

Prevalence of Stress, Depression and Anxiety among Medical Students at Ain-Shams University

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لَسْبِقَانِكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدقة الله العظيم

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Abstract

Background: Medical education is considered a highly stressful environment. Accumulation of stress leads to growing psychological pressure that causes depression and anxiety which have negative effects on students' emotional, physical and mental health as low academic performance, lack of concentration, increased absenteeism, deterioration in social relations and increase drug abuse and suicidal risk. **Objectives:** To measure the prevalence of stress, anxiety, and depression among medical students in Ain-Shams University. To explore sources of stress and coping strategies used by medical students to relieve stress. **Methods:** a cross-sectional study conducted among medical students in Ain-Shams University; using self-administered validated questionnaires included: Socio-demographic data, socioeconomic scale, Depression, Anxiety and Stress Scale-42 (DASS-42), Medical Student Stressor Questionnaire (MSSQ), and Lazarus Ways of Coping Questionnaire (WOCQ); analyzed by SPSS version 20, Chi-square test and scoring system of scales. **Results:** Number of medical students participating in the study was 433; Mean age was 20.74 ± 1.59 years. Symptoms prevalence of depression, anxiety, and stress among medical students was 67.9%, 57% and 54% respectively in Ain-Shams University. Academic-related problems were the major stressor among the medical students. The main five coping strategies were religion, wishful thinking, self-blame problems solving with planning and self-controlling. **Conclusion:** These findings prompt us for great attention to the psychological and mental health of medical students to improve their academic performance and quality of life. Interventional studies should be done for stress management and workshop on how to use coping strategies to relieve stress.

Keywords: depression, anxiety, stress, medical students.

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List of Abbreviations

Abb.	Full term
<i>ADHD</i>	<i>Attention deficit hyperactivity disorder</i>
<i>AIDs</i>	<i>Acquired immunodeficiency syndrome</i>
<i>APA</i>	<i>American Psychiatric Association</i>
<i>CHD</i>	<i>Coronary heart disease</i>
<i>COPD</i>	<i>Chronic obstructive pulmonary disease</i>
<i>DASS-42</i>	<i>Depression, Anxiety and Stress Scale-42</i>
<i>DSM-5</i>	<i>Diagnostic and Statistical Manual of Mental Disorders, 5th Edition</i>
<i>GABA</i>	<i>Gama-Amino Butyric Acid</i>
<i>GAD</i>	<i>Generalized anxiety disorder</i>
<i>HIV</i>	<i>Human immunodeficiency virus</i>
<i>WOCQ</i>	<i>Lazarus Ways of Coping Questionnaire</i>
<i>MDD</i>	<i>Major depressive disorder</i>
<i>MRI</i>	<i>Magnetic Resonance Imaging</i>
<i>MSSQ</i>	<i>Medical Student Stressor Questionnaire</i>
<i>OCD</i>	<i>Obsessive compulsive disorder</i>
<i>OR</i>	<i>Odds ratio</i>
<i>PPD</i>	<i>Postpartum depression</i>
<i>PTSD</i>	<i>Post-traumatic stress disorder</i>
<i>PUFA</i>	<i>Polyunsaturated fatty acids</i>
<i>RCT</i>	<i>Randomized controlled trials</i>
<i>SNRIs</i>	<i>Serotonin, Norepinephrine reuptake inhibitors</i>
<i>SSRIs</i>	<i>Selective serotonin reuptake inhibitors</i>
<i>US</i>	<i>United States</i>
<i>WHO</i>	<i>World Health Organization</i>

INTRODUCTION

Medical education is considered a highly stressful environment (*Yusoff et al., 2012a*). It is not only a part of the university; but it results from everyday responsibilities at home, school and works (*Bukhsha et al., 2011*). So that accumulation of stress leads to growing psychological pressure that may cause depression and anxiety (*Bolanowski et al., 2005, Baldassin et al., 2008*).

“Stress is a state of an individual that result from the interaction of the individual with the environment which is perceived as threatening or threat to the well-being. It is an external constraint which directly upsets the individual both mentally and physically” (*Md Aris et al., 2011; Khodarahimi et al., 2012*). Normal people may define stress as pressure, tension, bad external forces or emotional response (*Ogden et al., 2004*).

Depression is the most common and serious mental illness because it increases suicidal risk; about 1,100 college students die by suicide each year (*CDC, 2010*). Depression is the second leading cause of global disease burden among people 15–44 years of age (*WHO, 2015*).

“Depression is defined as episodes of mood disorders; loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration”, this problem can be chronic or recurrent (*WHO, 2012, American Psychiatric Association, 2015b*).

Anxiety is a feeling of worry and fear from time to time as a normal response to difficult or dangerous situations. But it is considered to be anxiety disorders if it leads to worrying all or most of the time, last more than six months and affects daily functions (*American Psychiatric Association, 2015a*).

Causes of depression, anxiety, and stress may be due to: academic factors (the most common) as continuous examinations, English language, new scientific terminology, information input overload, time pressure, failure to get high standards, in addition they face social, Intrapersonal and Interpersonal conflicts, physical and family problems which may affect their learning ability and academic performance (*Chew-Graham et al., 2003, Yusoff et al., 2010c, Yusoff et al., 2012b*).

Stress during medical education had bidirectional effect: ‘Favourable stress’ which motivates to achieve their goals and facilitates learning and ‘Unfavourable stress’ which inhibits and suppresses learning (*Bukhsha et al., 2011*), and have negative effects on students’ emotional, physical and mental health (*Dyrbye et al., 2006*) as lack of concentration, increased absenteeism (*Jadoon et al., 2010; Shahbazi et al 2010*), affect on decision making, impairments of their responsibilities, deterioration in social relations (*Gadit, 2004; Kjeldstadli et al., 2006*), low academic and clinical performance later in practical life (*Tyssen et al., 2005*). Furthermore, it may increase suicidal tendency, drug abuse (*Jadoon et al., 2010; Dyrbye et al., 2008; Akvardar et al., 2004*).

Medical students can reduce the impact of a stressful situation by using effective and appropriate coping strategies that are defined as a reaction or response of a person to a stress (*Lazarus et al., 1990, Myers et al., 2005, Sreeramareddy et al., 2007*). There are two categories of coping strategies: problem-focused strategies (problem solving, confronting, problem avoidance, positive thinking) and emotion-focused strategies (wishful thinking, social support, self-controlling, self-blame, social withdrawal) (*Palmer et al., 2009*); individual's response toward stress depending on their cultural background, personality traits, age, gender, experience and coping skills (*Rezakhani et al., 2011*). A person who copes effectively with stressful life events shows that have low levels of anxiety and depression (*Braun-Lewensohn et al., 2009*).

AIM OF THE WORK

Goal of the Study

To provide valuable information to staff and students regarding this common problems that aids in planning interventional strategies for stress management in the future to decrease morbidity and improve academic performance and quality of life of students.

Research Questions

- 1- What is the symptoms prevalence of the depression, anxiety, and stress among medical students at Ain-Shams University?
- 2- What are the sources of stress among medical students?
- 3- What are the coping strategies that used by medical students to relieve stress?

Objectives

- 1- To measure symptoms prevalence of the depression, anxiety, and stress among medical students at Ain-Shams University.
- 2- To assess common sources of stress and coping strategies that are used to relieve stress among medical students.

DEFINITIONS

Mental health is “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community” (*WHO; 2014*).

Medical education is considered a highly stressful environment (*Yusoff et al., 2012a*). It is not only a part of the university; but it results from everyday responsibilities at home, school and works (*Bukhsha et al., 2011*). Accumulation of stressful events may lead to growing psychological pressure and increase the incidence of depression or anxiety disorders (*Baldassin et al., 2008, Bolanowski et al., 2005*).

“*Stress* is the individual status that results from the interaction with the environment which is perceived as threatening or threat to the well-being. It is an external constraint which directly upsets the individual both mentally and physically” (*Khodarahimi et al., 2012; Md Aris et al., 2011*).

Depression is the most common and serious mental illness because it increases suicidal risk. “Depression is the second leading cause of global burden disease among age group 15–44 years” (*WHO, 2015*).

Depression is more than a sad feeling. “*Depression* is presented by episodes of mood disorders; loss of interest or

pleasure, decreased energy, feelings of guilt or low self-worth, lack of concentration and sleep or appetite changes” (*American Psychiatric Association, 2015b; WHO, 2012*).

It’s indicating a serious problem when interferes with daily activity and impaired functional ability at work, at school and at home, reduced ability to look for their responsibilities and affect on their social relations.

Fear is a normal emotional response to real difficult or dangerous situations that can be beneficial in some situations. But *anxiety disorders* result from an expectation of future threat that leads to the feeling of intensive fear or worries disproportionate to the situation that present most of the time and related to behavior disorders (*American Psychiatric Association, 2015a*).

EPIDEMIOLOGY

The National Survey in Egypt was conducted in 5 regions (Alexandria, Giza, Qaliubia, Fayoum, and Ismailia) including 14640 adults aged 18–64 years at 2003; found the prevalence of all mental disorders was 16.93%, 6.43% had mood disorders and 4.75% had anxiety disorders (*Ghanem et al., 2009*).

The National Co-morbidity Survey Replication was conducted in the period from 2001 to 2003 at the United States included 9282 individual aged ≥ 18 years; found that lifetime prevalence of MDD was 16.6% and anxiety disorders 28.8% (*Kessler et al., 2005*).