STRESS IN MEDICAL EDUCATORS

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ABSTRACT...Background: Workplace or occupational stress are harmful physical and emotional responses that occur when there is an apparent mismatch between what doctors are trained for and what they are required to do. Data on workplace stress experienced by medical educators is scarce. **Objective:** To asses stress in medical educators and its job related predictors. **Setting:**Lahore Medical & Dental College (LMDC), Lahore and its affiliated Ghurki Trust Teaching Hospital (GTTH). **Period:** Three months, between January and March 2009.**Methods:**A cross sectional survey was conducted. A structured questionnaire for background information and Workplace Stress Scale (WSS) were the data collection tools to survey 110 medical educators. Data was recorded and analyzed in SPSS 16. Chi Square test with $p \leqslant 0.05$ as the cut- off point was applied for statistical significance. **Results:** Stress was present in 94% of respondents, with 21% having severe stress. Age had statistically significant bearing on stress status (p=0.02), severity of stress (p=0.04), designation (p= <0.001) and monthly earnings (p= <0.001). Main workplace stressors included inadequate control (96%), difficulty in expressing opinions (70%), unsafe working conditions (66%), work overload and un-realistic deadlines (62%) and job pressures interfering with life (59%). Workplace motivators included full utilization of skills and ability for 97% (p=<0.001) and recognition or reward for good performance for 84% (p=0.06). **Conclusions:** Medical educators at LMDC, especially at junior level, reported high levels of both frequency and intensity of stress which need to be controlled. Autonomy and reward for good performance were motivational for our respondents.

Key words: Workplace stress, medical educators, academic faculty, medical college

INTRODUCTION

Workplace or occupational stress is defined as the harmful physical and emotional responses that occur when the requirement of the job do not match the capabilities, resources or needs of the worker[1]. Workplace stress is further described as a result of chronic conditions caused by situations in the place of work that might negatively affect employee's welfare, job performance and his overall wellbeing[2,3]. Palmer and his colleagues summarized the relationship between the stressors, symptoms and outcomes of stress in employees in the following Model of Work Stress[4]. The stressors identified in the model were those that were emphasized by Health and Safety Executive, UK[5].

The potential sources of workplace stress in medical educators include an apparent mismatch between what doctors are trained for and what they are required to do. For example, all doctors are obligated to teach, yet there are no mandatory teacher education programs and doctors have traditionally, are not required to receive any formal training or teaching qualifications, like postgraduate certificate, diploma or master's degree in education[6]. With increased patient and administrative loads, and the requirement to conduct research, doctors have a number of competing demands that often mean there is insufficient time for preparation and teaching[7], while encouragement and motivation of medical teachers is also limited[6]. The ultimate workplace sequel of occupational stress is growing job dissatisfaction, low organizational and academic performance, reduced productivity, inability to cope with job demands and seriously impaired quality of health care and the decreased efficacy of health service delivery[8,9].

According to the Health and Safety Executive(HSE)[5], UK

there are three main reasons why organizations should take action towards work-related stress: the ethical argument emphasizes the negative effects of work-related stress; the legal argument highlights the employer's legal duties to prevent stress; and the economic argument focuses on the vast cost ascribed to work-related stress.

There is paucity of research in developing countries to investigate stress experienced by teachers in medical colleges. The objective of the present study was to assess the level stress in medical educators and its job related predictors in a private sector medical college.

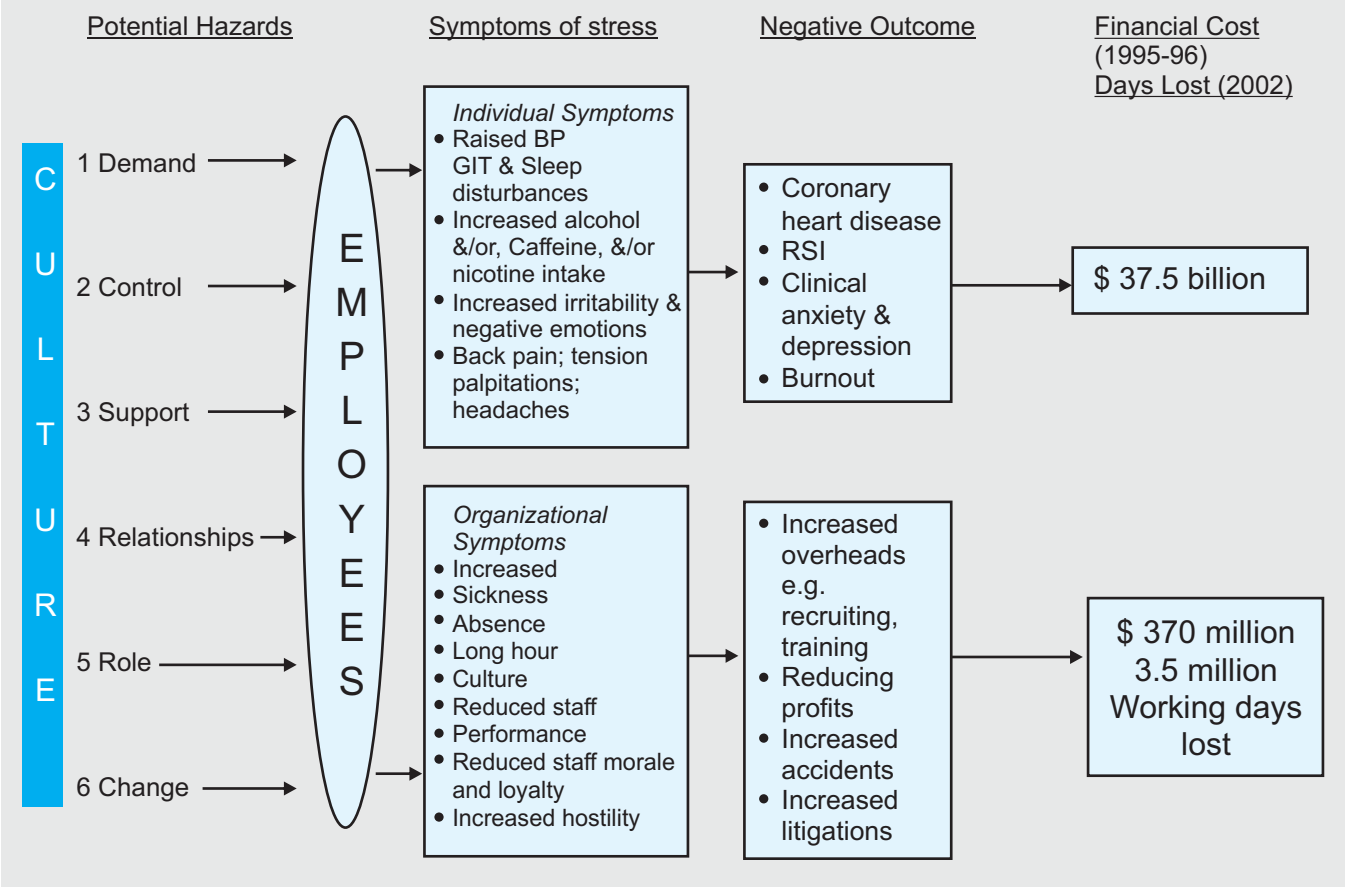
METHODS

Cross sectional questionnaire based survey was conducted among 110 medical faculty members of Lahore Medical & Dental College (LMDC) and its affiliated Ghurki Trust Teaching Hospital (GTTH), between January and March 2009. The study respondents included educators in the basic, preclinical and clinical Departments. Staff members were interviewed using a structured questionnaire to collect background information and the Workplace Stress Scale (WSS) to ascertain their stress level10. WSS is a likert type scale with 8 questions and 5 responses to each question. Each response option is scored from 1-5 i.e. Never (1), Rarely (2), Sometimes (3), Often (4) and Very Often (5). The interpretation of WSS scores is as follows:

Score of 15 or lower	=	No Stress
Score 16 to 20	=	Low Stress
Score 21-25	=	Moderate stress
Score 26-30	=	Severe Stress
Score 31-40	=	Highly Severe Stress

Data was entered, cleaned and analyzed using statistical package for social scientists (SPSS) version 16.

The Work Stress Model (Palmer et al, 2004)



Statistical significance was determined by using Chi Square test with $p \leq 0.05$ as the cut off point.

The approval of the Institute's ethics committee was obtained prior to the study. Confidentiality of the subjects was maintained. Informed consent from the respondents was obtained for data collection and publication of research findings.

RESULTS

As seen in Table I, among the respondents interviewed, 55% were females, 73% were between the age group of 20-39 years and 70% were married. Monthly family income of respondents in rupees was in the range of 21,000 - 60,000 (51%), 61,000 - 100,000 (21%) and more than 100,000 (28%) and 51% were working in the clinical departments. Around 42% were senior faculty, including Assistant, Associate or full Professors, 29% were Demonstrator or Senior Lecturers and another 29% were medical officers and junior or senior Registrars. The period of stay in Institution varied among staff members from less than 1 year to 3 years (44%), 4-6 years (24%) and 7 years or more (32%). Only 11% of respondents were currently Head of their Departments.

Table II depicts that, signs of stress were elicited by 103(94%) of respondents, with 80(72%) having mild to moderate and 23(21%) having severe stress.

Age was the only background variable to have a statistically significant bearing on stress experience of faculty members (Table II). Stress consistently increased from 20 to 49 years of age. Stress was present in 90% of staff members between the age group of 20 to 29 years and 100% respondents between the age group of 30 to 49 years. After the age of 50 years stress was on the decline (p=0.02). Most respondents in all age groups experienced mild to moderate level of stress (70% in age groups 20 to 29 and 30 to 39 years, 88% in age group 40 to 49 years and 70% in those who were 50 years or above). However, severe stress was more common in age groups 20 to 39 years i.e. 20% in 20 to 29 years old and 30% in 30 to 39 years of age (p=0.04).

The groups which experienced more severe stress were junior educators. In the age group 20 to 29 years, 98% and in the age group 30 to 39 years, 54% were either Demonstrator/Senior Lecturer, Medical Officer or Registrars, compared to only 6% and 21% in the age groups 40 to 49 years and $\geq$ 50 years (p= <0.001). Similarly, these two categories also earned less than their older counterparts, as75% of respondents in age

Table-I. Socio-Demographic and Academic Profile of 110 medical educators

	n	%
Gender		
Male	49	44.5
Female	61	55.5
Age in Years		
20-29	40	36.4
30-39	40	36.4
40-49	16	14.4
≥50	14	12.7
Marital Status		
Married	77	70.0
Single	33	30.0
Monthly Family Income (Rs.)		
21,000 - 40,000	37	33.6
41,000 - 60,000	19	17.3
61,000 - 80,000	16	14.5
81,000 - 100,000	7	6.4
>100,000	31	28.2
Department		
Pre-Clinical	54	49.1
Clinical	56	50.9
Designation		
Demonstrator/Senior Lecturer	32	29.1
Medical Officer	18	16.4
Registrar/Senior Registrar	14	12.7
Assistant Professor	20	18.2
Associate Professor/IProfessor	26	23.6
Period of stay in the Institution (Years)		
<1	24	21.8
1 - 3	24	21.8
4 - 6	27	24.5
7 - 10	17	15.5
>10	18	16.4
Currently Head of Department		
Yes	12	10.9
No	98	89.1

Table-II. Stress status, designation and monthly family income according to age in 110 medical educators

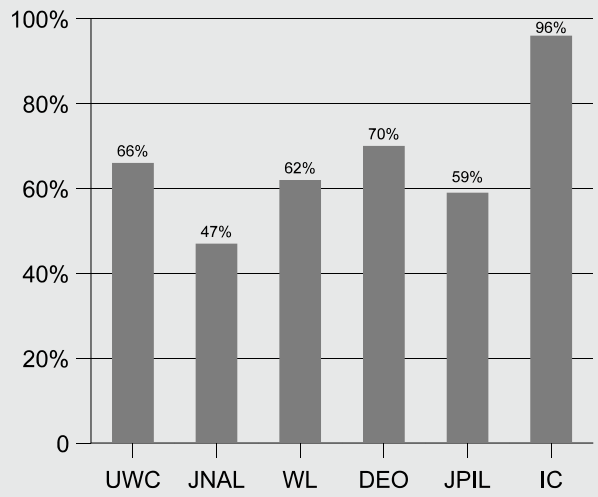
	Age group in years								
	20-29 (40)		30-39 (40)		40-49 (16)		≥50 (14)		p value
	n	%	n	%	n	%	n	%	
Stress status									
Absent	4	10	0	0	0	0	3	21	
Present	36	90	40	100	16	100	11	79	0.02
Level of Stress									
Mild to Moderate	28	70	28	70	14	88	10	72	0.04
Severe	8	20	12	30	2	12	1	7	
Designation									
Demonstrator/Senior Lecturer	39	98	21	54	1	6	3	21	
Medical Officer, Registrar/Senior Registrar	1	2	19	47	15	94	11	79	<0.001
Assistant Professor, Associate Professor/ Professor									
Monthly Family Income (Rs)									
21,000 - 60,000	30	75	19	48	5	31	2	14	<0.001
>60,000	10	25	21	52	11	69	12	86	

group 20 to 29 years and 48% in age group 30 to 39 years compared to 31% in age group 40 to 49 years and 14% in age group ⩾ 50 years, had a monthly income of less than Rs. 60,000 (p= <0.001).

As illustrated in Figure 1, the main workplace stressors which bothered the participants of our study were for 66% unpleasant or even unsafe working conditions (UWC), for 47% job negatively affecting life (JNAL), for 62% work overload and un-realistic deadlines (WL), for 70% difficulty in expressing opinions or feelings about job conditions to the superiors (DEO) and for 59% job pressures interfering with family or personal life (JPL). However, inadequate control or input over the assigned work duties (IC) was the statistically significant workplace stressor identified was by 106 (96%) respondents (p=0.001).

Workplace motivators were also identified by our study participants (Figure 2). Recognition or reward for good performance was reported by 84% of staff members (p=0.06). But the motivator which had a statistically significant impact on 97% of medical teachers was the workplace opportunity where there was full utilization of skills and ability experienced (p=<0.001).

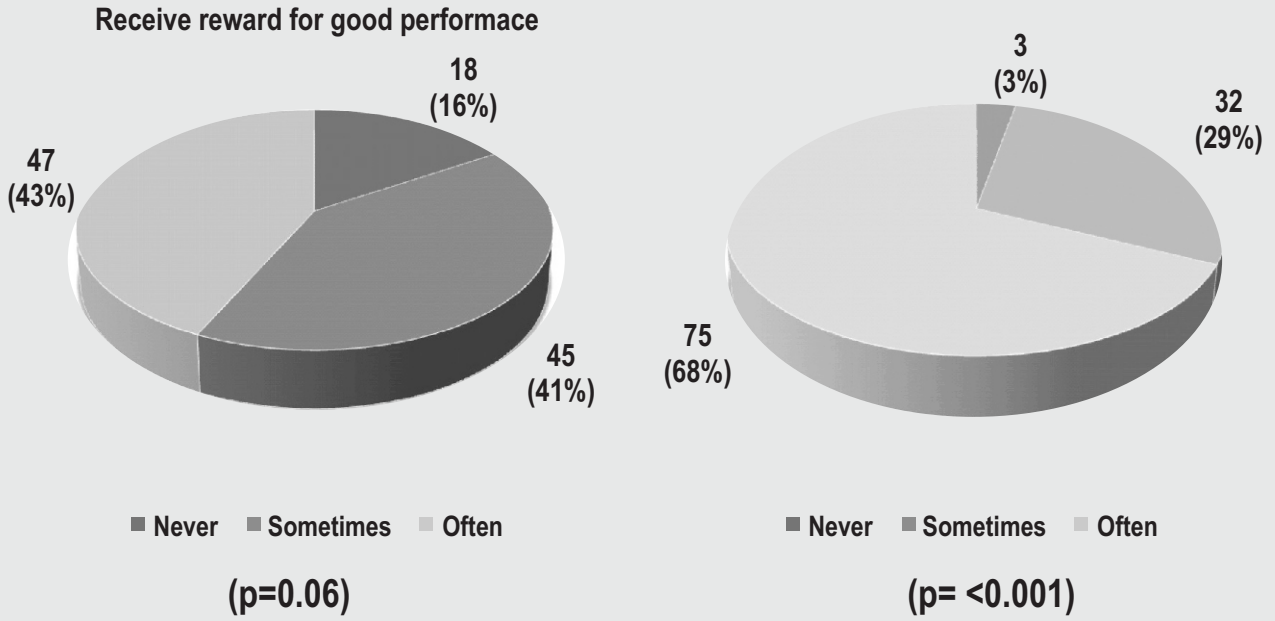
Fig-1. Workplace stressors identified by 110 medical educators



DISCUSSION

Occupational stress levels among academic staff of universities are generally high[11,12,13]. Rutter and his

Fig-2. Workplace motivators identified by 110 teaching medical educators.



colleagues conducted extensive literature review on this issue and concluded that doctors and dentists who take on a teaching role in addition to their clinical role may be more stressed than those who do not teach[14].

In the present study, 94% of medical educators at LMDC were experiencing stress, with 21% of them having severe stress. This was higher than other reported frequencies. Among teaching faculty in hospitals of Karachi, 48% of doctors graded job stress from high to very high levels[15]. The proportion of doctors and other health professionals showing above threshold levels of stress has stayed remarkably constant in UK, at around 28%[16]. Similarly, the level of stress in Swedish academic doctors was reported to be 66%[17].

In the current study, stress in faculty members, increased from 20 to 49 years of age and declined after the age of 50 years (p=0.02). In the age group 20 to 39 years, severe stress was more common (p=0.04) and in the same age group, 75% held junior faculty positions (p<0.001) while 61% earned less than Rs. 60,000 per month (p= <0.001). Elevated stress levels in junior doctors have been widely reported in studies in other parts of the world[18,19,20,21]. In higher education, the most common reported causes of distress, stress and dissatisfaction in young faculty include, inadequate salary[20,21], performance pressure[19], career development[19] and poor work environment[21]. In the present study, unpleasant or even unsafe working conditions were faced by 66% of staff members and 70% were unable to express their discontent to their superiors. Safety and security issues were also mentioned as important workplace stressors by doctors surveyed from teaching hospitals of Karachi[15].

In our findings, job negatively affected the physical or emotional well being of 47% of respondents. Work overload and un-realistic deadlines were faced by 62% of faculty members interviewed. Among Swedish academic physicians, stress was experienced by 66% of the academic physicians in relation to "time pressure[17]. In a similar study, 90% of faculty of a teaching hospital in Lusaka Zambia, was stressed out by increased workload and 78% due to long working hours[22]. Other evidence collected in this matter focus on work overload,

unrealistic expectations from management and performance pressure as workplace stressors in higher education[14]. These findings are strengthened by observations from similar studies conducted in Bostavana[11], Malaysia[19] and Iran[23]. In the present study, job pressures interfered with family or personal life of 59% respondents. Describing occupational strain in doctors, studies conducted in Malaysia[19] and also identified work interfering with home life as a cause of stress[21].

The statistically significant workplace stressor identified in our study was inadequate control or input over the assigned work duties for 96% of faculty (p=0.001). Research findings from Iran revealed that, inadequate autonomy to make decision on different tasks and feeling of underutilization to be the underline cause of lack of control in medical college teachers[23]. Around 98% of medical faculty surveyed in Zambia attributed insufficient resources to carry out job as a sign of low autonomy[22]. Other literature has also endorsed that low autonomy, work overload, and lack of congruence between power and responsibility cause stress in professionals involved in patient care and teaching[14].

In the present study, there was no difference in stress status of male and female faculty members. This was in congruence with Nigerian university situation, where there was no difference in stress among male and female academic staff[13]. The same was reported from Indira Gandhi Medical College & Hospital, in Shimla India[8] and from four medical schools in the USA[21].

In our study, recognition or reward for good performance was received by 84% of staff members (p=0.06). It was reported that 88% of Zambian medical teachers mentioned rewards as job motivator[22]. The motivator which had a statistically significant impact in the present study was full utilization of skills and ability, reported by 97% of faculty members (p=<0.001). This strengthens the arguments of Menon & Munalula (2007)[22] and Ahmady et al (2007)[23] that autonomy over decisions and resources and utilization of skills not only gives control over tasks and time but also produce sense of satisfaction in professionals.

The present study was limited in generalization of its findings as it was confined to one private sector medical college of the country. In spite of this shortcoming, the study identified important factors that were associated with occupational stress which are consistent with findings of similar studies undertaken elsewhere.

CONCLUSIONS

Medical educators in a private medical college, especially at junior level, reported high levels of both frequency and intensity of stress. Workplace stressors like unpleasant and demanding work environment and lack of communication and support channels were identified, which need to be controlled. Autonomy and reward for good performance were motivational for our respondents.

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