



Study of Psychological stress among First MBBS students using GHQ-12

Published online on 20th May 2015©www.eternalpublication.com**DR. DOIJAD VINAYAK P.¹****DR. MUNDEWADI SA.²**

1 Assistant Professor

2 Associate Professor

Dept. of Physiology

Dr. V. M. Govt. Medical College, Solapur.

Corresponding Author:

Dr. Vinayak P. Doijad
Assistant Professor
Dept. of Physiology
Dr.V.M. Govt. Medical
College
Solapur (Maharashtra, India)

+91-



vinayakvmgmc@gmail.com

Received: 14th April 2015; Accepted: 30th April 2015

How to cite this article: Doijad VP, Mundewadi SA. Study of psychological stress among first MBBS students using GHQ-12. International Journal of Anatomy Physiology and Biochemistry 2015; 2(5):5-9.

Abstract:

Background: Medical education across the globe is perceived as being inherently stressful. During medical training students are subjected to different kinds of stressors such as academic pressure, new environment etc. In this background the present study was undertaken with the objectives to assess the psychological stress among first MBBS students. **Aims and Objectives:** To assess the psychological stress among first MBBS Students and also to determine the effect of academic examination stressor in them. **Materials and Methods:** Cross sectional study. 110 first MBBS students from 2014 batch participated in the study. Data about stress was collected using the GHQ-12 questionnaire prior to and during the examination period. **Results:** On statistically analyzing the results of our study we found that students had significant higher values of GHQ-12 score both before and during the examination period. And also stress level was found to be significantly increased during examination period. **Conclusion:** Medical students have psychological stress both before and during the examination period. This psychological stress gets exaggerated during academic examinations. Hence there is a dire need of stress management among the medical students. So, appropriate intervention like stress management training, group counseling etc. should be implemented among medical students on a regular basis.

Key words: General Health Questionnaire (GHQ), First MBBS students, Psychological stress.

Introduction:

Stress is a term that refers to the sum of physical, mental and emotional strains or tensions on a person.¹ Stress also indicates the consequence of the failure of an organism, human or animal to respond appropriately to emotional or physical threats whether are either actual or imagined.² Medical education is one of the stressful and an emotionally demanding training in which students

are subjected to different kinds of stressors such as burden of academic pressure, new environment and difficulties of integrating into the system along with emotional, social, physical and family problems.³ Medical students are exposed to excess cognitive tasks and high level of competition, which can lead to high levels of stress and psychological morbidity among medical students. The prevalence of stress among medical students affects not only their academic performances but also to some extent

their health. 'Academic stress' is the emotional reaction in medical students which is essential for learning as it interferes with their performance and keeps them task oriented. This promotes and assists in learning called as favorable stress (eustress). But when a demand vastly exceeds a person's capabilities and restrains him from learning called as unfavorable stress (distress).⁴

Retrieving knowledge about presence of stress is therefore important in itself and if found should be given attention for timely intervention. Studies on psychological morbidities are very few in our state. This study therefore has been planned to identify the prevalence of psychological stress and to determine the effect of academic examination stressor among undergraduate medical students, so that appropriate intervention strategy can be proposed to reduce psychological stress and enhance student's abilities.

Aims and objectives:

- 1] To assess the psychological stress among first year MBBS Students.
- 2] To determine the effect of academic examination stressor on first year MBBS Students.

Materials and methods:

This is cross – sectional study at Dr. V. M. Govt. Medical College, Solapur in a period of 2014-2015. Out of 150 students of the year 2014 batch, 110 were selected as per inclusion and exclusion criteria. The overall age ranged from 17-20 years (mean age 18.2 yrs)

Data collection: All the 110 students were told of the objective of the study and then called to participate in it. The data was taken both in the pre-examination (one month before the examination) and later during examination period. Students with H/O psychiatric illness, medical illness and on medication were excluded from the study.

Prior to data collection permission was obtained from the ethical committee of college to conduct the study. An informed consent was obtained from the participants. The purpose of the study and the contents of the form were explained to them. They were assured that all the information provided by them would be kept strictly confidential. The data was collected using General Health Questionnaire-12 (GHQ-12)

General Health Questionnaire (GHQ -12) and its assessment

GHQ is a screening tool used to assess the overall psychological well-being of students which is defined as a state of being in which a student is balanced both emotionally and intellectually. GHQ was developed by Goldberg and has been widely used in various cultures as a screening tool to determine whether an individual is at risk of developing a psychiatric disorder. It is extensively used by researchers and found to be reliable and well validated.⁵

List Of The Items Of The GHQ-12		
1- Able to concentrate	2- Lost sleep over worry	3- Play useful part in thing
4- Capable of making decisions	5- Constantly under strain	6- Could not overcome difficulties
7- Enjoy day-to-day activities	8- Face up problems	9- Feeling unhappy and depressed
10- Losing confidence in self	11- Thinking of self as worthless	12- Reasonable happy

In our study, General Health Questionnaire (GHQ -12) was used to screen for symptoms of psychological stress. This consists of 12 questions. Each question had four responses. The student has to encircle the most appropriate option which best indicates in each question. It was scored by Likert 4-point scale as 3, 2, 1 and 0 respectively. (e.g., felt

constantly under strain were scored as 3-strongly agree, 2-agree, 1- slightly agree, 0-don't agree). Later, the total score was assessed using GHQ-12 stress scale.

GHQ -12 stress scale

GHQ score	[score <15]	[score 15-19]	[score 20-29]	[score 30-36]
Stress level	No stress	Mild stress	Moderate stress	Severe stress

Statistics: The statistical analysis was done by the Student's unpaired 't' test using spss software. Microsoft word and Excel have been used to generate tables.

Results:

Table 1: Assessment of Psychological Stress

	Average GHQ score for students not in stress	Average GHQ score for students in stress	Diff.	t value	P value
Before exam	12±2.05	21.09±4.6	9.09	10.49	P<0.01
During exam	11.32±2.74	22.63±5.33	11.31	10.65	P<0.01
*P value : <0.05 statistically significant.					

Table 2: Distribution of Levels of stress

N = 110	Before examination		During examination	
Stress level	Frequency	Percentage	Frequency	Percentage
No stress	31	28%	28	25%
Mild stress	38	35%	28	25%
Moderate stress	38	35%	45	41%
Severe stress	3	2.7%	9	8.1%

Table 3: Effect of academic examination stressor

GHQ score Before examination Mean ± SD	GHQ score During examination Mean ± SD	difference	t value	P value
18.52±5.75	19.75±6.89	1.23	2.69	<0.01*
*P value : <0.05 statistically significant.				

Discussion:

Medical school is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health and psychological wellbeing of the student. The personal and social sacrifice that the students have to make in order to maintain good academic results in a highly competitive environment puts them under a lot of stress which may end up in wide spectrum of psychological disorders like depression, anxiety, stress etc.³ High level of stress among medical students have been reported in various studies.⁶⁻⁸

Stowell (2004) had revealed that the stress level in medical students is increased during academic examination and the label 'academic examination stress' covers a wide range of situations that may have very different psychological and immunological consequences.⁹ Mannapur B et al (2010) observed that 47.01% of the students showed severe psychological stress by the Presumptive Stressful Life Events Scale (PSLES) results and 42.63% of the students showed a moderate degree of psychological stress.¹⁰ Priti Solanky et al (2012) found that majority of undergraduate students experience stress.¹¹ Kittu D et al found (2013) high prevalence of depression among medical students which was due to psychological stress.³ Krutarth R Brahmabhatt et al (2013) observed that High levels of perceived stress existed in the first and second year undergraduate medical students.¹² Shashikala K.T.(2015) also observed that Medical students

have psychological stress which can get exaggerated during academic examinations.¹³

In our study, as shown in table 1, we found that first year MBBS Students have significant higher values of GHQ-12 score before examination (P value < 0.01) and also during the examination period (P value < 0.01). As shown in table 2, we observed that 72% students experienced stress before examination and 75% students experienced stress during examination. Thus, this study has found that majority of the students experienced stress. Similar findings were observed by other workers, Kittu D et al (71%),³ Krutarth B (42.5%),¹² Mannapur b et al (89%),¹⁰ Priti Solanky et al (96%),¹¹ Supreman (70%).¹⁴ Also, the number of students in the moderate stress group was (35%) before the examination which was increased to (41%) during examination period. The number of students in the severe stress group was (2.7%) before the examination which was increased to (8.1%) during examination period. This means that stress gets exaggerated during academic examinations. As shown in table 3, mean GHQ score before exam was 18.52 ± 5.75 during examination period it was increased to 19.75 ± 6.89 , which is statistically significant. This increase in GHQ score (increase in stress level) can be attributed to academic examination stressor. Similar findings were observed by other workers, Stowell (2004) and Shashikala KT (2015).

While we know that college students often face serious academic stress, the result is that higher academic stress levels generate higher levels of body distress. All of these results suggest that it is useful to make students very aware of the problems associated with academic stress when they arrive at medical school. Greater emphasis should be placed on stress management including counseling, stress releasing activities like pursuing hobbies, outdoor sports activities, cultural activities, yoga and meditation, to help students cope with the stress of tertiary education. Conducting monthly tests, mock examinations can reduce the impact of academic

examination stressor on physical and mental health of medical students.⁴ Regular stress assessment can be carried out. These programs should in fact be implemented in all universities. The ultimate aim is to help medical students understand what is required of them and to adapt to the stressful environment as quickly as possible.

Conclusion:

Our study has found that majority of first MBBS students have psychological stress, both before examination and during examination period. Our study also found that stress can get exaggerated during academic examinations. Hence, interventions are required to cope up the stress in them. Relaxation techniques like outdoor sports activities, yoga, and meditation should be encouraged. Student counseling and informal mentoring is required on a routine basis. All students should compulsorily be a part of stress reducing activities to protect this valuable future human resource.

Acknowledgement: We are thankful to all the medical students who participated in the study, for their valuable time given for filling up the questionnaire. We are also thankful to Mr. Mulje, Dept. of Community Medicine for his valuable help in statistical analysis.

Source of funding: Self

Conflict of interest: Nil

References:

1. Goldberger L, Breznitz S. Handbook of stress: Theoretical and Clinical aspects. Free press 1982;987.
2. Selye H. The stresses of life, New York, MC Graw Hill 1956;1523-1567.
3. Kittu D et al. Study of association of psychological stress and depression among

undergraduate medical students in Pondicherry. *Natl. J Community Med* 2013;4(4):555-8.

4. Shashikala KT et al. Correlation of perceived examination stress with anthropometric parameters among medical students. *Int. Jour. of Basic Medical science* 2015;5(5).

5. Lesagel F, Resende S, Frédéric, Berjot S. Validation of the General Health Questionnaire (GHQ-12) adapted to a work-related context. *Open journal of preventive medicine* 2011;244-48.

6. Firth-Cozens J. Stress in medical undergraduates and house officers. *Br J Hosp Med* 1989;41:161-4.

7. Aktekin M, Karaman T, Senol YY, Erdem S, Erengin H, Akaydin M. Anxiety, depression and stressful life events among medical students: a prospective study in Antalya, Turkey. *Med Educ* 2001;35:12-7.

8. Dyrbye LN, Thomas MR, Huntington JL, Lawson KL, Novotny PJ, Sloan JA et al. Personal life events and medical student burnout: a multicenter study. *Acad Med* 2006;81:374-84.

9. Stowell JR. Use and abuse of academic examinations in stress research. *Psychosom Med* 2003;65:1055-57.

10. Mannapur B et al. A study of psychological stress in undergraduate medical students at S. N. Medical College, Bagalkot, Karnataka. *Journal of clinical and Diagnostic Research* 2010;4:2869-74.

11. Solanky P et al. Study of psychological stress among undergraduate medical students of government medical college, Surat. *International Journal of Medical Science and Public Health* 2012;1(2):38-42.

12. Brahmbhatt K et al. Perceived stress and sources of stress among medical undergraduates in a private Medical College in Mangalore, India. *International*

Journal of Biomedical and Advance Research 2013;4(2):128-36.

13. Shashikala KT et al. Using the 12-item General Health Questionnaire (GHQ-12) to assess the Psychological Health of Indian Medical College Students. *Int. Jour. of Basic Medical science* 2015;5(6).

14. Supe AN. A study of stress in medical students at Seth G.S. Medical College. *J Postgrad Med* 1998;44:1-6.