

Mental Health Status Among Moroccan Medical Students at the Cadi Ayyad University

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ABSTRACT

Introduction: Up until now, research on mental health problems is still very rare in the world and almost non-existent in Morocco.

Purpose: To assess the mental health of medical students using the 12-items General Health Questionnaire (GHQ), to examine the major stressors and the methods used to manage stress and to identify the factors contributing towards the students' distress.

Methods: This was a cross-sectional descriptive and analytical study, using the GHQ-12 questionnaire, with 380 students from the Faculty of Medicine and Pharmacy of Marrakech (3rd, 4th, 5th, 6th, 7th and 8th year), during the academic year 2017- 2018.

Results: We recruited 358 students in a period of 2 weeks, achieving a response rate of 94.2%. There was a predominance of females (66.48%). The mean age was 22.20 ± 2.149 years. The average GHQ score was 6.37 ± 3.484 , with a psychological distress rate of 66.76%. 70.11% of students use stress management methods. 64.53% of students admit they need psychological help. Psychological distress was strongly associated to the use of stress management methods and the need for psychiatric help. It was also significantly greater among females, and students under 25 years old.

Conclusion: With the prevalence of psychological distress being too high, measures should be provided to support medical students' well-being.

Keywords

Medical students, Mental Health, General Health Questionnaire (GHQ).

Introduction

Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community [1].

Poor mental health is strongly related to other health and development concerns in young people notably lower educational achievements, substance abuse, violence, and poor reproductive and sexual health [2]. Research has proven that the mental health

of medical students in particular, worsens from the beginning of medical school and remains poor throughout training [3-6].

The General Health Questionnaire (GHQ) is a self-administered screening tool that detects common non-psychotic psychiatric morbidity in the community, including anxiety and depression. The questionnaire refers to symptoms experienced in the last few weeks, and is therefore an indication of state rather than trait characteristics at a point in time. The GHQ cannot be used to diagnose specific psychiatric disorders, but identifies potential psychiatric morbidity [7].

The GHQ was chosen because of its well-established validity in student samples [8] and young populations in the community [9].

It is short and straightforward to complete. The standard GHQ method of scoring 0-0-1-1 for each item was employed, which allows a maximum score of 12. A conservative cut-off point of 3/4 was used to determine the prevalence of emotional disturbance.

The aims of the present study were threefold: to assess the mental well-being of medical students by the 12-items GHQ, to examine the major stressors and the tools used to manage stress and to identify the factors contributing towards the students' distress.

Materials and Methods

Instrument

The effect of distress and the consequences to mental health were estimated by the General Health Questionnaire (GHQ), offering four different categories of answers (graded from better than usual, as usual, less than usual, to much less than usual) for measuring the feeling of tension, depression, inability to defend, disturbed sleep based on anxiety, lack of self-confidence and self-esteem and other symptoms of mental health disturbance. The GHQ has been translated to and been validated in more than 40 languages, and exists in five versions that vary on the number of items (12, 20, 28, 30, 60). The 12-item version was chosen in the present study. From seven validation studies of the GHQ 12, Goldberg and Williams found a median sensitivity of 87% and a median specificity of 82% [10].

Two different scoring systems exist: Likert system (0, 1, 2, 3) for which the scoring range for the GHQ 12 goes from 0 to 36; and the standard method of scoring (0-0-1-1), which allows a maximum score of 12.

The cut-off scores for detecting cases vary in the many studies conducted to find the best threshold. For the purpose of comparison the 4+ was chosen to be the threshold in the present study. Students marking four or more of the 12 items on the response categories of "more than usual" or "much more than usual" in the last 2 weeks will be classified as having a clinically significant problem and belong to the case group.

Subjects and Settings

This cross-sectional study was conducted in the Faculty of Medicine and Pharmacy of Marrakech in January 2018. The questionnaire was distributed to clinical stage medical students (3rd, 4th, 5th and 6th years) in the University Hospital Mohammed VI of Marrakech, several sessions were organized within many hospital departments to explain the interest and purpose of the study. Then, the students, having accepted to participate in the survey, received the questionnaires to fill, while respecting their anonymity. These questionnaires, once completed, were given to the secretaries of each service.

The students of the 7th and the 8th year received for their part the questionnaire directly within the faculty of Medicine and Pharmacy of Marrakech.

Given the personal nature of certain questions in this survey, the

questionnaire was also made available in electronic format in order to respect the privacy of students and to promote their sincerity.

Statistical analysis

The Data were analyzed using Excel 2010 and the statistical analyzes were performed by the ANOVA test. A P-value <0.05 served as the cut-off value for statistical significance.

Results

Basic demographics

The response rate was 94.2% (total 358 out of 380 students). Among the 358 students, 120 (33.52%) were male and 238 (66.48%) were female. The mean age of participants was 22.2 (SD 2.149) years. Considering year of study, there were 93 (25.98%) third year, 90 (25.14%) fourth year, 82 (22.91%) fifth year, 53 (14.8%) sixth year, 8 (2.23%) seventh year and 32 (8.94%) eighth year students. 279 (77.93%) students chose to study medicine, and 207 (57.82%) wouldn't recommend medical studies to their friends.

Mental health status

The mean score of psychological distress (GHQ) was 6.37 (SD: 3.484) ranging between 0 and 12, and 66.76% scored above the threshold (4 points) indicating notable mental problems. In our study, 70.11% of students use stress management tools and emotional disorders: 44.13% use energy drinks, 36.03% use relaxing remedies and 31.28% change their eating habits. The results also showed that 9.22% smoke cigarettes to manage their stress, 6.98% use cannabis, 6.15% drink alcohol and 4.19% take drugs and stimulants.

In our sample, 15.64% of students used psychiatric help before they started the medical studies, 43.58% of students started using psychiatric help after the beginning of the medical career and 64.53% of students reported their need for psychiatric help, 54.11% of whom wanted professional help, 43.29% prefer seeking help from their family members and friends and 29% wanted medical treatment and/or psychotherapy.

The majority of students (92.18%) complained of career problems, 18.44% of economic problems, 17.32% of sentimental life problems, 15.64% of personal problems, and 13.97% of family problems.

Correlation analysis

Correlation analysis revealed significant correlation between psychological distress and gender, age, stress management tools and the need of psychiatric help Table 1. However the association between year level and mental health status revealed no significant correlation.

Discussion

The mental health status of medical trainees has long been recognized as a cause for concern in both developed and developing countries [11-14]. The mean age of the respondents was consistent with similar studies carried out in medical schools [15-18], in which the mean age was 22.2 ± 2.149 and majority of the students were between the ages 19-31 years. Overall, two out of three of

Variables			% of students with psychological distress	Mean GHQ score \pm SD	p value
Demographic variables	Age	19-24 years	86,61%	6,45 \pm 3,365	0,005
		25-32 years	13,39%	6 \pm 4,012	
	Gender	Female	29,29%	6,75 \pm 3,503	0,003
		Male	70,71%	5,625 \pm 3,333	
	Year level	3rd year	29,30%	6,43 \pm 3,069	0,06
		4th year	25,50%	6,04 \pm 3,351	
		5th year	23,40%	6,70 \pm 3,553	
		6th year	13,80%	6,84 \pm 3,840	
		7th year	1,70%	6,5 \pm 4,898	
		8th year	6,30%	5,5 \pm 3.826	
Use of stress management tools		Yes	74,48%	6,79 \pm 3,398	0,01
		No	25,52%	5,39 \pm 3,501	
Stress management tools	Medication	Yes	20,92%	8,08 \pm 3,388	0,01
		No	79,08%	6,02 \pm 3,402	
	Change of eating habits	Yes	37,24%	7,5 \pm 3,385	0,0005
		No	62,76%	5,86 \pm 3,414	
	Energy drinks	Yes	49,37%	6,94 \pm 3,322	0,004
		No	50,63%	5,92 \pm 3,549	
	Relaxing remedies	Yes	42,68%	7,59 \pm 3,148	0,0001
		No	57,32%	5,68 \pm 3,482	
	Drugs	Yes	4,60%	6,86 \pm 3,020	0,582
		No	95,40%	6,35 \pm 3,505	
	Smoking	Yes	8,40%	5,87 \pm 3,416	0,432
		No	91,60%	6,42 \pm 3,492	
	Alcohol	Yes	7,11%	7,18 \pm 3,141	0,281
		No	92,89%	6,32 \pm 3,503	
	Cannabis	Yes	7,50%	6,4 \pm 3,109	0,565
		No	92,50%	6,37 \pm 3,515	
Need of psychiatric help	Family and friends' support	Yes	33,89%	7,19 \pm 3,027	0,0003
		No	66,11%	6,06 \pm 3,602	
	Professional help	Yes	43,93%	7,76 \pm 3,049	<0,0001
		No	56,07%	5,63 \pm 3,482	
	Medical treatment and/or psychotherapy	Yes	25,52%	8,95 \pm 2,915	<0,0001
		No	74,48%	5,78 \pm 3,334	

Table 1: Association between sociodemographic variables and mental health status.

Country [reference]	Year	% of psychological distress	Method used
Australia [14]	2004	70%	GHQ-28
England [24]	1986	68%	GHQ-12
Marrakech, Morocco	2018	66,76%	GHQ-12
Malaysia [25]	2011	58,59%	GHQ-12
Iran [23]	2016	54,4%	GHQ-28
Pakistan [26]	2016	52,3%	GHQ-12
Fes, Morocco [27]	2014	50,6%	GHQ-12
Scotland [28]	2000	46%	GHQ-60
Japan [19]	2014	42,7%	GHQ-12
Nigeria [18]	2015	39,2%	GHQ-12
Australia [22]	2018	33,1%	GHQ-28

Table 2: Comparison of mental health status using GHQ-12 at the Faculty of Medicine of Marrakech and other studies.

the respondents were female, this is quite different from what was obtained in a study conducted in Japan which reported that 66.3% were male and 33.7% were female [19].

The psychological morbidity in our study was significant and a cause of concern for faculty and administrators. Previous literature suggested consistent evidence of higher prevalence of anxiety, depression, and burnout [3,20] and psychological distress in medical students than in the general population and age-matched peers [3,21].

Mental health status

Assessment of psychological morbidity or mental health status of the respondents using the GHQ12 was a key finding in this study. The prevalence of psychological morbidity was 66.76%. This was found to be high compared to other studies [18,19,22,23]. However, studies conducted among medical students in Australia, England and Malaysia, which used the same cut off as the present study, showed comparable results as observed in the present study [14,24,25] Table 2.

Our highly stressful educational environment, the personal characteristics of our students themselves and possible previous mental health problems may be considered as the reasons for our high levels of psychological morbidity. These variations in mental health status of medical students shows that effective supportive and mental health services still need to be instituted as a necessary part of the under graduate medical training both in developed and developing countries.

The prevalence rates for psychological morbidity were higher for females, confirming the findings from other studies [19,29-33], however, a Hungarian study reported a higher rates of distress for males [15].

This study also revealed higher prevalence rates of psychological distress for students younger than 25 years old, which is similar to an Iranian study [30]. The year level variable of our sample did not significantly influence the risk of having poor states of mental health. This finding was consistent with other studies [4,34-36]. The reason behind this remains unclear. However, other studies reported contrary results which indicated associations with year level [22,23,37-39].

Several methods are used to manage stress and emotional disorders: 44.13% use energy drinks, 36.03% consume relaxing remedies, 31.28% change their eating habits and 17.32% students take medication (Antidepressants, sleeping pills, tranquilizers ...). Students who use these methods had significantly higher GHQ scores compared to their peers who do not use them.

On the other hand, many students use toxic substances to manage their stress: 9.22% of students smoke cigarettes, 6.98% use cannabis, 6.15% drink alcohol and 4, 19% take drugs. A local study conducted among 632 students, reported that 7% of students use tobacco to manage their stress, 3.8% use cannabis, 3.5%

drink alcohol, and 2.10% consume drugs and stimulants; While 4.6% of students take sleeping pills and 4.30% use tranquilizers (benzodiazepines, other sedatives). [27]

A French study of 556 students reported that 24% of students smoke cigarettes, 8% use cannabis, and 15.6% use sedatives and stimulants [40]. It was reported in an Irish study that smoking was an associated factor with psychological distress, while other studies found no correlation between the use of these substances to deal with stress and psychological distress [13,15,27]; This was consistent with the results of our study, despite the fact that the prevalence rates of psychological distress were much higher among students who use these substances than those who do not use them.

The percentage of use of psychiatric help has increased from 15.64% before to 43.58% after the beginning of the medical career. And 64.53% of students reported the need for psychiatric help, which is consistent with the high prevalence rate of psychological distress according to the GHQ-12 score. These findings were similar to the results of a local study [27].

Surprisingly, the students, who had declared their need for psychiatric help, reported their need for professional support with a percentage of 54.11%, which exceeded the percentage of need of informal support (43.29%). A study in Malaysia [38] reported that 39% of students reported their need for informal support, while a study in Singapore [41] reported that 36.6% of students used informal support, 34 1% used the advice of religious guides and 1.5% used professional support.

Our results can be explained by the influence psychology and psychiatry courses or the training in the psychiatric department may have on the choice of students to consult professionals in the field. Important academic stressors identified by Imran et al. [26] in a Pakistani study included vastness of academic syllabus, lack of guidance by faculty and seniors, fear of failing exams, and increased frequency of exams. A Scottish study reported that the majority of their students had career problems rather than personal problems [42] while a study in Nigeria [13] reported excessive school work, lack of holidays and recreation, and financial difficulties as the main stressors identified by the students. These results are in line with the results of our study.

The study was based on students' self-reporting of psychological distress, therefore, there is potential reporting bias because of the timing of data collection which was after the midterm exams were over; Which constituted a major limitation to this study. Due to the lack of time, we couldn't avoid this problem.

Conclusion

The major finding in our study was the proportion of medical students identified as having traits of poor mental health using the GHQ-12. The high level of psychological morbidity suggests that a system for providing mental health care for medical students should be established. Student advisors, peer education, counseling

and extracurricular activities may help. Students should also be equipped to recognize when they need assistance and to know exactly where to go for help.

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