Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students

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Abstract Background: Mental health issues are increasing in severity and number on college campuses. Improving adolescent mental well-being remains a challenge for most societies.

Objectives: The objectives of this study was to study the prevalence of psychological mood disorders and its association with some factors.

Methods: A cross-sectional-questionnaire based study was conducted among medical students in Fayoum University. Propensity to Psychological mood disorders was assessed by using a short version Depression, Anxiety and Stress Scale-21 (DASS-21), along with a pretested Sociodemographic questionnaire.

Results: A total of 442 students participated in the study with the mean age of 20.15 ± 1.9 years. Overall, the prevalence of stress, anxiety and depression with various degrees was 62.4%, 64.3%, and 60.8% among studied sample respectively. Higher stress and anxiety scores were significantly associated with female sex, older age, and BMI $\geq 25$ kg/m$^2$. Higher depression score was associated with increasing age, low socioeconomic standard and among students from other governorates.

Conclusion: A substantial proportion of medical students are suffering from depression, stress, and anxiety. Female sex, increasing age, overweight and obesity are significant associated factors. Further studies need to be carried to identify other associated factors related to academic medical education.

1. Introduction

Mental health disorders according to the World Health Organization (WHO) are one of the leading causes of disability worldwide. Three of the ten leading causes of disability in people between the ages of 15 and 44 are mental disorders, and the other causes are often associated with mental disorders. The mental health action plan for 2013–2020, recently published by the WHO, demonstrated the need for a collective evidence based effort to improve mental health.

Stress is anything that poses a challenge or a threat to our well-being. It has been defined as a process in which environmental demands exceed the adaptive capacity of an organism,
resulting in psychological and biological changes that may place persons at risk for disease.\(^7\) Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional, and behavioral components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear, or worry. Anxiety is a generalized mood condition that occurs without an identifiable triggering stimulus,\(^4\) while many symptoms of depression include, persistent sad, anxious or “empty” feelings, feelings of hopelessness, feelings of guilt, worthlessness and/or helplessness, irritability, restlessness, and loss of interest in activities or hobbies once pleasurable.\(^5\)

University students are a special group of people that are enduring a critical transitory period in which they are going from adolescence to adulthood and can be one of the most stressful times in a person’s life.\(^5\) Several studies have reported high rates of psychological morbidity among medical students using various instruments. Both retrospective and prospective researches have shown that most adulthood mental disorders begin in childhood and adolescence.\(^3\)

The psychological health complaints and symptoms, mental health issues are increasing in severity and number on college campuses.\(^8,9\) Because, up to 60% of university students left university without finishing their studies because of depression, anxiety and maladjustment.\(^8,10\) A review of psychological distress among medical students found a high prevalence of depression and anxiety, with levels of psychological distress consistently higher than in the general population and age-matched peers by the later years of training.\(^11-13\) In Arab countries, recent studies from Egypt, Saudi Arabia, and United Arab Emirates reported high rates of anxiety and depression.\(^14-17\)

It is important to identify the prevalence, and risk factors of stress among medical students, which not only affect their health but also their academic achievements at different points of time in their study period.\(^18,19\) In addition patients care is affected by psychological distress among physicians such as Poor communication, diminished quality of care and medical errors have been found to be associated with physical stress.\(^20\)

The association of mental illness and obesity especially depression has been concluded in previous research.\(^21,22\) The prevalence of obesity has tripled concurrently with the rate of depression in many countries of the World Health Organization (WHO) European Region since 1980 s, and continues to rise at an alarming rate.\(^23\) We study through this research this relation among university students. This help to identify special at risk group, and to develop and evaluate more effective preventive and therapeutic interventions to these conditions.

High rates of psychological problem among medical students are most likely related to academic, financial and social demands that college environments place on students at a time when they are also involved in issues related to lifestyle and careers.\(^24\) Much of the literature on risk factors among students has focused on suicidality and has found higher risks for students who are over age 25 or male undergraduates.\(^25\) In Egypt, Mental disorders were associated with social, demographic, behavioral, and educational factors.\(^14\)

The current study aimed to explore the magnitude of psychological mood disorders (stress, anxiety and depression) among Fayoum university medical students. The study also aimed to explore the association between these disorders and some factors such as sex, age, socioeconomic standard, and obesity.

2. Methods

2.1. Study design and setting

A cross-sectional study was conducted in Fayoum University of Egypt from January to April, 2015, among the first to fourth academic year students of medicine who were available in teaching classes in the main faculty building. Fayoum is a large depression or basin in the southwest of Cairo, and Fayoum Governorate’s population amounts to 3.07 millions persons.\(^26\) Most of them live in rural communities and work in agriculture and its related industries. The average family size ranges from 4.1 to 4.5 from urban to rural communities respectively.\(^27\)

2.2. Ethical consideration

This study was approved by the Medical Research and the Ethical Committee of Faculty of Medicine, Fayoum University. A verbal consent was obtained from all participants before filling the questionnaire.

2.3. Sample population

The total number of Fayoum medical students in year 2014/2015 was 834 (509 females and 325 males) and the number in the four first academic years was 703 students (420 females and 283 males) distributed across the academic years as follows: 215 in the 1st academic class, 190 in the 2nd academic class, 166 in 3rd academic class and 132 in the 4th academic class. All were invited to participate, and of those, 442 gave verbal consent and participated in this study. They were distributed across academic years as follows: 120, 106, 118 and 98 students in the 1st, 2nd, 3rd, and 4th academic years respectively. A purposive sample was chosen from first to fourth academic years students who were available in classes and gave verbal consent.

Sample size was calculated using stat- Calc, by using the following data; prevalence rate 50%, significance level 0.05 and power of the study is 80%. Thus in this study, the minimum size required was 377. The size taken was 442 students.

2.4. Study tools

2.4.1. A predesigned self-administered questionnaire was used to assess demographic data, socioeconomic condition, and lifestyle, of students.

2.4.2. Psychological disorders were assessed by using the Arabic short version of the standardized Depression Anxiety Stress Scale-21 Items (DASS21). DASS21 is a set of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress with 7 items per scale, the depression scale assesses dysphoria, hopelessness, self-deprecation and lack of interest. The Anxiety scale assesses autonomic arousal, skeletal muscle effect. The stress scale assesses relaxing difficulty, nervous arousal and being easily agitated.\(^28\)
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