

นิพนธ์ต้นฉบับ

ภาวะซึมเศร้าในนักศึกษาแพทย์ไทยชั้นปีที่สอง: การศึกษาในกรุงเทพมหานคร

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บทคัดย่อ

ที่มาของปัญหา: ภาวะซึมเศร้า เป็นหนึ่งในความเจ็บป่วยทางจิตเวชที่พบบ่อยที่สุดในกลุ่มนักศึกษาแพทย์ทั่วโลก ที่ส่งผลกระทบต่อประสิทธิภาพในการทำงาน และทำให้คุณภาพชีวิตของนักศึกษาแพทย์ลดลง โดยสภาวะแวดล้อมในการใช้ชีวิตของนักศึกษาแพทย์ชั้นปีคลินิกนั้นมีความแตกต่างจากนักศึกษาแพทย์ชั้นคลินิก การศึกษาที่มุ่งหวังการนำไปใช้เพื่อหาวิธีการแก้ไขและป้องกันที่เป็นรูปธรรมสำหรับปัญหาภาวะซึมเศร้าในนักศึกษาแพทย์ชั้นปีที่สอง

วัตถุประสงค์: เพื่อศึกษาความชุกและระดับความรุนแรงของภาวะซึมเศร้าในนักศึกษาแพทย์ชั้นปีที่สอง และศึกษาปัจจัยที่มีความสัมพันธ์กับภาวะซึมเศร้าในนักศึกษาแพทย์ชั้นปีที่สอง

วิธีการศึกษา: เก็บข้อมูลแบบภาคตัดขวาง (cross-sectional study) ในนักศึกษาแพทย์ชั้นปีที่สอง คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล โดยใช้แบบสอบถาม Patient Health Questionnaire-9 (PHQ-9) ฉบับภาษาไทยในการประเมินภาวะซึมเศร้า สำหรับการศึกษาปัจจัยที่มีความสัมพันธ์กับโรคซึมเศร้า ได้ทำการประเมิน ข้อมูลทั่วไป ความสัมพันธ์กับครอบครัว ความสัมพันธ์กับเพื่อน ระดับการมีสติรู้ตัว และความภาคภูมิใจในตัวเอง โดยใช้แบบประเมินต่อไปนี้ตามลำดับ ได้แก่ แบบสอบถามสัมพันธภาพระหว่างนักเรียนและผู้ปกครอง แบบสอบถามสัมพันธภาพกับเพื่อน Philadelphia Mindfulness Scale (PHLMS) ฉบับภาษาไทย และแบบประเมินความภาคภูมิใจในตัวเอง การวิเคราะห์ข้อมูลทำโดยใช้ univariate logistic regression และ contingency table

ผลการศึกษา: จากกลุ่มนักศึกษาแพทย์ชั้นปีที่สอง 275 คน พบนักศึกษาแพทย์ที่ผลการคัดกรองภาวะซึมเศร้าเป็นบวกทั้งหมด 71 คน (ร้อยละ 25.8) ปัจจัยที่สัมพันธ์กับภาวะซึมเศร้า ได้แก่ การมีบุคคลที่สามารถเป็นที่ปรึกษาได้ ($OR=0.40$, 95%CI [0.21,0.75], $p=0.004$) การมีความสัมพันธ์กับครอบครัวที่ดี ($\beta=-0.05$, $p=0.002$) การได้คะแนน PHLMS สูง ($\beta=-0.12$, $p<0.01$) และการตัดสินใจเรียนแพทย์ด้วยตนเอง

สรุป: ความชุกของภาวะซึมเศร้าในนักศึกษาแพทย์ชั้นปีที่สอง สูงกว่าความชุกในประชากรทั่วไป (ร้อยละ 18.4%) ปัจจัยที่เป็น protective factor ได้แก่ การมีบุคคลที่สามารถเป็นที่ปรึกษาได้ การมีความสัมพันธ์กับครอบครัวที่ดี การได้คะแนน PHLMS สูง และการตัดสินใจเรียนแพทย์ด้วยตนเอง ($OR=0.36$, 95%CI [0.16,0.83], $p=0.01$)

คำสำคัญ: ภาวะซึมเศร้า, นักศึกษาแพทย์, การเรียนการสอนแพทยศาสตร์บัณฑิต, ระดับการมีสติรู้ตัว

ORIGINAL ARTICLE

Characteristics of Depression in Second Year Medical Students: A study in Bangkok

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ABSTRACT

BACKGROUND: Depression is one of the most common mental illnesses that decrease quality of life in medical students worldwide. This article focuses on depression in Thai second-year medical students; whose learning environment is different from those in clinical years; and aim to contribute to proper interventions of depression in second-year medical students.

OBJECTIVES: (1) To find prevalence of depression in second year medical students (2) To find associated factors of depression in second year medical students

METHODS: A cross-sectional study was performed at the Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand. The Patient Health Questionnaire-9 (PHQ-9), Thai version was applied to explore prevalence of depression in second year medical students. The selected associated factors, including interpersonal relationships, mindfulness, and self-esteem were determined using peer and family relationship questionnaire, Thai version of the Philadelphia Mindfulness Scale (PHLMS) and Thai version of Rosenberg's self-esteem scale, respectively. Analysis was done using risk estimation by applying a contingency table and univariate logistic regression.

RESULTS: Among 275 second year medical students participating in this study, 71 (25.8%) had positive screening for depression. Four associated factors were significantly correlated with lower PHQ-9 scores. These factors included (1) a personal counselor or peer support (OR=0.40, 95%CI [0.21,0.75], $p=0.004$); (2) a good family relationship ($\beta=-0.05$, $p=0.002$); (3) a higher score in the Thai version of the Philadelphia Mindfulness Scale (PHLMS) ($\beta=-0.12$, $p<0.01$); and (4) autonomy in the medical student's decision to study medicine (OR=0.36, 95%CI [0.16,0.83], $p=0.01$).

CONCLUSIONS: The prevalence of depression among Thai second year medical students were higher than that of the general population (18.4%). Several factors were associated with a lower PHQ-9 score, including having a personal counselor or peer support, autonomy in their decision to study medicine, having a good family relationship, and having mindful thoughts.

KEYWORDS: depression, medical education, medical student, mindfulness

INTRODUCTION

Depression is one of the most common mental illnesses that can affect an individual's quality of life. WHO estimates in 2015 suggested that 322 million people have depression, accounting for 4.4% of the global population, representing an increase of 18.4% compared to in 2005.¹ According to the Thai Mental Health Epidemiology Report in 2008, 1.5 million people or 3% of the Thai population had depression. The prevalence of depression tends to be low in childhood and becomes higher during the adolescent period until early middle-aged, with one study reporting the prevalence of depression increases from 1.5%–2.5% in childhood to 15%–20% in late adolescence.²

In undergraduate students, studies showed higher prevalence of depression compared with general population, with the prevalence of 31.9% and 24.0% in Northern and Central region of Thailand, respectively^{3,4} However, both studies did not illustrate the differences of the prevalence between health related and non-health related faculty.

In faculty of medicine, one study demonstrated that 32.9% of first to third year medical students, which are defined as preclinical students, had positive screening for depression.⁵ The factor associated with depression in preclinical students was the parents' desire to study medicine; however, from another study in both preclinical and clinical students, sleep deprivation was the factor that was associated with depression.⁶ These discrepancies might be due to the difference in environment and learning styles between preclinical and clinical medical students.

There are multiple factors associated with Depression such as gender, grade point average (GPAX), self-esteem, and relationship. Relationships with friends and family play key roles in the development of depression during adolescence, especially

childhood-nurturing issues.⁷

This study aimed to explore the prevalence of depression in Thai second year medical students and the associated factors, which could benefit both preventing and screening protocols as well as guiding care for the affected students.

METHODS

Study design

This study was a cross-sectional study conducted in September 2019 among the second-year medical students of Siriraj Medical School via an online data collection platform, approved by the Institutional Review Board of the Faculty of Medicine Siriraj Hospital, Mahidol University (COA no.Si 332/2019). Every student was invited to voluntarily participate in the study. Informed consents were obtained after the aims and objectives of the study had been explained by the researchers, who were not teachers. The researchers disclosed all the studies' purposes, benefits, and adverse effects to the target population. Each participant voluntarily decided to join the study.

Sample size calculation

The sample size was calculated using the following formula:

$$n = \frac{z^2 \times p(1 - p)}{\varepsilon^2}$$

where, n =number of participants; Z =Z-score, corresponding to a significance criterion of 0.05, which is 1.960; p =pre-study estimation of the prevalence of depression among medical students, which was 19.6% as reported in a previous study⁶; and ε =the amount of error that can be tolerated, which is 0.05. From the calculation, it was found that 243 participants were required in this study.

Data collection

A research questionnaire was given to the

participants via an online data collection platform in September 2019. This questionnaire consisted of six parts. The first part aimed to collect general information, including sex, GPAX, parents' marriage status, main caregiver, monthly family income, having a personal counselor, physical illness, family history of psychiatric disorders, and autonomy for the participant's decision to study medicine. The cut-off point of GPAX was set at 3.25 to match the criteria for second-class honor.

The second part was the Thai version of the 9-item Patient Health Questionnaire (PHQ-9). It consists of 9 symptoms according to the diagnostic criteria for Major Depressive Disorder in Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV).⁸ Scores for each item in the PHQ-9 range from 0 (not at all), to 1 (several days), 2 (more than half the days), and 3 (nearly every day). The Thai version of PHQ-9 is currently used as a screening tool for depression with a sensitivity of 84% and a specificity of 77% at a cut-off value of 9 or greater.⁹

The third part of the questionnaire was the revised version of Thai Rosenberg's self-esteem scale, which consists of 10 items.¹⁰ The score from each item ranges from 1–4. Higher scores correlate with higher self-esteem.

The fourth part of the questionnaire was a peer-relationship questionnaire,¹¹ which included 23 items, using a Likert rating scale ranging from 1 to 5. Higher scores are correlated with a positive attitude toward friendship. The fifth part was a family-relationship questionnaire¹¹, consisting of 23 items using the same scale as used in the peer-relationship questionnaire. Higher scores are associated with a better family relationship.

Finally, the last part of the questionnaire was the Thai version of the Philadelphia Mindfulness Scale (PHLMS).¹² This is a tool designed for assessing mindfulness, and it consists of two subscales, namely an awareness scale and acceptance scale, which can be measured independently with minimal

inter-factor correlation using a Likert rating scale from 1 to 5.

Statistical analysis

The analysis was started by calculating the percentage prevalence of depression. Data were analyzed using SPSS software version 26. Chi-square or univariate logistic regressions were used to identify associations between variables from the questionnaires and depressive symptoms. A p -value <0.05 was set as the threshold of statistical significance.

RESULTS

A total of 275 from 322 second-year medical students participated in this study, of whom 136 were men (49.4%). Most of the participants (82.2%) had a GPAX score above 3.25 out of 4.00. A minority (9.1%) had divorced parents. Only 2.2% had a main caregiver who was neither their father nor mother. Just over a quarter, or 27.3%, had a monthly family income of less than 50,000 baht. Most of the participants had a personal counselor (81.8%). A few, 12%, had an underlying disease, while a smaller number, 2.9%, had a family history of psychiatric disorders. For 9.4% of the participants, it was not their own decision to study medicine.

Using the PHQ-9 questionnaire, 71 participants (25.8%) scored 9 or more, which indicated a positive screening for depression (Figure 1).

Two factors in the general information part were found to be significantly correlated with the PHQ-9 score. (Table 1): first, having a personal counselor or peer support, which was found to be associated with a lower prevalence of depression (Odd Ratio (OR)=0.40, 95% Confidence Interval (95%CI) [0.21,0.75]; $p=0.004$), and second, autonomy in their decision to study medicine. Students who made their own decision to study medicine were found to have a lower prevalence of depression (OR=0.36, 95%CI [0.16,0.83]; $p=0.01$).

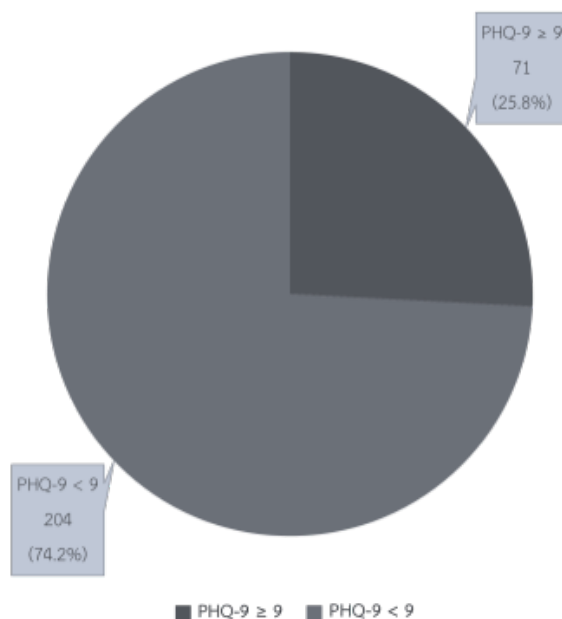


Figure 1 PHQ-9 scores

Table 1 Factors associated with depression

General information		Depressed	Not depressed	ORs (CI)	p-value
Sex	male	30	106	0.67 (0.39–1.17)	0.16
	female	41	98		
GPAX	≥3.25	60	166	1.25 (0.60–2.59)	0.55
	<3.25	11	38		
Parent's marriage status	married	62	188	0.59 (0.25–1.39)	0.22
	divorced	9	16		
Main caregiver	mother/father	70	199	1.76 (0.20–15.31)	0.61
	others	1	5		
Family income	≥50,000	54	146	1.26 (0.68–2.36)	0.47
	<50,000	17	58		
Personal counselor	present	50	175	0.40 (0.21–0.75)	0.004
	absent	21	29		
Underlying disease	present	13	20	2.06 (0.97–4.40)	0.06
	absent	58	184		
Family history of psychiatric disorders	present	0	8	0.73 (0.68–0.79)	0.09
	absent	71	196		
Autonomy on decision to study medicine	self-decided	59	190	0.36 (0.16–0.83)	0.01
	not self-decided	12	14		

Among the standardized questionnaire parts, a good family relationship and a higher score in the Thai version of the Philadelphia Mindfulness Scale (PHLMS) were found to be significantly negatively correlated with the prevalence of depression with $\beta = -0.05$, $p = 0.002$ and $\beta = -0.12$, $p < 0.01$, respec-

tively (Table 3). For PHLMS, when analyzing the acceptance part and awareness part independently, it was found that a higher score in the acceptance part was significantly correlated with a lower prevalence of depression.

Table 3 Correlation of depression among the standardized questionnaires

Questionnaire	β	S.E.	p-value	Exp(β)
Thai version of Rosenberg's self-esteem scale	0.19	0.07	0.004	1.21
Peer-relationship questionnaire	0.04	0.03	0.17	1.04
Family-relationship questionnaire	-0.05	0.02	0.02	0.95
Philadelphia mindfulness scale-Acceptance	-0.17	0.03	<0.01	0.84
Philadelphia mindfulness scale-Awareness	-0.02	0.02	0.37	0.98
Philadelphia mindfulness scale- Combined	-0.12	0.02	<0.01	0.89

DISCUSSION

This study demonstrated that the prevalence of depression using Thai version of PHQ-9 screening tools among second year medical students at the Faculty of Medicine Siriraj Hospital was 25.8%, which was 8.6 times higher than the prevalence of depression in normal Thai population (3%). This result resembled the finding of a study at the Faculty of Medicine in Thailand's Northeastern region, where 32.87% of preclinical medical students had depression. Compared with the study of the prevalence of depression in 2nd-6th year medical students in the Faculty of Medicine Siriraj Hospital published in 2007, which showed a prevalence of 19.6%, the current prevalence was higher.⁶ The difference in prevalence might be attributed to discrepancy in population characteristic. This may be explained by the fact that our study only included second-year medical students, which is the first year of a rigorous medical curriculum demanding considerable change to both learning style and lifestyle.

A study in First year university students in the southern region of Thailand showed the higher prevalence of depression compared to the current study and might suggest that students from different region of Thailand have different prevalence of depression.¹³ The higher number in southern area might be due to the violence in restive area of southern border provinces.

To the best of our knowledge, our study is the first to highlight two factors associated with a lower PHQ-9 score, which are personal counselor or peer

support and the autonomy in the medical student's decision to study medicine.

In terms of family factors, many studies have revealed that parental support is a protective factor against adolescent's developing depression.^{14,15} Despite only showing a small magnitude in this study, getting a higher score in the questionnaire for the family relationship significantly indicated that the student would be at lower risk of developing depression. This result corresponded with data from a study performed with Thai high-school students, which revealed that parent-child relationship problems were significantly associated with depression.¹⁴ A study on United States adolescents also showed that poor parental support, meaning a lack of caring, sympathizing, and accommodating, significantly predicted depressive symptoms in adolescents.¹⁵

Mindfulness has received a great deal of interest in the past decades. Several studies have revealed that mindfulness interventions, such as mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT), have positive outcomes with chronic pain and psychopathology, e.g., depression.¹⁶ Compared with the Cognitive Behavioral Therapy (CBT), Mindfulness-Based Therapy are equally efficacious in treating current adult depression.¹⁷ In our study, higher Thai-version PHLMS acceptance scores were associated with lower PHQ-9 scores. This result corresponded with a study on undergraduate students in Pennsylvania, in which higher PHLMS acceptance scores were found to be correlated with lower scores on measures

of psychopathology.¹⁸ In this study, awareness did not show a significant correlation with depression.

Limitations

There were some limitations that needed to be discussed. Firstly, the study cannot indicate causality between the associated factors and symptoms of depression owing to the cross-sectional nature of the study. Secondly, because of the multiple sections of the questionnaires, the long completion time may reduce attention of participants, resulting in lower accuracy of the answers. Thirdly, the participants of this study were only the second-year medical students in Bangkok, where the university's location might affect the results of the study and may not represent Thai medical student from other regions. Lastly, the data collection was finished before the COVID-19 outbreak, which may not reflect the effect of the pandemic on students' mental health. Further research focusing on the influence of the pandemic is warranted.

Depression is one of the major burdens of second-year medical students. Peer support is one of the protective factors to avoid getting depression and is not limited to their friends. Teachers are one of the key counselors that students may look for. Therefore, having teachers with good counseling skills can be crucial for helping students with depression. Modifying the academic curriculum to promote peer support may help to lower the problem, but further study should be conducted in this area. Providing adequate information about studying medicine to the parents of high-school students and correcting the attitude of other people towards doctors may help reduce the pressure from parents on a student's decision to pursue medicine rather than what they want. Good family relationships also serve as a protective factor against depression. Raising awareness and providing knowledge about childhood-nurturing and how to deal with adolescents are important keys to improving this risk factor. Having mindful thoughts, especially acceptance skills, is also

crucial in lowering the risk of depression. Mindfulness-based therapy is recommended as an alternative treatment for students who have depression.

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Conflicts of interest: All authors declare no competing interests

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