

Occupational Stress among Healthcare Professionals in West Garo Hills District of Meghalaya

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Abstract

The West Garo hills district of Meghalaya is suffering from a severe shortage of man power coupled with poor infrastructure and lack of technology. The problem was exacerbated by the region's remoteness and a difficult regulatory climate that discourages private sector participation in the sector. All these circumstances make the situation a stressful situation for healthcare professionals practising in the district. The purpose of this study was to identify the extent and the factors influencing occupational stress among the healthcare personnel's in the West Garo hills district of Meghalaya and also to highlight the scope for digitalization in the healthcare sector in the district. The study included 97 doctors and 189 nurses employed in both government and private hospitals, community health centres in the district. The occupational stress of the healthcare professionals was measured using "Occupational Stress Index (OSI)" and "Oldenburg Burnout Inventory (OLBI)". Data was analysed using multiple regression and ANOVA. The study concluded that nurses are a heavily burdened occupational group and the total OSI does not significantly vary among male and female healthcare professionals. Three aspects: under load, strictness and conflict were dominant in showing higher exposures among the healthcare professionals. The most consistent and significant stressors were long working hours, lack of autonomous workplace, and lack of proper technology.

Key words: Healthcare professionals, Occupational Stress, digitalization.

Introduction:

The medical profession has been delineated as one of the most stressful occupations. Etiological research reveals a strong association between workplace stressors and adverse health outcomes. The medical professionals are exposed to many kinds of stressors, including long shifts, overtime work, dealing with large number of patients, care for patients with chronic incurable or end-stage disease, high work load, work related conflicts, understaffing, and lack of organizational support (Shanafelt et al., 2012, Guveli et al; 2015).

Studies have indicated that stress and stress-related illnesses are increasing among healthcare professionals and this poses a serious problem on the individual in terms of health, wellbeing and quality of care as well as for organizations in terms of absenteeism and turnover. While moderate stress is deemed to be normal, excessive stress had negative impact on individual's performance (Higazee, M. Z. A. 2015; García-Izquierdo & Ríos-Rísquez, 2012; Rayan et al; 2008; Le Blanc, Bakker, Peeters, Van Heesch, & Schaufeli, 2001; Adali & Priami, 2002; Greenglass, Burke, & Fiksenbaum, 2001; Kirkaldy & Martin, 2000).

The present paper seeks to find out the various factors which lead to occupational stress among health care professionals. The study will help in recognizing the most important stressors in

the healthcare sector and its impact on performance, clinical practices and quality of health care. And how digitalising healthcare would lead to better clinical care and reduce occupational stress.

Objectives:

1. To identify the factors influencing occupational stress of healthcare professionals.
2. To highlight the scope for digitalization in reducing stress related to occupation among the healthcare professionals in West Garo Hills District of Meghalaya.

Methodology:

The present study was designed to identify the factors that cause occupational stress among the healthcare professionals in the West Garo Hills district of Meghalaya. The West Garo Hills is one of the largest districts in the state of Meghalaya. During the period of study there were 286 healthcare professionals including 189 nurses and 97 doctors employed in hospitals and CHC's (4 government and 2 private hospitals & 5 CHC's). The data was collected using collected by personal interview method using a well structured and pre-tested schedule.

Table 1: General Characteristics of the Study Population

Sl. No	Place of Posting/Hospitals	Doctors	Nurses
A	Under Public Sector		
1	Community Health Centre (CHC)	26	56
2	Maternity & Child Hospital, Babupara	16	24
3	Civil Hospital Tura, Dermile	41	55
4	District Tuberculosis Office, Wadanang	4	6
5	NLEP Tura	2	0
	SUB TOTAL (A)	91	141
B	Under Private Sector		
6	Holy Cross Hospital, Dakhopgre	2	23
7	Tura Christian Hospital, Ringrey	6	25
	SUB TOTAL (B)	8	48
	TOTAL SAMPLE (A+B)	97	189
	SAMPLE SIZE	286	

Measurement Instruments, Variables and Data Collection:

The primary data for the study was collected by personal interview method using a well structured and pre-tested schedule. The study attempted to identify the factors influencing occupational stress of the healthcare professionals from both government and private hospitals. The study measures the occupational stress of doctors and nurses with an instrument known as Occupational Stressor Index (OSI) for physicians and nurses.

The Occupational Stress Index (OSI) is an additive burden model, which focuses on work stressors relevant to the cardiovascular system (Belkic 1995). The OSI incorporates elements of the Job Strain Model (Karasek 1979), as well as other formulations of stress, such as features of work in high-risk occupations. However, in contrast to constructs such as Job Strain and Effort-Reward Imbalance (Siegrist 1991, 1996), which are based heavily upon sociological theory, the OSI derives more from cognitive ergonomics and brain research, attempting to describe, in quantitative terms, the burden of work processes upon the human being. The stress dimensions or aspects of the OSI are placed along the horizontal axis, as follows: 1) Under load, 2) High demand, 3) Strictness, 4) Extrinsic Time Pressure, 5) Aversive/Noxious Exposures, 6) Threat-avoidant vigilance/disaster potential, 7) Conflict/uncertainty. In the technical manual the overall scale reliability (the standardised

Cronbach Alpha) of the questionnaire is reported to be 0.74. In the current study the full scale reliability was found to be .826 and the overall internal consistency of the various OSI aspects is within the optimal range.

Results:

The current study aimed to identify the factors influencing occupational stress of the healthcare professionals. Table 2 presents demographic characteristics of the study sample. As shown in Table 1, the majority of the participants are females (83.3%). Most participants were between 20 and 30 years. More than half of the participants were married (64%). About 40% of the participants had a working experience ranged from 1-5 years. Furthermore, 80% of the participants were employed in govt sector.

Table 2: Sample characteristics

Demographic variable	Category	Frequency	Percentage
Gender	Male	48	16.7
	Female	239	83.3
Age range	20 to 30 yrs	124	43.2
	30 to 40 yrs	91	31.7
	40 to 50 yrs	57	19.9
	50 to 60 yrs	15	5.2
Marital status	Married	185	64.5
	Single	89	31.0
	Widow	5	1.7
	Separated	8	2.8
Dependent	0 to 2	223	77.7
	3 to 5	56	19.5
	5 to 8	8	2.8
Job sector	Government	231	80.5
	Private	56	19.5
Working status of spouse	Employed	140	48.8
	Business	16	5.6
	Retired	5	1.7
	N/a	126	43.9
Years of service	0 to 5 yrs	115	40.1
	5 to 10 yrs	94	32.8
	10 to 15 yrs	43	15.0
	15 to 20 yrs	24	8.4
	20 to 25 yrs	6	2.1
	More than 25 yrs	4	1.4

As indicated in Table 3, the doctors mean score and standard deviation for occupational stress were 80.18 (SD= 5.347) and for nurses were 84.25 (SD= 6.948). Results indicate that the mean score and standard deviation of Male and Female doctors are 81.15 (SD= 4.62) and 79.33 (SD= 5.35) and for nurses are 86.00 (SD= 12.72) and 84.22 (SD= 6.92). The table also indicate that nurses experience more stress as compared to doctors in the aspects, under load[doctors: 3.63(S.D=.712), nurses: 5.09(S.D=1.34)], strictness[doctors: 18.67(S.D=1.72), nurses: 19.18(S.D=2.30)], extrinsic time

pressure[doctors: 5.40(S.D=.50), nurses: 5.89 (S.D=.914)], Aversive/Noxious Exposures[doctors: 3.03 (S.D=1.09), nurses: 4.00 (S.D=.96)]. According to table healthcare professionals occupational stress show differences according to the professional group they belong to, this shows that occupational stress is slightly higher in nurses as compared to doctors.

Table 3: Independent Samples t-test for Differences in Occupational Stress

Variables	Occupational groups	Male		Female		Total		t	df	p
		Mean	SD	Mean	SD	Mean	SD			
OS	Doctors	81.147	4.625	79.332	5.825	80.184	5.347	5.060	285	.000
	Nurses	86.000	12.728	84.227	6.920	84.245	6.948			
UL	Doctors	3.620	0.693	3.644	0.737	3.633	0.713	10.055	285	.000
	Nurse	5.000	2.121	5.092	1.338	5.091	1.340			
HD	Doctors	27.658	2.590	26.534	2.804	27.061	2.750	.243	285	.808
	Nurse	28.625	5.834	27.132	2.919	27.148	2.938			
ST	Doctors	18.913	1.265	18.457	2.042	18.671	1.728	1.931	285	.055
	Nurse	18.625	2.298	19.187	2.306	19.181	2.301			
ET	Doctors	5.424	0.471	5.380	0.530	5.401	0.501	5.007	285	.000
	Nurses	6.000	0.707	5.897	0.918	5.898	0.915			
NE	Doctors	3.076	1.064	3.000	1.138	3.036	1.099	7.656	285	.000
	Nurses	4.250	1.061	4.000	0.970	4.000	0.970			
TA	Doctors	7.598	1.369	7.519	1.306	7.556	1.329	.639	285	.523
	Nurses	7.250	0.354	7.679	1.574	7.675	1.566			
CU	Doctors	14.859	1.196	14.798	1.257	14.827	1.223	1.761	285	.079
	Nurses	16.250	1.768	15.239	2.211	15.249	2.206			

Independent samples t-test was conducted to examine if there was a significant difference in occupational stress based on selected sample characteristics (Table 4). As indicated in Table 4, occupational stress does not vary according to gender ($p=.088$). And healthcare professionals working in private sector are more stressed than healthcare professionals working in government sector.

Table 4: Independent Samples t-test for Differences in Occupational Stress Based on Sample Characteristics

Dependent Variable	Sample Characteristics	Category	N	Mean(S.D)	t	df	P
	Gender	Female	239	83.16(6.9)	1.711	285	.088
		Male	48	81.34(4.9)			
	Sector	Government	231	82.23(6.7)	-3.261	285	.001
		Private	56	85.44(6.1)			

Table 5 considers the differences in stress dimensions of the doctors and nurses. As shown in Table 5, the majority of the participants are in the age group 20 to 30 yrs. The table also points out that out that occupational stress vary according to age of the healthcare professionals. Occupational stress is found to be higher in younger age group and decreases with age.

Table 5: Results of ANOVA (Age and Occupational Stress)

Age	N	Mean	Std. Deviation		
20 to 30 yrs	124	84.3790	6.50074		
30 to 40 yrs	91	82.1731	6.86898		
40 to 50 yrs	57	81.7912	6.12515		
50 to 60 yrs	15	78.5000	7.01083		
Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	679.317	3	226.439	5.238	.002
Within Groups	12233.498	283	43.228		
Total	12912.815	286			

Further comparison between marital status and occupational stress of the healthcare professionals is presented in table 6. It was expected that occupational stress will vary according to marital status. Difference of groups was analysed using analysis of variance and results highlighted no differences among the group based on marital status.

Table: 6 Results of ANOVA (Marital Status and occupational Stress)

Marital Status	N	Mean	Std. Deviation		
Married	185	82.3032	6.32802		
Single	89	84.1180	7.31399		
Widow	5	80.0000	8.13941		
Separated	8	83.4688	6.86793		
Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	242.051	3	80.684	1.802	.147
Within Groups	12670.764	283	44.773		
Total	12912.815	286			

Next comparison was done between working experience and occupational stress and is presented in table 7, it was expected that occupational stress will vary according to work experience. Result disclose that occupational stress vary according to work experience of the healthcare professionals.

Table 7: Results of ANOVA (working experience and Occupational Stress)

Working Experience	N	Mean	Std. Deviation		
0 to 5 yrs	116	83.3879	6.66051		
5 to 10 yrs	94	83.5505	6.28090		
10 to 15 yrs	43	80.6570	7.10697		
15 to 20 yrs	24	81.6604	6.86953		
20 to 25 yrs	6	79.2500	6.77495		
More than 25 yrs	4	87.5000	8.59021		
Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	484.692	5	96.938	2.192	.055
Within Groups	12428.123	281	44.228		
Total	12912.815	286			

Subsequently, comparison was done between income and occupational stress and is presented in table 8. It was expected that occupational stress will vary according to income. Result reveal that occupational stress differ according to income of the healthcare professionals. And majority of the respondents fall between 2 to 4 lakh income ranges.

Table 8: Results of ANOVA (Income and Occupational stress)

Annual Income	N	Mean	Std. Deviation		
Less than 2 lakh	38	85.4408	6.39875		
2 to 4 lakh	131	84.1344	6.86452		
4 to 6 lakh	63	81.7619	5.90746		
6 to 8 lakh	38	78.9474	5.88636		
8 to 10 lakh	17	80.0588	5.96574		
Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1256.926	4	314.231	7.602	.000
Within Groups	11655.889	282	41.333		
Total	12912.815	286			

Further, difference among living arrangements and occupational stress was done and is presented in table 9. Results disclose that occupational stress does not differ according to the living arrangements of the healthcare professionals.

Table: 9 Results of ANOVA (Living arrangements and occupational stress)

Living Arrangements	N	Mean	Std. Deviation
Living Alone	30	84.1417	7.11775
Living with family	195	82.7505	6.78805
Living with other (Not partner)	47	82.7287	6.84014
Living with family and partner	3	79.8333	3.50297
Living with partner only	12	82.6667	4.74262

Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	80.358	4	20.089	.441	.779
Within Groups	12832.457	282	45.505		
Total	12912.815	286			

Next, a difference in number of dependent and occupational stress is presented in table 10. Results divulge that occupational stress differs on the number of dependent among healthcare professionals

Table: 10 Results of ANOVA (Number of dependent and Occupational Stress)

Number of dependent	N	Mean	Std. Deviation		
0 to 2	223	83.2258	6.77235		
3 to 5	56	82.2054	6.17548		
5 to 8	8	77.1875	6.78332		
Total	287	82.8584	6.71935		
Occupational Stress					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	311.254	2	155.627	3.507	.031
Within Groups	12601.561	284	44.372		
Total	12912.815	286			

Discussion

This study evaluated the occupational stress among two important groups of health care professionals i.e. doctors and nurses. In this study it was found that the healthcare professionals suffered from extensive occupational stress which was manifested more among nurses than doctors. The stressors affecting the healthcare professionals include under load, high demand, strictness, extrinsic time pressure, and Aversive/Noxious Exposures. It was also found that, occupational stress varies according to job sector, age, work experience and income of the healthcare professionals. However no differences was found among the group based on gender, marital status, living arrangements and the number of dependent. The study also highlighted that and healthcare professionals working in private sector are more stressed than healthcare professionals working in government sector. And occupational stress and is found to be higher in younger age group and decreases with age.

Conclusions

The present study had identified and highlighted the extent and the factors influencing occupational stress among the healthcare personnel's in the West Garo hills district of Meghalaya and also highlight the scope for digitalization healthcare sector in the district. Most of the previous research had reported health sector to be highly stressful than many other occupations. The study concludes that the health care professionals in the district are highly stressed one probable case may be because of lack of proper modern diagnostic equipment and technology, inadequate manpower and lack of digitalization. Digitalizing health sector would ease and enhance proper diagnosis of the problem and storing of and ensuring proper treatment, it would also simplify information sharing and communication between doctor and patient which would ultimately help in utilising health care professional's capabilities to the full extent and ensuring better quality of care.

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