

Psychological Distress and Lifestyle of Malay Medical Students

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Abstract

Background and Purpose: Medical education is a laborious program which may give negative consequences on the physical and psychological health of medical students. The aims of this study were to evaluate psychological distress among Malay medical students and to assess its relationship with their lifestyle.

Methods: A cross-sectional study was conducted among 221 Malay medical students. Psychological distress and lifestyle were assessed using Depression, Anxiety and Stress Scale (DASS-21) and Health-Promoting Lifestyle Profile II (HPLPII) respectively.

Results: About 30.8% of Malay medical students had mild to extremely severe depressive symptoms, 62.9 % showed mild to extremely severe anxiety symptoms, and 34.9% of them had mild to extremely severe stress. The depressive subscale was significantly higher among female than male students ($Z=-2.613$, $P=0.009$). There was a significant negative correlation between total psychological distress and spiritual growth ($r=-0.217$, $P=0.001$). Depression was found not only negatively correlated with spiritual growth ($r=-0.328$, $P=0.000$) but also interpersonal relationship ($r=-0.161$, $P=0.016$). Stress was inversely correlated with physical activity ($r=-0.172$, $P=0.011$). Preclinical students had significantly better scores in health responsibility ($Z=-2.301$, $P=0.021$), interpersonal relationship ($Z=-2.840$, $P=0.005$), stress management ($Z=-2.339$, $P=0.019$), spiritual growth ($Z=-2.483$, $P=0.013$) and nutrition and diet ($Z=-2.456$, $P=0.014$) than clinical students.

Conclusions: Malay medical students had significant symptoms that indicate psychological distress that related to their lifestyle. This warrants further psychiatric evaluation and management for them to be good and safe future doctors.

Keywords: DEPRESSION, ANXIETY, STRESS, LIFESTYLE, MEDICAL STUDENTS

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Introduction

A good doctor must be knowledgeable and possess ideal characteristics of compassion, integrity, empathy, professionalism, and commitment to service and lifelong learning.

In order to strive while yearning for basic medical knowledge together with nourishing those good qualities, our future doctors must have good psychological well-being. Unfortunately, many of our medical students face challenges during their medical training. Psychological distress among medical students is highly prevalent. Depending on the study and methods, the rate of psychological distress among them can be as high as 42-50% (1-3). Even worse, psychiatric disorders such as anxiety,

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depression (4), substance abuse (5), suicidal thinking and behaviours are also prominent (6). There are numerous studies that have been done to determine stressors that contribute to their distress. These include factors such as academic pressure, high parental expectation, poor interpersonal relationship with peers and lecturers, financial difficulties and many others (7-12).

Aristotle reminded us that; “the quality of life is determined by its activities” (13). In order to maintain a good quality of life and healthy wellbeing while striving in the challenging field of medicine, medical students should harbor an appropriate way of living. Their patterns of lifestyle should include maintaining physical health as well as psychological health. These can be achieved by having good health responsibility, taking balance diet and nutrition, involvement in physical activity and exercise together with having appropriate stress management, interpersonal relationships and spiritual growth. Having these basic elements of a healthy lifestyle is essential to creating resilience and preventing psychological distress among medical students (14). From our literature review to date, studies that examine comprehensively pattern of lifestyle among medical students is scarce. Therefore, this study aimed to determine the status of their psychological well-being by measuring the presence of psychological distress (depression, anxiety and stress) and at the same time identify the contribution of the pattern of lifestyle in relation to their psychological distress.

Methods

This study is part of a larger study to understand factors that influence the performance of medical students in a public university. The study was approved by Medical and Research Ethics Committee and Committee of Students Elective Posting of Faculty of Medicine, Universiti Teknologi MARA. Background pre-enrolment academic data of medical students from 2007 until 2010

was retrieved from academic unit of the faculty of medicine of a public university. Of 706 students enrolled in Preclinical years (Year 1-2) and Clinical years (Year 3-4), 221 students were randomly selected to evaluate their level of psychological stress and pattern of lifestyle.

The information sheets regarding the study and consent forms were given to the selected students. Then, oral briefing to explain regarding the study was carried out. Those who gave informed consent were enrolled in the study. The Depression Anxiety Stress Scales (DASS-21) was used to measure the pattern of psychological distress and the Health-Promoting Lifestyle Profile II (HPLPII) which comprises of six subscales (health responsibility, physical activity and exercise, nutrition and diet, spiritual growth, interpersonal relationship and stress management) was used to measure lifestyle.

DASS-21 has been validated and used by many studies locally (15-17) to measure the level of depression, anxiety and stress. There are 21 items in the set and respondents were asked to describe their conditions, according to four scales; “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 the time” and “3-Applied to me very much, or most of the time”.

The Health-Promoting Lifestyle Profile II comprises of 52 items where it assess 6 dimensions of lifestyle behavior: health responsibility, physical activity and exercise, nutrition and diet, spiritual growth, interpersonal relationship and stress management. Items are scored as never (N)=1, sometimes (S)=2, often (O)=3 and routinely (R) =4. HPLP II has also been used locally (15) and it has good validity and reliability in measuring patterns of lifestyle.

Data were analysed using SPSS 17.0. Exploratory Data Analysis (EDA) was used to check the normality and equality of variance assumptions. Normality test was done using Kolmogorov- Smirnov test. The population was not normally distributed and

nonparametric test, i.e. Mann-Whitney Test and Spearman Rank Order Correlation Test were used to analyse the relationship between the parameters.

Results

Background of Respondents

A total of 221 medical students were randomly selected. All the respondents were Malays. The age of respondents ranged from 21 years old to 24 years old with the median of 21 years old and interquartile range of 3.0 years old. The students were among preclinical and clinical students in which 53 (24.0%) students at the time of the study were in Year 1 and 56 (25.3%) in Year 2, 57 (25.8%) in Year 3 and 55 (24.9%) in Year 4. Of the total respondents, 50 (22.6%) were male students and 171 (77.4%) were female students.

Psychological Distress

In terms of the subscale of anxiety; about two third (n=140, 62.9%) of medical students had mild to extremely severe anxiety symptoms. Thirty-six (16.3%) of them had mild anxiety and 63 (28.5%) of them had moderate anxiety

symptoms. It is important to emphasize that (n=18, 8.1%) of them had severe anxiety and twenty-two (10.0%) of them had extremely severe anxiety symptoms.

Focusing on the subscale of depression, less than a third of students (n=68, 30.8%) had mild to extremely severe symptoms of depression. Thirty-four (15.4%) of the students had mild symptoms of depression, and 23 (10.4%) of them had moderate symptoms of depression. Four (1.8%) and 7 (3.2%) of students were found to have severe and extreme symptoms of depression respectively. Comparing psychological distress between male and female medical students, the depressive subscale was significantly higher among female than male students ($Z=-2.613$, $P=0.009$). No difference found between level of anxiety and stress in relation to gender.

In terms of stress, about a third of students (n=77, 34.9%) had mild to extremely severe stress. Thirty-six (16.3%) of the student had mild stress and 26 (11.8%) of them had moderate stress. For severe stress and extremely severe stress that are important to be emphasized, 12 (5.4%) and 3 (1.4%) of

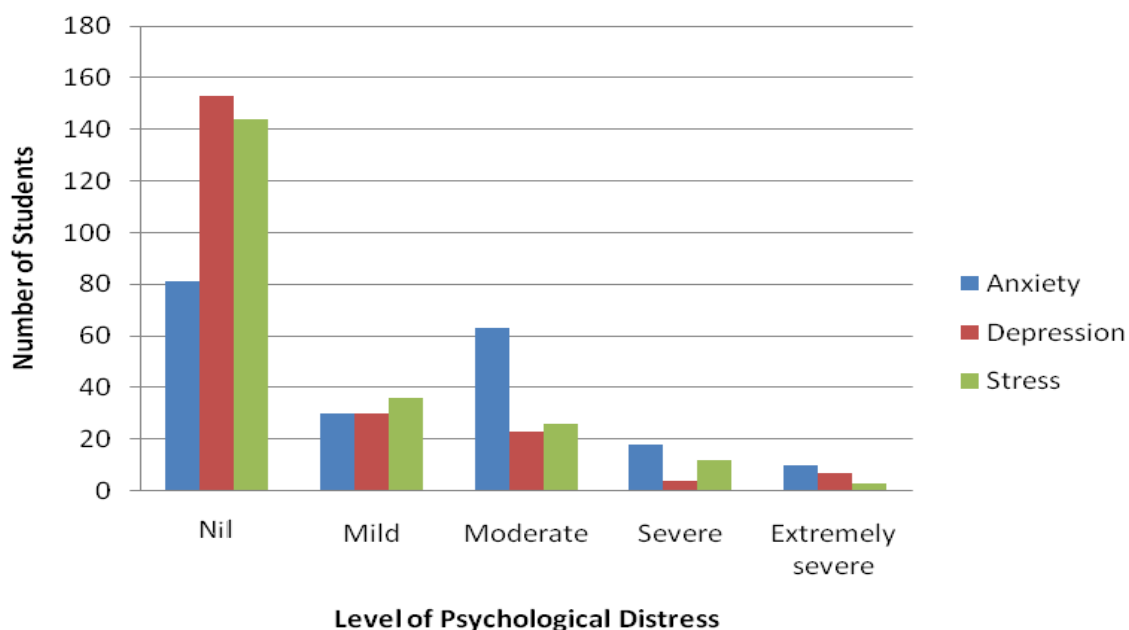


Figure 1. Patterns of Psychological Distress among Medical Students.

student had it respectively. Refer Figure 1 for the pattern of psychological distress among medical students.

We compared further the patterns of psychological distress between preclinical and clinical medical students, however no

significant difference established.

Lifestyle

Female medical students had a significantly better interpersonal relationship ($Z=-2.756$, $P=0.006$) than male medical students.

Whereas, male medical students had better

Table 1. Patterns of Lifestyle among Medical Students

Lifestyle Pattern	Preclinical Students (Year 1 & 2)	Clinical Students (Year 3 & 4)	Mann Whitney Test		Male Students	Female Students	Mann Whitney Test	
	Mean Rank	Mean Rank	(Z)	P value	Mean Rank	Mean Rank	(Z)	P value
Health responsibility	121.00	101.26	-2.301	0.021*	105.14	112.71	-.739	0.460
Stress management	121.14	101.13	-2.339	0.019*	116.11	109.51	-.646	0.518
Interpersonal relationship	123.34	98.99	-2.840	0.005*	89.14	117.39	-2.756	0.006*
Spiritual growth	121.79	100.50	-2.483	0.013*	98.69	114.60	-1.552	0.121
Nutrition and diet	121.67	100.62	-2.456	0.014*	102.09	113.61	-1.125	0.261
Physical activity and exercise	115.26	106.86	-.979	0.327	131.77	104.93	-2.619	0.009*

Association between variables were measured using Mann Whitney Test (Z)

*Significant level of $p < 0.05$ (2 tailed)

Table 2. Relationship between Psychological Distress (Depression, Anxiety and Stress) and Pattern of Lifestyle

Lifestyle Pattern	Psychological Distress							
	Depression		Anxiety		Stress		Total Score	
	Correlation coefficient (r)	P value	Correlation coefficient (r)	P value	Correlation coefficient (r)	P value	Correlation coefficient (r)	P value
Health responsibility	-0.065	0.336	0.086	0.204	-0.020	0.771	-0.018	0.789
Stress management	-0.024	0.726	0.058	0.394	-0.009	0.889	0.012	0.856
Interpersonal relationship	-0.161	0.016*	-0.079	0.245	-0.025	0.712	-0.106	0.116
Spiritual growth	-0.328	0.000*	-0.131	0.053	-0.132	0.050	-0.217	0.001*
Nutrition and Diet	0.003	0.964	0.071	0.297	0.078	0.251	0.059	0.383
Physical Activity and Exercise	-0.085	0.209	-0.031	0.644	-0.172	0.011*	-0.117	0.083

Correlation between variables were measured using Spearman Rank Correlation Coefficient (r)

*Result is significant at $p < 0.05$ (2-tailed).

physical activity and exercise ($Z=-2.619$, $P=0.009$) than female medical students. Preclinical students had significantly better scores in health responsibility ($Z=-2.301$, $P=0.021$), interpersonal relationship ($Z=-2.840$, $P=0.005$), stress management ($Z=-2.339$, $P=0.019$), spiritual growth ($Z=-2.483$, $P=0.013$) and nutrition and diet ($Z=-2.456$, $P=0.014$) than clinical students (Table 1).

The study found that subscale of depression was negatively correlated with spiritual growth ($r=-0.328$, $P=0.000$) and interpersonal relationship ($r=-0.161$, $P=0.016$). Furthermore, physical activity and exercise were also negatively correlated with stress level ($r=-0.172$, $P=0.011$). Table 2 shows the relationship between psychological distress (Depression, Anxiety and Stress) and pattern of lifestyle.

Discussion

This study found that a significant proportion of medical students had psychological distress. At the time of study, almost two third (62.9%) of medical students were having anxiety symptoms with 18.1% of them had severe to extremely severe anxiety symptoms. Considering the anxiety level of severe to extremely severe as clinical anxiety, the prevalence was less than that of the previous study (1), but it still warrants immediate intervention. This prevalence was comparable to the lifetime prevalence rate of anxiety among general population surveyed by the World Health Organization (WHO), with the general prevalence of anxiety within a 12-month period of 2.4% to 18.2%. In contrast with other studies in the United States and Canada (4), in a systemic review on psychological distress among medical students, the authors found that anxiety among medical students was more prevalent than the general population.

We found that less than a third of medical students (30.8%) had mild to extremely severe depression with only 5% of them complained of severe to extreme depressive symptoms. The rate of depressive symptoms

was almost similar with the rate found locally (1), but lower than the rate of depressive symptoms (12.9%) among medical students in Sweden (19). This rate was also less than the rate by another study elsewhere, whereby the authors found that the prevalence of moderate depression was 15% and severe depression was 2% measured by Beck Depression Index (BDI) 13-item (20). The differences in tools used in measuring depression may contribute to the discrepancy in the rate of depressive symptoms. Similar pattern of low prevalence of depression among medical students was found by other authors (21) who suggested that possible reason associated with low level of depression was difficulty in identifying and communicating feelings or alexithymia among the respondents. Even though the rate of depression among this group of medical students was lower than the rate of depression in the general population (22), we found a similar trend of depression in relation to gender; the depressive subscale was significantly higher among female than male students.

This study revealed about a third (34.9%) of medical students were facing stress during the time of study with 6.8% of them experiencing severe to extremely severe stress. This figure was slightly lower than previous local studies that found 41.9% and 46.2% of the medical students had psychological stress respectively (1, 23). This rate of stress was also lower compared to the study, which reported that 47.9% of medical students at Antalya, Turkey which measured stress using General Health Questionnaires (GHQ) (25). In contrary, these levels of stress were higher than study in Thailand (26) which found about 61.4% of medical students had some degree of stress whereas 2.4% of them reported a high level of stress. It was also comparable with the prevalence of emotional disturbances (31.2%) measured by GHQ among medical students in British (27).

Focusing on the relationship of psychological distress and pattern of lifestyle; interestingly, we found significant inverse correlations

between certain types of psychological distress with the pattern of lifestyle among medical students. Generally, our medical students who had a higher score in total domain of psychological distress were likely to have a lower level of spiritual growth. Many people believe that managing stress through spiritual coping (such as turn to religion) may reduce stress. This fact is supported by a study which introduced 8-week meditation of spiritual intervention (such as meditation) for premedical and medical students (28). The authors established a remarkable effectiveness in terms of managing anxiety, stress and depression among those students. However, in a recent a meta-analysis on the efficacy of religious coping for people dealing with stressful situations (29); a mixture of positive and negative results was demonstrated.

Furthermore, our study also indicated that medical students had a tendency to have higher depressive symptoms if they had not only poorer spiritual growth but also poorer interpersonal relationships. Our finding was supported by a study which highlighted on the contribution of problem with the interpersonal relationship not only to stress but also moral values and academic performance of medical students (30).

There is mounting evidence that has been accrued about the physical and psychological health benefits of regular physical activity. The causal link between reduced physical activity and exercise with stress has been demonstrated by many biological and clinical studies (24-31). The same scenario occurred in our group of medical students. Those medical students who felt more stressed up were among those who had lesser physical activity and exercises. As expected, male medical students had better physical activity and exercise compared to female medical students. Knowing the significance of physical activity and exercise as part of stress management, a review of the medical school curriculum to increase knowledge of the benefits of physical activity among medical students is necessary (32).

We investigated further contribution of gender in relation to psychological distress and the pattern of lifestyle. As mentioned earlier, depressive subscale was significantly higher among female than male students. Female students had more interpersonal relationship than male medical students. Whereas male students had more physical activity and exercises compared to female counterpart. It was not a surprising finding because variations in gender in terms of level of stress and coping strategies not only demonstrated by medical students (10, 33) but also others in the general population (34). Many studies had demonstrated that medical students' psychological wellbeing was comparable to their non-medical colleagues' at the beginning of the study, but worsened throughout their course in medical school (14). Interestingly, we found that despite having poorer scores in most of the domains of lifestyles, the level of psychological distress among clinical medical students was comparable with preclinical counterpart. This could be due to the presence of protective factors (such as resilience, coping skill, and type of personality) which need to be investigated further that prevent them from having significant psychological distress.

There were several limitations that could influence the outcome of this study. Due to a short duration and limited resources during the elective posting, we only managed to conduct a cross sectional study among Malay students in one particular public university. This may not represent the true population of medical students in general. Therefore, the result reflects only the selected students that may have different demographic data, different lifestyle and other characteristic in comparison to population of medical student. Lifestyle domain encompasses various ranges of other behaviors (such as smoking habit, substance use) and psychological factors (such as coping strategies, personalities, attitudes and etc.); we hope to be able to examine those factors in relation psychological distress among medical students in near future.

Conclusion

In conclusion Malay medical students had significant psychological distress such as anxiety, depression and stress, which were associated with their lifestyle. Spiritual growth and physical exercise may help students to overcome their distress. Medical students have to practice good lifestyle in order for them to equip themselves to be safe and good future doctors.

Conflict of Interest

The author declares no conflict of interest.

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