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GENDER DIFFERENCES IN STRESS AND BURNOUT IN MEDICAL STUDENTS

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Abstract:

Introduction: Burnout is a physiological syndrome characterized by triad of emotional exhaustion, depersonalization and low personal achievement triggered by work hassles. It is proved to be influenced by various factors. Introvert people are at high risk. Contributing factors include academic pressure, level of study, educational debt, personal life events, gender, alcohol intake, smoking, diet, physical activity, learning environment and exposure to human suffering.

Materials and Methods: Total number of participants was **275** (male:105 female:170).It was a cross-sectional study.MBI was used to assess burnout and GHQ12 to determine stress levels. Research tools included Maslach Burnout Inventory and General Health Questionaire. Data was analyzed using SPSS package version 21 and significance level was set at 0.05.

Results: 38.5% suffered high levels of DP, 36.4% from low PA suggesting high levels of burnout. Only 5.1% showed high EE and 9.5% showed severe distress. Gender and living status influenced the results.49.5% of male population suffered from high levels of DP and 53.3% from low levels of PA in contrast with females.

Conclusion: Stress was more prevalent among females. Hostellites scored high on burnout and low on GHQ12 indicating less stress.

Key words: Depression, Burnout, Depersonalization, Stress.

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INTRODUCTION:

Burn out is a psychological syndrome characterized by a triad of emotional exhaustion, depersonalization and low personal achievement triggered by work hassles (1). The term burn out was first coined by Herbert Freudenberger in 1974. Previous studies suggest its high prevalence in professionals in health services (2, 3). Burn out among medical students has been brought into light recently where researches and studies are suggestive of its prevalence among medical students (4).

Previously it was considered that burn out occurred due to work overload but now it is proved to be influenced by various factors. Stress is body's way of responding to any kind of demand or threat that's why burn out directly co-relates to stress (5). Also both show similar signs and symptoms and frequently occupational stressors contribute to burn out. Academic stressors directly correlate and influence the burn out syndrome. In case of medical students, exams, relation with teaching staff and class mates, interaction with patients and paramedics and dealing with death and sufferings are main stressors of strain and pressure.Introvert people are at high risk for this syndrome and suffer more than other coworkers. Stress not only affects the mental state of an individual but it also disturb the routine work and relationships. People become irritated and annoyed. About 90% of burned out workers meet diagnostic criteria for depression, suggesting that burn out may be a depressive syndrome rather than a distinct entity.

Burn out effects professional attitude, exam results, mental and physical health, family relations, social behavior and career satisfaction. Moreover patients with chronic burnout have specific cognitive impairments. Nonverbal memory and auditory and visual attentions were affected.

Factors contributing to burn out include academic pressure, level of study, educational debt, personal life events,gender, alcohol intake, smoking, diet, physical activity, learning environment and exposure to human suffering [6-16].

Stress and burn out varies with the level of study (18). Workload, performance and personal competence are the main stressors during 1st year when students have to undergo drastic life style changes. In proceeding years, increased work load causes escalated disturbances in sleep and work routine. This in turn leads to decline in leisure and recreational activities. During clinical years stress levels build up in many ways. Attending wards, day to day patient interactions, dealing with death, disease and patient sufferings, hectic work routine together with tests, assessments and assignments take their toll on students. The strain and demand of keeping oneself up-to-date with the ever changing knowledge are no less pressure factors. Financial restrains, personal life events (17) also relate to level of stress. Physical activity influences and maintains good healthy state and life. During the tough schedule of studies, most medical students can't pay proper attention to diet and physical activity increasing the tendency to burn out. Learning environment in medical schools is always competitive and stressful. The students are always trained to maintain good results and strive to become better professionals. Also medical field is a dynamic field and stresses students. During clinical years, as the students start interacting with patients and are exposed to human suffering on a huge scale they are more prone to develop stress. Alcohol intake is a social norm and a major contributing factor in the western world and influences and stress and burnout (19, 21, 22). Gender also influences stress as previous studies suggest that females are more prone to develop stress.

This study attempts to correlate prevalence of burn out and its relation to different factors in medical students attending a medical college in Pakistan. The study attempts to answer the following questions

1. What is the prevalence of burn out and stress in students in a Pakistani medical college?
2. Is the prevalence of burn out and stress affected by factors such as age, gender and institution attended?

MATERIALS AND METHODS:

An online survey was conducted and it invited all the undergrad students of the institute to fill it out. The participants were ensured that the survey was confidential and a verbal consent was taken. The survey was completed in eight weeks. (15 June- 9 August). A total of 275 participants filled out the form (Males=105 Females=170). It was a cross sectional study. Two standard questionnaires were used, MBI to assess burnout (1, 20) and GHQ 12 (23) to determine stress levels. The questions of MBI were adapted to include students of both clinical and pre-clinical years.

RESEARCH TOOLS :

Maslach Burnout Inventory :

MBI is a standard scale to assess and determine burnout in medical student population (17, 20, 24). It is a 22 question self-test survey pertaining to various feelings and how often the students experience them. The answers range on a 7 point response scale.

0. Never
1. A few times a year
2. Once a month
3. A few times a month
4. Once a week
5. A few times a week
6. Everyday

It consists of three sections and measures three components of burnout. EE, DP and PA. EE or depressive anxiety syndrome relates to fatigue, troubled sleep and related physical problems. The symptoms disappear outside work unlike depression. DP or loss of empathy refers to dehumanization and negative attitudes towards patients and colleagues feelings of professional incompetency and self-doubt towards abilities. PA occurs as a result of above two (1). Scores in each categories were divided into high, average and low.

For EE a total 17 or less: low-level burnout, total between 18 and 29 inclusive: moderate burnout, total over 30: high-level burnout.

For DP a total 5 or less: low-level burnout, total between 6 and 11 inclusive: moderate burnout, total of 12 and greater: high-level burnout.

For PA a total 33 or less: high-level burnout, total between 34 and 39 inclusive: moderate burnout, total greater than 40: low-level burnout (25).

General health questionnaire:

The level of distress were measured using GHQ-12 (23, 26). A Likert type scoring method was used. The answers ranged on 4 point response scale

0. Always
1. Frequently
2. Sometimes
3. Rarely

The scale was reversed for negative items. The scores were graded as follows

0. Rarely
1. Sometimes
2. Frequently
3. Always

Statistical analysis:

Data was analyzed using SPSS package version 21 and significance level was set at 0.05

RESULTS:

Table 1:

Demographic profile of sample population (n=275)

VARIABLE	n	%
GENDER		
Male	105	38.2
Female	170	61.8
YEAR OF STUDY		
1st Year	47	17.1
2nd Year	44	16.0
3rd Year	60	21.8
4th Year	87	31.6
Final Year	37	13.5
LIVING STATUS		
Day Scholar	95	34.5
Hostellite	180	64.5
FATHER'S OCCUPATION		
Employed	152	55.3
Self Employed	115	41.8
Unemployed	8	2.9
MOTHER's WORKING STATUS		

Working Outdoor	31	11.3
Housewife	244	48.7
FAMILY STATUS		
Joint Family	54	19.6
Nuclear Family	221	80.4

Table 2: Distribution of MBI subscales score.

	Frequency	Percent
Low distress	114	41.5
Typical distress	67	24.4
Evidence of psychological distress	68	24.7
Severe Distress	26	9.5
Total	275	100.0

Table no 3. Distribution of GHQ-12 subscales scores

Category	Gender.		
Emotional Exhaustion.	Female.	Low	125
		Moderate	38
		High	6
	Male.	Low	79
		Moderate	18
		High	14
Depression.	Female.	Low	40
		Moderate	76
		High	54
	Male.	Low	27
		Moderate	26
		High	54
Personal Achievement.	Female.	Low	69
		Moderate	38
		High	63
	Male.	Low	31
		Moderate	18
		High	119

Table no 4. MBI scoring in relation to gender.

	Level of effectiveness.	**Frequency.**	**Percentage.**
Emotional Exhaustion.	Low Moderate High	205 56 14	74.6 20.4 5.1
Depersonalization.	Low Moderate High	67 102 106	24.4 37.1 38.5
Personal Achievement.	Low Moderate High	100 56 119	36.4 20.4 43.3

Table no 5.

GHQ-12 scoring in relation to gender.

		GHQ-12				Total
		Low distress	Typical distress	Evidence of psychological distress	Severe Distress	
GENDER	FEMALE	69	45	36	20	170
	MALE	45	22	32	6	105
Total		114	67	68	26	275

Table no 6.

MBI scoring in relation to living status.

Category.	**Living Status.**		
Emotional Exhaustion.	Day scholar.	Low	62
		Moderate	26
		High	7
	Hostellite.	Low	142
		Moderate	30
		High	7
Depression.	Day scholar.	Low	20
		Moderate	41
		High	34
	Hostellite.	Low	47
		Moderate	61
		High	72
Personal Achievement.	Day scholar.	Low	36
		Moderate	14
		High	45
	Hostellite.	Low	64
		Moderate	42
		High	74

Table no 7.

GHQ-12 scoring in relation to living status.

		GHQ-12			
		Low distress	Typical distress	Evidence of psychological distress	Severe Distress
LIVING STATUS	DAY SCHOLAR	42	18	24	11
	HOSTELLITE	72	49	44	15
Total		114	67	68	26

Participation and Sample:

All the students in Gujranwala Medical College were invited to fill the electronic questionnaire.

Out of the total 500 students, 275 responded to the questionnaire. Participant demographic variables are listed in table 1.

Out of 275 participants, 170 are females (61.8%). More than half the persons in the study were in 3rd and 4th year of their studies. The students' ages ranged from18 to 24 with a mean age of participants as 21.1. An overwhelming majority of participants resided in hostel (n=180, 65.5%).

A big majority of mothers of the participants were housewives (n=244, 88.7%) while the status of

fathers was nearly equally distributed between employed (n=152, 55.3%) and self-employed (n=115, 41.8%) and only a handful were unemployed. A big number of the participants lived in nuclear families (n=244, 80.4%)

Prevalence of burn out:
Only a small amount (n=14, 5.1%) showed high levels of emotional exhaustion (EE). More than a third of the participants (n=106, 38.5%) registered high levels of depersonalization (DP). A huge amount of the participants showed low level of personal achievement (PA) which shows a solid amount of burn out (n=119, 43.3%). (table 2)

Prevalence of burnout in relation to gender:
Chi-square analysis showed no significant difference in EE among gender.DP is affected gravely by gender. Out of 105 male students 52 (49.5%) suffered from high level burnout in terms of DP in contrast to females where only 54(31.8%) out of 170 showed high level burn out. That is to say that male students are less empathic as compared to female students. In terms of PA, 63(37%) out of 170 female students reported low levels of personal achievement and 56 (53.3%) out of 105 male students reported low levels of personal achievement.

Prevalence of burn out in relation to living status:
Chi-square analysis showed no significant difference in EE among hostellites and day scholars. Among day scholars approximately 36% (n=34 out of a total of 95) scored high in DP as compared to 40% (n= 72 out of 180) of hostellites. Almost half (n= 45 out of 95, 47.4%) of the day scholars that participatedin the research scored low in PA whereas among hostellites only 41% (n=74 out of 180) showed signs of sever burn out by low score in PA.

Stress prevalence:
A great majority of the participants showed low distress (n=114, 41.5%) in the GHQ. A good number showed typical distress (n=67, 24.4%) whereas a similar amount of participants displayed signs of psychological distress (n=68, 24.7%). Severe distress (n=26, 9.5%) was not shown by many participants but nearly 10 % of the total shows it is common. (Table 3)

Prevalence of stress in relation to gender :
Severe distress was not very common in the sample population. Only about 9.5% students suffered from severe distress. Among these female suffered more as compared to male students. Out of 170 female students 11.7% (n=20) suffered from severe distress. In contrast out of 105 males in the sample population only 5.7% (n=6) experienced severe distress.

Prevalence of stress in relation to living status :
11 out of 95 day (95.5%) scholars showed severe distress in contrast to students residing in hostel where this percentage is only 8 (n=15)

DISCUSSION:

The study intended to explore the prevalence of burnout and stress among medical students in a public sector institute in Pakistan. Our study revealed that 38.5% suffered from high levels of DP, 36.4% from low PA suggesting high levels of burn out. These results are consistent with other studies (27, 28). In contrast to other studies only 5.1% showed high EE and 9.5% showed severe distress.

The demographic variables that influenced the results include gender and living status. 49.5% of male population suffered from high levels of DP and 53.3% from low levels of PA in contrast to females. These findings are similar with several studies (9, 18, 27).Severe stress was highly uncommon in the sample population. Stress was more prevalent among female students. A study suggests that female students have better social support so it acts a shielding factor (28). But their social roles can lead to higher levels of stress (28).

Interestingly in contrast to several other studies our results did not appear to be affected by the year of study. The results were influenced by living status. Students living in hostels scored highon burn out and low on GHQ 12 indicating less stress. No previous study was present to compare and relate results in this category.

CONCLUSION:
The study explored prevalence of burnout and stress in previously unexplored Pakistani medical students' population. Burnout is fairly common in our part of the world although the students in our sample population do not suffer from severe emotional exhaustion as do students in other parts of the world. Students scored fairly high on scales of DP and low on PA. This in future can lead to poor doctor patient relationship and low self-esteem on behalf of doctor. It is also evident that male students are more prone to burnout as compared to female students. As far as stress is concerned, surprisinglysevere distress is rare in our sample population. The study is highly suggestive of female predilection to stress. Hence special attention should be given to mental health of the medical students. Mentally sound students will make better doctors in future.

LIMITATIONS:

The study has several limitations. The sample size is fairly small and study has been carried out in a single institute. There was unequal response rate where year of study and genders were concerned. Almost two third of respondents were females which can easily be attributed to their over whelming presence in the institute where almost 70% of students are females. An uneven representation of students from years of study made it difficult to cross analyze the results. No previous study was available to compare data for living status of the students. These limitations must be considered when applying these findings and generalizing them.

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