



UNIVERSITI PUTRA MALAYSIA

***PREVALENCE AND CONTRIBUTING FACTORS OF DEPRESSION,
ANXIETY, AND STRESS AMONG MEDICAL STUDENTS IN
UNIVERSITI PUTRA MALAYSIA, SERDANG***

TASNEEM ABDALGFAR ALAWAD

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By

TASNEEM ABDALGFAR ALAWAD

**Dissertation Submitted to the Department of Community Health , Faculty of
Medicine and Health Sciences, Universiti Putra Malaysia in Fulfillment of the
Requirements for the Degree of Master of Public Health**

August 2017

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DEDICATION

This dissertation is dedicated to

My lovely parents

*My beloved husband and my children who supported me during this
master*



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Universiti Putra Malaysia in fulfillment of the requirement for the Degree of
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TASNEEM ABDALGFAR ALAWAD

August 2017

Chairman : Associate Professor Halimatus Sakadiah Minhat
Faculty : Medicine and Health Sciences

Introduction: Depression, anxiety and stress have become increasingly important public health issue globally. The nature of the medical program makes medical students more vulnerable to mental health problems including, depression, anxiety and stress.

Objective: This study aimed to determine the prevalence and factors associated with depression, anxiety, and stress among medical students in UPM-Serdang.

Methodology: A cross-sectional study was conducted among 447 medical students studying in the faculty of Medicine and health sciences UPM Serdang. Simple random sampling proportionate to size was adopted for the purpose of data collection. Data was collected by using self-administered and validated questionnaire consisted of 5 sections namely, socio-demographic factors, social support received from family members and friends, presence of co-morbidity, previous history of resolved mental problem and Depression Anxiety Stress Scale DASS- 21. The questions were in the form of open ended questions, likert and nominal scales. The data was analyzed by using the statistical computer software 'Statistical Package for Social Science (SPSS)' version 22. Three types of analysis were involved, descriptive, bivariate and multivariate analysis. The bivariate analysis (Chi-square or (Fisher's Exact test) was used to determine the association between mental health (depression, anxiety and stress) and the independent variables. Meanwhile, multiple logistic regression was used to determine the predictive model for depression, anxiety and stress among the respondents. The level of significance was set at $p < 0.05$.

Results: The median age of the respondents was 22 (IQR=3). Majority of them were female (72.3%), Malay (66.9%), had family income of 5000RM (IQR=5000) and tertiary paternal (54.6%) and maternal (48.8%) education. The prevalence of depression, anxiety and stress were (31.1%), (53.9%), (26.0%) respectively. The final predictive model showed that the occurrence of depression among the respondents was determined by social support received from family members and friends. Meanwhile, development of anxiety was predicted by second year of education, social support received from family members. On the other hand, occurrence of stress was determined by ethnicity (Chinese), fourth year of education, social support received from family members, presence of chronic disease and previous history of mental problem

Conclusion: Compared to depression and stress, anxiety showed the highest prevalence among the respondents. Social support received from family members was a significant predicting factor for depression, anxiety and stress. Family members must be made aware on the seriousness of mental health problems and their important roles in providing support to prevent development of mental health problems such as depression, anxiety and stress among students.

Keywords; Depression, Anxiety And Stress, medical students, and Universiti Putra Malaysia

Abstrak disertasi yang dikemukakan kepada Jabatan Kesihatan Komuniti,
Universiti Putra Malaysia sebagai memenuhi keperluan untuk
Ijazah Sarjana Kesihatan Awam

**KELAZIMAN DAN FAKTOR PENYUMBANG KEMURUNGAN,
KEBIMBANGAN, DAN TEKANAN DI KALANGAN PELAJAR
PERUBATAN DI UNIVERSITI PUTRA MALAYSIA, SERDANG**

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Latar Belakang: Kemurungan, kebimbangan, dan tekanan telah menjadi isu global kesihatan awam yang semakin meningkat kepentingannya. Sifat program perubatan itu sendiri telah menyebabkan pelajar perubatan lebih terdedah kepada masalah kesihatan mental termasuk kemurungan, kebimbangan, dan tekanan.

Objektif: Kajian ini bertujuan untuk menilai kelaziman dan faktor yang berkaitan dengan kemurungan, kebimbangan, dan tekanan di kalangan pelajar perubatan di UPM, Serdang.

Kaedah: Satu kajian rentas telah dibuat di kalangan 447 pelajar perubatan di Fakulti Perubatan dan Sains Kesihatan, UPM Serdang. Persampelan secara rawak mudah yang berkadar kepada saiz telah digunakan untuk tujuan pengumpulan data. Data telah dikumpul dengan menggunakan borang kaji selidik yang telah disahkan dan terdiri daripada lima bahagian iaitu, sosiodemografi, sokongan sosial yang diterima daripada keluarga dan rakan-rakan, morbiditi bersama, sejarah masalah kesihatan mental yang telah pulih, dan Skala Kemurungan Kebimbangan Tekanan (DASS-21). Soalan-soalan yang diajukan adalah dalam bentuk terbuka, skala likert dan nominal. Data analisa telah menggunakan perisian computer statistic SPSS versi 22. Tiga jenis data analisis yang telah digunakan termasuk analisa deskriptif, bivariat, dan multivariat. Untuk Analisa bivariat, ujian *Chi-square* atau (*Fisher's Exact*) telah digunakan untuk menentukan kaitan antara masalah kesihatan mental (kemurungan, kebimbangan, dan tekanan) dan pembolehubah bebas. Manakala ujian *Multiple Logistic Regression* telah digunakan dalam menentukan model ramalan untuk kemurungan, kebimbangan, dan tekanan di kalangan responden. depression, anxiety

and stress among the respondents. Tahap bermakna yang telah ditetapkan adalah $p < 0.05$.

Keputusan: Median umur responden adalah 22 (IQR=3). Majoriti daripada mereka adalah di kalangan perempuan (72.3%), Melayu (66.9%), pendapatan keluarga berjumlah RM5000 (IQR=5000), dan tahap pendidikan tertiary di kalangan bapa (54.6%) serta ibu (48.8%). Kelaziman kemurungan, kebimbangan, dan tekanan di kalangan responden adalah (31.1%), (53.9%), (26.0%) masing-masing. Model ramalan terakhir menunjukkan bahawa kejadian kemurungan di kalangan responden adalah ditentukan oleh sokongan sosial yang diterima daripada ahli keluarga dan rakan-rakan. Sementara itu, kejadian kebimbangan pula diramalkan oleh tahun kedua pembelajaran, sokongan sosial yang diterima daripada ahli keluarga. Sebaliknya, kejadian tekanan ditentukan oleh bangsa (Cina), tahun keempat pembelajaran, sokongan sosial yang diterima daripada ahli keluarga, mengalami penyakit kronik, dan sejarah masalah kesihatan mental.

Kesimpulan: Berbanding kemurungan dan tekanan, kebimbangan di kalangan responden menunjukkan kelaziman yang tertinggi. Sokongan sosial yang diterima daripada ahli keluarga merupakan factor yang penting dalam meramalkan kemurungan, kebimbangan dan tekanan. Dengan itu, ahli keluarga perlu menyedari akan kepentingan masalah kesihatan mental di kalangan pelajar perubatan dan peranan mereka dalam memberikan sokongan untuk mencegah masalah mental seperti kemurungan, kebimbangan dan tekanan ini daripada berlaku.

Kata Kunci: kemurungan, kebimbangan, tekanan, pelajar perubatan, Universiti Putra Malaysia.

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I certify that a dissertation Examination Committee has met on 2nd August 2017 to conduct the final examination of Tasneem Abdalgfar Alawad on her dissertation entitled “Prevalence and Contributing Factors of Depression, Anxiety, and Stress among Medical Students in Universiti Putra Malaysia, Serdang” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Public Health.

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- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

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LIST OF ABBREVIATIONS

APA	American Psychological Association
CDC	Centre For Disease Control and Prevention
DASS21	Depression, Anxiety Stress Scale 21
GAD	Generalized Anxiety Disorder
ICD	International Classification of Diseases
NAMI-GC	National Alliance on Mental Illness of Chicago
NAMS	National health and Morbidity Surveys
OCD	Obsessive – Compulsive Disorder
PTSD	Post-Traumatic Stress Disorder
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Background

The mental health status of a person is crucial along all stages lifelong, from childhood to adolescent stage through adult life. It 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 (WHO, 2014). Additionally, it is also being emphasized in the World Health Organization's (WHO) definition for health, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

According to (National Alliance of Mental Illnesses in Chicago (NAMI-GC, 2013), mental health problems have become more common compared to other different chronic diseases like cancer and cardiovascular disease. Mental illnesses including depression, anxiety and stress are associated with disturbances of the mind that can affect the process of thinking, feeling and behavioural aspects which is more likely to interfere with normal functionality of daily life and make it more difficult for affected individuals (Malaysia Mental Health Association, 2013). Depression, anxiety and stress can be manifested differently, depending on severity, duration, degree and they can be seen in all ages, gender, ethnicity, and social economic condition (WHO, 2013).

According to the Commonwealth Health Partnerships 2013 report, mental illnesses including depression, anxiety and stress contributes to about 16.8% of the global disease burden in (2013) (Andrew, 2013). They are ranked at the top among other illnesses resulting in disability that represent about 15% of the total burden of diseases which is considered to be higher than cancer burden in USA, Canada and Eastern Europe (World Health Organisation (WHO), 2013).

Meanwhile, the Malaysia Mental Health Association (2013) reported that, depression, stress and anxiety are the commonest mental illnesses encountered in Malaysia among all other mental illnesses. Increasing prevalence of psychiatric morbidity among the Malaysian population has also been reported in the National Health and Morbidity Surveys (NHMS) in 1996, 2006 and 2011. The report also revealed higher prevalence of psychiatric morbidity among those whose age is 16 years or older (13%) in comparison to children and young adults of 15 years or below (10.6%) (National Health and Morbidity Surveys (NHMS) in 1996, 2006 and 2011). Among the 11.2% of adults with psychiatric morbidity in NHMS 2006, higher proportion was reported among females (55%) compared to males (45%). The Chinese (31.1%) and urban population (12.6%) were found to have higher

psychiatric morbidity. Individuals who are not educated or have only primary education (15-16%) were among those with the least risk.

On the other hand, the prevalence of suicidal ideation either associated with depression or other mental illness was the highest among teenagers (6.4%) and younger adults with age 16-24 (11%) (MMHA, 2013). In the last National Health and Morbidity Survey (NHMS IV) performed in 2011 revealed that 1.7% (0.3 million) of adults aged 16 years and above have Generalized Anxiety Disorders (GAD), depression and suicidal ideation in the following percentages 1.7% (3/million), 1.8% (3/million) and 1.7% (3/million) respectively.

In view of the stressful nature of the medical program, several studies had focusses on the prevalence of depression, anxiety and stress among medical students. A study conducted among students in four public in addition to private university in Malaysians revealed that the prevalence of depression was 29.3%, stress was 21.6% and anxiety was 55.0%, with anxiety reported with the highest prevalence (Gan, Nasir, Shariff & Abu Saad, 2011).

The increase in stress's prevalence of was attributed to academic load upon medical students due to the intensive courses delivered which are thought of as higher in comparison to different faculties in the study. There are many factors associated with development of mental problems. These including being a male, living in rural residency, high desire with regard to stressors in addition to stressors related group activities (Lin and Yi; Reynolds Constantine, 2007; Khoo et al., 2002), field of study, accommodation, family income, parents education, attachment to parents and peers, coping strategies (Hassan, Hayati, and Salmiah (2015).

1.2 Problem Statement

WHO reported that globally, mental health problems are expected to increase by 15% by 2020 (WHO, 2014). The increasing prevalence rate of depression, anxiety and stress among university students led to more attention being given to this target population (Saravanan & Wilks, 2014). Medical education is often said to be highly challenging and stressful that may put the students at high risk of developing mental problems that include depression, anxiety and stress (Shete & Garkal, 2015; Elias, Ping & Abdallah, 2011). This is related to their academic load, financial burden and poor time management (Rafidah et al 2000). Moreover, the first-year students are more likely to develop mental health problems such as severe stress because they face new stressors during the transitional period of beginning a new life in university (Misra, McKean, West, and Russo 2000).

The prevalence of depression, anxiety and stress among medical students in Malaysia is high when compared between different studies between 2010 and 2014 (Shamsuddin, Fadzil, Ismail, Shah, Omar, Muhammad, & Mahadevan, 2013). In

2011, in a study done in University Sains Malaysia the prevalence of depression was 21.7% (Yusoff, Rahim & Yaacob, 2011) and stress was 50% in Malaysian public universities (Yusoff, 2010). The prevalence of anxiety in a third study in 2013 was 50% (Salam, Yousuf, Bakar & Haque, 2013). A great and alarming increase was revealed by a study done in 2014, which demonstrated 37.2%, 63% and 23.7% for depression, anxiety and stress respectively (Shamsuddin, Fadzil, Ismail, Shah, Omar, Muhammad, & Mahadevan, 2013).

A number of factors including socio-demographic, body image and religious personality were found to be related to mental health of the university students. As for socio-demographic factors, a study performed among Chinese university students proved the presence of association between depression and age and family monthly income which was found to be statistically significant (Chen et al 2009). While previous studies showed female students' anxiety scores were significantly higher compared to their male counterparts (Colak, and Dusunceli, 2012). A previous, Malaysian study in four public universities showed that Malay students were prone to develop stress due to cultural factors (Shamsuddin et al 2013). It was shown that university students, due to dissatisfaction were more prone to anxiety (Science dialy 2014). Perception of someone on his or her body image is an important associated factor to self-esteem and was shown to have a direct effect on the student's mental health (Thus, when self-esteem is low, mental health problems would be more prevalent. Moreover, a previous study revealed that religious faith was linked to positive mental health outcomes such as lower levels of depression (Tahmasbipour and Taheri 2011).

The alarming increasing pattern of mental health problems would lead to poor academic performance as a result of being affected by academic style, would result in decreasing the quality of the medical student's academic performance (Oku, Owoaje, Oku, & Ikpeme, 2015). Which would predicts that mental health of the prospective doctors is worrying and require attention (Yusoff, Rahim, & Yaacob, 2011) aggravating the situation highlighted by WHO that in 2020 mental health is expected to be the second major contributor to global health burden, (WHO, 2011).

1.3 Significance of Study

This study provides a baseline information on depression, anxiety and stress on medical students in University Putra Malaysia, Serdang. The information obtained from this study will assist the relevant people at the university and also ministry level to become more aware of the burden of mental health problems among university students in general and medical students specifically. It will also assist then to assess and evaluate the current medical program or actions that should be performed to reduce occurrence of mental illness among medical students, such as creating a more conducive recreational environment and programs, mentor-mentee system. The various contributing factors identified from this study that lead to development of depression, anxiety and stress on medical student can be translated into effective

programs and intervention to tackle mental health problems' effects on medical students in UPM.

1.4 Research Questions

1. What is the prevalence of depression, anxiety and stress among medical students in UPM?
2. What are the contributing factors of depression, anxiety and stress among medical students in UPM?
3. What are the predicting factors associated with depression, anxiety and stress among medical students in UPM?

1.5 Objectives of the Study

1.5.1 General Objectives

To determine the prevalence and contributing factors of depression, anxiety, and stress among medical students in UPM.

1.5.2 Specific Objectives

- a. To determine the distribution of respondents according to:
 - i. Socio-demographic factors (age, gender, ethnicity, family income and parental level of education ,year of education)
 - ii. Social support received from family members
 - iii. Social support received from friends.
 - iv. Presence of other co-morbidities.
 - v. Previous history of resolved mental problems.
- b. To determine the association between depression, anxiety and stress among medical students in UPM and
 - i. Socio-demographic factors (age, gender, ethnicity, family income and parental level of education, year of education).
 - ii. Social support received from family members
 - iii. Social support received from friends.
 - iv. Presence of other co-morbidities.
 - v. Previous history of resolved mental problems.
- c. To determine the predicting factors for depression, anxiety and stress among medical students in UPM, Serdang.

1.6 Study Hypothesis

1.6.1 There is significant association between depression and these factors among medical students in UPM, Serdang:

- a. Socio-demographic factors (age, gender, ethnicity, family income and parental level of education, year of education).
- b. Social support received from family members
- c. Social support received from friends
- d. Presence of other comorbidities
- e. Previous history of resolved mental problems

1.6.2 There is significant association between anxiety and these factors among medical students in UPM, Serdang:

- a. Socio-demographic factors (age, gender, ethnicity, family income and parental level of education, year of education).
- b. Social support received from family members
- c. Social support received from friends
- d. Presence of other comorbidities
- e. Previous history of resolved mental problems

1.6.3 There is significant association between stress and these factors among medical Students in UPM, Serdang:

- a. Socio-demographic factors (age, gender, ethnicity, family income and parental level of education, year of education).
- b. Social support received from family members
- c. Social support received from friends
- d. Presence of other comorbidities
- e. Previous history of resolved mental problems

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