

Stress in Medical Students

Barikani A, MD, MPH

Assistant professor of social medicine Department of Qazvin university

Abstract

Background and purpose: Beginning medicine for the first time as a academic program is a very stressful for medical students. This study is an attempt to determine stress in medical students of Qazvin University of Medical Sciences and Health Services.

Methods: A survey of randomly selected medical students of all years in Quazvin medical university were conducted based on a questionnaire including demographic data and items examining possible sources of anxiety based on our experience with medical students and a scale to measure the anxiety experienced by the students as well as an item asking students how satisfied they are with studying medicine were given to all subjects. On the questionnaire space were provided for respondent to express their comments on each factor they identify as source of stress. To measure the anxiety the students were asked to mark the level of anxiety they experienced on a six point scale. Analyses of data was conducted with SPSS version 12. Relation between variables was assessed with chi-square test with a significance level of <0.05.

Results: Of the 200 students who received questionnaires 155 completed and returned them (response rate = 77.7%). Of all respondent , 123 (79.4%) were female, 140 (90.3%) were unmarried. Nearly half the students (45%) experienced intermediate or higher levels of stress. More frequently expressed factors leading to stress were “ initial adaptation to the program” (84.5%) ,apprehension of exam (41.3%) and economic issues(32.4%).

Conclusion: Our findings suggests that many stressors are present in the path to become a doctor. A more detailed investigation of these factor throughout universities of medicine and based on that introducing procedures centrally and university-based will undoubtedly help tackle many of these problems.

Key words: STRESS FACTORS, MEDICAL STUDENTS

Journal of Medical Education Winter and Spring 2007; 11 (1,2): 41-44

Introduction

Beginning a university program involves many changes in a high school student's life which can be stressful (1). Living away from home, making the transition to a more independent less supported condition, and coping with the study demands of the program can be difficult for young people. Medical school may be particularly stressful as students come into close contact

stressful as students come into close contact with serious illnesses and deaths (2).

Studies which have tried to identify the sources of stress among medical students generally pointed to three main areas: academic pressures, social issues and financial problems (2).

The majority of stressful incidents in traditional curricula are related to medical training rather than to personal problems (3,4). Workload and feeling overwhelmed by the information load that should be mastered are major sources of stress. Fears of failing or falling behind are particular preoccupations. Other significant academic sources of stress include disillusionment with

Corresponding author: Dr Ameneh Barikani is an assistant professor of social medicine in Qazvin university of medical sciences and Health services.
Phone : + 989124251600 - 02813336001
E-mail: barikanius@yahoo.com

medicine and realities of medical school (4). Perception of hurdle jumping (3), relationships with teachers (5,6) and dealing with death and suffering (5). Social issues which can cause stress include the effects of being a medical student on personal life in particular managing leisure activities and social relationships (5,6). The factors causing stress vary with the time spent in medical training, concern about workload, performance and perceived personal competence which seems particularly pronounced in the first year (4,6). In studies of medical students in later years factors inherent in medical training such as dealing with patients, disease and death, relationships with consultants and effects on personal life are important (5). Several studies investigated causes of stress and psychological morbidity in medical students. Depression and anxiety are associated with concerns about mastering knowledge, personal endurance and ability and lack of time for other activities (2,3). Anxiety is also associated with feeling of loneliness, peer competition, long hours and loss of social time (2,6). In the UK, the General Medical Council recommends that medical schools should have mechanisms in place to identify symptoms of stress that might be early signs of mental illness (2). Medical schools in the USA and Canada tackle the problem at an earlier stage by undertaking prevention in the form of health promotion programs. These have been shown to reduce the effects of stress on medical students health and academic performance (7). Given the importance of stress on medical students we undertook this study as an attempt to determine stress in medical students of Qazvin University of Medical Sciences and Health Services; if any problem exists we will use the result of this study as a first step to develop a solution.

Methods

In this survey 200 medical students of all years in Qazvin medical university were randomly selected. A questionnaire including demographic data and items examining possible sources of

anxiety based on our experience with medical students and a scale to measure the anxiety experienced by the students as well as an item asking students how satisfied they are with studying medicine were given to all subjects. On the questionnaire space were provided for respondent to express their comments on each factor they identify as source of stress. These were codified and categorized. To measure the anxiety the students were asked to mark the level of anxiety they experienced on a six point scale ranging from without any stress to very severe stress.

Analyses of data was conducted with SPSS version 12. Relation between variables was assessed with chi-square test with a significance level of <0.05 .

Results

Of the 200 students who received questionnaires 155 completed and returned them (response rate = 77.7%). Of all respondent, 123 (79.4%) were female, 140 (90.3%) were unmarried. Table 1 shows the frequency distribution of factors leading to stress for medical students according to sex.

Table 2. shows the frequency distribution of self-expressed stress experienced by medical students by sex. Interestingly self-expressed stress of 11(7.1) of medical students was very severe and 11(7.1) of them haven't any stress (table 2).

Of all respondent 64(41.3%) were not satisfied with educational facilities, 28(18.1%) were unsatisfied with the accommodation services and 14(9%) had to work for living and study expenses.

A majority of students didn't participate in any regular sport (34.8%) or exercise less than one hour (34.2%) per week. Of all students, only 2(1.2%) were satisfied from behavior of patients an others had low satisfaction (40.6%) or no satisfaction (27.2%). Of all respondents only 4.5% found the interaction with hospital staff satisfactory.

The majority of students (86.3%) felt that faculty members did not treat their responsibility to

teaching and students education as expected. Of all students, 80% were expressed discomfort with night shifts and 55% of them said that the questions of exams were very difficult.

Discussion

This study showed a relatively high prevalence of stress experienced by both male and female medical students. In another study (5) prevalence of emotional disturbance was 31.2% which was similar to that reported from medical students in United States. There was no difference in prevalence or in mean scores of stress between

male and female students similar to that reported from medical students in United Kingdom (2). Compared with 144(92.9%), only 11 (7.1%) students were completely free of symptoms. A considerable proportion of stressed students had stress levels that were likely to result in developing symptom and psychiatric problem which is similar to findings of UK study. Initial adaptation to the program were more stressful than other stages of training. But in Super study stress was found to be significantly more in second and third year levels (8). Living away from home and coping with a new program of study can be thought as roots of stress in the first year of program. Later in the program work related

Table 1. The frequency distribution of factors leading to stress for medical students by sex

Factors leading to stress	Men (%)	Women (%)	Total (%)
Initial adaptation to the program	30(93.8)	101(82.1)	131(84.5)
Economic issues	10(31.3)	40(32.5)	50(32.3)
Patient's behavior	1(3.1)	12(9.8)	13(8.4)
interaction with ward staff	1(3.1)	12(9.8)	13(8.4)
Hospital Student Services	1(3.1)	13(10.6)	14(9.1)
University teachers	1(3.1)	18(14.6)	19(12.3)
Apprehension of exam	12(37.5)	52(42.3)	64(41.3)
Family problem	8(25)	8(6.5)	16(10.3)
Future career	4(12.5)	29(23.6)	33(21.3)

Table 2. Frequency distribution of self-expressed stress experienced by medical students by sex

Stress levels	Women (%)	Men (%)	Total (%)
Without stress	7(5.7)	4(12.5)	11(7.1)
Incident stress	27(22)	7(21.9)	34(21.9)
Minimal stress	32(26)	8(25)	40(25.8)
Intermediate stress	31(25.2)	4(12.5)	35(22.6)
Severe stress	17(13.8)	7(21.9)	24(15.5)
Very severe stress	9(7.3)	2(6.3)	11(7.1)
Total	123(100)	32(100)	155(100)

stress are more pronounced in hospital such as interaction with patient and staff.

There are undoubtedly many difficult, unchangeable aspects of medical training but more emphasis on what students like for example talking to patients might mediate. These difficulties talking to patients would be simple way to reduce feeling of frustration and powerlessness. Other methods suggested for reducing student stress are the use of small groups of teaching and support and counseling service (9). In medical education this has been partly achieved by the introduction of staff-student committees that can examine for change the rules governing difficult aspects of jobs (10). Our findings suggests that many stressors are present in the path to become a doctor. A more detailed investigation of these factor throughout universities of medicine and based on that introducing procedures centrally and university-based will undoubtedly help tackle many of these problems.

References

1. Wolf TM. Stress, coping and health: enhancing well-being during medical school. *Med Educ.* 1994;28:8-17
2. Vitaliano pp, Russo j, carr JE. Heerwagen JH. Medical school pressures and their relationship to anxiety, *J Nervous Mental Dis* 1984;172:730-6
3. Coles c. Medicine and stress. *Med Educ* 1994; 28:3-4
4. Guthrie EA, Black D, show CM et al. Embarking upon a medical career : psychological morbidity in first year medical students. *Med Educ* 1995; 29:337-41
5. Firth J. Levels and sources of stress in medical students. *BMJ* 1986;292: 1177-80
6. Stewart SM, Bet son C, Lam TN. Et al . predicting stress in first year medical students: a longitudinal study. *Med Educ* 1997;31:163-8
7. Wolf TM, Randall HM, Favcett JM. A survey of health promotion programs in U.S. 8 Canadian medical schools. *Am J Health Promotion* 1988; 3:33-6
8. Supe AN. A study of stress in medical students

at seth G.S. Medical college. *Journal of Postgraduate medicine*, 1998; vol 44(1): 1-6

9. Alexander DA, Haldane JD. Medical Education: a student perspective. *Med Educ.* 1979, 13:336-41

10. Weinstein HM. A committee on well-being of medical students and house-staff *J Med Educ.* 1983