Original Article

USING THE 12-ITEM GENERAL HEALTH QUESTIONNAIRE (GHQ-12) TO ASSESS THE PSYCHOLOGICAL HEALTH OF INDIAN MEDICAL COLLEGE STUDENTS

Shashikala K.T[1], Mayadevi D.K[2], Srinivasulu Naidu.S[3]

[1]Assistant Professor of Physiology, [2]Post Graduate Student of Physiology,
[3]Associate Professor of Physiology, Bangalore Medical College & Research Institute, Bangalore.

ABSTRACT

Background : Medical students of varied background seek admissions in medical colleges and are exposed to excess workload, high level of competition, parental pressure and new environment at the outset which can lead to high levels of stress and psychological morbidity among medical students.

Aims and Objectives: To assess the Psychological Health of Indian Medical college Students and also to determine the effects of academic examination stressor using GHQ-12 questionnaire.

Materials and Methods: Cross sectional study. 150 students (100 males and 50 females) were selected from 2013 batch of medical students. Data about stress was collected using the GHQ12 questionnaire prior to and during the examination.

Results: On statistically analysing the results of our study we found that all the medical students had significant higher values of GHQ-12 score both before(P value-0.002)and during the examination period(P value-0.025) . Both in males and females stress levels were significantly higher(P value-<0.001).

Conclusion : Medical students have psychological stress which can get exaggerated during academic examinations. Need for stress management and alternate methods of assessment of medical students required.

Key words: General Health academic Questionnaire. First year Medical Students. Psychological Health.

INTRODUCTION

The concept of mind influence on health has been recognised since the time of Hippocrates. Stress has now become an ingrained part of our vocabulary and daily existence. Originating a little more than 50 years ago the term is now in popular parlance. Stress is a term that refers to the sum of physical, mental and emotional strains or tensions on a person. The term 'stress' was first employed in the 1930's by the endocrinologist Hans Selye[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 the most sought after professional courses by both boys and girls. Bangalore medical college and research centre is one of the prestigious Govt. Medical Colleges in the state of Karnataka. Here students with out-standing marks of varied background seek admissions. Medical education is inherently stressful and an emotionally demanding training. Medical students especially, first year M.B.B.S students are exposed to high level of competition, excess overload, new environment, parental pressure at the outset.

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 sometimes promotes and assists in learning called favourable stress and as well restrain learning called as unfavourable stress.

High level of stress among medical students have been reported in various studies[3-5].Various stress factors reported in studies among medical students are academic demands, exams, inability to cope, helplessness, increased psychological pressure, mental tension and too much work load.[6] Primary hypertension becomes more prevalent in adolescence and young adulthood.[7]

AIMS AND OBJECTIVES

To assess the Psychological Health of Indian Medical college Students and also to determine the effects of academic examination stressor using GHQ-12 questionnaire.

MATERIALS AND METHODS

Study design: This is cross – sectional study at Bangalore Medical College &Research Institute, Karnataka, India, in a period of 2013-2014.

Study subjects: Out of 250 students of the year 2013 batch, 150 were selected as per inclusion and exclusion criteria.100 was males and 50 were females.

Data collection: All the 150 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 in the post-examination period (same day after the examination). Students with H/O psychiatric illness, medical illness on medication was excluded from the study .Informed consent were taken. Strict confidentiality was assured to all participants.

Parameters which were studied

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. GHQ 12 stress scale was used in this study.(Table 1)

Score of GHQ 12 was scored by Likert scale 0-1-2-3

>13 – mild stress,>20 - moderate stress,> 30 – severe stress

Statistics: The statistical analysis was done by using the Student's unpaired 't' test.

Statistical software: The Statistical software namely SAS 9.2, SPSS 15.0, Stata 10.1, MedCalc 9.0.1 ,Systat 12.0 and R environment ver.2.11.1 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.

RESULTS

On statistically analysing the results of our study we found that all the medical students had significant higher values of GHQ-12 score both before(P value-0.002)and during the examination period(P value-0.025) .Both in males and females stress levels were significant

(P value-<0.001).

The number of students in the moderate stress group was the highest (56%) before the examination and in the high stressed group; it was (20%). But in the post examination period, the moderate stress group had only (54%) students, while the highly stressed group showed an increase in the number of students to (84%).

GHQ score	Males Before examination	Females Before examination	Total score Before examination	Males During examination	Females During examination	Total score During examination
>15	16%	18%	34%	13%	6%	19%
20-29	14%	42%	56%	32%	22%	54%
>30	6%	14%	20%	28%	56%	84%

GHQ	Before examination	During examination	difference	t value	P value
Male	12.78±5.73	17.73±7.22	4.950	17.928	<0.001**
Female	15.82±5.29	20.54±7.11	4.720	12.416	<0.001**
P value	0.002**	0.025*	-	-	-

Table2 : GHQ: A comparative evaluation

DISCUSSION

Stress is considered as a ubiquitous issue and it is essential for the normal growth and development.[8,9] However elevated stress induces several physiological responses which eventually may be too detrimental. In this study stress levels are higher in females than males.

Various studies have reported high levels of stress and psychological morbidity among medical students.[10] Many previous studies conducted on stress reveals that the prevalence of stress among MBBS students ranges from 30%-50 %.[11] 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.[12] Faiyaz Qureshi et al (2002) had also concluded that academic examinations in medical students are stressful enough to produce changes in blood pressure and blood cells pa-rameters[13]

Steenberger et al (1993) and Ronald B. W. (1993) noted that females have reported exams, as the reason for their stress than their male counterparts.[14-15]

Women now constitute a substantial portion of the medical student population. A number of studies found a difference in the mental health status among male and female medical students (Lloyd & Gartrell NK 1981 [16], Ramirez et al.1996 [17], Gutrie et al. 1997 [18], Gutrie et al. 1998 [19], Hojat et al. 1999 [20]). Dunn et al. (2008) [21] suggested that female students often had better social support and showed rational choices regarding life priorities. This could be protective as far as burnout is concerned, but juggling between many social roles outside the faculty wastes energy and time necessary for learning and resting, which could be the reason for greater distress in professional demands

Gender difference could also be attributed to multiplicity of demands, the relative lack of women role models in academic medical centers and more difficulty in resolving issues of intimacy and career have been reported as contributing factors.[22,23]

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. Of most interest is that females are more likely to have distress symptoms when they feel academic stress. 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, especially female students.

CONCLUSION

Medical students have psychological stress which can get exaggerated during academic examinations. Interventions are required to cope up the stress in them. Student counselling and informal mentoring is required on a routine basis .Relaxation techniques like pursuing hobbies, outdoor sports activities, yoga and meditation .All students should compulsorily be a part of stress reducing activities.

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