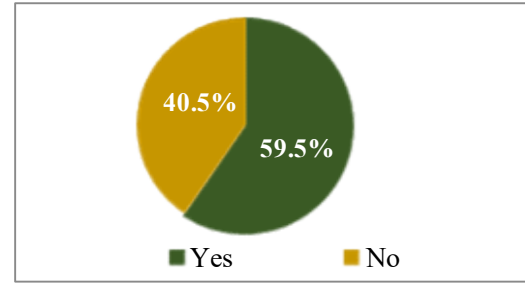


Figure 2: Decision on future field of career (n=232)

Table III: Stress among nurses by 'Kessler Psychological Distress Scale' (n=232)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
	n(%)	n(%)	n(%)	n(%)	n(%)
How often they feel tired out for no good reason	85(36.6)	61(26.3)	73(31.5)	11(4.7)	2(0.9)
How often they feel nervous	133(57.3)	79(34.1)	15(6.5)	5(2.2)	0(0)
How often did they feel so nervous that nothing could calm down	210(90.5)	13(5.6)	9(3.9)	0(0)	0(0)
How often they feel hopeless	199(85.8)	15(6.5)	14(6.0)	2(0.9)	2(0.9)
How often they feel restless or fidgety	135(58.2)	74(31.9)	18(7.8)	3(1.3)	2(0.9)
How often they feel so restless that they can't sit still	205(88.4)	18(7.8)	9(3.9)	0(0)	0(0)
How often they feel depressed	179(77.2)	38(16.4)	13(5.6)	1(0.4)	1(0.4)
How often they feel that everything was an effort	72(31.0)	118(50.9)	26(11.2)	10(4.3)	6(2.6)
How often they feel so sad that nothing could cheer up	200(86.2)	22(9.5)	7(3.0)	2(0.9)	1(0.4)
How often they feel worthless	215(92.7)	13(5.6)	4(1.7)	0(0)	0(0)

Table IV: Level of stress among the nurses (n=232)

Level of stress	n(%)
No stress	212(91.4)
Mild	12(5.2)
Moderate	8(3.4)
Mean±SD	14.2±4.1

Table III demonstrates stress among the nurses by 'Kessler Psychological Distress Scale'. Among 232 respondents, 36.6% were feel tired none of the time, 57.3% were feel nervous none of the time, 90.5% felt so nervous that nothing could calm down none of the time, 85.8% were feel hopeless none of the time, 58.2% of the respondents were feel restless none of the time, 88.4% were none of the time they feel so restless that they can't sit still, 77.2% were feel depressed none of the time, 50.9% were feel a little of the time, 86.2% were feel so sad that nothing could cheer up none of the time, and 92.7% were feel worthless none of the time.

Table IV shows the level of stress among the nurses. The majority of the nurses (91.4%) had no stress, 5.2% had mild stress and 3.4% was experienced moderate stress in last 30 days. The mean scores of stress were 14.2±4.1.

Table V interprets association between work-related factors and levels of stress among the nurses. Levels of stress among the nurses was statistically significant with ability to take break (p=0.000), sudden change in roaster (p=0.056), confidence in clinical decision making (p=0.001), ability to have healthy meal (p=0.056), missed social events (p=0.033), opportunity to spend time with family and friends (p=0.000), and supports from seniors (p=0.000).

Table V: Association between work-related factors and levels of stress among the nurses

Factors	Levels of stress				χ^2 value	P-value
	No stress n(%)	Mild n(%)	Moderate n(%)	Total n(%)		
Ability to take break						
Yes	165(96.5)	3(1.8)	3(1.8)	17(100)	21.961	*0.000
No	47(77.0)	9(14.8)	5(8.2)	61(100)		
Sudden change in roaster						
Yes	179(93.2)	7(3.6)	6(3.1)	192(100)	5.772	*0.056
No	33(82.5)	5(12.5)	2(5.0)	40(100)		
Confidence in clinical decision making						
Yes	211(91.4)	12(5.2)	7(3.0)	230(100)	13.161	*0.001
No	1(50.0)	0(0)	1(50.0)	2(100)		
Ability to have healthy meal						
Yes	179(93.2)	7(3.6)	6(3.1)	142(100)	5.772	*0.056
No	33(82.5)	5(12.5)	2(5.0)	40(100)		
Missed social events						
Yes	188(91.7)	12(5.9)	5(2.4)	205(100)	6.804	*0.033
No	24(88.9)	0(0)	3(11.1)	27(100)		
Opportunity to spend time with family and friends						
Yes	120(98.4)	0(0)	2(1.6)	122(100)	17.123	*0.000
No	92(83.6)	12(10.9)	6(5.5)	110(100)		
Supports from seniors						
Yes	209(92.1)	12(5.3)	6(2.6)	227(100)	20.614	*0.000
No	3(60.0)	0(0)	2(40.0)	5(100)		

*Statistically significant value

Discussion

The field of nursing has been found to have high levels of stress. The health of nurses and their capacity to meet job demands were both negatively impacted by job stress. Although occupational stress is a part of any job, nurses appear to experience it more than other healthcare workers. Nurses, who work nonstop for hospitals seven days a week, make up the largest staff in any healthcare institution. In every hospital and medical facility, nurses serve a critical role. It is more challenging for nurses in secondary level hospital with minimal resources and without tertiary level facilities.

In this study, the mean age of the respondents was 37.9± 8.8 years and more than half (58.7%) of them were in the age group 30-49 years. A study in Bangladesh found that the mean age was 35.9± 8.0 years which was similar to current study.¹⁶ Most of the respondents was female (96.6%) and married (94.8%). Majorities of the nurses were female (94.0%) and married 68.5% found in the study in Bangladesh, which was almost similar to the study.¹⁷ The mean of the working experience was 9.1±6.9 years. The mean of their monthly salary was 35,909.5±10,173.6 BDT. Majority of the respondent's (91.4%) monthly income was 40,000 BDT found in the study.¹⁶

The present study revealed that cent percent nurses works 8 hours in a day which was almost similar to the study where most of the nurses (81.5%) worked about 6-8 hours in a day.⁵ More than half of the nurses (53.4%) slept ≤6 hours in a day. Three-fourths of the nurses (74.6%) did duty at night shift in past one month and among them, more than half (53.2%) were given >5-night duty in past one month. These finding were dissimilar to the studies.^{1,16}

Regarding the factors related to working environment, 73.7% could take break during working period, 82.8% experienced sudden change in their roster, 76.3% participated in the academic activities, 62.5% could avail casual leave anytime, 61.6% nurses had fear of hospital acquired infection and 99.1% respondents had confidence in own clinical decision making. Regarding the personal and social factors, cent

percent was comfortable in communicating in local language, 72.0% had not ability to take meal at appropriate time, 82.8% had ability to take healthy meal, 88.4% missed social events during work time and 52.6% got opportunity to spend time with family and friends. Among the 232 respondents 97.8% got support from seniors, 99.1% respondents got support from co-workers and 97.0% got support from doctors. Regarding conflict, 13.8% experienced conflict with seniors, 19.0% respondents experienced conflicts with their co-workers and 17.2% respondents had conflict with doctors. More than half (59.5%) nurses were decided about their future field of career and the rest 40.5% did not decide about their future field.

The study revealed majority of the nurses (91.4%) had no stress, 5.2% had mild stress and 3.4% was experienced moderate stress in last 30 days. The mean scores of stress were 14.2 ± 4.1 .¹⁶ Das SR et al. (2018) in their study found that most of the respondents (94.6%) had low level of stress. But, moderate level of stress had found in the studies in Sudan, in India, and in Bangladesh.^{1,6,17} The reasons behind the different results might be the difference in the tools used to assess the stress and also working environment was different in these studies. Levels of stress among the nurses was statistically significant with ability to take break, sudden change in roaster, confidence in clinical decision making, ability to have healthy meal, missed social events, opportunity to spend time with family and friends, and supports from seniors ($p < 0.05$).

Conclusion

On the basis of this study, one out of ten nurses was suffering from mild to moderate level of stress. Stress was found to be associated with several work-related factors. Among the respondent majority were experienced of sudden change in duty roaster, participates in academic activities, almost all were confident in their own clinical decision making, more than half have fear in hospital acquired infections, most of them missed social events, bulk number of respondents did not take their meal at appropriate time, more than half experienced conflict with patients or their relatives and some

were suffering from physical problems. Modification of work-related factors such as flexibility in shift duties, appropriate roaster, break time, arrangements for providing healthy meal at appropriate time from hospital should be considered. Researchers and policy makers will need to pay attention to this study regarding stress in workplace to reduce the circumstances which affect health care system.

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