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COMPARATIVE ANALYSIS OF OCCUPATIONAL STRESS LEVEL OF DOCTORS AND ACADEMICIANS

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Short Profile

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ABSTRACT:
Stress is a silent killer and a major root cause beneath the onset of other lifestyle diseases like Diabetes, Heart diseases, Obesity, Alzheimer's disease, Parkinson's disease, Cancer etc. The present study was carried out to compare the level of occupational stress between doctors and academicians. Sixty four subjects aged 30-60 yrs. were selected by purposive random sampling technique from Rohtak area of Haryana, India. A self-designed questionnaire was formulated to elicit information regarding the socio-economic and work profile of subjects. Occupational Stress Index was used to assess the level of occupational stress. The occupational stress level of doctors (M=135.09+18.45) was higher than academicians (M=117.00+20.12). Levene's Test for Equality of Variances is applied and results showed that there was no significant difference in the variance of stress levels of doctors and academicians, $F(1, 62)=0.32$, $p=0.58>0.05$.
Independent Sample t-Test assuming equal variances showed that there was significant difference

(p<0.001) in the occupational stress level of doctors and academicians, t (62) = 3.51. This was observed that doctors were highly stressed than academicians.
Academicians had lower stress level due to lesser work hours. Reasons behind the high level of occupational stress in doctors seem heavy work load, consistently changing work shifts and longer working hours.

KEYWORDS
Occupational stress, Doctors, Academicians.

INTRODUCTION

In the fast changing world of today, no individual is free from stress and no profession is stress free. We live in a world developing fast, requiring constant adaptation. Rapid change of the modern working life is associated with increasing demands of learning new skills, need to adopt to new types of work, pressure of higher productivity and quality of work, time pressure and hectic jobs are increasing stress among the workforce (Kulkarni, 2006). Technology is changing, so are social habits, values, social structures and people. Everybody has to cope with those changes, not only individuals, but the organizations and government as well (Thompson, 2002). A high level of occupational stress, not only detrimentally influence the quality, productivity and creativity of the employees but also employee's health, wellbeing and morale (Cohen and Williamson, 1991). Stress is now a major health problem/hazard of Indian lifestyle. The interaction between an individual's characteristics as a worker and the work environment is generally believed to result in stress (Tyson, 2002).

Job stress can be defined 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. Estimates suggest that some 91.5 million working days are lost each year through stress-related illness (Smith A., 2000). Negative effects include reduced efficiency, decreased capacity to perform, dampened initiative and reduced interest in working, increased rigidity of thought, a lack of concern for the organization and colleagues, and a loss of responsibility (Dua,1994 ; Fairbrother & Warn, 2003). Moreover, stress is associated with reduction in output, product quality, service or morale (Ben-Bakr,1995; Brown & Uehara, 2008), increased wages/overtime payments, organizational sabotage (Ben-Bakr,1995), all which add costs to the organization (Lim & Teo) in the form of compensation payments for stress-related injuries, or through the low productivity of the agency (Tehrani, 2008). Team morale and company productivity is also adversely affected. Thus, stress is both a friend and a foe (Batliwala, 1990). Keeping this in view, present study was conducted to measure the extent of stress arise from the respective work conditions of professionals.

RESEARCH METHODOLOGY

- Locale for the study: The locale for the study was Rohtak city in Haryana state.
- Sample selection: The total sample size comprised of sixty four subjects. Professionals from different fields like doctors (n=22) and academicians (associate academicians, n=42) were selected using snowball sampling technique.
- Data collection:

a) General information: Data collected by using questionnaire cum interview method. Information on personal, work and family profile, food habits and dietary intake was collected.
b) Occupational Stress Index: Stress level was assessed using Occupational Stress Index constructed and standardized by A. P. Srivastva and A. P. Singh (for the year 2002-2003).
•Statistical analysis of data: Independent t-test was used to analyze the comparative occupational stress level of doctors and academicians.

RESULT AND DISCUSSIONS:

Table No. 01: Distribution of professionals acc. to their general information

Variables		Professionals (N=64)	
		Academicians (n=42)	Doctors (n=22)
Age (Years)	30-40	20(47.61%)	18(81.81%)
	40-50	11(26.19%)	4(18.18%)
	50-60	11(26.19%)	-
Gender	Male	11(26.19%)	18(81.81%)
	Female	31(73.83%)	4(18.18%)
Qualification	Graduate	-	5(22.72%)
	Post Graduate	24(57.14%)	17(77.27%)
	Doctorate	18(42.85%)	-
Annual Income (Lakhs)	< 5	4(9.52%)	7(31.81%)
	5-8	15(35.71%)	9(40.90%)
	8-10	6(14.28%)	4(18.18%)
	> 10	17(40.47%)	2(9.09%)

This table showed that in context of age, nearly fifty per cent (47.61%) of academicians belonged to age group 30-40yrs, while about one fourth academicians (26.19%) belonged to age group 40-50yrs and 50-60yrs each. More than eighty per cent doctors (81.81%) fell in age group of 30-40yrs, while nearly twenty per cent doctors (18.18%) belonged to age group 40-50yrs and none of the subject belonged to age group 50-60yrs. Considerable age differences in reports of workplace stress were found with a gradual reduction in identifying work issues as contributing to stress with increased age. In particular, those in the 26 to 35 age bracket were significantly more likely to report the workplace as a

source of stress (43%) and as previously indicated those in the 18 to 25 age group reporting a significantly lower level of positive experience in the workplace. Nevertheless, for some people aspects of the workplace contributed to positive health and wellbeing with lower scores on stress, distress, anxiety and depression. These people reported that their job was interesting, they were paid appropriately, felt valued by their employer and were satisfied with their work/life balance. This was particularly true for older adults and especially for those over 55 years of age. These findings are in line with research looking at work practices which indicates that the workplace can be a source of wellbeing, providing a means for individual satisfaction and accomplishment. Professionals were categorized on the basis of gender, and approximately three fourth academicians were female (73.83%) and one fourth were male (26.19%). Amid doctors, majority of doctors were male (81.81%) while rest were female (18.18%). In the course of educational qualification, large chunk of academicians (57.14%) was postgraduate while respite (42.85%) was having doctoral degree. Nearly twenty three per cent doctors have graduate degree (22.72%) and seventy seven per cent were postgraduate (77.27%). Regarding income, distribution of professionals was done under three groups i.e. who were having annual income less than Rs. five lacs, Rs. eight to ten lacs, more than Rs. ten lacs; per cent of doctors fell under these groups was nearly thirty two percent, eighteen per cent and nine per cent respectively. Few academicians (9.25%) fell in income group less than Rs. five lacs, more than one third academicians (35.71%) fell in income group Rs. five to eight lacs, less than fifteen per cent academicians (14.28%) fell in income group of Rs. eight to ten lacs and approximately forty per cent academicians (40.47%) fell in income group more than Rs. ten lacs.

Table No. 02: Distribution of professionals according to work profile

Variables		Professor (n=42)	Doctor (n=22)
Length of work experience (Years)	<10	12(28.57%)	15(68.18%)
	10-20	18(42.85%)	6(27.27%)
	> 20	12(28.57%)	1(4.54%)
Work shift	Morning	42(100.00%)	8(36.36%)
	Evening/Night	0	14(63.63%)
Working conditions	Congenial	39(92.85%)	17(77.27%)
	Non-congenial	3(7.15%)	5(22.72%)
Work load	Overloaded	8(19.05%)	11(50.00%)
	Normal	34(80.95%)	11(50.00%)
Work Hour	< 8	42(100.00%)	10(45.45%)
	> 8	-	12(54.54%)

As data depicted in table 2, largely academicians (42.85%) were having work experience in between 10-20years while a slightly higher than one fourth percentage of academicians (28.57%) had length of work experience less than 10years, and more than 20years each. Percentage of doctors who have work experience of less than 10years, between 10-20years and of more than 20years was about sixty eight percent, twenty seven per cent and four percent respectively. Whole group of the academicians (100.00%) were having morning shift. Doctors (63.63%) have alternate shift changes-morning and evening/night while more than one third of doctors (36.36%) were assigned only morning shift due to senior positions. According to Dembe et al (2002), twelve hour shifts have been reported to take a toll on nurses' health. Research shows that working 12 or more hours per day can increase the risk of work illness or injury by 37.8%, while working 60 or more hours per week could increase the risk by 23%. Investigation by Kobayashi et. al. (1999) revealed that shift workers had a 40% increased risk of developing cardiovascular disease. They also pinpointed the related risk factors leading to this increased incidence. Disrupted socio-temporal patterns, lack of desired social support, increased levels of stress, poor health-related behavior such as smoking, an unbalanced diet, increased alcohol consumption and lack of exercise, as well as biochemical changes including undesired cholesterol and triglyceride levels are all factors mentioned in relation to shift work. A huge number of academicians (92.85%) and doctors (77.27%) found their working conditions congenial while others criticised it of non-congenial nature. In a publication by European Organization for Safety and Health at Work (2000), it was stated that the working conditions such as the wrong ventilation, lighting and the inadequate temperature levels are among the potential work-related stressors. Equivalent percentage of doctors (50.00% each) observed average and excess workload while lesser academicians (19.05%) were found overloaded. On the other side, a hefty chunk of academicians (80.95%) had average work load at the work place. Work hours for entire population of academicians (100.00%) were less than eight hours while more than fifty four percent doctors (54.54%) were working for more than 8 hours and for rest (45.45%) working hours were less than eight. Working days exceeding eight hours and a working week of more than 40 hours are considered as the base criteria for long working hours (European Foundation, 1996).

Table 4: Distribution of respondents acc. to Occupational Stress level

Professionals	**Levels of occupational stress**		
	Low (46-122)	**Moderate (123-155)**	**High (156-230)**
Doctor	18.18%	68.18%	13.63%
Academician	59.52%	35.71%	4.76%

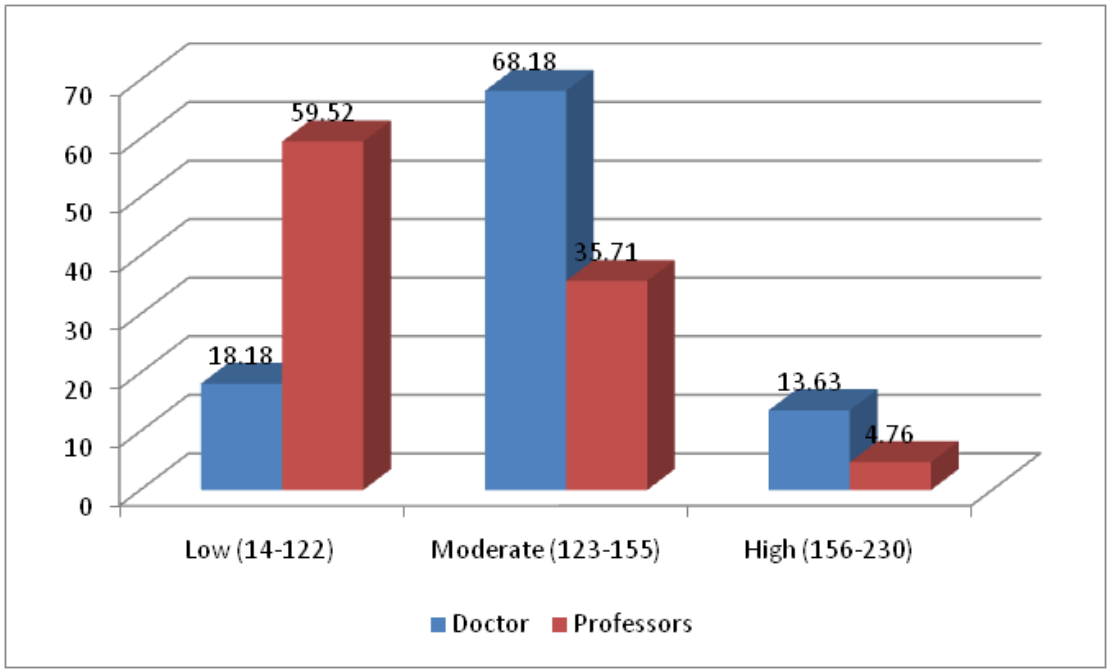
*Occupational stress inventory by A.P. Srivastva and A.P. Singh (2002-2003)

Table 4 made known the distribution of respondents according to their occupational Stress level. It was observed that while maximum number of doctors (68.18%) was having moderate stress

level, while nearly eighteen percent (18.18%) were having low and rest (13.63%)

were having high level of stress. Almost sixty per cent academicians (59.52%) were having low stress. One third population of academicians (35.71%) were observed under moderate stress and few academicians (4.76%) were also carrying high levels of stress. This showed that teaching as a profession is also progressively becoming a stressful occupation (Hepburn & Brown, 2001). In recent years, steadily increasing costs and consequences of teacher stress has received growing concern. To reduce the negative effects stress has on teachers, more attention needs to be placed on this growing epidemic (Bachkirova, 2005). The teacher, not the learner, is now regarded as being the primary carrier of stress, and is mostly affected by the stressors of the day to day activities and organization of modern education (Hepburn & Brown, 2001). Individual stress also can be associated with the compatibility between personal and educational values, ambition to succeed, sensitivity threshold, competitiveness, multiple roles for women teachers (such as parent, caretaker, homemaker, and teacher), and perfection (Bachkirova, 2005). A major source of teacher stress can be directly attributed to the students. Through survey and interview responses, teachers most commonly refer to students as being responsible for most of their stress (Hastings & Bham, 2003). Study by Guglielmi et al (1998) made known that teacher stress was caused by environmental factors as well as individual characteristics. Major environmental factors included poor working conditions, scarcity of resources, heavy workloads, and student behaviour. Individual characteristics could include gender, age, personality, and the ability to cope.

Fig. 01: Distribution of respondents acc. to Occupational Stress level



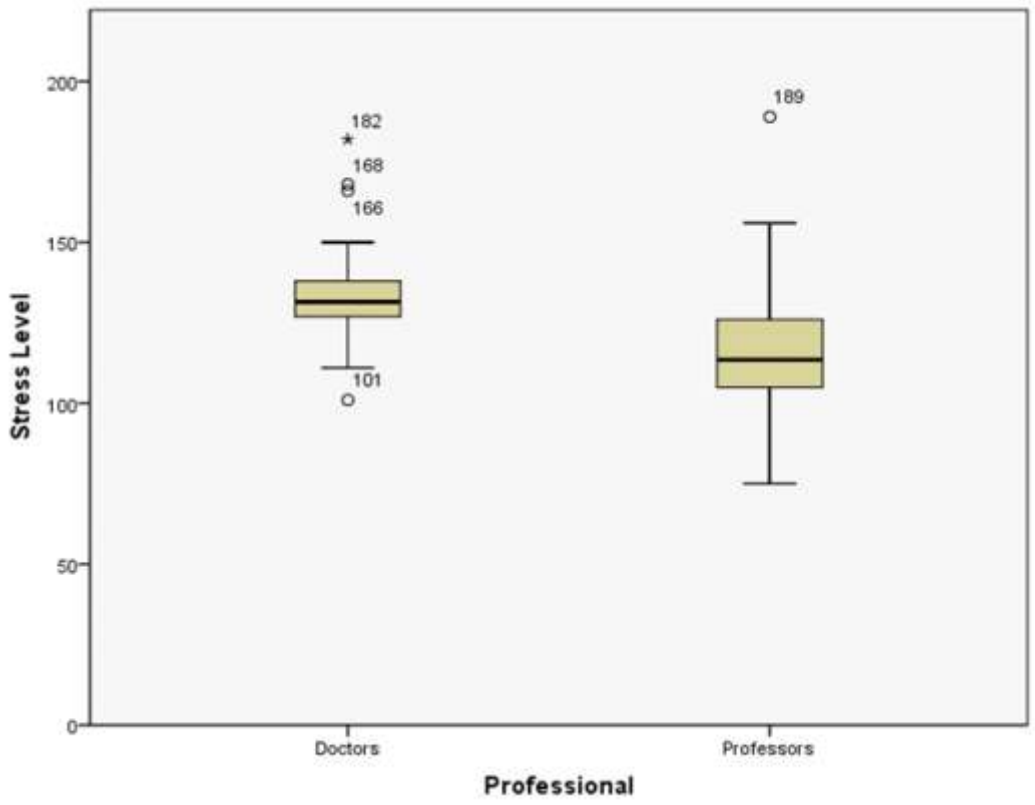
Distribution of respondents according to occupational Stress level was depicted in this diagrammatical representation (Fig.01). It showed that maximum number of doctors was having moderate stress level while academicians were having low stress level.

Table No. 03: Average occupational stress level of professionals

	Professionals	N	Mean
Occupational Stress Level	Doctor	22	135.09± 18.45
	Academician	42	117.00 ± 20.12

Table 3 showed that average occupational stress level of doctors was 135.09 + 18.45 while in academicians, it was 117.00 + 20.12. Occupational stress level in doctors was higher as compared to academicians because of consistently changing work shifts i.e. morning, evening and night. These professionals had longer & comparatively more attentive work hours. In academicians, average stress level was low as work shift was morning and for 6 hours a day. Congenial working conditions, average work load, longer work experience, settled children could be the reasons for low stress level. However, an inclination towards higher level of stress was visible among professionals of age group 30-40yrs reason being dual responsibilities of work and family (younger children), short length of work experience.

Fig. 02. Average occupational stress level of professional



This diagrammatic representation (Fig. 02) of average occupational stress level of professional

revealed that stress level in doctors was higher as compared to academicians. From the above box-plot, it was observed that the median line in the middle of the box for doctors was not overlapped with the box of the academicians indicating that the stress levels of both the groups were different and as box for doctors was located higher than the box for academicians, doctors had more stress. Three doctors were observed with exceptionally high stress levels (166,168 and 182) and one with stress level 101 which was exceptionally low stress level. There was only one academician with stress levels 189 which had exceptionally high stress level. For this, we used independent sample t-test.

Table No. 04 : Levene's Test for Equality of Variances

		Sample size	Variances	F-statistic	p-value
Stress Level	Doctors	22	340.36	F (1, 62)=0.32	0.58
	Academicians	42	404.65		

First of all Levene's Test for Equality of Variances is applied and results showed that there was no significant difference in the variance of stress levels of doctors and academicians, $F(1, 62)=0.32$, $p=0.58>0.05$.

Table 5: Independent Samples t-Test assuming equal variances

		Sample size	**Mean**	**Standard Deviation**	**t-statistic**	**p-value**
Stress Level	Doctors	22	135.09	18.45	t(62)=3.51	0.001
	Academicians	42	117.00	20.12		

Independent sample t-test was used to analyze the comparative stress level of doctors and academicians. Results showed that there was significant difference ($p<0.001$) in the occupational stress level of doctors and academicians, $t(62)=3.51$. The occupational stress level of doctors (M=135.09+18.45) was higher than academicians (M=117.00+20.12). This was observed that medical profession was highly stressed profession than teaching.

CONCLUSION:

Occupational stress level in Doctors was higher as compared to academicians. Lack of time was the main reason for not adopting stress management techniques though few professional used light activities to cope with stresses life brings. Generally, we link stress with external pressures. However, poor food choices can elicit a stress response. Little dietary changes can benefit remarkably to combat

stress.

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