

Prevalence of emotional disorders among medical students in a Malaysian university

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Abstract

Background: Emotional disorder, one of the common human emotional states is defined as feelings of sadness and tiredness in response to life events, such as disappointments. It is one of the major problems among students and although it consists of more than half of all mental disorders, it is often left untreated each year worldwide.

Aim: To determine the prevalence of emotional disorders among medical students at a university in Malaysia.

Methods: A cross sectional study design was used. All medical students at a local university in Malaysia were included in the study. A questionnaire similar to the General Health Questionnaire (GHQ-12) was used as a screening instrument.

Results: A total of 41.9% of the medical students were found to have emotional disorders. Factors found to have a significant association with emotional disorders were relationship of the respondents with their parents ($\chi^2 = 6.02$, d.f. = 1, $p < 0.05$), siblings ($\chi^2 = 6.94$, d.f. = 1, $p < 0.05$) and lecturers ($\chi^2 = 4.80$, d.f. = 1, $p < 0.05$), as well as pressure prior to exams ($\chi^2 = 10.30$, d.f. = 1, $p < 0.05$).

Conclusion: The prevalence of emotional disorders among medical students was high. There was significant association between emotional disorders and respondents' relationship with their parents, siblings and lecturers, as well as level of pressure prior to exam. Early detection of this condition is important to prevent psychological morbidity and its unwanted effects on medical students and young doctors.

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Key words: associated factors, emotional disorders, medical students.

Introduction

Tertiary education has always been regarded as highly stressful. Even though only the academically-minded of the population in society is eligible for tertiary education, this stressful environment can exert a negative effect on the psychological and physical well being of the undergraduates. This will eventually result in poor academic performance and possibly a large number of psychological casualties. A study in Singapore reported that 57% of medical students had emotional disorders based on the General Health Questionnaire (GHQ)

compared to 47.3% of law students.¹ Another study among medical students at the University of Mississippi School of Medicine in the USA, reported that 23% had depression and 57% had high levels of emotional distress.²

Emotional disorders were often reported in students studying for examinations. Other causes of emotional disorders were fear of failure, uncertainty regarding supervisors' expectations and uncertainties regarding performance. Undergraduate medical students compared to any other undergraduate course have been the most distressed group of students. There have also been reports of significant psychological morbidity in young doctors.³ In Malaysia, 93% of patients who were aged 17 years old and above were found to have emotional disorders.⁴

Most people with emotional disorders can be successfully treated because of the existence of effective psychological and pharmacological treatments.

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Accepted for publication 20 August 2003.

Although more than half of all patients with emotional disorders are initially seen in the general medical system, their symptoms are frequently not diagnosed and thus, they are not likely to receive proper treatment. Studies on emotional disorders among medical students have found that these disorders are underdiagnosed and undertreated. Failure to detect these disorders will unfortunately lead to increase psychological morbidity with unwanted effects throughout their careers and lives.³

Early detection shortens the duration of an episode of emotional disorder and results in far less social impairment in the long term.⁵ Therefore, emotional disorders must be eradicated or minimized at an early stage for a better quality of life among medical students.

The most frequently used and established screening test for emotional disorders is the GHQ which is available in many versions as short as 12 items (GHQ-12) and as long as 60 items (GHQ-60). The GHQ has been widely used in studies in many countries both in the community as well as in general practice. It is used to detect non-psychotic psychiatric disorders, such as depression and anxiety.⁶ Its validity is well established and has high sensitivity and specificity.⁷ This instrument has also been validated in Malaysia.⁸ This validated version of the GHQ-12 was used in the present study.⁸ The brevity of GHQ-12 makes it easier for use among busy medical students as it takes less than 5 minutes to complete the questionnaire. It is also short, simple and easy to understand.

There are very few studies on emotional disorders among medical students or doctors in Malaysia. The objective of the present study was to determine the prevalence of emotional disorders among medical students and to identify its associated factors.

Materials and method

A cross sectional study was conducted in the Faculty of Medicine at a local university in Malaysia, from June to August 2002. All medical students were selected as

respondents after obtaining verbal consent. Data was collected using a standardized structured and validated GHQ-12 questionnaire.⁸ The GHQ-12 was pretested in another faculty in the same university. The questions consisted of two parts. The first part was based on factors such as sex, ethnicity, year of study in medical school, relationship of respondents with their parents, siblings, lecturers, course mates and pressure prior to exams. The second part consisted of the GHQ-12 questionnaire

The GHQ-12 questionnaire consisting of 12 questions was used as the study instrument. Each question had four responses. The participants' answers were scored as 0-0-1-1 based on their responses. The total score was determined by adding the score obtained for each answer in the questionnaire. Based on the GHQ-12 guidelines, scores of 4 and above were considered to be positive for emotional disorders. Data was analyzed using the Statistical Package for Social Sciences program version 10.0. The statistical tests employed were the χ^2 test and *t*-test. The '*t*-test' was used to determine whether the difference between age and sex distribution of the respondents was significant. The χ^2 test was used to determine the association of each factor with emotional disorder among the respondents. The association between factor and emotional disorder was considered to be significant at *p*-value of <0.05.

Results

Out of 414 medical students, 396 students completed the questionnaires giving a response rate of 95.6%.

Table 1 shows the distribution of respondents by age and sex. Their mean age was 21.55 years (SD = 1.95) with 244 (61.6%) females and 152 (38.4%) males. A total of 59.1% of the respondents in both sexes were below 22 years. The ages for both sexes ranged from 18 to 29 years. The mean age for the males (21.66 years) was higher than the mean age for females (21.48 years). However, this difference was not statistically significant (*t* = 0.92, d.f. = 394, *p* > 0.05).

Table 1 Distribution of respondents by age and sex among medical students in a Malaysian University from June to August 2002

Age (Years)	Sex		Total both sexes
	Male (%)	Female (%)	
Less than 20	47 (33.8)	92 (66.2)	139
20.01–21.00	20 (41.7)	28 (58.3)	48
21.01–22.00	19 (40.4)	28 (59.6)	47
22.01–23.00	37 (39.7)	56 (60.3)	93
23.01–24.00	25 (43.8)	32 (56.2)	57
24.01 and above	4 (33.3)	8 (66.7)	12
Total	152 (38.4)	244 (61.6)	396

Table 2 shows that majority of the respondents were Malays (53.0%), followed by Chinese (36.1%), Indians (6.8%) and other races (4.1%).

Based on the GHQ-12 scores, the prevalence of emotional disorders among the respondents was 41.9%.

Table 3 shows the prevalence of emotional disorders among the respondents and its associated factors. The present study found that emotional disorders among medical students were significantly associated with the level of pressure because of exams and relationship of the students with their parents, siblings and lecturers. The prevalence of emotional disorders was significantly higher in students who complained of pressure because of examinations and in students who did not have a good relationship with their parents, siblings and lecturers.

The prevalence of emotional disorders was only slightly higher among the females (42.2%) compared to the males (41.4%). However, this was not statistically significant ($p > 0.05$). The difference in the

Table 2 Percentage distribution of respondents by race among medical students in a Malaysian University from June to August 2002

Race	Percentage (%)
Malay	53.0
Chinese	36.1
Indians	6.8
Others	4.1
Total	100.0

Table 3 Factors associated with emotional disorders among medical students in a Malaysian University from June to August 2002

Associated factors	Emotional disorders (<i>n</i> = 166) (%)	No emotional disorders (<i>n</i> = 230) (%)	<i>p</i> -value
Sex			
Female	103 (42.2)	141 (57.8)	$p > 0.05$
Male	63 (41.4)	89 (58.6)	
Ethnicity			
Indians	13 (48.1)	14 (51.9)	$p > 0.05$
Malays	90 (42.9)	120 (57.1)	
Chinese	60 (42.0)	83 (58.0)	
Others	3 (18.8)	13 (81.3)	
Year of study in medical school			
First	51 (48.6)	54 (51.4)	$p > 0.05$
Second	29 (39.7)	44 (60.3)	
Third	25 (29.8)	59 (70.2)	
Fourth	37 (48.7)	39 (51.3)	
Fifth	24 (41.4)	34 (58.6)	
Pressure due to exams			
Yes	105 (49.3)	108 (50.7)	$p < 0.05^*$
No	61 (33.3)	122 (66.7)	
Good relationship with parents			
Yes	139 (39.7)	211 (60.3)	$p < 0.05^*$
No	27 (58.7)	19 (41.3)	
Good relationship with siblings			
Yes	134 (39.3)	207 (60.7)	$p < 0.05^*$
No	32 (58.2)	23 (41.8)	
Good relationship with lecturers			
Yes	48 (34.5)	91 (65.5)	$p < 0.05^*$
No	118 (45.9)	139 (54.1)	
Good relationship with course mates			
Yes	100 (39.8)	151 (60.2)	$p > 0.05$
No	66 (45.5)	79 (54.5)	
Love relationship with boy/girlfriend			
Yes	85 (39.4)	131 (60.6)	$p > 0.05$
No	81 (45.0)	99 (55.0)	

* $p < 0.05$ is significant.

prevalence among the ethnic groups was also not statistically significant ($p > 0.05$). Analysis of emotional disorders with the year of study in medical school, relationship of students with their course mates and involvement in love (boy-girl) relationships showed no statistical difference ($p > 0.05$).

Discussion

Medicine has always been regarded as a popular choice in tertiary education. As a result of an excess of applicants, only candidates with excellent academic attainment can successfully enter Medicine. Therefore, the medical program is even more competitive and stressful for students who are accepted.¹

The present study found that the overall prevalence of emotional disorders among medical students was high (41.9%). However, this result is much lower compared to other studies from Singapore¹ and the USA.² A study by Ko *et al.* on stress among undergraduate students in Singapore found that the prevalence of emotional disorders (using the GHQ) was 57% among medical students.¹ Another study among third year medical students found that 57% of the students complained of psychological distress.²

Factors found to be significantly associated with emotional disorders among medical students in the present study were pressure because of exams as well as relationship with parents, siblings and lecturers.

In the present study, students who found that they were under pressure because of exams had higher percentage of emotional disorders compared to students who perceived no pressure because of exams. This finding corresponds to the study by Firth-Cozens who stated that clinically significant levels of emotional distress were often reported in medical students who were studying for examinations.³ The distress was often as a result of fear of failing their exams. Students who had uncertainties regarding their supervisors' expectations and their own performances in examinations were more prone to developing emotional distress.³ In their study Ko *et al.* found that at least seven out of every 10 medical students complained of stress related to academic pursuits (e.g., difficulty in keeping up with readings, increased academic workload, pressure due to exams, etc.).¹

The present study found that the prevalence of emotional disorders were significantly higher among students who did not have good relationship with their parents and siblings. These findings correspond to the study by Ko *et al.* which found that students who had good relationships with their parents and siblings were able to cope with their problems. These students reported that their families were an important source of support to them; the parents as a source of financial support, while siblings serve as confidantes

for emotional problems.¹ Another study found that many students place a great value on social and familial support. If this support is disrupted, it might take some time to find adequate substitutes (if at all). Leaving one's family and making a new start elsewhere is stressful in itself, but it might also be amplified by unresolved and unconscious issues from earlier on, causing the student to experience much greater distress than they were expecting.⁹

The present study also found that the prevalence of emotional disorders were significantly higher among students who did not have a good relationship with their lecturers. Another study reported that students who had uncertainties regarding their supervisors' expectations and their own performances in examinations were more prone to developing emotional distress. These students had a fear of failing their exams.³

Many medical students are also able to cope with their problems by sharing with their classmates. When faced with a problem, they turn to their friends and classmates for assistance.¹ This explains why students who had good relationships with their classmates and also those who were involved in love (boy-girl) relationships had lower prevalence of emotional disorders in the present study. However, these findings were not found to be significant.

Several studies have also found that emotional disorders are more common among females than males.^{5,7,10} Although the prevalence of emotional disorders was higher among female medical students compared to males in the present study, this difference was not statistically significant.

The current study found that emotional disorders had the highest prevalence among the Indian medical students followed by the Malays. However, a local study in an urban general practice conducted by Maniam, found that Malays had the highest rate of emotional disorders compared to other races in Malaysia.¹¹ In Malaysia, the biggest ethnic population belongs to the Malays, followed by the Chinese, Indians and other ethnic groups. This proportion is also reflected among the respondents of the present study. The small proportion of Indian students in the present study could have been a bias for the high prevalence of emotional disorders among the present medical students in the study.

In a study by Ko *et al.* factors found to be associated with emotional disorders among medical students in Singapore were adjusting to different environments, increased academic workload and little time for personal activities.¹ In the current study, although emotional disorders was not significantly associated with year of study in medical school, Year 4 students had the highest prevalence of emotional disorders (48.7%), followed very closely by Year 1 students (48.6%). Based on the curriculum at the Medical faculty where the

current study was conducted, Years 1–3 are preclinical years. Whereas in Years 4 and 5, the students are exposed to the clinical curriculum where they have postings in the hospitals. Therefore, students in Years 1 and 4 are faced with problems of adjusting to different environments.¹ Year 1 students have to adjust to a different environment in the university compared to their school days, whereas Year 4 students have to adjust to the hospital environment as well as undergo clinical examinations which are different from the theoretical examinations in Years 1–3.

The student experience of today is very different to that experienced in the 1960s, 1970s or 1980s. Recent research in the UK indicates that mental health or psychological problems within student populations are as high as 40%, with most students suffering from depression or anxiety, or both. Many respondents in the research expressed the opinion that the number of students with mental health problems was increasing and that the severity of their problems was also increasing. There was also widespread agreement that the levels of stress were very high in the student population.⁹

When examining the stress of medical education, the General Professional Education of Physician (GPEP) Report of the Association of American Medical Colleges; suggested enhancing the personal development of each student, establishing mentor relationships and placing a greater emphasis on health programs including stress management, in order to help students cope with the stress of tertiary education. Students who are prepared with more realistic expectation in their academic pursuits, together with a more manageable curriculum, coupled with stress management techniques and good social support would have an advantage in coping.¹² In this respect,

Medical Faculties should introduce Foundation Courses for new students which provide an overview of what to expect in medical school, as well as lectures on study techniques, stress and time management. To offer a more balanced medical education, talks on what life is like in the faculty, medical history, and the science and art of medicine should also be given. The ultimate aim is to help students understand what is required of them and to adapt as quickly as possible.¹ As students turn to their lecturers and course mates for support, it would be beneficial to set up a Student Mentorship Program which offers consultation to students from academic staff and senior medical students.

Conclusion

Emotional disorders are common among medical students. The prevalence of emotional disorders were found to be higher among students who complained of pressure because of exams, as well as students who did not have a good relationship with their parents, siblings and lecturers. It is important to detect emotional disorders at an early stage so that treatment in the form of counseling, support groups and even medication if necessary can be given to those affected. Therefore, psychological morbidity such as depression and anxiety can be prevented among our medical students and young doctors.

Acknowledgments

We thank Professor Dr Azhar Md Zain, Dean of Faculty of Medicine and Health Sciences, University Putra Malaysia, Malaysia for his encouragement and permission to publish.

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