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Original Article

Screening for psychological distress among High School Graduates Accepted for Enrollment at Alexandria Faculty of Medicine: Academic year 2016/2017

الاكتشاف المبكر للاضطراب النفسي بين خريجي المدارس الثانوية المقبولين للالتحاق بكلية الطب جامعة الإسكندرية العام الجامعي 2017–2016

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ABSTRACT

Background: Mental and psychological health of adolescents in general and prospective medical students in particular is a priority area to investigate as it affects wellbeing of the future doctors.

Objectives: The current research was conducted to screen first year medical students accepted for enrollment at Alexandria Faculty of Medicine to identify those with a high probability of having psychological distress before the start of academic courses as well as explore the sources of stress among them.

Methods.

A cross sectional survey of 779 high school graduates accepted for admission to Alexandria Faculty of medicine was conducted. Participants were approached on the days of obligatory pre-enrollment medical examination. The translated Arabic version of DASS 21 questionnaire was used to screen students for three negative emotional symptoms namely depression, anxiety and stress. Inquiry about age, sex, residency and type of high school was added.

Results: More than a tenth of studied medical students (12.6%) suffered from severe or profound stress and 29.1% of them had mild to moderate stress. Moreover, one fifth (20%) of studied students were severely anxious and less than one third (29.3%) had mild to moderate anxiety. Severe and profound depression was diagnosed among 14.3% of students whereas, 18.7% them were moderately depressed. No association was found between any of studied negative emotional symptoms and the students' educational background or their residency.

Conclusion: Nearly half of the prospective medical students might have some sort of psychological distress before starting their study in the Faculty of Medicine. They should be investigated to verify diagnosis and start intervention to minimize its adverse effects on academic performance and advancement at the faculty. Stress management courses should be considered for all medical students.

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1. Introduction

The World Health Organization defines mental health 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 The Health people 2020 Leading Health

Indicators (LHIs) is a subset of Healthy People objectives chosen to communicate high-priority health issues and actions that can be taken to address them. There are 26 LHIs organized into 12 topics. Mental health is one of these 12 topics and percent of adolescents with major depressive disorders one of LHIs.²

Adolescents experience many physical, emotional, hormonal, social and intellectual pressures. These pressures can easily lead to one or more of a variety of mental health disorders; all are matters of concern.³ Half of all mental health disorders in adulthood start by age 14, but most cases are undetected and untreated.⁴ In U.S, the lifetime prevalence of mental disorders severe enough to cause significant impairment in daily functioning among adolescents is approximately 20%.^{5,6} Higher figures were reported in studies conducted among high school students in Arab and developing countries.^{7–9}

Stress of studying and challenge of admission to the college among high school students add greatly to the usual stressors among adolescents and might lead to a higher probability of developing psychological distress.⁶ In addition, Transition of teens graduating from high school to college is a time of excitement and adventure for many young people and filled with uncertainty. This particular situation might bring up things to think about regarding general well-being and many health concerns include negative mental and emotional symptoms.¹⁰

Studies conducted in many countries found that the prevalence of some emotional and mental health problems among medical students across different grades is substantially high.^{11–13} This could be attributed to stressful and demanding work schedule at the faculty, frequent exams, excessive competition, being away from home, lack of leisure time and contact with death.

Joining medical school with pre-existing emotional or mental ill health will affect the ability of students to cope with these stresses and adjust to them and this might increase the probability of developing major health problems including mental ones. Early screening and diagnosis of medical students even before enrolment in their academic courses allow providing the required support and proper management of any pre-existing disorder that can affect their academic performance and advancement.^{14–16}

The current research was conducted to screen first year medical students to identify those with a high probability of having psychological distress before the start of academic courses for further investigations as well as to explore the major sources of stress among them.

1.2. Subjects and methods

A comprehensive survey of all high school graduates accepted for enrollment at Alexandria Faculty of Medicine for the academic year 2016/2017 was adopted. Students were approached on the days of obligatory pre-enrollment medical examination (3 consecutive days). Students less than 18 years old were excluded as a written consent should be obtained from their parents (n = 41) rendering the number of eligible students equal 876. Participation of students was voluntary. The response rate was 93.5%.

Data were collected using a self-administered questionnaire include baseline data about students' age, residency, place of living in Alexandria and type of high school as well as tools for assessment of their level of psychological distress and an inquiry about the main sources of this psychological distress in their life if any. Assessment of psychological distress was done using the validated Arabic version of Depression, Anxiety, Stress scale (DASS 21) questionnaire.¹⁷ It can be used to identify adolescents and adults with suspected disorders for further investigations. Psychometric properties of the both English and Arabic versions were assessed with proved reliability and validity.^{17–19}

The validated Arabic version of DASS 21 questionnaire is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items. Each of the 21 items is to be answered on a 4 points rating scale ranging from 0 = "Never" to 3 = "Almost always".

The score of each of the student's responses was multiplied by 2 for each subscale, and then classified according to DASS 21 scoring manual into five categories, namely normal, mild, moderate, severe and extremely severe disorder.¹⁷ Stress level is categorized as normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (34 and above). Regarding anxiety the score is categorized as normal (0–7), mild (8–9), moderate (10–14), severe (15–19) and extremely severe (20 and above). Depression level is measured by the depression subscale and categorized as normal (0–9), mild (10–13), moderate (14–20), severe (21–27) and extremely severe (28 and above).

IBM Statistics SPSS program version 20 was used in analyzing the data. Data was presented using number and percentage. As the data was not normally distributed, Chi-square test, Mann Whitney test and Kruskal-wallis test at 5% level of significance were used to verify significant association between demographic and educational characteristics of students and presence of psychological distress. Simple correlation between the three scores for stress, anxiety and depression was tested at 5% level of significance.

2. Results

2.1. Baseline characteristics of studied students. (n = 779)

Table 1 describes baseline characteristics of studied students. More than a half of screened students (57.8%) are girls. The majority of them (92.3%) aged 18 years old with only 7.7% of them were 19 years.

Nearly two thirds of students (63%) were from outside Alexandria and only 37% of students were from Alexandria. Regarding the place of living in Alexandria, 55.1% of them live with their family, nearly two fifths (42.5%) were residing the student university hostel and a minority live alone or with his/her relatives.

The vast majority of studied students (93.5%) were graduated from governmental secondary schools. only 6.6% of medical students were enrolled in private schools.

No statistically significant difference was found between male and female students regarding any of the previous characteristics. (P > 0.05)

2.2. Psychological distress among high school graduates accepted for enrollment at Alexandria Faculty of Medicine: Academic year 2016/2017

Table 2 demonstrates the results of screening of studied high school graduates for level of psychological distress. One eighth (12.6%) of enrolled students suffered from severe or profound stress and 29.1% of them had mild to moderate stress. No statistically significant difference was found between male and female students regarding the levels of stress however the mean stress score was significantly higher among female students as compared to males (P = 0.002).

Nearly 20% of studied students were suffering from severe to profound anxiety and 29.3% had mild to moderate anxiety. Female students were significantly more anxious than males as P < 0.001. Moreover the mean anxiety scale score was significantly higher among females.

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