



Stress among Physicians Working in a Medical University Hospital

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Authors' contributions

This work was carried out in collaboration between both authors. Author ASMR designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author SA managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

Introduction: Stress is an indispensable part of modern life. Although unavoidable, persistent stress can have a negative physical and psychological impact on anyone. Medical professionals are historically high stress professional cohort. The current study aimed to elucidate the stress among a divergent group of physicians at a tertiary teaching institute.

Methods: This cross-sectional descriptive study was done among 150 participants who were enrolled by non-randomized sampling. General Health Questionnaire was used to gather data that were analyzed using SPSS 20.

Results: Our study revealed that, staggering 48% of participants were distressed. Male doctors were more distressed than their counterparts. Graduate doctors had a higher score in comparison to the post-grad Doctors. Age was not a significant factor determining stress.

Conclusions: While treating others for their ailments, doctors tend to ignore their own health. Mental stress has a huge impact both on the Doctor suffering from it and the pool of patients served by him/her. This should attain more attention to prevent physician burnout.

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1. INTRODUCTION

Medical profession has long been considered as a stressful job. Over the last few decades, the meaning of optimal medical care has been revolutionized. With the ever expanding requirement of knowledge and skills, stress is becoming more coherent than it ever was before. Hospital work involves some of the most stressful situations found in any workplace. Being at the center of the hierarchy, physicians often pays a higher stress toll. Stress may be defined as a three way relationship between demands on a person, that persons feeling about those demands and their ability to cope with those demands [1].

Stress is a feeling of strain and pressure. Small amounts of stress may be desired, beneficial, and even healthy. Positive stress helps improve performance. It also plays factor in motivation, adaptation, and reaction to the environment. Excessive amounts of stress however, may lead to many problems in the body that could be harmful.

Psychological distress in doctors is among the highest of all professions [2]. This is an important issue to be addressed because it not only affects doctor's health but also the care they are expected to deliver to their patients.

Doctors consistently experience high intensity of work, conflicting time demands, and heavy professional responsibility, often in systems where physical and social resources are deficient, and there is the ever-present threat of medico-legal action. Further, doctors often have limited power to alter the conditions under which they work [3]. Among doctors, it has been emphasized that, stress level is highest among those caring for terminally and chronically ill patient [4].

Stress arises when individuals perceive that they cannot adequately cope with the demands being made on them or with threats to their well-being [5].

It is associated with development of most major mental health problems – depression, PTSD, pathologic aging [6] and Predicts negative health behaviors and relapses – smoking, alcohol abuse, illicit substance use, sleeplessness [7].

Stress in health care providers can stem from frequent intense interactions with patients with complex problems and stressed interactions with colleagues [8]. Persistent stress is a significant contributor to burnout and resultant job absenteeism and performance deficits [9].

It is known that physicians do not seek the kind of professional help for themselves as they would provide for their patients [10]. In this study, we have tried to elucidate this burning issue which is becoming an increasingly disturbing concern for healthcare fraternity.

2. MATERIALS AND METHODS

This was a hospital-based cross-sectional descriptive study. This was performed among 150 physicians, who were working in different specialty of Bangabandhu Sheikh mujib Medical University (BSMMU) during July, 2013 – November, 2014. Participants were enrolled by non-randomized sampling. General Health Questionnaire (GHQ) is the most extensively used self-reported questionnaire which was formulated by Goldberg in the 1970s. The original GHQ consist of 60 items and it has some popular shortened version like GHQ-1, GHQ-12, GHQ-20, GHQ-28 and GHQ-30 [11,12]. For our study we have used the GHQ-12. Data analysis was done using SPSS for windows version 20.

3. RESULTS

General Characteristics of study population:

A total number of 150 physicians from different departments of Bangabandhu Sheikh Mujib Medical University were selected for this current study.

3.1 Working Department

Among 150 participants 70(46.7%) were from department of Medicine (Group A), 42(28%) from department of Surgery (Group B) and 38(25.3%) were from department of Gynecology and Obstetrics (Group C). Results are shown in Table 1.

3.2 Age

The mean (\pm SD) age of A, B and C were 36.37 ± 5.95 , 38.95 ± 8.61 and 37.68 ± 8.81 respectively and there is no statistically significant difference among the groups. So, all the groups were matched for age. Results are shown in Table 1.

3.3 Gender

Overall 94(62.7%) were male participants and 56(37.3%) were female participants. Among individual groups male participants were 77.1%, 90.5% and 5.3% in group A, B and C respectively and female participants were 22.9%, 9.5% and 94.7% in group A, B and C respectively. Results are shown in Fig.1.

3.4 Professional Status

Overall among all the participants 54(36%) were post-graduate and 96(64%) were graduate physician. Among individual groups 25.7%, 38% and 36.8% participants were post-graduate in group A, B and C respectively and 74.3%, 62% and 63.2% were graduate physician in group A, B and C respectively. Results are shown in Fig. 2.

Table 1. Age distribution of study population (n= 150)

Groups	Age
A(n= 70)	36.37± 5.95(29 - 51)
B (n= 42)	38.95 ± 8.61(27 -55)
C (n= 38)	37.68 ± 8.81(28 -55)

Results are expressed as mean ±SD. Figures in parenthesis indicates range.

n = Number of participants
 Group A = participants from Medicine department
 Group B = participants from Surgery department

Group C = participants from Gynaecology and Obstetrics Department

3.4.1 GHQ score of study population

The determining factor of distress was GHQ (General Health Questionnaire) score in this study and anyone scored 15 or above was considered to be distressed. GHQ score was compared among age group, gender, different departments and professional status. Overall 72 (48%) out of 150 participants were found to be distressed. (Fig. 3)

3.4.2 GHQ among different age group

Mean ± SD score among three different age groups a (25-34), b (35-44) and c (45-55) were 15.67 ± 4.81, 15.5 ± 5.71 and 13.5 ± 4.98 respectively and no statistically significant difference was found among them (Table 2).

Table 2. GHQ score in different age group (n= 150)

Age group	GHQ score
a (n =72)	15.67 ± 4.81 (8 - 28)
b (n = 40)	15.5 ± 5.71 (8 - 25)
c (n =38)	13.5 ± 4.98 (10 - 21)

3.4.3 GHQ among different gender

GHQ score among male was higher (16.19 ± 5.2) than that of the female participants (13.55 ± 4.37) and the difference is statistically significant (P=0.001) (Fig. 4).

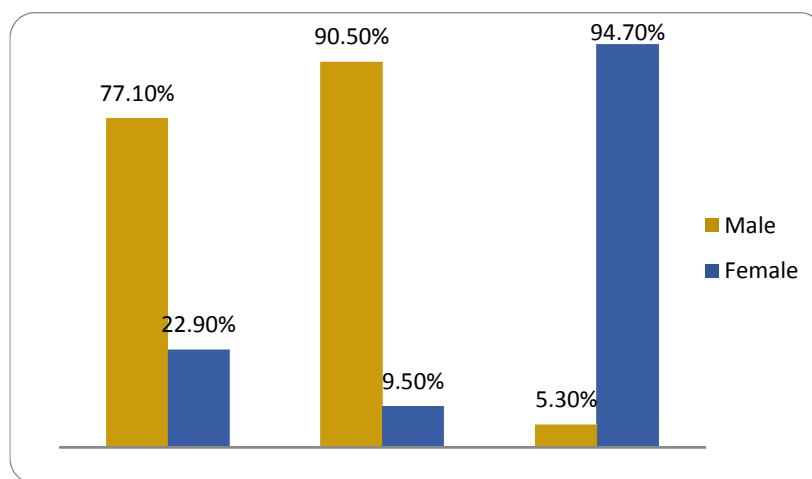


Fig. 1. Gender distribution of study population (n= 150)

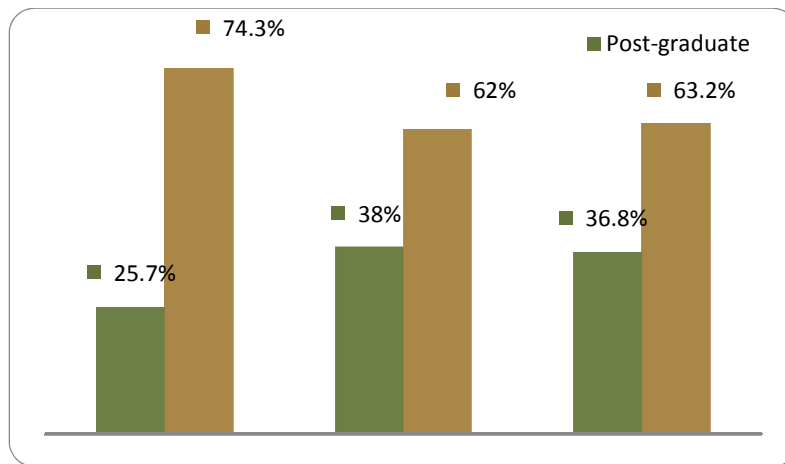


Fig. 2. Distribution of study population by professional status (n= 150)

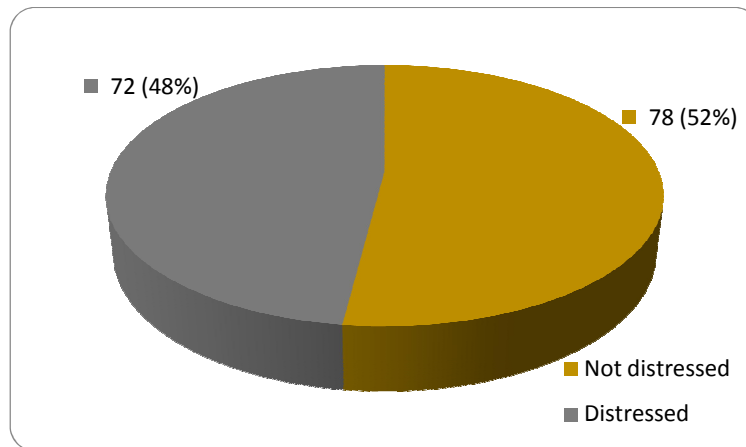


Fig. 3. Distress among study population (n= 150)

3.4.4 GHQ among different departments

The mean± SD GHQ in Medicine, Surgery and Gynaecology and Obstetrics departments were 15.57±4.81, 16.43±5.51 and 13.18± 4.48 respectively. Although the mean GHQ score of Surgery department was higher than that of the Medicine but it was not statistically significant. But the difference between Medicine and Gynaecology and Obstetrics was significant. The mean GHQ difference was found to be higher in Surgery than Gynaecology and Obstetrics which was statistically significant ($P= 0.01$) (Table 3).

3.4.5 GHQ among different professional status

Mean±SD GHQ score of post-graduate participants was lower (13.69 ± 4.9) than that of

graduate participants (16.06± 4.97) which was statistically significant ($P= 0.005.$) (Fig. 5).

Results are expressed as mean± SD. Figures in parenthesis indicates range.

n = Number of participants
 Group a = participants aged 25-34
 Group b = participants aged 35-44
 Group c = participants aged 45-55

Table 3. GHQ score in different departments (n= 150)

Groups	GHQ score
A (n= 70)	15.57± 4.81 (8-27)
B (n= 42)	16.43± 5.51 (8-26)
C (n= 38)	13.18± 4.48 (10-25)

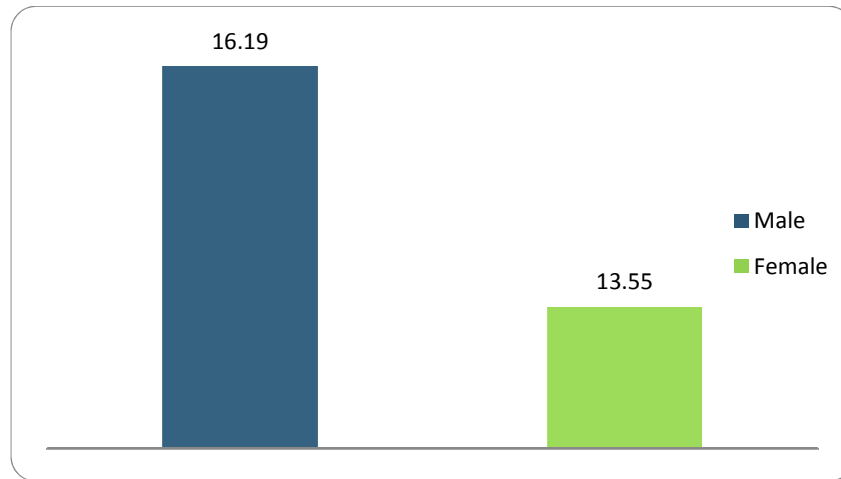


Fig. 4. Mean GHQ score in different gender (n= 150)

3.5 Statistical Analysis

Groups	P value
A vs B	1
A vs C	0.05
B vs C	0.01

Results are expressed as mean± SD. Figures in parenthesis indicates range. One way ANOVA followed by Bonferoni test was performed to compare among different groups. The test of significance was calculated and P value < 0.05 was accepted as level of significance.

n = Number of participant

Group A = participants from Medicine department

Group B = participants from Surgery department

Group C = Participants from Gynaecology and Obstetrics Department

4. DISCUSSION

Stress-related illnesses among physicians are receiving increased attention. The negative consequences of stress pose a serious problem, not only for physicians' well-being but also for the quality of patient care [13].

The most common source of stress mentioned in the literature included working interface, work overload [14] demands of work made on personal/social life, increased and inappropriate demands from patients [15], difficulty in finding a locum, the working environment, lack of the necessary staff to do a job and inadequate facilities and financial resources [16]. Concerns about money, exposure to toxic substances and exposure to infectious patients were mentioned as important sources of stress by all categories

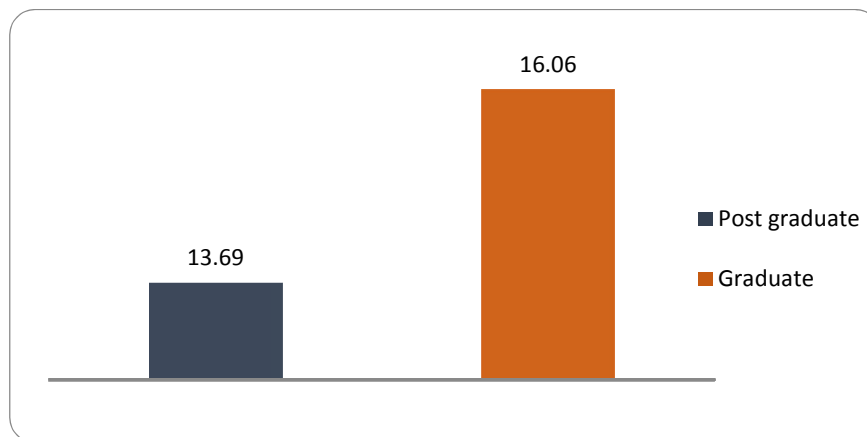


Fig. 5. GHQ score in different professional status (n= 150)

of hospital workers. Regarding sources of stress in the developing countries, a study in Saudi Arabia among 414 hospital staff showed that insufficient technical facilities, absence of appreciation, long working hours, and short breaks were significantly associated with work-stress among staff. Age and experience were significantly and negatively associated with work-stress level. Results also revealed that Saudi participants showed significantly higher level of work-stress than the non-Saudis [17]. In Turkey, the most common causes of stress to doctors were not enough time to follow developments in medicine, and the limited social life due to heavy workloads [18].

Doctors are considered to be members of high stress occupations [19] and previous studies found that the prevalence of stress using the General Health Questionnaire (GHQ) ranged from 16.9% to 52% among doctors in the United Kingdom [20] and 30.7% to 41% among doctors in Australia [21]. In Saudi Arabia, the prevalence of psychological morbidity using GHQ among postgraduate medical trainees was 59%, ranging from 47% for Paediatrics to 93% for Internal Medicine [22] and was significantly higher in women compared to men in that study. In Iraq, 97 (55.7%) out of 132 physicians reported their work related stress as severe or moderate [23].

This is now a well-established fact that mere being a doctor don't make anybody immune from stress. Rather it can be surprising to note that stress is present at a pretty high preponderance among doctors. This study was designed to evaluate the distress among doctors in a medical university hospital.

A total 150 physicians were enrolled in this study from different department of BSMMU. Majority participants were from Medicine department (46.7%) and male participants outnumbered (62.7%) the female counterpart. Participants were age matched and 54 out of total 150 were post-graduate physician (36%).

Overall 72 (48%) physicians were found to be distressed which is a very similar finding to the study conducted in UK [24]. Mean GHQ score was 1.2 times higher in male probably because of the fact that, male physicians have greater socioeconomic liabilities than female physicians in our country. Graduate physicians GHQ score was significantly higher than that of post-graduate physician. The reason behind this finding may be twofold, one is that the

participants were mostly graduate and the number of stressor in a graduate physician's life may be much more than a postgraduate one like the academic, financial, social stressor. The respondents were divided into different age group and 61.3% were aged 25-34 years but no statistically significant difference was noted among different age group. In our opinion, although the senior physicians might have a better external resources the coping capability to any given level of distress may be better in younger one, thus nullifying the effect of age on stress.

In summary, the study result was alarming in the sense that almost half of all participants were found to be distressed. The result obtained in here may not be representative of the overall countrywide situation but still it necessitates looking into the matter seriously.

5. CONCLUSION

The findings of the study suggest that the level of psychological distress was higher in the male physicians compared to the female colleagues. The distress in graduate physicians was higher than the postgraduate. The study did not find any statistically significant difference of distress between different age group. The findings of higher level of stress among doctors working in surgery department in comparison to the Medicine & Gynae department may be due to the fact that, they have to face more emergency situations and are in a continuous need of a collaborative team to treat.

6. LIMITATIONS

1. Number of participants was not evenly distributed from different departments or gender.
2. Graduate physicians were disproportionately higher in number than post-graduate.

7. RECOMMENDATION

The major finding of high psychological distress in the physicians of the Medical University points to the need for establishing counseling and preventive mental health services as an integral part of routine clinical services being provided to the physicians. Larger study on this burning issue is a time demanding necessity to provide an insight about the general situation of physicians stress.

CONSENT

At first consent was taken. After taking written, informed consent, participant's symptom score derived from a structured questionnaire (General Health Questionnaire) were used as main outcome variable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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