

Stress and Depression among undergraduate Medical Students of Bangladesh

Dr. Nazma Sultana

Abstract

This cross-sectional descriptive type of study was conducted to explore the level of stress and depression and to find out the various socio-demographic, academic factors which act as barriers to study among undergraduate medical students of Bangladesh.

The study was conducted at Dhaka Medical College during the period of April 2009 to June 2009. The students of 1st year to 5th year were the study population. A total of 425 students participated in the study. After taking proper approval from the concerned authority adopting convenient sampling technique data were collected through a self administered questionnaire with validated Kessler 10 psychological distress scale. The study revealed that only (1%) respondents were free from any sorts of psychological stress. Over one third (34.6%) had mild stress, (39.8%) moderate stress and about one fourth (24.9%) was suffering from severe stress according to Kessler 10 Psychological distress scale.

A significant proportion of male respondents (73%) had moderate to severe psychological distress compared to the female respondents (56%) $p < 0.001$. A significant higher proportion (56%) of those experiencing study pressure had moderate to severe stress as well ($p < 0.001$).

Having political affiliation, higher proportion of students (66%) reported no or mild stress. It is researcher's opinion that politically affiliated students usually maintain good relationship with their teachers' which help them to pass or they influence their teachers' to bring result in their favor or teachers' favor them to keep their position undisturbed. Lower proportion (34%) reported to have moderate to severe stress. The differences between politically affiliated and not politically affiliated groups are statistically significant $p < 0.001$. This study demonstrates that factors which are responsible for students' stress and depression are not similar in all countries. Sources of stress of our students' should be checked out for the betterment of our students.

The study recommended that need for intervention like social and psychological support to improve the quality of life of medical students. Students' advisors should be provided who will train students about stress management.

Key Words: Stress, Depression, Stressors, Coping

Introduction

Stress is an internal process that occurs when a person is faced with a demand that is perceived to exceed the resources available to effectively respond to it, and where failure to effectively deal with the demand has important and undesirable consequences. Each of us deals with stress in our own unique way. Stress is our unique reaction to events. Stress is not always problematic. The perception of stress is, to some degree, subjective. In another way stress is defined as "our reaction to events, environmental or internal, that challenged or exceed resources". Each of us has a certain number of coping resources, and when those coping resources challenged or exceeded stress usually results¹. Medical students face a variety of stress daily. There are varieties of stressors or the sources of stress.

The toll of unmanaged stress will lead to Addictive Behaviors, Relationship Distress, Emotional/behavioral

problems, Loss or lack of spirituality, Academic consequences, Changes in mood-Sadness, irritability, futility, hopelessness, angry, frustration, and anxiety. Unmanaged stress ultimately leads to depression which is defined as a "state of gloom, despondency or sadness lasting at least two weeks"².

The person usually suffers from low mood, loss of interest, enjoyment and reduced energy. Their sleep, appetite and concentration may be affected. Medical education is perceived as being stressful. It is characterized by many psychological changes in students. Medical students encounter multiple anxieties in transformation from insecure student to young knowledgeable physician. There is a growing concern about stress in medical training³.

Studies have observed that medical students experience a high incidence of personal distress during their undergraduate course.

High levels of stress may have a negative effect on mastery of the academic curriculum. Stress, health and emotional problems increase during the period of undergraduate medical education. This can lead to mental distress and has a

Assistant Professor, Centre for Medical Education

Address of correspondence: Dr. Nazma.
E-mail: nazma@yahoo.com

negative impact on cognitive functioning and learning⁴. Depression not only affects students' lives but may also have repercussion for patient care in the long run. Jennifer Tjia, an instructor in Internal Medicine at the University of Pennsylvania School of Medicine in Philadelphia, believes that many practicing physicians are afraid of being treated for depression and thereby revealing that they have the condition.

But "if people don't know how to treat their own depression, it has a negative impact on how they treat patients"⁵.

Medical students' well-being, as the precursor to physician well-being, represents a critical aspect of medical training⁶.

We need to continue to be attentive to the well-being of medical students, particularly in the face of rising living costs, uncertain career, career choice and other factors. Promoting students well-being and provide students with the coping tools to deal with stress throughout their undergraduate, postgraduate training and professional life.

Addressing and maintaining one's mental health and well-being should become a lifelong focus for all medical students. In this study the main focus was to explore the factors related to stress and to determine the severity of stress in terms of past one month depression or psychological status.

Rationale

Among all undergraduate or graduation courses, undergraduate course in medical sciences is the most stressful one. This course demand continuous learning process. The whole course is full of tests/ exams, one after another. In medical studies, practical and oral examination is most stressful. Uncertainty always prevails in medical students mind regarding 'Pass' or 'Fail'. Once student fails they have to wait 6 months for supplementary examination. Drop out, defaulter students are often seen in medical colleges.

Students, who are staying at hostels or other places for the first time, take it as a stress being away from family life. Accommodation and food-habit creates problem among new comers. Students who are physically and mentally strong enough can adjust themselves in medical colleges and hostels. Those who are not like them become depressed easily.

Previously limited number of study has done to find out the

medical students stress and depression.

Today's medical learners are the future healers of the poor community people of Bangladesh. So appropriate attention should be paid to them from all levels and assure them for their job as well as better future to overcome their frustration.

Delaying in minimizing stressful life events is associated with more damage to the students. The researchers hope that a supervisory committee will conduct continuous study among medical students to find out the causes of stress and depression among medical students through longitudinal study, to bring out their actual physical and mental status.

General Objective

To explore the level of stress and depression among undergraduate medical students.

Specific Objectives

- i. To determine the level of self-perceived stresses among undergraduate medical students by using Kessler 10 psychological distress scale.
- ii. To observe an association between the levels of stress and socio-demographic factors, academic factors, physical factors, and also other stressful factors.

Materials and Methods

This is a descriptive type of cross-sectional study. Study period was from July 2008 to June 2009. Study population were the Students of 1st year to 5th year of Dhaka Medical College fulfilling the inclusion criteria and exclusion criteria. Sampling technique was convenient. A total of 425 Student were included in the study from 1st year to 5th year. First year comprised of 46 students, second year 67, third year 113, fourth year 76 and fifth year 123.

Pre-tested self administered questionnaire was prepared in Bengali for 1st part. The latter part (2nd part) composed of 10 questions prepared by Kessler, a measure of psychological distress based on questions about negative emotional states experienced by respondents in the four weeks prior to interview. Prior permission was taken from the concerned authorities. Data were collected only from willing respondent. Confidentiality and anonymity of the respondents were maintained.

Results

Table 1. Severity of mental distress based on Kessler 10 scale (K10) (n = 425)

K10 score for psychological distress	Frequency	Percentage
≤ 10 (no distress)	03	0.7
11 - 30 (mild distress)	147	34.6
31 - 40 (moderate distress)	169	39.8
41 - 50 (severe distress)	106	24.9

Table 2. Association of psychological distress with sex (n = 425)

Sex	Psychological distress		p-value
	Moderate to severe (n = 275)	None or mild (n = 150)	
Male	161(73%)	60(27%)	< 0.001
Female	114(56%)	90(44%)	

Table 3. Association of psychological distress and years of education (n=425)

Years of education	Psychological distress		p-value
	Moderate to severe (n = 275)	None or mild (n = 150)	
1 st and 2 nd year (Preclinical)	74(65%)	39(35%)	0.839
3 rd to 5 th year (Clinical)	201(64%)	111(36%)	

Table 4. Factors influencing psychological distress in medical students (n = 425)

Factors	Psychological distress		p-value
	Moderate to severe (n = 275)	None or mild (n = 150)	
Political affiliation	10(34%)	19(66%)	< 0.001
Admitted in medical discipline with others interest	247(86%)	131(34%)	0.435
Study pressure	143(56%)	112(44%)	<0.001

Discussion

This study was carried out among 425 students from 1st, 2nd, 3rd, 4th and 5th year of Dhaka Medical College. Out of 425 students, 221 were male and 204 were female students. In this study, it has been revealed that only (1%) of the respondents were free from any sorts of psychological distress, (34.6%) had mild distress, (39.8%) moderate and (24.9%) or one-fourth was suffering from severe distress at the time of collecting the data (Table 1).

In this study, a significantly higher proportion of male respondents (73%) had moderate to severe psychological stress as compared to the female respondents (56%) p<0.001(Table 2). It is the researcher's opinion that the number of female students admitted in the medical college has been remarkably increased than previous years. Another factor might have influenced that, performance of female

students in professional examination is better than male students in majority of the situations. These factors might influence their stress level in a positive way

Study conducted among all six years of medical students of Mansoura College of Medicine in Egypt, showed there was no significant difference of perceived stress between male and female students. The author suggested that there is increase recruitment of female staff in medical school as well as male staff might have more empathetic attitude towards women students in Islamic conservative society⁷.

No significant association was found between the level of psychological distress and years of education of the respondents in this study (Table 3).

Study conducted by Abdulghani revealed that as the year of study increasing the prevalence of stress was decreasing

$p < 0.001$ ⁷. The study conducted by Shaikh, in a medical college in Karachi showed that 4th year and final year feel more stressed 95% and 98% respectively⁸.

Study conducted at Manipal College of Medical Sciences, Nepal, showed that psychological morbidity is higher among students of basic sciences, 1st and 2nd year⁹.

The prevalence of anxiety and depression was high among 1st and 2nd year students of a public medical college in Karachi, Pakistan, revealed in a study conducted by Khan¹⁰.

Study conducted by Supe AN at Seth.G.S Medical College, Mumbai, showed stress was found more in 2nd and 3rd year students than 1st year students¹¹.

Study conducted by Saipanish in Thailand revealed that (61%) of students had some degree of stress and (2.4%) reported a high level of stress. The prevalence of stress was highest among 3rd year medical students¹².

Some factors were taken as barriers to smooth study-physical, financial, part time job, study pressure as stressors. About (56%) students experiencing study pressure had moderate to severe stress (Table 4).

Study conducted by Abdulghani in a male medical college in KSA showed that more than (60%) students experienced main source of stress is study pressure¹³. The study conducted in a private medical school in Malaysia also showed that a higher prevalence (68.3%) of emotional disturbances among students who stated that they faced severe and extreme pressure due to examination¹⁴.

In this study two-thirds (66%) of the politically affiliated students had mild or no psychological stress. It is the researcher's opinion that politically affiliated students usually maintain good relationship with their teachers', which help them to pass, or they influence their teachers to bring result in their favor or teachers favor them to keep their position undisturbed. So politically affiliated students are busier in student politics than their study, therefore stress does not affect them to great extent. In this study, gender difference of stress, political affiliation and its relation with stress, study pressure as stressor were accurately confirmed by binary logistic regression analysis test.

Recommendations

Need for interventions like social and psychological support to improve the quality of life of the medical students. Students' advisors or counselor should be provided who will train students about stress management. The living conditions of the students and their recreational facilities should be improved. Better interaction with the faculty and proper guidance, advisory services and peer counseling at the campus could do a lot to reduce the stress. Need to bring about changes in the quality of teaching and evaluation system, to reduce examination fear. Further prospective studies and diagnostic measures are recommended to determine the extent of stress and depression among medical students.

References

1. Texas Medical Association (TMA)/www.texmed.org (2002).what are stressors?
2. Texas Medical Association (TMA)/www.texmed.org (2009).The Toll of Unmanaged Stress.
3. Australian Bureau of Statistics (ABS): Information Paper:Use of the Kessler Psychological Distress Scale in ABS health surveys,Australia,2001.
4. Dahlin M, Joneborg N, Runeson B (2005). Stress and depression among medical students: A crosssectional study. *Medical Education*;39(6).594-604.
5. Tjia j, GivensJl (2002). Depressed medical students' use of mental health services and barriers to use.*Acad Med*;77:918-921.
6. Laura B.Dunn, Alana Iglewicz, Christine Moutier (2008).A conceptual Model of Medical Student Well Being: Promoting Resilience and Preventing Burnout. *Academic Psychiatry*; 32:44-53.
7. Mostafa AMR, Abdel Hady El Gilany, Aly El Hawary (2008). Does gender predict medical students' stress in Mansoura, Egypt? *Medical Education Online* 2008;13:12.Doi:10:3885.
8. Abdulghani HM (2008):Stress and depression among medical students: A cross sectional study at a medical college in Saudi Arabia. *Pakistan Journal Of Medical Sciences* 24(1):12-17.
9. Shaikh BT, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N, Khan S (2004). Students, Stress and Coping Strategies: A case of Pakistani Medical School. *Education for Health*; 17 (3): 346-353.
10. Sreeramareddy CT, Shankar PR, Binu VS, Mukhopadhyay C, Ray B, Menezes (2007). Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal. *Bio Medical Central (BMC) Med Educ.* 2;7:26. Doi: 10.1186/1472-6920-7-26.
11. Khan MS, Mahmood S, Badshah A, Ali SU, Jamal Y (2006). Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. *Journal of Pakistan Medical Association*; 56:583-586.
12. Supe AN (1998).A study of stress in medical students at Seth G.S. Medical College. *Journal of post graduate Medicine*;44(1):1-6.
13. Saipanish Ratna (2003).Stress among medical students in a Thai medical school. *Medical Teacher*;25(5):502-506.
14. Sherina MS, Rampal L, Kaneson N (2003). Psychological stress among Undergraduate Medical Students.*Med Journal Malaysia*;59(2):207-211.