



UNIVERSITI PUTRA MALAYSIA

***FACTORS ASSOCIATED WITH PSYCHOLOGICAL STRESS AMONG
MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA***

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APPROVAL SHEET

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MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA**

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Abstract

Introduction: Psychological stress among medical students is considerably high and has a great impact on their academic performance. It has been found to be related with their coping styles and personality traits.

Objectives: To determine the factors associated with psychological stress among medical students in Universiti Putra Malaysia (UPM).

Material and Methods: A cross-sectional study was conducted on all 1st medical students from Year 1 until Year 5. The study was conducted using a self-administered questionnaire which included the General Health Questionnaire (GHQ-12), Depression Anxiety Stress Scales (DASS-21), Coping Strategies Questionnaire (CSQ), and Personality Inventory for Youth (PIY). The data were analyzed using SPSS version 21. Chi-square was used and all statistical tests were two-tailed with a significance level <math>< 0.05</math>.

Results: The prevalence of psychological stress among medical students was 68.5%. The main source of stress was related to the academic and coping styles. The study also found a significant relationship between psychological stress and coping styles. The study also found a significant relationship between psychological stress and personality traits. The study also found a significant relationship between psychological stress and coping styles. The study also found a significant relationship between psychological stress and personality traits.

Conclusion: The prevalence of psychological stress among medical students was 68.5%. The main source of stress was related to the academic and coping styles. The study also found a significant relationship between psychological stress and coping styles. The study also found a significant relationship between psychological stress and personality traits.

Keywords: Psychological stress, medical student, Coping style, Personality



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FACTORS ASSOCIATED WITH PSYCHOLOGICAL STRESS AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA

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Abstract

Introduction: Psychological stress among medical students is considerably high and has a great impact on their academic performance. It has been found to be associated with their coping styles and personality traits.

Objectives: To determine the factors associated with psychological stress among medical students at Universiti Putra Malaysia (UPM).

Material and Methods: A cross-sectional study was carried out on all UPM medical students from Year 1 until 4. The data were collected using validated, pre-tested and standardized questionnaires which included Medical Students Stress Questionnaire (MSSQ), Depression, Anxiety and Stress Scale 21 (DASS 21), Brief COPE scale and Temperament and Personality Test. Data were analysed using SPSS version 21. Chi-square was used and all significant levels were set at a standard p-value of <0.05 .

Results: The response rate of the study was 96% and the prevalence of psychological stress among medical students was 15.6%. The main source of stress was related to academic (50%). All socio-demographic factors have no significant association with the psychological stress among medical students. There was a significant association between venting ($p=0.001$) and self blame ($p=0.001$) coping styles with psychological stress. In relation to personality trait, anxious worrying ($p=0.001$), personal reserve ($p=0.001$), perfectionism ($p=0.014$) and effectiveness ($p=0.002$) were significantly associated with psychological stress among medical students. All of the sources of stress were also significantly associated with psychological stress among medical students ($p=0.001$).

Conclusion: The prevalence of psychological stress among medical students was considerably high. The main source of stress was related to the academic and coping style and personality trait have shown significant relationship and contributed to the development of psychological stress among UPM medical students. Early detection of the personality trait that associated with psychological stress and helping students to improve their coping styles is important to reduce the prevalence.

(Keywords: Psychological stress, Medical students, Coping style, Personality)

FAKTOR-FAKTOR YANG BERKAITAN DENGAN TEKANAN PSIKOLOGI DI KALANGAN PELAJAR PERUBATAN DI UNIVERSITI PUTRA MALAYSIA

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Abstrak

Pengenalan: Tekanan psikologi di kalangan pelajar-pelajar perubatan adalah tinggi dan mempunyai kesan yang besar ke atas prestasi akademik mereka. Tekanan telah didapati berkaitan dengan gaya daya tindak dan personaliti mereka.

Objektif: Untuk menentukan faktor-faktor yang berkaitan dengan tekanan psikologi kalangan pelajar-pelajar perubatan Universiti Putra Malaysia (UPM).

Bahan dan Kaedah: Satu kajian keratan rentas telah dijalankan ke atas semua pelajar-pelajar perubatan UPM dari Tahun 1 hingga 4. Data dikumpul dengan menggunakan soal selidik yang sah, di pra-uji dan seragam, termasuklah *Medical Students Stress Questionnaire* (MSSQ), *Depression, Anxiety and Stress Scale 21* (Dass 21), skala *Brief COPE* dan ujian *Temperament and Personality*. Data dianalisis dengan menggunakan SPSS versi 21. Ujian *Chi-square* digunakan dan nilai p kurang daripada 0.05 adalah signifikan.

Keputusan: Kadar respon kajian ini adalah 96% dan prevalens tekanan psikologi di kalangan pelajar-pelajar perubatan adalah 15.6%. Punca utama tekanan adalah berkaitan dengan akademik (50%). Semua faktor-faktor sosio-demografi tidak mempunyai hubungan yang signifikan dengan tekanan psikologi di kalangan pelajar-pelajar perubatan. Terdapat hubungan yang signifikan antara gaya pembolongan ($p = 0.001$) dan gaya menyalahkan diri ($p = 0.001$) dengan tekanan psikologi. Berhubung dengan sifat personaliti, cemas membimbangkan ($p = 0.001$), peribadi rizab ($p = 0.001$), kesempurnaan ($p = 0.014$) dan keberkesanan ($p = 0.002$) mempunyai kaitan yang ketara dengan tekanan psikologi di kalangan pelajar-pelajar perubatan. Semua punca tekanan juga mempunyai kaitan yang ketara dengan tekanan psikologi di kalangan pelajar-pelajar perubatan ($p = 0.001$).

Kesimpulan: Prevalens tekanan psikologi di kalangan pelajar-pelajar perubatan adalah cukup tinggi. Punca utama tekanan adalah berkaitan dengan akademik dan gaya daya tindak dan personaliti sifat telah menunjukkan hubungan yang signifikan dan menyumbang kepada pembangunan tekanan psikologi di kalangan pelajar-pelajar perubatan UPM. Pengesanan awal sifat personaliti yang dikaitkan dengan tekanan psikologi dan membantu pelajar untuk meningkatkan gaya daya tindak mereka adalah penting untuk mengurangkan prevalens.

(Keywords: Tekanan psikologi, Pelajar perubatan, Gaya daya tindak, Personaliti)

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LIST OF ABBREVIATIONS

Abbreviation	Title
UPM	Universiti Putra Malaysia
MSSQ	Medical Student Stressor Questionnaire
DASS	Depression Anxiety Stress Scale
T&P	Temperament and Personality
SPSS	Statistical Package for Social Sciences Program



CHAPTER 1

INTRODUCTION

Stress is defined as the body's nonspecific response or reaction to demands made on it, or to disturbing events in the environment [1]. Sherina, Rampal & Kaneson (2004) in their study on Malaysian medical students reported that medical school is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health and psychological well being of the student [2]. Medical students are expected to learn and master a huge amount of knowledge and skills. The personal and social sacrifices they have to make in order to maintain good academic results in a highly competitive environment also put them under a lot of stress [3]. Undergraduate medical students have been the most distressed group of students compared to any other courses' undergraduates. This stress has serious consequences which may lead to the development of depression and anxiety [4]. Studies on psychological problems such as stress, depression and anxiety among medical students have found that these disorders are under recognized and under treated [1].

There are many sources that contribute to a high prevalence of stress among the medical students. As the students proceed their years of study, it was showed that the prevalence of stress was higher [10]. There are a lot of tasks, homework and reading as the students proceed in their years of study. A study in one of the Indian medical colleges found that academic factors appear to be the greater causes of stress among medical students. In addition, the study had shown that the students with higher achievement are much more under stress than those with average achievement [5]. Inter personal and family problems were also found to influence medical students'

learning ability and academic performances as these were other sources of stress which the students were subjected to.

Adaptive coping and problem solving skills have been found to be associated with reduced prevalence of stress among medical students [51]. These skills are commonly influenced by individual personality types. Problem avoidance and social withdrawal are found to be associated with an increase risk of depression [51]. Local studies had focused on the magnitude of this problem but lacking in information on approaches that are recommended to reduce psychological distress among medical students [10,17]. Approaches are needed mainly to educate them on stress management, improve and strengthen their adaptive coping strategies and problem solving skills. Therefore information on medical students' coping skills and personality type and their association with psychological distress are of great importance. As such, it would enable future studies to develop intervention which could help to reduce the prevalence of psychological stress among medical students in Malaysia.

1.1 PROBLEM STATEMENT

There is a growing concern on the impact of medical training on students' psychological health status all over the world. Most studies reported that medical students suffer from significant psychological distress during their training years. This has subsequently affected their learning and academic performance as well as their quality of life which later may affect their professional development when they begin their residency program. The sources or causes of the stress and their risk factors vary among the medical students.

1.2 SIGNIFICANCE OF STUDY

This study would help to determine the prevalence of psychological stress among medical students in a public university. It also would identify the various sources of stress experienced by the medical students. Apart from that, it would help to determine the psychological risk factors such as coping skills and personality traits. Therefore, it would help further research to be conducted in developing early intervention program in order to reduce psychological stress among medical students by educating them on adaptive coping and problem skills technique.

1.3 OBJECTIVE

1.3.1 GENERAL OBJECTIVE

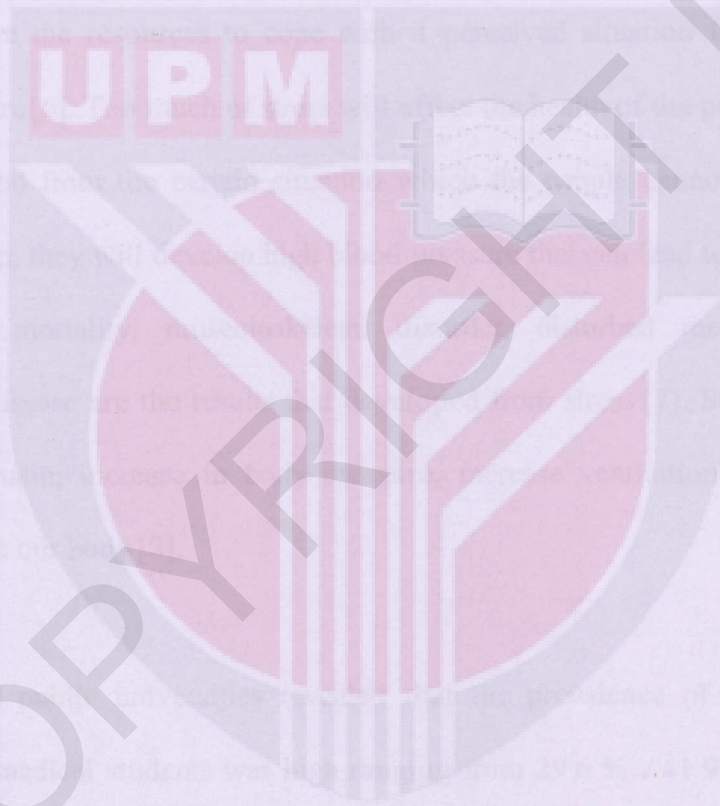
To determine the factors associated with psychological stress among medical students in UPM

1.3.2 SPECIFIC OBJECTIVES

1. To determine the prevalence of psychological stress among medical students in UPM.
2. To identify the specific sources of stress among medical students in UPM (academic stressor, social, relationship, teaching and learning, drive and desire and group study).
3. To determine the association between socio-demographic factors and psychological stress among medical students in UPM
4. To determine the association between psychological factors and psychological stress among medical students in UPM (coping skill, personality trait).
5. To determine the association between sources of stress and psychological stress among medical students in UPM (academic status, intrapersonal & interpersonal, teaching and learning-related, social, drive and desire and group activities factors).

1.4 RESEARCH HYPOTHESES

1. There is an association between socio-demographic (age, gender, ethnicity, years of study) and psychological stress among medical students in UPM
2. There is an association between psychosocial factors and psychological stress among medical students in UPM
3. There is an association between sources of stress and psychological stress among medical students in UPM



CHAPTER 2

LITERATURE REVIEW

2.1 DEFINITION OF STRESS AND ITS PREVALENCE AMONG MEDICAL STUDENTS

Stress occurs when there is a high demand from the situations and when the people cannot cope with the situations. Stress is the result of an individual's perception which they do not have the resources to cope with a perceived situation from the past, present, and future [6]. Too much of stress will affect the health of the people. Besides that, high demand from the certain situation which the people cannot handle their feeling of tension, they will develop high blood pressure that can lead to hypertension [7]. Premature mortality, musculoskeletal disorder, disturbed metabolism and cardiovascular disease are the results that developed from stress [7]. Stress is due to release of adrenalin, increase in body pressure, increase ventilation and outward muscle tighten in our body [8].

Studies at local public universities revealed that the prevalence of psychological distress among medical students was high ranging from 29.6 % - 41.9% [2,10]. One recent study among Malaysian medical students also reported almost similar prevalence of 46.0% [9]. Sherina, Rampal & Kaneson (2004) reported that psychological stress was prevalent among medical students and it was significantly associated with depression [2]. Majority of the medical students (78.8%) were unhappy with their lives and 71.0% of them reported to have sleeping problem [2]. A study done in Universiti Sains Malaysia has shown that the overall prevalence of stress among the medical students was 26.9% [10]. Yusoff (2009) reported that year

of study was significantly associated with stress among medical students. The prevalence of stress was 26.3% in first year students; 36.5% in second year students; 31.4% in third year students; 35.3% in fourth year students and 21.9% in fifth year students. It was also reported that medical students in different years of study who have stress also performed poorly in their academic [10].

Similarly, medical students in Saudi Arabia were also found to be significantly distressed and the prevalence was 71.9% [11]. Female medical students were reported to be more stressful than their male counterpart. It was found that as they progressed, the prevalence of stress was inversely proportionate to their years of study. Medical students in the early study years were significantly more distressed as compared to those in their final years [11].

2.2 SOURCES OF STRESS AMONG MEDICAL STUDENTS

There are different sources which causing medical students to be stressed throughout their study. One of the causes is that medical students received too much expectation on all fronts. The study from Nepal shown that the most common sources of stress were related to academic and psychosocial concerns which will affect the medical students' academic performance and also learning abilities. [12]

A study in an Indian medical college showed that academic factors appeared to be the greater causes of stress in medical students at the medical college. The study had shown that the students with higher achievement are more under stress [5]. While in another study, it was shown that stress can be classified into three areas namely academic pressure, social issues and financial problems. It was reported that repeat students had significantly higher stress than their regular batch mates. [13]. Another study has found that the major factors which were responsible for the psychological stress among undergraduate medical students included increased load towards exam, vast syllabus, not getting expected marks, less time for repeated learning and procrastination. The factors mentioned can be classified under academic and emotional factors and they contributed most to the stress. [14]

In Malaysia, medical education includes two years of pre-clinical education and three years of clinical training in a teaching hospital. Yusoff (2009) and Liselotte et al. (2006) stated that the source of stress during pre clinical training is largely due to the complexity and quantity of lessons to be learned ie academic related problems [17]. Other sources of stress include lack of conducive teaching and learning environment, keen competition among students, major life events and personality traits which influence individual's perception of stress [32].

Other source of stress includes also environmental factors. Many medical students placed a great value on social and familial support and they needed time to adapt to the change in environment. According to Saiful Bahri, Ahmad Fuad & Mohd Jamil (2010), there was six domains of sources of stress which were academic related, personal relationship, social, teaching & learning, drive & desire and group activities. [10]. There was also lack of socialization and exercise frequencies once students entered the medical school. There is an increased of frequency of exercise after some time but the frequency of socialization of medical students still remained low. This has been substituted with alcohol consumption as a mean of releasing stress [25]. In addition, work relationships among colleagues have been also found to be a stressor to medical students. Others include fatigue which was reported more commonly in first and second year medical students [26]. The new entered students would be having a higher stress levels compared to the senior students because they have to adapt to the new study environment [27].

2.3 SOCIO-DEMOGRAPHIC AND PREVALENCE OF STRESS AMONG MEDICAL STUDENTS

A study in United Kingdom has found that gender was not associated with psychological stress among medical students [15]. However, another study in Spain reported that female medical students who reported to have stress were more prevalent than their male counterpart [16]. Gender based difference in psychological stress among medical students may be rooted from the difference in their perception towards stress, coping styles and personality factors. The study also reported that socio economic factors may also confound the psychological stress among medical students as those who came from economically disadvantaged groups were more prone to adverse life event and thus prone to stress [16].

Studies in United State and Canada also reported similar results whereby female in their first to fourth year of study scored higher in depression subscale of the questionnaire than male students. The female students also having higher mean depression scores at the end of both second and fourth years in the study and eventually the symptoms are more frequently appear in female students [17]. However, a study in Pakistan showed a contradicting result as they discovered that female medical students experienced lower stress levels compared to those male medical students. This may be due to protective factors such as higher proportion of female students in the medical college [26].

Regarding the ethnicity, there is an increased in rate of conflict occurrence among minority group of medical students in the medical school. They have increased susceptibility to withdraw from the medical school and it was stated that minority's attrition is related to their mental health [17]. In a longitudinal study carried out in

medical colleges in U.S. and Canada in 1987, no differences in mental health were observed by race and ethnicity. Later, there was an uncertain of the results as the minority students was sent to attend a program which specialized for minority students. [17]

A study among 238 white and 39 nonwhite had reported that there is no association between race and psychological problem such as depression [19]. But another research had reported that minority students would have slightly lower distress level compared to the majority [20]. In addition, a cross-sectional study had stated that the minority students of the particular medical school were 3.4 times more likely to get depression than the other students [21]. A study about difference in medical student well-being among minority and nonminority students in five medical schools in United States found that minority students had reported their race did affected their medical school life adversely which may affected by the cultural differences. They have thought of being stereotyped unfairly compared to nonminority students. They do have problem in communicating with other medical students and feel of being isolated from the others. The prevalence of depressive symptoms is similar in minority and nonminority students but the nonminority students are more likely have burnout. [22]

Several studies suggested that the stress suffered by the medical students varies with time and peak in the second year study of medical school. The studies reported that examinations, time constraints and competition are the stressors of medical students [24]. There was an association between satisfactions of examination with the education given. The students will be significantly more depressed during their first semester of the study of medical course. Repeated study also declared that students will be more stressed at the midterm examination period compared to the final

examination period. Although the students will be more depressed at the midterm, students are more dissatisfied with the medical education and the teaching quality around the final examination period. So, this was interpreted as cause-effect cloud interpretation [25]. Frequent academic examination caused the medical students having academic pressure consistently and they will be continually under a competitive environment. The complexity of the material to be learned and also the amount of material to be learned are too heavy for the students; this eventually increases the prevalence of the stress [26].

In 1996, married students had lower stress level compared to their single counterparts [17]. In a longitudinal study, they concluded that the first year, second year and third year single students had higher mean scores of stress. The stress level will be decreased when the students married. This is because they can get emotional support from their partners [28]. However, another longitudinal study found that married students had higher depression scores [29]. This shown that not all researchers have found that marriage is associated with reduced stress level.

2.4 ASSOCIATION BETWEEN COPING SKILL, PERSONALITY TRAITS AND STRESS AMONG MEDICAL STUDENTS

Medical students may be drawn into an ineffective way of releasing stress such as alcohol assumption rather than healthy way such as exercise. They are using alcohol assumption as their psychological coping mechanism [25]. On the other hand, other surveys on medical students had indicated that students were in use of drugs instead of alcohol use although the nonalcoholic use frequency was low [30]. In the study in Pakistan, female medical students are found to utilize more effective coping mechanisms to deal with the stress problem they are facing. So, their prevalence of stress and anxiety was lower than male medical students. [26]

The coping skill of medical students is important as how the coping skill of them will influence their adjustment to medical school and also affect their quality of life in the medical school. Problem solving skill is one of the ways to cope with the life in medical school instead of problem avoidance. Problem avoidance and social withdrawal are the ways to escape from reality and these appear to increase the risk of depression. [17] A study found that first year medical students are more rely on the negative coping strategies such as problem avoidance, this causing an increase in prevalence of stress during the first year [31]. Studies from United Kingdom found that, undergraduate medical students generally use alcohol as their coping strategy. In contrast, a study reported from Pakistan realized that sports, music and hanging out with friends are the common coping strategies used [18].

In Malaysia, pattern of coping style determines the stress level of the medical students. The coping style of the medical students may affect the psychological well being of the students. Poor psychological well being students have more emotion

venting than those students with good psychological well being based on their differences in coping pattern. [18] Researches had suggested that personality traits play a part in influencing the perception of stress of the students. Studies had suggested that the traits of self-awareness can lower the risk of getting depression while perfectionism, Type A personality and anger suppression may increase the risk of getting depression. [17]

Stressful personal life events which the medical students may face throughout their study life time are contributed to depression, anxiety and stress. They may experience the pain of losing family members, physical pain and financial problem which will be a stressor to their study life as a medical student [17]. Besides that, major personal life events including marriages, giving birth to a child and having a relationship are the common events which the students might have to face in their age. Despite the occurrence of those events, still, a study found no correlation between those events and the stress level of the medical students [23].

2.5 CONCEPTUAL FRAMEWORK

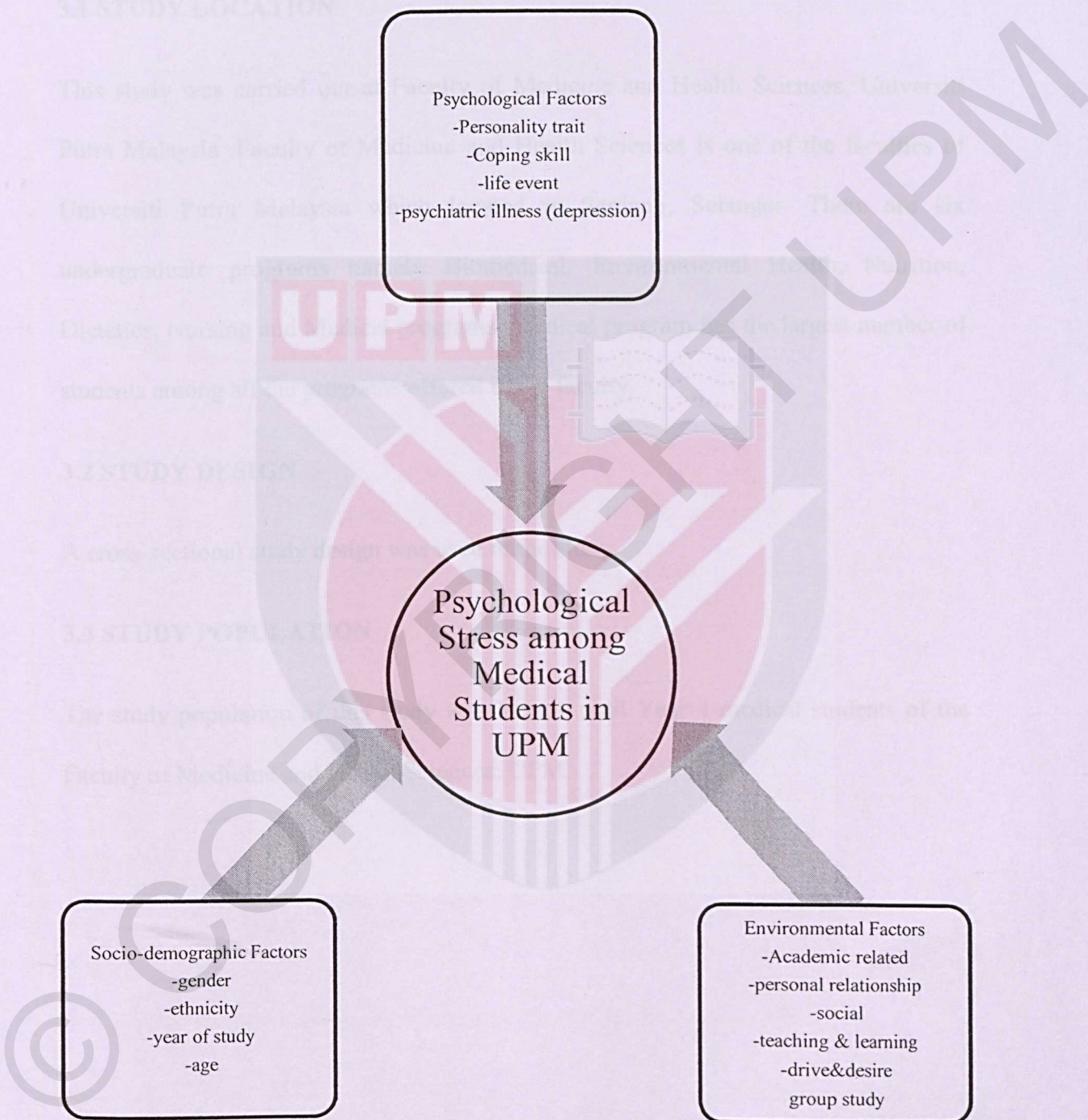


Figure 1 Conceptual framework

CHAPTER 3

METHODOLOGY

3.1 STUDY LOCATION

This study was carried out at Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. Faculty of Medicine and Health Sciences is one of the faculties of Universiti Putra Malaysia which located in Serdang, Selangor. There are six undergraduate programs namely Biomedical, Environmental Health, Nutrition, Dietetics, Nursing and Medical programs. Medical program has the largest number of students among all the programs offered in the faculty.

3.2 STUDY DESIGN

A cross-sectional study design was used in the study.

3.3 STUDY POPULATION

The study population of this study was Year 1 until Year 4 medical students of the Faculty of Medicine and Health Sciences, UPM.

3.4 SAMPLING

3.4.1 Sampling Method

The students were stratified according to their year of study. All students from each stratum were selected in the study as the total numbers of the students were almost equal to the number of estimated sample size.

3.4.2 Inclusion Criteria

1. All year one to year four registered UPM medical students and consented to the study.

3.4.3 Exclusion Criteria

1. All year five medical students who recently graduated.
2. Those who were out of the campus at the time of data collection.
3. Those who were the researchers in the present study.

3.4.4 Sampling Frame

All medical students (Year 1, 2, 3 and 4) from Faculty of Medicine and Health Sciences UPM.

3.4.5 Sampling Unit

A medical student from Faculty of Medicine and Health Sciences UPM.

3.4.6 Sample Size Estimation

The formula used to estimate the sample size was:

n – Required sample size

P – Estimated proportion of psychological stress among medical students^[2]

Z – Confidence level at 95% (standard value of 1.96)

d – Precision

α – Level of significance

$$n = \frac{Z^2 P(1-P)}{d^2} \quad [12]$$

$$= \frac{1.96^2 \times 0.419(1-0.419)}{0.05^2}$$

$$= 374$$

The sample size was estimated to be 393 after considering approximately of 5% (Sherina, Rampal & Kaneson, 2004) of attrition rate.

3.5 VARIABLES

3.5.1 Dependent and Independent Variables

Independent Variables:

Social demographic factors (Age, gender, ethnicity and Year of study)

Psychosocial factors (personality trait and coping style)

Environmental factors which include common sources of stress (academic status, intrapersonal & interpersonal, teaching and learning-related, social, drive and desire and group activities factors)

Dependent Variable:

Psychological stress among medical students

3.6 DATA COLLECTION

3.6.1 Data Collection Techniques

The study used a pretested, validated and self-administered questionnaire. A set of subject information sheet and informed consent form were given to the respondents before they were asked to answer to a set of questionnaire. Once they consented, they were asked to respond to each item in the questionnaire. The questionnaires were then collected from the respondents once they completed.

3.6.2 Research Instrument

The data was collected using a set of pre tested, validated questionnaire which were as follow:

1. Socio-demographic data which included their matric number, age, gender, ethnicity and year of study.
2. Medical Student Stressor Questionnaire (MSSQ) [46]

The MSSQ was developed to determine the sources of stressor of the medical students. It was used locally to measure the intensity of the stress among medical students according to six domains of stress. The six domains of the MSSQ are

- a. Academic related stress (ARS)
- b. Intrapersonal and interpersonal related stressors (IRS)
- c. Teaching and learning-related stressors (TLRS)
- d. Social related stressors (SRS)

e. Drive and desire related stressors (DRS)

f. Group activities related stressors (GARS)

The validation of the MSSQ has shown good psychometric properties [47]. Each domain is scored based on the total mean score and is categorized into four groups which are mild, moderate, high and severe scores. Having a high score in a particular stressor group indicates that the student perceives events, conditions or situations related to the domain as the source of stress to the student.

3. Depression Anxiety Stress Scale (DASS 21) [48]

The present study used only the stress domain of the DASS 21 in order to measure the psychological stress of the respondents. The summated total score for the stress domain was multiplied by two in order to give a total score. The total score was then categorized into five groups of severity ie Normal, Mild, Moderate, Severe and Extremely severe based on a given cut-off scores. The groups were then divided into two groups for the purpose of analysis. Those with normal and mild stress were considered as having no stress (No) while those with moderate, severe and extremely severe were grouped into those with clinically significant stress (Yes).

4. BRIEF COPE Test [49]

The BRIEF COPE contains 28 items and was used to measure coping style among the respondents. It measures 14 dimensions of coping style. However, only 3 dimensions of coping style which are commonly associated with stress were chosen in the present study.

Use of emotional support (items 5 and 15)

Venting (items 9 and 21)

Self-blame (items 13 and 26)

All items in each dimension were scored and the total scores were categorized into high and low score using 50th percentile. High score indicates that the use of coping style for the dimension is high.

5. Temperament & Personality (T&P) Questionnaire [50]

The T&P Questionnaire is a self-report scale to identify eight personality constructs that are more likely to predispose to psychological stress. It has high internal consistency and test-retest reliability. The scale comprises 10 subscales which are divided into 8 personality subscales representing Anxious-Worrying, Irritability, Perfectionism, Self-Criticism, Social Avoidance, Personal Reserve, Rejection Sensitivity and Self focus. The remaining two subscales measure the global personality functioning on Cooperativeness and Effectiveness. All items correspond to each personality subscale and they are rated on a 4-point scale from 0 (Not true at all) to 3 (Very true). However, some of the items are reverse scored before the total score could be computed. Each personality construct has its own cut off score with a higher score indicates a greater tendency to the subjected personality construct. The present study only chose personality construct that are commonly associated with psychological stress namely anxious worrying, personal reserve, perfectionism and effectiveness. Cut off scores for personality dimensions: Anxious Worrying: 18 and above, Personal Reserve: 17 and above, Perfectionism: 31 and above, Effectiveness: 18 and above.

3.7 DATA ANALYSIS

Data was entered and analyzed by using the Statistical Package for Social Sciences Program (SPSS) version 21.

Data was explored using graphical method or skewness/kurtosis in order to determine its normality. In descriptive statistic, mean and standard deviation were to describe normally distributed continuous data while median and interquartile range was used if the normality assumption was violated. Proportion and percentage were used to describe categorical data

In inferential statistic, the association between independent and dependent variables was tested using chi square test. 95% Confidence interval was used for the mean estimation and p value of less than 0.5 was considered significant.

CHAPTER 4

RESULT

4.1 Response Rate

400 questionnaires have been distributed, out of 400, 384 respondents responded. This gives an overall response rate of 96%.

4.2 Descriptive Statistic

4.2.1 Socio-demographic of respondents

Table I shows the distribution of socio-demographic characteristics of the respondents in the study. The mean of age of respondents was 21.38 years old with a standard deviation (SD) of 1.129 and 95% confidence interval (95% CI) of 21.26 to 21.49. The age of the respondents ranged from 19 years old to 23 years old. More than 50% of the respondents were between the ages of 19 to 22 years old. About 30% of the respondents were in their second year of study while the rest of the respondents were distributed almost equally among their years of study. Majority of the respondents were female which accounted for 64.8%. About 53% of the respondents were Malays.

Table I Socio-demographic characteristics of respondents

Characteristic	Frequency(n)	Percentage(%)	Mean(SD)(95% CI)
Age			21.38(1.129)(21.26-21.49)
19 to 21 years old	203	52.9	
22 to 23 years old	181	47.1	
Total	384	100.0	
Year of study			
Year 1	108	28.1	
Year 2	115	29.9	
Year 3	86	22.4	
Year 4	75	19.5	
Total	384	100.0	
Gender			
Male	135	35.2	
Female	249	64.8	
Total	384	100.0	
Ethnicity			
Malay	203	52.9	
Non malay	181	47.1	
Total	384	100.0	

4.3 Prevalence of Psychological Stress among Respondents

Table II shows the prevalence of psychological stress among the respondents. Majority of the respondents reported to have normal level of stress which accounted for 84.4%. The prevalence of psychological stress among the respondents was 15.6%.

Table II Prevalence of psychological stress among respondents

Psychological Stress	Frequency(n)	Percentage(%)
Yes	60	15.6
No	324	84.4
Total	384	100.0

4.4 Sources of Stress among Respondents

Table III shows the sources of stress among the respondents. The specific sources of stress are categorized into academic related stressors, intrapersonal and interpersonal related stressors, teaching and learning-related stressors, social related stressors, drive and desire related stressors and group activities related stressors. Among the sources of stress, almost 50% of the respondents have high to severe stress in relation to their academic. Majority of the respondents suffered from mild to moderate stress caused by other stressors (Interpersonal related = 68.5%; Teaching and learning related = 74.0%; Social related = 78.3%; Drive and desire related = 81.8%; Group activities related = 68.2%).

Social related stressors		
Mild to moderate stress	78.3	
High to severe stress	21.7	
Total	100.0	
Drive and desire related stressors		
Mild to moderate stress	81.8	
High to severe stress	18.2	
Total	100.0	
Group activities related stressors		
Mild to moderate stress	68.2	
High to severe stress	31.8	
Total	100.0	



Table III Sources of stress among respondents.

Sources of Stress	Frequency(n)	Percentage(%)
Academic related stressors		
Mild to moderate stress	194	50.5
High to severe stress	190	49.5
Total	384	100.0
Intrapersonal and interpersonal related stressors		
Mild to moderate stress	263	68.5
High to severe stress	121	31.5
Total	384	100.0
Teaching and learning-related stressors		
Mild to moderate stress	284	74.0
High to severe stress	100	26.0
Total	384	100.0
Social related stressors		
Mild to moderate stress	300	78.3
High to severe stress	83	21.7
Total	383	100.0
Drive and desire related stressors		
Mild to moderate stress	314	81.8
High to severe stress	70	18.2
Total	384	100.0
Group activities related stressors		
Mild to moderate stress	262	68.2
High to severe stress	122	31.8
Total	384	100.0

4.5 Association between Socio-demographic Factors and Psychological Stress among Respondents

Table IV shows the association between socio-demographic factors and psychological stress among the respondents. It shows that all of the socio-demographic factors including age ($p=0.840$), year of study ($p=0.495$), gender ($p=0.575$) and ethnicity ($p=0.444$) have no significant association with the psychological stress level among the respondents.

Table IV Association between socio-demographic factors and psychological stress among respondents

Characteristic	Psychological Stress, n (%)		Total	X ²	p Value
	No	Yes			
Age					
19 to 21 years old	172(84.7)	31(15.3)	203(52.9)	0.041	0.840
22 to 23 years old	152(84.0)	29(16.0)	181(47.1)		
Total	324(84.4)	60(15.6)	384(100.0)		
Year of study					
Year 1	93(86.1)	15(13.9)	108(28.1)	2.391	0.495
Year 2	99(86.1)	16(13.9)	115(29.9)		
Year 3	68(79.1)	18(20.9)	86(22.4)		
Year 4	64(85.3)	11(14.7)	75(19.5)		
Total	324(84.4)	60(15.6)	384(100.0)		
Gender					
Male	112(83.0)	23(17.0)	135(35.2)	0.315	0.575
Female	212(85.1)	37(14.9)	249(64.8)		
Total	324(84.4)	60(15.6)	384(100.0)		
Ethnicity					
Malay	174(85.7)	29(14.3)	203(52.9)	0.586	0.444
Non malay	150(82.9)	31(17.1)	181(47.1)		
Total	324(84.4)	60(15.6)	384(100.0)		

*significant at $p < 0.05$

4.6 Association between Psychological Factors (coping style and personality trait) and Psychological Stress among Respondents

Table V shows the association between coping style, personality trait and psychological stress among respondents. In relation to coping skill, there was no significant association between emotional support coping skill and psychological distress ($p=0.353$) but the association between venting and self blame coping skill were significantly associated with psychological stress ($p=0.001$). It shows that respondents who have more self blame have higher percentage of psychological stress as compared to those with less self blame. Respondents with high venting coping skill ($p=0.001$) were found to be significantly more stressful than those with low venting coping skill.

In relation to personality trait, anxious worrying ($p=0.001$), personal reserve ($p=0.001$), perfectionism ($p=0.014$) and effectiveness ($p=0.002$) have significant association with psychological stress level among the respondents. Respondents with anxious worrying, personal reserve and perfectionism traits have higher percentage of psychological stress as compared to their counterparts. Respondents with low effective personality functioning were significantly more stressful than those with high effective personality functioning.

Table V Association between psychological factors (coping style and personality trait) and psychological stress among respondents

Psychological Factor	Psychological Stress, n (%)		Total	X ²	p Value
	No	Yes			
Coping style					
1. Emotional support					
Low	123(86.6)	19(13.4)	142(37.0)	0.861	0.353
High	201(83.1)	41(16.9)	242(63.0)		
Total	324(84.4)	60(15.6)	384(100.0)		
2. Venting					
Low	102(98.1)	2(1.9)	104(27.1)	20.311	0.001*
High	222(79.3)	58(20.7)	280(72.9)		
Total	324(84.4)	60(15.6)	384(100.0)		
3. Self Blame					
Low	115(97.5)	3(2.5)	118(30.7)	22.115	0.001*
High	209(78.6)	57(21.4)	266(69.3)		
Total	324(84.4)	60(15.6)	384(100.0)		
Personality trait					
1) Anxious worrying					
Low	148(96.7)	5(3.3)	153(39.8)	29.458	0.001*
High	176(76.2)	55(23.8)	231(60.2)		
Total	324(84.4)	60(15.6)	384(100.0)		
2) Personal Reserve					
Low	171(95.5)	8(4.5)	179(46.6)	31.651	0.001*
High	153(74.6)	52(25.4)	205(53.4)		
Total	324(84.4)	60(15.6)	384(100.0)		
3) Perfectionism					
Low	164(89.1)	20(10.9)	184(47.9)	6.060	0.014*
High	160(80.0)	40(20.0)	200(52.1)		
Total	324(84.4)	60(15.6)	384(100.0)		
4) Effectiveness					
Low	140(78.2)	39(21.8)	179(46.6)	9.659	0.002*
High	184(89.8)	21(10.2)	205(53.4)		
Total	324(84.4)	60(15.6)	384(100.0)		

*significant at $p < 0.05$

4.7 Association between Sources of Stress and Psychological Stress among Respondents

Table VI shows the association between sources of stress and psychological stress among medical students in UPM. It shows that all of the sources of stress have significant association with psychological stress level among the respondents ($p=0.001$). Psychological stress among respondents was significantly high in relation to all sources of stress.

Sources of Stress	Psychological Stress	Total	X ²	p Value	
Academic related stressors	Mild to moderate stress	17(4)	26(6)	40	0.001*
	High to severe stress	13(3)	11(3)	24	
	Total	30(7)	37(9)		
Teaching and learning related stressors	Mild to moderate stress	17(4)	26(6)	40	0.001*
	High to severe stress	13(3)	11(3)	24	
	Total	30(7)	37(9)		
Social related stressors	Mild to moderate stress	17(4)	26(6)	40	0.001*
	High to severe stress	13(3)	11(3)	24	
	Total	30(7)	37(9)		
Diet and diet related stressors	Mild to moderate stress	17(4)	26(6)	40	0.001*
	High to severe stress	13(3)	11(3)	24	
	Total	30(7)	37(9)		
Congenitally related stressors	Mild to moderate stress	17(4)	26(6)	40	0.001*
	High to severe stress	13(3)	11(3)	24	
	Total	30(7)	37(9)		

*Significant at $p < 0.05$

Table VI Association between sources of stress and psychological stress among respondents

Sources of Stress	Psychological Stress, n(%)		Total	X ²	p Value
	Normal	Abnormal			
Academic related stressors					
Mild to moderate stress	182(93.8)	12(6.2)	194(50.5)	26.499	0.001*
High to severe stress	142(74.7)	48(25.3)	190(49.5)		
Total	324(84.4)	60(15.6)	384(100.0)		
Intrapersonal and interpersonal related stressors					
Mild to moderate stress	243(92.4)	20(7.6)	263(68.5)	40.725	0.001*
High to severe stress	81(66.9)	40(33.1)	121(31.5)		
Total	324(84.4)	60(15.6)	384(100.0)		
Teaching and learning-related stressors					
Mild to moderate stress	255(89.8)	29(10.2)	284(74.0)	24.244	0.001*
High to severe stress	69(69.0)	31(31.0)	100(26.0)		
Total	324(84.4)	60(15.6)	384(100.0)		
Social related stressors					
Mild to moderate stress	273(91.0)	27(9.0)	300(78.3)	46.558	0.001*
High to severe stress	50(60.2)	33(39.8)	83(21.7)		
Total	323(84.3)	60(15.7)	383(100.0)		
Drive and desire related stressors					
Mild to moderate stress	277(88.2)	37(11.8)	314(81.8)	19.282	0.001*
High to severe stress	47(67.1)	23(32.9)	70(18.2)		
Total	324(84.4)	60(15.6)	384(100.0)		
Group activities related stressors					
Mild to moderate stress	244(93.1)	18(6.9)	262(68.2)	47.943	0.001*
High to severe stress	80(65.6)	42(34.4)	122(31.8)		
Total	324(84.4)	60(15.6)	384(100.0)		

*significant at $p < 0.05$

CHAPTER 5

DISCUSSION

5.1 Prevalence of Psychological Stress among Respondents

In the present study, the prevalence of psychological stress among the UPM medical students was 15.6%. This prevalence is lower than the prevalence of psychological distress among medical students in local universities which was ranging from 29.6% to 41.9% [2, 10]. Prevalences of 41.9% and 46.2% were reported in a Malaysian government medical school and in a Malaysian private medical school respectively, both of the prevalences were higher than the prevalence of psychological stress in this study [33, 34]. On the other hand, the prevalence of psychological stress in Singapore medical students was 57% which is higher than the prevalence in this study [4]. Based on the previous studies, stress prevalence among medical students ranges from 30% to 50% [4, 33, 34, 35, 36, 37, 38, 39]. The prevalence in the previous study was high compared to that of the students in other courses of study [4, 35]. This level of stress is high in comparison to the prevalence of the present study. The difference among these prevalences may be owing to the instruments used in measuring psychological stress among the medical students' population. Some studies have used instruments specifically measuring depression and anxiety while other studies have utilized measures that were meant for screening.

5.2 Sources of Stress among Respondents

The six sources of stress in this study were academic related stressors, intrapersonal and interpersonal related stressors, teaching and learning-related stressors, social related stressors, drive and desire related stressors and group activities related stressors. About 50% of medical students in UPM reported to have high to severe

stress in relation to their academic among all of the sources of stress in this study. Based on the previous studies, the top stressors were always related to academic matters as expected [10, 12]. Most of the stressors related to academic were rated as causing moderate to high stress. This is also in keeping with other studies [12, 37, 39, 40, 41, 42]

5.3 Association between Socio-demographic Factors and Psychological Stress among Respondents

There were no significant associations between age, year of study, gender and ethnicity with the psychological stress level among respondents. This is corresponding with the previous studies which have reported that socio-demographic factors had no significant association with psychological stress [15, 17, 19]. However, in the previous studies, female has found to have abnormal psychological stress level as compared to their counterparts [16, 17, 26]. With regard to ethnicity, minority students had higher distress level compared to the majority [21]. But another study has declared that minority students had slightly lower distress level compared to majority [20]. In conjunction with the year of study, the previous study has reported that medical students would have higher stress level in their first semester or first year of study [12, 25]. But there was an increase rate among clinical students which were third, fourth and final year students [12]. These previous studies showed some association between socio-demographic factors and psychological stress among medical students.

5.4 Association between Psychological Factors and Psychological Stress among Respondents

In relation to coping skill, emotional support had no significant association with psychological stress while venting and self blame coping skills had significant association with psychological stress among medical students. It shows that improper coping skills will eventually increase the psychological stress levels as medical students with high venting and self blame strategies used would be more stressful in their study. In previous research, students with different psychological well beings would have different coping skills, such as poor psychological well being students have more venting skills compared to their counterparts [18]. In addition, mindfulness-based stress reduction is effective stress management intervention for medical students [43].

In relation to personality trait, anxious worrying, personal reserve, perfectionism and effectiveness had significant association with psychological stress among medical students. Studies had found that low effective personality trait may increase the psychological stress level and eventually the risk of depression [17]. Less effective coping skills and low effective personality trait have relationship in increasing the psychological stress levels [44].

5.5 Association between Sources of Stress and Psychological Stress among Respondents

All sources of stress in this study had significant relationship with psychological stress among medical students in UPM. Most students experienced psychosocial and academic stressors. Medical students who experienced psychosocial and academic stressors would also experienced high level of psychological stress [5, 12, 40]

5.6 Conclusion

In the present study, the prevalence of psychological stress among medical students in UPM was considerably significant. The main source of stress among the medical students was higher in relation to their academic study than other related sources. Other related sources which caused mild to moderate stress included social related, interpersonal related, teaching and learning, drive and desire, also group activities contributed to the stress of medical students. Psychological stress among medical students was found to be significantly related to their coping style and personality trait. As such, interventions to help medical students to modify their coping styles are important in reducing their psychological stress. Early identification of personality trait that predisposes medical students to psychological stress would be helpful in the intervention as well.

5.7 Limitation

The cross sectional design of the study has not been able to establish a causal relationship between the independent and dependent variables. Self administered questionnaires used may have contributed to response set bias and underreporting particularly on psychological stress as respondents would fear of being stigmatized. This may underestimate the prevalence of psychological stress in the study.

The conclusion made in this study cannot be generalized to show the actual prevalence and association to medical students' population in Malaysia as the study population was only limited to UPM medical students.

5.8 Recommendation

Psychological stress is major problem among medical students and academic related stress has been the main the source of stress. Findings from the present study, suggests that early identification of psychological stress and their associated personality trait among medical students is important. In addition, intervention on improving coping styles might be helpful in order to reduce the prevalence of psychological stress among UPM medical students. Medical students may have to learn about coping styles that are more adaptive in dealing with their psychological stress. This will eventually help them to face more challenges once they enter their hectic working life and become more resilient to work and life related stress.

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Appendix 2:

RESPONDENT'S INFORMATION SHEET

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

STUDY TITLE

Factors Associated with Psychological Stress among Medical Students in Universiti Putra Malaysia

INTRODUCTION

Medical school is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health and psychological well being of the student. Undergraduate medical students have been the most distressed group of students compared to any other course undergraduates. This stress has serious consequences which may lead to the development of depression and anxiety. There are many sources that caused a high prevalence of stress among the medical students. Therefore, coping skill of medical students is important as how their coping skill will influence their adjustment to medical school as it will affect their quality of life in the medical school and their academic performance.

WHAT WILL YOU HAVE TO DO?

You have to read the information about the research and the consent form. If you agree to involve, please fill up the consent form. After that, you have to answer the questions in the questionnaire booklet.

WHO SHOULD NOT ENTER THE STUDY?

The students who are not understand of the questions and the students who are absent on the time the data being collected. Fifth year medical students who have graduated on time of data collection.

WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT?

You may know your psychological stress level as a medical student and you can get intervention to manage your stress better.

(b) TO THE INVESTIGATOR?

This research helps to identify various sources of stress which contribute to medical students' psychological stress level. The coping skills of the medical students to manage their stress level are also being studied. So, the intervention to manage the psychological stress suffering by the medical students can be developed.

WHAT ARE THE POSSIBLE RISKS?

None. It is because the questionnaire used is confidential and the confidentiality of the respondents are conserved.

**WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY
REMAIN CONFIDENTIAL?**

Yes. Only matric number is used to keep your identity remain confidential.

**WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS
DURING THE COURSE OF THE RESEARCH?**

- | | |
|---------------------------------|-------------|
| 1. Chai Gin Wei | 013 7788160 |
| 2. Muhammad Asyhraf Bin Rosnawi | 019 3652972 |



CONSENT FORM (RESPONDENT)

RESEARCH TITLE : FACTORS ASSOCIATED WITH PSYCHOLOGICAL STRESS AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA

RESEARCHER :

- | | |
|---------------------------------|--------|
| 1. CHAI GIN WEI | 163267 |
| 2. MUHAMMAD ASYHRAF BIN ROSNAWI | 163644 |

I Identity Card No.
address.....

.....hereby voluntarily agree to take part in the clinical research
*(clinical study, questionnaire study/ drug trial) specified above.

I have been informed about the nature of the clinical research in terms of methodology, possible adverse effects and complications (as written in the Respondent Information Sheet). I understand that I have the right to withdraw from this clinical research at any time without assigning any reason whatsoever. I also understand that this study is confidential and all information provided with regards to my identity will remain private and confidential.

I* wish / do not wish to know the results of the tests performed on any samples taken from me.

* delete where necessary

Signature Signature
(Respondent) (Witness)

Date : Name :

I/C No. :

I confirm that I have explained to the respondent the nature and purpose of the above –mentioned clinical research.

Date Signature
(Researcher)

Appendix 3: Questionnaire

SECTION A: Personal Details (Please circle the number)

1. Matric Number: _____

2. How old are you?
_____ (years)

3. What is the year of medical course are you in? 1 2 3 4 5

4. Gender: Male 1 Female 2

5. Race: Malay 1 Chinese 2 Indian 3

Others (please specify) _____ 4

SECTION B: From the listed items below, please rate them according to the following (please tick in the box)

0 = causing no stress at all, 1 = causing mild stress, 2 = causing moderate stress, 3 = causing high stress, 4 = causing severe stress

Items	How do you rate it?				
	0	1	2	3	4
1 Tests/examinations					
2 Talking to patients about personal problems*					
3 Conflicts with other students					
4 Quota system in examinations					
5 Verbal or physical abuse by other student(s)					
6 Parental wish for you to study medicine					
7 Need to do well (self-expectation)					
8 Not enough study material					
9 Conflict with personnel(s)					
10 Heavy workload					
11 Participation in class discussion					
12 Falling behind in reading schedule					
13 Participation in class presentation					

14	Lack of guidance from teacher (s)					
15	Feeling of incompetence					
16	Uncertainty of what is expected of me					
17	Not enough medical skill practice*					
18	Lack of time for family and friends					
19	Learning context – full of competition					
20	Teacher – lack of teaching skills					
21	Unable to answer questions from patients*					
22	Inappropriate assignments					
23	Having difficulty understanding the content					
24	Facing illness or death of the patients*					
25	Getting poor marks					
26	Poor motivation to learn					
27	Lack of time to review what have been learnt					
28	Verbal or physical abuse by teacher(s)					
29	Frequent interruption of my work by others					
30	Unable to answer the questions from the teachers					
31	Conflict with teacher(s)					
32	Unwillingness to study medicine					
33	Large amount of content to be learnt					
34	Need to do well (imposed by others)					
35	Not enough feedback from teacher (s)					
36	Unjustified grading process					
37	Lack of recognition for work done					
38	Working with computers					
39	Verbal or physical abuse by personnel(s)					
40	Family responsibilities					

*** If you are not in clinical year yet, please answer based on what do you feel if you face this situation.**

Verbal Abuse is defined as to speak insultingly, harshly and unjustly about a person.

Physical Abuse is defined as to treat in harmful, injurious or offensive way to a person.

SECTION C: Please read the statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down	0 1 2 3
2	I was aware of dryness of my mouth	0 1 2 3
3	I couldn't seem to experience any positive feeling at all	0 1 2 3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0 1 2 3
5	I found it difficult to work up the initiative to do things	0 1 2 3
6	I tended to over-react to situations	0 1 2 3
7	I experienced trembling (eg, in the hands)	0 1 2 3
8	I felt that I was using a lot of nervous energy	0 1 2 3
9	I was worried about situations in which I might panic and make a fool of myself	0 1 2 3
10	I felt that I had nothing to look forward to	0 1 2 3
11	I found myself getting agitated	0 1 2 3
12	I found it difficult to relax	0 1 2 3
13	I felt down-hearted and blue	0 1 2 3
14	I was intolerant of anything that kept me from getting on with what I was doing	0 1 2 3
15	I felt I was close to panic	0 1 2 3
16	I was unable to become enthusiastic about anything	0 1 2 3
17	I felt I wasn't worth much as a person	0 1 2 3
18	I felt that I was rather touchy	0 1 2 3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0 1 2 3
20	I felt scared without any good reason	0 1 2 3
21	I felt that life was meaningless	0 1 2 3

SECTION D: For each of the following statements, please tick the option that best describes the way you usually or generally feel or behave (over the years and not just recently).

	Not true at all	Slightly true	Moderately true	very true
1. I feel most secure when other people take control	()	()	()	()
2. I spend too much time worrying about what people think of me	()	()	()	()
3. I tend to stew over things	()	()	()	()
4. I try to guess what others are thinking and feeling about me	()	()	()	()
5. I tend to stress easily	()	()	()	()
6. I'm generally a worrier about things	()	()	()	()
7. I'm inclined to worry over quite minor things	()	()	()	()
8. Sometimes I take things too personally	()	()	()	()
9. I am very <i>uneasy</i> about opening up to other people	()	()	()	()
10. I avoid people getting personally too close to me	()	()	()	()
11. I don't like disclosing my true feelings to others	()	()	()	()
12. I don't like people getting too close to me	()	()	()	()
13. I feel uneasy when people try to get close to me	()	()	()	()
14. I prefer not to get too close to people	()	()	()	()
15. I tend to draw away from people when they get too close	()	()	()	()
16. Opening up to people makes me feel uneasy	()	()	()	()

	Not true at all	Slightly true	Moderately true	Very true
17. I always like to do my best	()	()	()	()
18. I commit myself fully to things I take on	()	()	()	()
19. I like to work to my full potential	()	()	()	()
20. I push myself to be the best at most things I do	()	()	()	()
21. I put high standards on myself and most things I take on	()	()	()	()
22. I try to do everything as well as possible	()	()	()	()
23. I try to succeed at most things	()	()	()	()
24. I work hard at most things	()	()	()	()
25. I feel confident in my ability to size up and deal with any situation	()	()	()	()
26. I feel I have little control over where my life is headed	()	()	()	()
27. I feel like I'm going around in circles in life	()	()	()	()
28. I know I cope poorly with things	()	()	()	()
29. I learn from the mistakes I make	()	()	()	()
30. I seem to fail more often than I succeed in Life	()	()	()	()
31. I'm really resourceful in tackling problems	()	()	()	()
32. My personality often causes me to lose out	()	()	()	()
33. Others see me as a reliable person	()	()	()	()
34. When things go wrong I am generally able to bounce back	()	()	()	()

**SECTION E: Try to rate each item separately in your mind from the others.
Make your answers as true FOR YOU as you can. (please circle the answer)**

- 1= I haven't been doing this at all
 2= I've been doing this a little bit
 3= I've been doing this a medium amount
 4= I've been doing this a lot

- | | | | | |
|--|---|---|---|---|
| 1. I've been turning to work or other activities to take my mind off things. | 1 | 2 | 3 | 4 |
| 2. I've been concentrating my efforts on doing something about the situation I'm in. | 1 | 2 | 3 | 4 |
| 3. I've been saying to myself "this isn't real." | 1 | 2 | 3 | 4 |
| 4. I've been using alcohol or other drugs to make myself feel better. | 1 | 2 | 3 | 4 |
| 5. I've been getting emotional support from others. | 1 | 2 | 3 | 4 |
| 6. I've been giving up trying to deal with it. | 1 | 2 | 3 | 4 |
| 7. I've been taking action to try to make the situation better. | 1 | 2 | 3 | 4 |
| 8. I've been refusing to believe that it has happened. | 1 | 2 | 3 | 4 |
| 9. I've been saying things to let my unpleasant feelings escape. | 1 | 2 | 3 | 4 |
| 10. I've been getting help and advice from other people. | 1 | 2 | 3 | 4 |
| 11. I've been using alcohol or other drugs to help me get through it. | 1 | 2 | 3 | 4 |
| 12. I've been trying to see it in a different light, to make it seem more positive. | 1 | 2 | 3 | 4 |
| 13. I've been criticizing myself. | 1 | 2 | 3 | 4 |
| 14. I've been trying to come up with a strategy about what to do. | 1 | 2 | 3 | 4 |
| 15. I've been getting comfort and understanding from someone. | 1 | 2 | 3 | 4 |

- | | | | | |
|--|---|---|---|---|
| 16. I've been giving up the attempt to cope. | 1 | 2 | 3 | 4 |
| 17. I've been looking for something good in what is happening. | 1 | 2 | 3 | 4 |
| 18. I've been making jokes about it. | 1 | 2 | 3 | 4 |
| 19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. | 1 | 2 | 3 | 4 |
| 20. I've been accepting the reality of the fact that it has happened. | 1 | 2 | 3 | 4 |
| 21. I've been expressing my negative feelings. | 1 | 2 | 3 | 4 |
| 22. I've been trying to find comfort in my religion or spiritual beliefs. | 1 | 2 | 3 | 4 |
| 23. I've been trying to get advice or help from other people about what to do. | 1 | 2 | 3 | 4 |
| 24. I've been learning to live with it. | 1 | 2 | 3 | 4 |
| 25. I've been thinking hard about what steps to take. | 1 | 2 | 3 | 4 |
| 26. I've been blaming myself for things that happened. | 1 | 2 | 3 | 4 |
| 27. I've been praying or meditating. | 1 | 2 | 3 | 4 |
| 28. I've been making fun of the situation. | 1 | 2 | 3 | 4 |

THANK YOU FOR YOUR COOPERATION.