UNIVERSITI PUTRA MALAYSIA

PREVALENCE OF AND FACTORS ASSOCIATED WITH DEPRESSION, ANXIETY, AND STRESS AMONG FIRST YEAR UNDERGRADUATE STUDENTS IN A MALAYSIAN PUBLIC UNIVERSITY

MOHAMMED HASSAN

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By

MOHAMMED HASSAN

Thesis Submitted to the School Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Master of Sciences

April 2016

DEDICATION

Dedicated to My Father

Alhaji Adamu Hassan

(For providing with the best education)

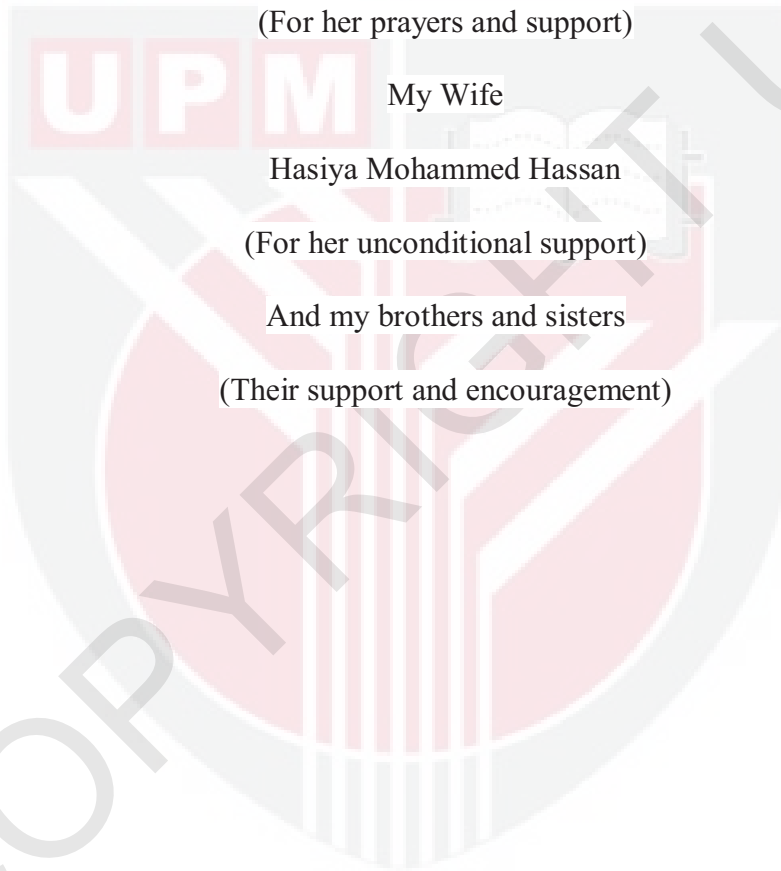My Mother

Hajiya Hafsat Adamu

(For her prayers and support)

My Wife

Hasiya Mohammed Hassan

(For her unconditional support)

And my brothers and sisters

(Their support and encouragement)

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April 2016

Chairman : **Hayati Binti Kadir, PhD**
Faculty : **Medicine and Health Sciences**

Depression, anxiety and stress are the most reported and studied forms of mental illnesses among adolescence and young adults in Malaysia, and their burden seems to be on the increase. Reasons for the increase apart from the inconspicuous nature of their signs and symptoms maybe, due to lack of awareness of physical and psychological symptoms associated with these conditions also, fear of stigmatization. Previous studies have primarily focused on medical students, however, these psychological problems may extend to other students regardless of field of study. The purpose of this study is to determine the prevalence of and factors associated with depression, anxiety and stress among first year undergraduates in a Malaysian public university.

A cross-sectional study was conducted in UPM Serdang campus among 675 first year undergraduate students from the Faculties of Agriculture, Design and Architecture, Education, Environmental studies and Medicine and Health sciences. Cluster sampling method was used to collect information on socio demographic, socio economic, environmental factors, through the use of validated self-administered questionnaires between November 2014 and May 2015. Data was analyzed using, descriptive, bivariate and multivariate data analysis by SPSS™ (version 21). The test used were Chi-square test, Independent t-test, Mann-Whitney U test, Logistic regression and Multiple logistic regression.

The study response rate was 78.5%. The prevalence of depression, anxiety and stress was 32.1%, 64.6% and 29.2% respectively. The majority of respondents were, females (71.1%), Malays (81.5%), Muslims (84.4%), in the Faculty of Medicine and Health Sciences (30.2%), resided in dormitories (99.1%) and between ages 18-25 years. The majority parents had secondary education (40.9%)

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and worked in the government sector (26.6%). Majority of father's earned a monthly income less than RM2500 (61.3%) and, the majority of mothers earned no monthly income (59.4%). The independent factors of depression included ages of 20-21 years (AOR= 0.545, 95% CI 0.312 – 0.952), parent's education (AOR= 2.496, 95% CI 1.458 – 4.276), negative automatic thoughts (AOR= 2.021, 95% CI 1.250 – 3.270) and substance use (AOR= 1.374, 95% CI 1.200 – 1.574). Predictors of anxiety were, female (AOR= 1.619, 95% CI 1.132–2.316), parents education (AOR= 2.274, 95% CI 1.240 – 4.168), attachment to mother (AOR= 0.988, 95% CI 0.978 – 0.998) and behavioral disengagement (AOR= 1.183, 95% CI 1.064 – 1.318)While, predictors of stress were mother's income (AOR= 1.711, 95% CI 1.195 – 2.450), negative automatic thoughts (AOR= 2.108, 95% CI 1.253 – 3.547), attachment to mother (AOR= 0.986, 95% CI 0.976 -0.997) and venting (AOR= 1.190, 95% CI 1.062 – 1.338).

In conclusion, the prevalence of depression, anxiety and stress were high among all study groups and the majority of associated factors were modifiable. It is paramount that attention is given and intervention strategies, screening and creating more awareness as this may help to effect early preventive measures among students.

Keywords: Depression, Anxiety, Stress, Associated factors, University students

PREVALENS KEMURUNGAN, KEBIMBANGAN DAN TEKANAN KECEMASAN DAN FAKTOR HUBUNGAN DI KALANGAN PELAJAR MAHASISWA TAHUN PERTAMA DI UNIVERSITI PUTRA MALAYSIA

Oleh

MOHAMMED HASSAN

April 2016

Pengerusi : **Hayati Binti Kadir @ Shahar, PhD**
Fakulti : **Perubatan Dan Sains Kesihatan**

Kemurungan, kebimbangan dan tekanan adalah antara penyakit mental yang paling banyak kes dilaporkan dan menjadi fokus kajian. di kalangan remaja serta dewasa di Malaysia. Perkara ini dalam peningkatan. Sebab-sebab peningkatan selain daripada tanda-tanda dan gejala mereka, mungkin kerana kekurangan kesedaran mengenai gejala-gejala fizikal dan psikologi serta takut dengan stigma. Kajian sebelum ini telah lebih ditumpukan kepada pelajar-pelajar perubatan. Walau bagaimanapun, masalah-masalah psikologi boleh berlanjutan di kalangan pelajar-pelajar lain tanpa mengira bidang pengajian. Tujuan kajian ini adalah untuk menentukan kemurungan kelaziman, kebimbangan dan tekanan dan faktor-faktor yang berkaitan mereka di kalangan mahasiswa tahun pertama Universiti Putra Malaysia (UPM).

Satu kajian keratan rentas di kalangan 675 pelajar ijazah tahun pertama dijalankan dengan menggunakan pensampelan berkelompok. Data telah dikumpulkan antara November 2014 dan Mei 2015. Data dikumpul menggunakan borang soal selidik yang dijawab sendiri oleh para responden tanpa bantuan daripada penyelidik. Data dianalisis menggunakan, deskriptif, bivariat dan analisis data multivariat oleh SPSS ™ (versi 21). Ujian khi-kuasa telah digunakan untuk menentukan kesatuan, Independent t-test dan ujian Mann-Whitney U digunakan untuk membandingkan cara, regresi logistik telah digunakan untuk menentukan hubungan Pelbagai model regresi logistik ke hadapan menggunakan nisbah kebolehjadian telah digunakan untuk mengenal pasti model awal untuk memeriksa andaian regresi logistik. Kekuatan dan arah hubungan antara pemboleh ubah yang telah diterangkan menggunakan nisbah kemungkinan diselaraskan, 95% selang keyakinan dan, ujian dua belah bahagian dengan tahap kepentingan $\alpha = 0.05$ telah digunakan untuk ujian hipotesis.

Kadar tindak balas adalah 78.5%. Kelaziman kemurungan, kebimbangan dan tekanan adalah 32.1%, masing-masing 64.6% dan 29.2%. Majoriti responden, perempuan (71.1%), Melayu (81.5%), Islam (84.4%), di Fakulti Perubatan dan Sains Kesihatan (30.2%), tinggal di asrama (99.1%) dan antara umur 18-25 tahun. Ibu bapa majoritinya mendapat pendidikan bertaraf menengah (40.9%) dan bekerja di sektor kerajaan (26.6%). Majoriti daripada pendapatan bulanan bapa adalah lebih daripada RM2500 (61.3%) dan, majoriti ibu-ibu tiada pendapatan bulanan (59.4%). Faktor-faktor yang bebas daripada kemurungan termasuk umur 20 -21 tahun (AOR = 0,545, 95% CI 0,312-0,952), pendidikan ibu bapa (AOR = 2,496, 95% CI 1,458-4,276), pemikiran automatik negatif (AOR = 2,021, 95% CI 1,250-3,270) dan bahan digunakan (AOR = 1.374, 95% CI 1,200-1,574). Peramal kebimbangan itu, wanita (AOR = 1,619, 95% CI 1,132-2,316), pendidikan ibu bapa (AOR = 2,274, 95% CI 1,240-4,168), lampiran kepada ibu (AOR = 0,988, 95% CI 0,978-0,998) dan pengunduran tingkah laku (AOR = 1,183, 95% CI 1,064-1,318) Semasa, peramal tekanan adalah pendapatan ibu (AOR = 1,711, 95% CI 1,195-2,450), pemikiran automatik negatif (AOR = 2,108, 95% CI 1,253-3,547) , lampiran kepada ibu (AOR = 0,986, 95% CI 0,976 -0,997) dan pembolongan (AOR = 1,190, 95% CI 1,062-1,338).

Kesimpulannya, kelaziman kemurungan, kebimbangan dan tekanan adalah tinggi di kalangan semua kumpulan belajar dan majoriti faktor-faktor yang berkaitan telah diubah suai. Adalah penting bahawa perhatian diberikan dan strategi intervensi,, pemeriksaan dan mewujudkan lebih banyak kesedaran kerana ini boleh membantu untuk melaksanakan langkah-langkah pencegahan awal di kalangan pelajar.

Keywords: Kemurungan, Kebimbangan, Tekanan, Faktor hubungan, Pelajar mahasiswa

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Hayati Kadir @ Shahar MD, M.Comm.Health, PhD
Senior Lecturer
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Chairman)

Salmiah Md Said MD, M. Comm. Medicine
Senior Lecturer
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Member)

_____
BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of graduate studies
Universiti Putra Malaysia

Date:

Declaration by graduate student

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Name and Matric No: Mohammed Hassan, GS37622

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- The research conducted and the writing of this thesis was under our supervision;
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Signature: _____
Name of
Chairman of
Supervisory
Committee: <u>Dr.Hayati Kadir @ Shahar MD, M.Comm.Health</u>

Signature: _____
Name of
Member of
Supervisory
Committee: <u>Salmiah Md Said MD, M. Comm. Medicine</u>

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LIST OF ABBREVIATIONS

AOR	Adjusted Odds Ratio
And/or	Either or both stated possibilities
ANOVA	Analysis of Variance
APA	American Psychiatric Association
ATQ	Automatic Thoughts Questionnaire
BM	Bahasa Melayu
CBT	Cognitive Behavior Therapy
CDC	Centre for Disease Control
CFA	Confirmatory Factor Analysis
CHD	Coronary Heart Diseases
CI	Confidence Interval
DAS	Depression, Anxiety and Stress
DEFF	Design effect
DF	Degrees of Freedom
DSM-IVTR	Diagnostic & Statistical Manual of Mental disorders, 4th Edition, Text Revision
DV	Dependent Variable
EFA	Explanatory Factor Analysis
F	F-statistic in ANOVA
GAD	Generalized Anxiety Disorder
GPA	Grade Point Average
HREC	Human Research and Ethical Committee
IBM	International Business Machine
IPPA	Inventory of Parent and Peer Attachment
i.e	That is

IV	Independent Variable
L-R	Likelihood Ratio test
M	Mean
MDE	Major Depressive Episode
MMHA	Malaysia Mental Health Association
MOH	Ministry of Health
NAMI-GC	National Alliance on Mental Illness of Chicago
NHMS	National Health Morbidity Survey
NIMH	National Institute of Mental Health
OR	Odds Ratio
p	Significance value
PTSD	Post Traumatic Stress Disorder
RM	Malaysian Ringgit
SAMSHA	Substance Abuse and Mental Health Service Administration
SD	Standard Deviation
SE	Standard Error
SPSS	Statistical Package for Social Sciences
SS	Sample Size
UPM	Universiti Putra Malaysia
USA	United States of America
t	T-test statistic
WHO	World Health Organization
$<$	Less than
$>$	Greater than
$\leq$	Less or equal to
α	Alpha

χ^2	Chi-square statistic
%	Percentage
B	Beta
n	Number

CHAPTER 1

INTRODUCTION

This chapter provides a brief explanation of the background of the study, the objectives, problem statement, research question, significance of study as well as highlighting the research hypotheses.

1.1 Background

Mental health is defined as a state of well-being in which an individual recognizes his or her own capabilities, can cope with the normal stresses of life, can work effectively and is able to make a contribution to his/her society (WHO, 2001). Mental health represents a crucial part of an individual's psychological state and refers to the successful performance of mental function which is characterized by the presence of a conceivable positive outlook/effect (e.g. optimism, cheerfulness and interest). The Center for Disease Control and Prevention (CDC) defines mental health as a psychological state wherein there is an absence of a negative effect coupled with satisfaction with life through productive activities, e.g. fulfilling relationships, ability to adapt to change and diversity (CDC, 2011). In highlighting the importance of mental health to an individual's general wellbeing, the World Health Organization stated that mental health is associated with an individual's social environment and is a determinant for the development of physical illness (WHO, 2013). In line with these findings, Ibrahim (2011) argued that mental health is as important as physical well-being, and that the two states are interdependent of each other (Ibrahim, 2011).

Mental illness is a disturbance of the mind that affect thoughts, feelings and behaviors of individuals; as a result make normal functioning difficult (Malaysia Mental Health Association (MMHA), 2013). These illnesses are typical with psychiatric diagnoses which are characterized by alterations in thinking, mood, or behaviors and are associated with stress or decreased functioning come in many forms (Malaysian Psychiatric Association (MPA), 2006). Mental illnesses differ in severity, duration, degree, and can affect anybody regardless of age, gender, ethnicity, and socio economic status (WHO, 2013). Studies have shown an association between mental illness and chronic diseases, such as cardiovascular disease, diabetes, obesity, asthma, arthritis, epilepsy, and cancer (CDC, 2011).

In developed (USA, Canada and other Western European countries) and developing countries one out of four (25%) individuals suffer from a form of mental disorders which collectively account for 15% of the overall burden of diseases; a figure slightly higher than that attributed to cancer (WHO, 2013).Four out of the six leading causes of years lived with disability are attributed to depression, schizophrenia, bipolar disorder and alcohol use disorders.

Moreover, data from the Substance Abuse and Mental Health Service Administration (SAMSHA) suggests that the incidence rates of deaths due to complications arising from mental illnesses are higher and more common than cancer and heart disease combined (National Alliance on Mental Illness of Chicago (NAMI-GC), 2013), nonetheless, mental illnesses at times still go underdiagnosed by doctors.

In Malaysia, the most common diagnosed mental and neuropsychiatric disorders are depression, anxiety and stress (MMHA, 2013). National Health and Morbidity Surveys (NHMS) with relation to mental health have been conducted over the past two decades (1996, 2006 and 2011) and the findings from these surveys indicated that the prevalence of mental health-related morbidity is on the increase. In specific, the NHMS II conducted in 1996 reported that morbidity was higher among subjects aged 16 and above (13%) compared to children and adolescents of 15 years and below (10.6%). NHMS III conducted in 2006 reported that the prevalence of neuropsychiatric morbidity among adults was 11.2%. Females reported higher mental health problems compared to males (55% vs. 45%, respectively). In the population sample included in the survey, mental health disorders was found to be higher among Chinese (31.1%), Urban populations (12.6%) and those with no education or only primary education (15-16%). Prevalence of acute suicidal ideation was 6.4% amongst the general population, and higher (11%) among teenagers and young adults of ages 16 to 24 years. According to the recent survey conducted (NHMS IV), among subjects aged 16 or above, there was a reported incidence rate of 1.7% for Generalized Anxiety Disorders (GAD), 1.8% for depression, 1.7% for suicidal ideation, and 1.1% had attempted suicide in the past. Amongst children of 5 to below 16 years, 20% (1.0 million) had developmental disability, emotional and behavioral disorders (Malaysia Ministry of Health, 2011).

1.2 Problem statement

Depression, anxiety and stress are on the rise among young adults; 16 years and above (Saravanan & Wilks, 2014). This stage is classed as 'emerging adulthood' and is considered the period of development and transition between being a teenager and adolescent (which encompasses the ages from 18 to 29). This is an important developmental period that is critical for well-being and functioning, impulsivity, risk-taking behaviours and in some ways a the stage optimal cognitive processing (Lamb, Freund, & Lerner, 2010). It is also noted that the onset of mental health disorders is higher in this age range. In explaining this phenomenon, Lane and Schnyders argued that this may be because emerging adults simultaneously experience freedom and independence of adulthood and the self-focus and burden from responsibility characteristic of adolescence (Lane & Schnyders, 2014). It is now established that if these mental disorders (depression, anxiety and stress) are left untreated, they can affect the various endeavours of the individuals in this age group, ranging from poor scholastic performance (Sherina, Rampal & Kaneson, 2004; Yasin & Dzulkifli, 2011) and increased tendency of suicidal tendencies and behaviours (Ali et al., 2012).

A major contributing factor to this problem is the approach to diagnosing these conditions and type of treatment embraced by patients. More than half of all patients with mental health disorders are initially seen in general medical system and those that may exhibit symptoms are however not diagnosed properly and therefore are unlikely to receive proper treatment (Mohd Sidik, Rampal, & Kaneson, 2003). This situation can have detrimental effects on patients, especially in cases where there is a lack of awareness of such ailments and its early symptoms, causes, risks or when there is fear from stigmatization from family and/or society. Another factor to take into consideration is that the number of those who may be at risk or exhibit early symptoms of mental disorders such as depression, anxiety and stress, all conditions that are reportedly high in the general population, are 'missed-out' by medical centers and health care givers due to lack of awareness of some of the symptoms of this conditions. Also importantly is in relation to seeking of treatment, a study has shown that Malaysian undergraduates preferred the use of alternative treatments and medicines for treatment of depression. The inherent risk towards preference of alternative or traditional medicines is that it this may affect the patient's ability to seek evidence-based mental health care (Khan, Sulaiman, & Hassali, 2010), and thereby leading to an increase of mental disorders.

Previous research alludes to the fact that psychological problems are prevalent among undergraduate students in Malaysia, both in private and public universities (See Mohd Sidik, Rampal, & Kaneson, 2003; Gan, Nasir, Mohd Shariff & Abu Saad, 2011; Yusoff et al., 2013; Shamsuddin et al., 2013; Saravanan & Wilks, 2014; Yusoff, et al., 2011; Al-Dubai et al., 2011; Ahmed, Banu, Al-Fageer, & Al-Suwaidi, 2009; Latiff et.al, 2014). However, the majority of studies previously undertaken focused on medical undergraduates, and although they represent a cohort that undergo tremendous pressures academically, the findings from these studies does not represent or illustrate the magnitude of mental health conditions across the general populace of undergraduate students. Accordingly, there have been other studies that have reported that these disorders may extend to all undergraduate students regardless of their field or faculty of study (Bostanci et al., 2005; Latiff et al., 2014; Vitasari et al., 2010; Shamsuddin et al., 2013).

Vitasari and colleagues further explored the type of mental health disorders reported, and found that the incidence and effects of depression, anxiety and stress on students' well-being and academic performance was not dependent on their faculty of study (Vitasari et al., 2010). These studies collectively highlight the importance of understanding depression, anxiety and stress and its associated factors among university students. In an attempt to understand modifying behaviors that could contribute to the progression of these conditions, studies have explored the associations between depression, anxiety and stress with other measures such as coping strategies, automatic negative thoughts or attachment to parents and peers. However, no study has further explored relationship between these measures with depression, anxiety and stress. This study aims to decipher the degree to which these factors are associated with first year undergraduate students' level of depression, anxiety and stress. The sample group (first year undergraduates) were

selected because studies have shown that the prevalence of certain mental health disorders such as depression is greater in first year students (Saravanan & Wilks, 2014),while others have reported higher emotional disorders (depression, anxiety, somatic symptoms and social withdrawal) in first and fourth year medical students (Mohd Sidik, Rampal, & Kaneson, 2003). This phenomenon believed to be attributed to the increase of certain 'stressors' resulting from the transition from secondary to university accompanied by, home sickness, unfamiliar environment, increased expectations from family and friends. However, in senior academic levels students may have developed to cope with academic stressors (Nyarko & Amissah, 2014).

1.3 Significance of study

Depression, anxiety and stress negatively influence students' well-being and academic performance, as those who are physically and mentally fit perform better as compared to those who are not physically and mentally stable (Yasin & Dzulkifli, 2011). Early detection and intervention of these disorders (depression, anxiety and stress) and their symptoms with medication and psychotherapy or combined treatments can be effectively targeted upon identification of high risk individuals or groups. This is important especially among youths as they are most likely to respond to treatment if they receive it early in the course of the illness, which in turn will help to reduce the burden and disability (National Institute of Mental Health (NIMH), 2010). However, the failure to do so has been shown to be associated with 18 to 23% of psychiatric episode's suffered by students as a result of poor or delayed intervention strategies (Patel, Flisher, Hetrick, & McGorry, 2007). Early intervention can shorten the duration of episodes and reduce long term social impairment, therefore decreasing or eliminating these mental health disorders at an early stage (WHO, 2003; Mohd Sidik, Rampal, & Kaneson, 2003).

The findings of this study will aid in early detection and provide information that may serve useful for intervention, prevention and in turn minimizing the exert-effect of these conditions on mental, emotional and physical wellbeing. The findings would assist stakeholders in developing and improving already existing support services. In line with that, these findings can assist this institution in making necessary modifications, planning of effective intervention measures through the means of early orientation programs and online mental health screening platforms. It is paramount that cooperation of the administration of the institution, staff and students be involved in this plight, as this can efficiently reduce the public health risk associated with these psychological disorders. To the researcher, the findings of the study would help in determining the prevalence of and factors associated with depression, anxiety and stress among first year undergraduate students of Universiti Putra Malaysia (UPM), Serdang, Malaysia and their associated factors. This study would also contribute to the body of knowledge which would help in paving ways for conducting broader studies and intervention studies which would help in determining general burden and associated factors of these physiological disorders.

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1.4 Research question

i. What is the prevalence of depression, anxiety and stress among first year undergraduate students of UPM?
ii. What factors are associated with depression, anxiety and anxiety among first year undergraduate students?
iii. What are the predicting factors of depression, anxiety and stress?

1.5 Study objectives

1.5.1 General objectives

The general objective is to determine the prevalence of and factors associated with depression, anxiety and stress among first year undergraduate students of Universiti Putra Malaysia (UPM), Serdang, Malaysia.

1.5.2 Specific objectives

The specific objectives:

i.   To determine the prevalence of depression, anxiety and stress among first year undergraduate students of different faculties in UPM.
ii. To determine the;
   a. Socio-demographic factors (gender, age, ethnicity and religion).
   b. Socioeconomic factors (parents' occupation, income and education level).
   c. Environmental factors (faculty of study and accommodation).
   d. Coping strategies (maladaptive and adaptive).
   e. Frequency of negative automatic thoughts.
   f. Attachment to mother, father and peer among first year undergraduates of UPM.
iii. To determine the association of depression, anxiety and stress and;
   a. Socio-demographic factors (gender, age, ethnicity and religion).
   b. Socioeconomic factors (parents' job, income and education level.
   c. Environmental factors (faculty of study and accommodation).
   d. Coping strategies (maladaptive and adaptive).
   e. Frequency of negative automatic thoughts.
   f. Attachment to mother, father and peer among first year undergraduates of UPM.
iv. To determine the predictors of depression, anxiety and stress among first year undergraduates of UPM.

1.6 Hypotheses

The alternative hypotheses of the study are as follows:

H_2: There is an association between socio-demographic factors and depression, anxiety and stress among first year undergraduate students of UPM.

H_2: There is an association between socio-economic factors and depression, anxiety and stress among first year undergraduate students of UPM.

H_3: There is an association between environmental factors and depression, anxiety and stress among first year undergraduate students of UPM.

H_4: There is an association between coping strategies and depression, anxiety and stress among first year undergraduate students of UPM.

H_5: There is an association between negative automatic thoughts and depression, anxiety and stress among first year undergraduate students of UPM.

H_6: There is an association between attachment to mother, father and peer and depression, anxiety and stress among first year undergraduate students of UPM.

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