

## Work Related Factor Responsible for Occupational Stress among Nurses in a Public Medical College Hospital

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### Abstract

**Background:** There is accumulative evidence that stress negatively affects health care providers. Stress in nursing is increasing due to the changing nature of the profession. This stress results from internal and external sources.

**Methods:** This cross-sectional study was carried out 197 nurses of Shaheed Suhrawardy Medical College hospital (ShSMCH) from the period of 1<sup>st</sup> July 2015 to 30<sup>th</sup> June 2016. Purpose of the study was to assess the extent of perceived level occupational stress and its association with Sociodemographic profile & work related variables of stress among nurses in a Public Medical College Hospital. Sampling method was simple random sampling. Data was collected by face to face interview with the help of semi-structured questionnaire, finally all data were analyzed using latest version of SPSS software. For descriptive statistics means, medians, SD and range will be calculated as required. Data will be presented in frequency table, bar, pie diagram as per need. Statistical test chi-square and test were used and  $p < 0.05$  was consider to be statistically significant.

**Results:** It was found that 69% were between the age of 21 to 39 years, 94.9% were female, 68% were married, 79.2% were Muslim, 84.3% had diploma, 91.4% family income were equal to more than 40,000 Tk. 95.5% were done clinical work. 24.9% worked in medicine, (22.8%) worked at surgery, 90.9% worked within equal to or more than 50 hours per week. Only 5.1% found to be high stress and 94.6% low stress. Statistically significant difference was found between occupational stress and sex, religion, educational status, type of work ( $P < 0.05$ ).

**Conclusion:** Only few nurses were suffered from high stress but high level of stress was more in male, post graduate nurse, those who done administrative work. Nurse managers should take appropriate actions to decrease stress helping their nurses to work efficiently and effectively.

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**Keyword:** Nurses, Work related variables, Occupational stress, ENSS, Public Hospital

### Introduction

Nursing is generally perceived as demanding profession. Along with the increased demand and progress in the nursing profession, stress among the nurses has also increased. Nursing profession follows a holistic approach, taking into account the person in totality in his or her environment. Nurses provide presence, comfort, help and support for people confronted with loneliness, pain, incapacity, disease and even death. The fact that nursing has been extensively and unfailingly recognized worldwide as a stressful job is therefore not surprising.<sup>1</sup> Stress is experienced

when demands made on us outweigh our resources. Stress is the common phenomena being experienced by almost all individuals and it viewed as a real threat to the physiological and psychological response producing mental tension or physiological reactions leading to illness and which increases the demands for adjustment upon the individual.<sup>2</sup> WHO defines occupational stress “is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope.”<sup>3</sup>

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Work related stress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenges their ability to cope. There is often confusion between pressure or challenge and stress and sometimes it is used to excuse bad management practice.<sup>4</sup> Workplace stress can impact on employee productivity through increased absenteeism & presenteeism but with reduced productivity imposing a direct economic cost on employers and the society.<sup>5</sup> Therefore, occupational stress is considered a challenge for the employers and because high level stress results in low productivity, and other employee problems it is necessary that managers find a way of addressing the issue of occupational stress.<sup>6</sup>

## Methods

This was a cross-sectional study with the aim to assess the extent of perceived level occupational stress and its association with work-related & non-work related causes of stress among nurses in a Public Medical College Hospital. Study population was nurses of Shaheed Suhrawardy Medical College Hospital (ShSMCH). An inclusion criterion was nurses who were working in this Hospital for at least 1 year. Exclusion criteria was unpleasant or stressful events within the last 6 months such as the death of the spouse or close relatives, divorce or pregnancy during the study period. Ethical clearance was taken from IRB of NIPSOM. (NIPSOM/IRB/2016/18) and written permission was taken from hospital authority before taking interviews. The study period was 1<sup>st</sup> July 2015 to 30<sup>th</sup> June 2016. Sampling method was simple random sampling. Sample size was 197. Data were collected by face to face interview and tools was questionnaire which had two parts related to sociodemographic & work related variables, expanded nurses stress scale questionnaire. Data were entered into the computer for

analysis using of SPSS version 21 software. Descriptive statistics (frequency, mean, SD, percentages and ranges) was done. Assess relationship between two categorical variables by Pearson's Chi-square ( $\chi^2$ ) test and t test 2x2 table at  $p < 0.05$  level of significance.

## Result

About 69% were age group 21 to 39 years, followed by 40 to 58 years (31%) and their mean age was 35.95 ( $\pm$  8.01) years. Majority (94.9%) were female, (68%) were married, (32%) single. About (79.2%) were Muslim and (20.8%) non-Muslim, (84.3%) had diploma, 11.2% had B.Sc in nursing and 4.6% had postgraduate degree. Family income of the respondents ranged from Tk 30,000 to 50,000 Tk and their mean monthly income was 46751.269 ( $\pm$  4557.35) Tk. Majority (91.4%) respondents' family income was more than and equal to 40,000 Tk. and 8.6% had less than 40,000 Tk. (Table I). About (95.5%) respondents were do clinical work and 4.1% were do administrative work, among them (24.9%) of respondents worked in medicine, (22.8%) worked at surgery, (20.3%) worked in gynae and obstetrics, (16.2%) worked at burn, emergency and ICU and 15.7% worked in paedriatics. 61.9% took training. About (57%) of respondents worked equal to and more than 10 years and (42.1%) less than 10 years. Maximum (52.8%) worked in day shift, 30.5% and 16.8% of the respondents worked in evening and night shift respectively. Majority (90.9%) nurses more than or equal to 50 hours per week (Table II). The ENSS provided a measure of the amount and source of stress experience by nurses. Respondents answered how often they found each situation to be stressful in their work setting. A five point Likert scale was used ranging from 0 (never) to 4 (very often). According to rank the stress in subscale of "Death and Dying" was ranked 1<sup>st</sup> amongst the stress subscales with the highest stress score of (1.76  $\pm$  1.14), whilst

the subscales “Conflict with Physicians” and “Problems with supervisor” was ( $1.70 \pm 0.17$ ) and ( $1.52 \pm 0.07$ ) respectively thus ranking 2<sup>nd</sup> and 3<sup>rd</sup> respectively The least stressful subscale was “Discrimination” ( $0.67 \pm .58$ ). (Table 3). Majority (94.6%) had been found to have low stress and (5.1%) high stress. (Figure 1) There was significant association observed between occupational stress level and gender. (Table IV). Occupation stress was more prevalent in post graduate nurse, administrative worker (Table V).

Table I: Sociodemographic profile of the study subjects:(N=197)

Sociodemographic profile		
Age (in years)	Frequency	%
21-39	136	69
40-58	61	31
Mean 35.95SD± 8.01		
Gender		
Male	10	5.1
Female	187	94.9
Religion		
Muslim	156	79.2
Nonmuslim	41	20.8
Educational status		
B. Sc in nursing	22	11.2
Diploma	166	84.3
Post graduate	9	4.6
Family income per month ( in Taka)		
< 40,000	17	8.6
≥ 40,000	180	91.4
Mean 46751.26, SD± 4557.35		
Total	197	100

Table II: Information regarding work related variables (N=197)

Work related variables		
Type of work	Frequency	%
Administrative	8	41
Clinic	189	95.9
Name of ward /unit		
Medicine	49	24.9
Surgery	45	22.8
Gynae and Obstretics	40	20.3
Burn unit, ICU,	31	16.2
Emergency		
Paedriatics	32	15.7
Year of experience		
< 10 years	83	42.1%
≥ 10 years	114	57%
Shift of work		
Day Shift	104	52.8%
Evening Shift	60	30.5
Night shift	33	16.8
Hours of work per week		
< 50	18	9.1
≥ 50	179	90.1
Training		
No	75	38.1
Yes	122	61.9
Total	197	100

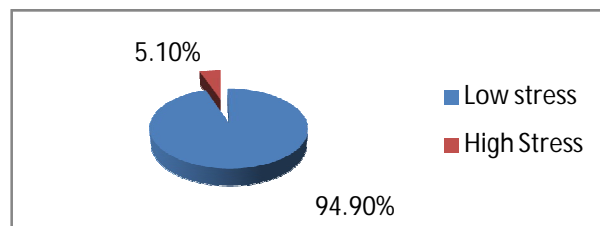


Figure 1. Distribution of the respondents by occupational stress (N=197)

Table III: Distribution of stress factors according to rank (N=197)

Stress subscales		
Rank	Subscales	Mean score $\pm$ SD
1	Death and Dying	1.76 $\pm$ 1.14
2	Conflict with Physicians	1.70 $\pm$ 0.17
3	Problems with to supervisors	1.52 $\pm$ .07
4	Work load	1.47 $\pm$ 0.28
5	Patients and their families	1.44 $\pm$ 20
6	Uncertainly concerning treatment	1.41 $\pm$ 0.53
7	Inadequate Emotional preparation	1.31 $\pm$ 0.47
8	Problems relating to peers	1.14 $\pm$ 0.17
9	Discrimination	.67 $\pm$ .58

Table IV: Comparison of occupational stress between male and female

Occupational stress	Gender	N	Mean $\pm$ SD	P
0-152	Female	187	52.68 $\pm$ 9.94	P = .03
	Male	10	64.7 $\pm$ 15.35	

Table V: Association between occupational stress and religion and education level and type of Job (N=197)

Variables	Stress level		Comment $\chi^2$ , df=1
	Low stress	High stress	
Educational Status			
Diploma	161(97.6%)	4(2.4%)	14.606, P=.001
B.Sc in nursing	21(87.5%)	3 (12.5%)	
Postgraduate	5 (62.5%)	3(37.5%)	
Type of Job			
Administrative	5(62.5%)	3(37.5%)	18.193 p = .000
Clinical	182(96.3)	7(3.7%)	

## Discussion

A cross sectional study designed and conducted in a Shaheed Suhrawardy Medical College hospital (ShSMCH) with the objectives to assess the extent of perceived level occupational stress and its association with work-related & non-work related variables as causes of stress among nurses in a Public Medical College Hospital. The age of the nurses ranged between 21 to 58 years and mean age was 35.95 ( $\pm$  8.01) years. Majority of the nurses were belonging to the age group 21 to 40 years (73.6%). About 26.4% were in the age group 41 to 58 years of age. It is not a similar to the study conducted in India where 22.1% were younger than 30 years old, 59.6% were aged between 30-40 years, and 18.3% were more than 40 years. The nursing samples were therefore, middle age staff nurses (the majority is middle age between 30 years old and 40 years old).<sup>7</sup> In current study majority (94.60%) were female. This is almost with the study conducted in Northern Ireland. They study included 93% female.<sup>8</sup> In this study (68%) nurses were married which was not similar (80.4%) to the study conducted in India.<sup>9</sup> Majorities (79.2%) were Muslim, (17.3%) were Hindu, (2.5%) were Christian and (10%) were Buddhist. Majority of the respondents (84.3%) were had professional degree of diploma in nursing, (11.2%) had B.Sc in nursing and (4.6%) had post graduate degree which was not similar with the study of Jordan, where (90%) bachelor and (5%) post graduate.<sup>10</sup> Most (52.7%) of the respondent's monthly income were equal to or more than Tk 25,000 and (47.2%) had a monthly income less than Tk 25,000. and their mean income was 25208.12 ( $\pm$ 1784.95) Tk. In Indian nurses working in tertiary care hospital majority 51% were having income more than Rs 20,000 per month. (Mohite N, et al., 2012). Most (91.4%) of the respondents monthly household income were more than 40,000 Tk and their mean was 46751.26 ( $\pm$  4557.35) Tk. which was not similar to the

study done in Bangladesh, where 74.8% monthly more than 40,000 Tk.<sup>11</sup> Most (24.9%) of respondents worked in medicine ward, (22.8%) worked at surgery ward, (20.3%) worked in gynae and obstetrics ward, (16.2%) worked at burn, emergency and ICU unit and 15.7% worked in Paediatrics which was not similar of the study done in Uganda where (35.14%) worked in Medicine, (17.12%) in Surgery, (30.63%) in Obstetrics/Gynecology ward.<sup>12</sup> Most (95.5%) of respondents were doing mainly clinical job and (4.1%) were do administrative work. Majority (61.9%) had trained related to job and 38.1% were not trained. Most (57%) of the respondent's experience of work were more than 10 years and 42.1% of the respondent's experience less than 10 years. The mean year of experience was 12.55 ( $\pm 4.80$ ) years which was not similar of the study done in India where 44% were having more than 10 year of experience and 56% had less than 10 years.<sup>13</sup> Most (52.8%) of the respondents worked in day shift, 30.5% and 16.8% of the respondents worked in evening and night shift respectively. Majority (90.9%) of the nurses were found to work within equal to or more than 50 hours per week and less than 50 hours of work per week was observed among 9.1% nurses. Only 5.1% found to be high stress and majority (94.6%) respondents had been found to have low stress. But in another study which was held in India, they found 42% had high stress and 48 % had low stress.<sup>14</sup> The ENSS provided a measure of the amount and source of stress experience by nurses. According to rank the stress in subscale of "Death and Dying" was ranked 1<sup>st</sup> amongst the stress subscales with the highest stress score of ( $1.76 \pm 1.14$ ), whilst the subscales "Conflict with Physicians" and "Problems with supervisor" was ( $1.70 \pm 0.17$ ) and ( $1.52 \pm .07$ ) respectively thus ranking 2<sup>nd</sup> and 3<sup>rd</sup> respectively The least stressful subscale was "Discrimination" ( $0.67 \pm .58$ ) which was similar to the study done in

Slovakia, where "Death and Dying" was ranked 1<sup>st</sup> amongst the stress subscales with the highest stress score of ( $2.07 \pm 1.15$ ), . Whilst the subscales "Conflict with Physicians" was ( $2.02 \pm 0.17$ ) ranking 2<sup>nd</sup>. The least stressful subscale was "Discrimination" ( $0.64 \pm .74$ ).<sup>15</sup> There was significant association observed between occupational stress level and gender. ( $p < 0.05$ ). In another study there was no significant association found between occupational stress and selected sex.<sup>16</sup> An independent sample t test was done to compare the mean stress score range (0-152) between male and female respondents. Statistically significant difference was also found between female ( $52.68 \pm 9.94$ ) and male ( $64.7 \pm 15.35$ ):  $t = 3.610$ ,  $df = 195$ ,  $P = 0.000$ . This was similar to the study done in Saudi Arabia where independent sample t test had been used to investigate the effect of gender on perceived job related stress. There were more female nurses 77% than male nurses 23%. There were significant statistical differences in perceived job related stress due to gender as indicated by ( $P = .038$ ).<sup>17</sup> Stress was more in postgraduate nurses and there was significant association between occupational stress and educational status. ( $P < 0.05$ ). However, Shivaprasad was found no significant association between education and occupational stress in his study.<sup>13</sup> Stress was more prevalent (37.5%) those who had done administrative work. Statistically difference found in between type work and stress group ( $p < 0.05$ )

### Conclusion

Prevalence of low level of stress was seen among the majority of the nurses and least number of nurses affected from high level of stress. No significant association was found between occupational stress level and Work related and Sociodemographic variables as causes of stress except gender, religion, educational status, type of jobs. But careful nursing interventions will be needed to decrease

nurses' stressors; these will help nurses to perform their jobs safely and competently those who are suffer from stress.

### Reference

1. Gulavani A, Shinde M. Occupational Stress and Job Satisfaction among Nurses, *International Journal of Science and Research (IJSR)*. 2014; 3(4):733-740.
2. Yadav N, Kiran U V. Occupational Stress among Security Guards, *Journal for Studies in Management and Planning*. 2015;1(7):21-31 Available at: <http://internationaljournalofresearch.org/index.php/JSMaP>
3. World Health Organization. Occupational stress in the care of the critically ill, the dying and the bereaved, Hemisphere Publishing Coporation. 2014
4. Semmer NK, Stress at the workplace, World Health Organization, 2007. Available at: [http://www.who.int/occupational\\_health/topics/stressatwp/en](http://www.who.int/occupational_health/topics/stressatwp/en)
5. Yong M, Nasterlack M, Pluto R P, Lang S and Oberlinner C. Occupational stress perception and its potential impact on work ability, 2013, 347-354. DOI 10.3233/WOR-121556,
6. Elovainio. Worksite Stress Management Interventions: Their Effectiveness and Conceptualisation, *Journal of Managerial Psychology*. 2002; 2(1):3-13.
7. Ahmad M. Saleh, Mohammad M. Saleh, and Mohannad E. AbuRuz, The impact of stress on job satisfaction for nurses in King Fahad Specialist Hospital-Dammam-KSA, *Journal of American Science*. 2013;(3).371-377 Available at : <http://www.jofamericanscience.org>
8. Megrath A, Reid N, Boore J, Occupational stress in nursing, *International Journal of nursing studies*. July 2003;40(5):555-565.
9. Bhatia N, Kishore J, Anand T and Jiloha R C. Occupational Stress Amongst Nurses from Two Tertiary Care Hospitals in Delhi, *Australasian Medical Journal*. 2010; 3(11):731-738.
10. AbuRu M E. Comparative study about the impact of stress on job satisfaction between Jordanian and Saudi nurses, *European Scientific Journal*. 2014; 10( 17):162-172.
11. Munir U R, Occupational Stress in Health Professionals of Selected Combined Military Hospital, M Phil thesis, NIPSOM, Mohakhali. 2014.
12. NABIRYE R C, Occupational stress job satisfaction and job performance among hospital nurses in Kampala Uganda, 2010 p.6.
13. A, H Shivaprasad, RN and PGCDE, Work related stress of nursing, *Journal of Psychiatry Nursing*. 2013;2(2):53-591.
14. Mohite M, Shinde M, Gulavani A, Occupational Stress among Nurses Working At Selected Tertiary Care Hospitals, *International Journal of Science and Research (IJSR)*. 2014;3(6):999-1005.
15. Lubica Banovcinova, Martina Baskova, Sources of work-related stress and their effect on burnout in midwifery, *Procedia - Social and Behavioral Sciences*. 132 ( 2014 ) 248 – 254.
16. Kordi M, Mohamadirizi S, Shakeri M T, Gharavi M M & Fadardi J S. Relationship between Occupational Stress and Work Ability of Midwives in Mashhad, *Journal of Midwifery and Reproductive Health*. 2011;2(3):188-194.
17. Kamal S M, Al-Dhsham M, Abu-Salameh K A, Abuadas F H. and Hassan M M, The effect of nurses Perceived Job Related Stressors on Job Satisfaction in Taif Governmental Hospitalsin Kingdom of Saudi Arabia, *Journal of American Science*, 2012; 8(3):119-25.