

Psychological Problems and Overweight in Medical Students Compared to Students from Faculty of Humanities, Srinakharinwirot University, Thailand

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Background: Medical students have a high prevalence of stress, depression, daytime sleepiness, sleep deprivation and overweight. The students from the social sciences such as Faculty of Humanities, may have different problems. The aim of this study was to compare the epidemiology of stress, depression, daytime sleepiness, sleep deprivation and overweight of medical students with students from Faculty of Humanities, Srinakharinwirot University.

Material and Method: Total of 646 students from Faculty of Medicine and 103 students from Division of Children's Literature, Faculty of Humanity from Srinakharinwirot University were selected; the response rate was 75% and 83.5%, respectively. The design was cross-sectional study. Each participant was evaluated by Health-Related Self-Reported (HRSR) Scale from Psychological Department, Ministry of Public Health, Suanprung stress test from Suanprung Hospital, Thailand, and Epworth sleepiness scale during February, 11th 2008 to March, 4th 2008. Categorical variables were analyzed using the Chi-square test or Fisher exact test and p-value less than 0.05 was considered significant.

Results: The prevalence of depression in medical students was 11.5% and the prevalence of depression in students from Faculty of Humanities was 12.2%. Medical students in clinical class had high to severe stress more than medical students in pre-clinical class and had the most sleep deprivation on class 6. Male medical students had sleep deprivation and overweight more than female. Medical students with underlying diseases had high to severe stress, but students from Faculty of Humanities had depression. Medical students had odds ratio of stress and sleep deprivation 0.61 and 0.39, respectively compared to the students from Faculty of Humanities.

Conclusion: The students from Faculty of Humanities had high to severe stress and sleep deprivation more than medical students but they were the same as depression, excessive daytime sleepiness and overweight. The administrators of each faculty should adjust the curriculum and train the advisors to support their students.

Keywords: Stress, Depression, Daytime sleepiness, Sleep deprivation, Overweight, Medical students, Students from Faculty of Humanities

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Medical students have a high prevalence of stress, depression, daytime sleepiness, sleep deprivation and overweight. The explanation is that medical curriculum is an intensive course and long lasting than other faculties. The major course divides into two

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courses; one is pre-clinical course in year 1, year 2 and year 3 and the other is clinical course in year 4, year 5 and year 6. Pre-clinical course composes of basic sciences and basic medical sciences that medical students study in the lecture rooms and laboratory rooms. The clinical course composes of applied medical sciences that medical students need to study with the real patients on the wards all day and night. Their life styles are changed that may cause psychological problems

such as depression, stress and sleep disorder such as daytime sleepiness, sleep deprivation. They spend longer time using computer, eating more while stress and snacking between meals which lead to overweight⁽¹⁾. Previous study compared between depression of medical students and depression of chemistry students. The authors found that there was no difference on the prevalence of depression⁽²⁾.

On the opposite site, the students from the social sciences such as students from Faculty of Humanities, may have problems different from medical students unlike chemistry students. These students study in a shorter course than medical students. They spend a lot of time in the lecture rooms and outdoor activities. They must create new products or reports every academic period. Some academic periods need to create too many reports thus they may have sleep deprivation and may have daytime sleepiness, stress and depression. Their life styles are different from the medical students that may affect the body mass index, too. The effects from these factors should be evaluated to determine the health status of student from each faculty. The aim of this study is to compare the epidemiology of stress, depression, daytime sleepiness, sleep deprivation and overweight of medical students with students from Faculty of Humanities, Srinakharinwirot University.

General definition

The underlying diseases of medical students composed of allergic rhinitis 74%, asthma 20%, migraine 5% and others such as Grave's disease. And underlying diseases of the students from Faculty of Humanities composed of allergic rhinitis 65%, asthma 15%, migraine 10% and others such as leukemia, Thalassemia and epilepsy.

Operative definition

The diagnostic screening test for depression in Thai population was Health-Related Self-Reported (HRSR) Scale from Psychological Department, Ministry of Public Health, Thailand. The authors interpreted depressive score as:

Depressive score of 25 or more and less than 30 defined as stress situation, depressive mood, or other psychological problems that should get early treatment.

Depressive score of 30 or more defined as major depression.

The authors categorized depressive score in two groups: one group was less than 25 as normal and the other group was 25 and more as depression.

The diagnostic screening test for stress was Suanprung stress test from Suanprung Hospital, Thailand. The authors interpreted stress score as:

Stress score of 0 to 23 defined as mild stress.

Stress score of 24 to 41 defined as moderate stress.

Stress score of 42 to 61 defined as high stress.

Stress score of 62 or more defined as severe stress.

The authors categorized stress levels in two groups: one group was mild to moderate stress and the other group was high to severe stress.

The Epworth sleepiness scale (ESS) was a questionnaire intended to measure daytime sleepiness. The authors defined excessive daytime sleepiness as Epworth sleepiness scale was 10 score or more. This can be helpful in diagnosing sleep disorders. It was introduced in 1991 by Dr. Murray Johns of Epworth Hospital in Melbourne, Australia⁽³⁾.

Sleep deprivation defined as night time sleep less than 6 hours⁽⁴⁾.

The body mass index (BMI) was equal to body weight in kilograms divided by Height in square meters. It was classified by Ministry of Public Health, Thailand according to:

BMI of less than 18.5 defined as underweight

BMI of 18.5-22.9 defined as normal

BMI of 23-24.9 defined as risk to overweight

BMI of 25-29.9 defined as obesity type 1

BMI of 30 and more defined as obesity type 2

The authors defined overweight as BMI of 23 and more, included risk to overweight, obesity type 1 and obesity type 2.

Material and Method

Study population

All students from Faculty of Medicine and all students from Children's literature division, Faculty of Humanity from Srinakharinwirot University were selected by cluster sampling. The design was cross-sectional study. Each participant was evaluated at the end of the second semester. This project was permitted by Ethical committee of Faculty of Medicine, Srinakharinwirot University.

Data collection

The questionnaires composed of four parts. The first part inquired age, gender, class, grade, weight, height, sleep time, awoken time and snoring. The second part composed of the diagnostic screening test for depression in Thai population: Health- Related Self-

Reported (HRSR) Scale from Psychological Department, Ministry of Public Health, Thailand. The third part composed of Suanprung stress test from Suanprung Hospital, Thailand. The fourth part composed of Epworth sleepiness scale. At the end of the second semester, the questionnaires were sent to the students during February, 11th 2008 to March, 4th 2008. The questionnaires illustrated identification number of each student for follow-up in the future.

Statistical analysis

Categorical variables were analyzed using the Chi-square test or Fisher exact test. The odds ratio was used to compare stress, depression, ESS, sleep deprivation and overweight between the students of Faculty of Medicine and the students of Faculty of Humanity. A two-tailed p-value of less than 0.05 was considered significant.

Results

The total students from Faculty of Medicine were 646 and from Children's literature division, Faculty of Humanity were 103. The participants from Faculty of Medicine were 593 and from Children's literature division, Faculty of Humanity were 99 so the response rate was 91.8% and 96.1%, respectively.

High to severe stress and sleep deprivation correlated to class ($p < 0.05$). Medical students in clinical class had high to severe stress more than medical students in pre-clinical class and they had the highest sleep deprivation on class 6 and then they had sleep deprivation on class 3, class 2, class 4, class 5 and class 1, respectively.

Sleep deprivation correlated to class ($p < 0.05$). The students from Faculty of Humanities had the highest sleep deprivation on class 3 and then they had sleep deprivation on class 4, class 2 and class 1, respectively.

Male students from Faculty of Medicine had, sleep deprivation and were overweight more than female students ($p < 0.05$). But there was no significant

difference of students in the Faculty of Humanities.

Medical students with grade more than 3 were less stress, sleep deprivation and overweight than lower grade ($p < 0.05$). The students from Faculty of Humanities with grade more than 3 had overweight less than lower grade ($p < 0.05$).

Medical students with underlying diseases had stress more than the ones without underlying diseases ($p < 0.05$). The students from Faculty of Humanities with underlying diseases had depression more than the ones without underlying diseases ($p < 0.05$).

The students from Faculty of Humanities had high to severe stress and sleep deprivation more than the medical students with odds ratio 1.64 and 2.56, respectively ($p < 0.05$). They were the same as depression, excessive daytime sleepiness and overweight ($p > 0.05$).

Discussion

Medical students in clinical class had high to severe stress more than those in pre-clinical class (Table 2) because they have to contact with real patients and they must take care of patients all day and night, especially in those class 6 which had the highest sleep deprivation (Table 2). The life styles of medical students in clinical class were change from pre-clinical class at Srinakharinwirot University due to their moving to live at Ongkharak Campus outbound from Bangkok. These change of life styles increase stress on clinical class when compared to pre-clinical class in the same as the medical students in Portugal⁽⁵⁾. The previous study found that family support was a key role in establishing students' confidence in their ability to deal with the challenges of academic stress from medical curriculum⁽⁶⁾ so medical students living in university dormitories were significantly more depressed and anxious than those living at home⁽⁷⁾. The medical students had the highest prevalence of excessive daytime sleepiness (ESS) when compared to other problems (Table 2) because their academic life style needs to work all day and night. The students from Faculty of Humanities on

Table 1. Describe the characteristics of students in each faculty

Faculty	Gender (%)		Mean age in year (range)	Mean weight in kilogram (range)
	Male	Female		
Humanity	12 (12.1)	87 (87.9)	53.5 (38-100)	19.9 (18-23)
Medicine	243 (41)	350 (59)	57.5 (30-120)	20.7 (15-27)

class 3 had the highest sleep deprivation (Table 3) because they had to do a lot of reports at night. The students from Faculty of Humanities had the highest prevalence of high to severe stress when compared to other problems (Table 3) because they had a lot of projects or reports which needed to contact with several organizations or many people that increased stress.

Medical students had a gender different in sleep deprivation and overweight; male had more than female (Table 4). Sleep deprivation might cause obesity⁽⁸⁾ and might be due to male was more concerned about being thin and female was more concerned about being fat⁽⁹⁾. The students from Faculty of Humanities were not the same result because the sample of students from Faculty of Humanities was too small to have enough power to differentiate sleep deprivation and overweight between male and female, the numbers of male were only 12 but the numbers of female were 87. The low academic performance of medical students was

correlate to stress, sleep deprivation and overweight but low academic performance of students in the Faculty of Humanities was correlate to overweight (Table 5). Because sleep deprivation decreased cognitive function⁽¹⁰⁾ and the medical students who had stress tend to lower academic performance⁽¹¹⁾. The underlying diseases of medical students had effect on stress but the underlying of students from Faculty of Humanities had effect on depression (Table 6). It might be due to the underlying diseases of both groups were distinction. The most common underlying diseases of medical students were allergy and only 20% of them were asthma. The students from Faculty of Humanities had more severe underlying diseases such as epilepsy, leukemia or Thalassemia and these students had no knowledge about these diseases unlike medical students.

The prevalence of depression in medical students was 11.5% and the prevalence of depression in students from Faculty of Humanities was 12.2%. The

Table 2. Compare the percentage of medical students who had stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight according to class

Variable	Number (%)						Total (%)	p-value
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6		
Stres	37 (33.6)	50 (48.5)	28 (36.4)	66 (57.9)	46 (55.4)	36 (57.1)	263 (47.8)	0.001
Depression	6 (8.2)	10 (9.7)	12 (13)	3 (9.6)	5 (14.3)	6 (17.7)	42 (11.5)	0.383
ESS	52 (44.4)	51 (46.8)	39 (54.2)	41 (43.6)	35 (57.4)	17 (60.7)	235 (48.9)	0.279
Sleep dep.	4 (3.5)	24 (23.1)	18 (26.5)	11 (11.7)	4 (7)	8 (33.3)	69 (14.9)	< 0.001
Overweight	21 (17.4)	14 (17.2)	11 (14.5)	14 (15.2)	16 (24.7)	18 (29)	94 (18.9)	0.143

Note: Stress means stress score of 42 and more or high to severe group.
 Depression means depressive score of 25 and more.
 ESS means ESS score of 10 and more or daytime sleepiness.
 Sleep dep. means sleep deprivation or night time sleep less than 6 hours.
 Overweight means BMI of 23 and more, included risk to overweight, obesity type 1 and obesity type 2.

Table 3. Compare the percentage of students from Faculty of Humanities who had stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight according to class

Variable	Number (%)				Total (%)	p-value
	Class 1	Class 2	Class 3	Class 4		
Stress	13 (68.4)	19 (61.3)	16 (59.3)	6 (46.2)	54 (60)	0.653
Depression	2 (21.1)	3 (6.5)	8 (14.8)	6 (7.7)	19 (12.2)	0.430
ESS	7 (36.8)	12 (42.9)	14 (51.9)	11 (73.3)	44 (49.4)	0.159
Sleep dep.	1 (5.3)	9 (33.3)	12 (44.4)	5 (35.7)	27 (31)	0.039
Overweight	1 (11.1)	7 (22.6)	4 (14.8)	3 (15.4)	15 (16.9)	0.741

Table 4. Compare the percentage of medical students and students from Faculty of Humanities who had stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight according to gender

Variable	Number of students F. of Medicine (%)		p-value	Number of students F. of Humanities (%)		p-value
	Male	Female		Male	Female	
Stress	102 (46)	159 (48.9)	0.494	7 (58.3)	47 (60.3)	0.899
Depression	14 (13.1)	25 (10.1)	0.286	1(0)	18(14.1)	0.165
ESS	83 (45.9)	146 (51.4)	0.243	4(50)	40(49.4)	0.973
Sleep dep.	35 (19.8)	30 (11)	0.009	2(25)	25(31.7)	0.699
Overweight	56 (30.6)	35 (10.9)	< 0.001	2(16.7)	13(16.9)	0.985

Note: % means percentage of each variable in each gender.

Table 5. Compare the percentage of medical students and students from Faculty of Humanities who had stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight according to academic performance or grade

Variable	Number of students F. of Medicine (%)		p-value	Number of students F. of Humanities (%)		p-value
	Grade ≤ 3	Grade > 3		Grade ≤ 3	Grade > 3	
Stress	88 (54.3)	155 (44.5)	0.039	20 (62.5)	33 (68.8)	0.562
Depression	18 (11.2)	24 (6.9)	0.102	7 (21.9)	9 (18.8)	0.732
ESS	78 (51)	157 (48.8)	0.651	18 (56.3)	21 (43.8)	0.273
Sleep dep.	31 (20.8)	37 (11.9)	0.012	9 (30)	13 (27.1)	0.781
Overweight	37 (23.6)	54 (16.2)	0.049	10 (33.3)	5 (10.4)	0.012

Note: % means percentage of each variable in each grade.

students from Faculty of Humanities had high to severe stress and sleep deprivation more than the medical students with odds ratio 1.64 and 2.56, respectively. They had the same as depression, excessive daytime sleepiness and overweight (Table 7). The stressors of undergraduate students were not only academic stressor but also several stressors. In previous study, these stressors related to psychological distress consisted of excessive school work, congested classrooms, lack of laboratory equipment, family problems, insecurity, financial and health problems^(12,13). Academic problems were a major cause of stress in Thai medical students⁽¹⁴⁾ but the students from Faculty of Humanities had not only academic stress but also had other stressors such as underlying diseases, family problem or other problems as mention in previous study. They had excessive school work to do so they had sleep deprivation especially in class 3. These explained the reasons why the students in the Faculty of Humanities had high to se-

vere stress and sleep deprivation more than the medical students. They should be trained about time management to decrease sleep deprivation. On the contrary, the medical students spent their times in lecture or laboratory room and finished it on schedule except to ward work in clinical class; they might learn in extra time but they did not stay late on ward and had fewer reports than students from Faculty of Humanities. Except for the medical students in class 6 (extern) who worked all day and night like a doctor, they had sleep deprivation that chronic sleep deprivation could induce cardiovascular events⁽¹⁵⁾ and might decrease academic performance so the curriculum should be changed to decrease the sleep deprivation.

In conclusion, the students from faculty of Humanity had stress and sleep deprivation more than medical students but they were the same as depression, excessive daytime sleepiness and overweight. The author demonstrated that life style of the students in

Table 6. Compare the percentage of medical students and students from Faculty of Humanities who had stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight whether they have an underlying disease or not

Variable	Number of students F. of Medicine (%)		p-value	Number of students F. of Humanities (%)		p-value
	Yes	No		Yes	No	
Stress	67 (61.6)	174 (43.4)	< 0.001	23 (71.9)	36 (54.4)	0.105
Depression	13 (13.6)	28 (10.6)	0.349	12 (21.9)	7 (7)	0.041
ESS	56 (56)	173 (46.6)	0.096	17 (51.5)	27 (48.2)	0.764
Sleep dep.	11 (11.2)	56 (15.6)	0.278	9 (27.3)	18 (33.3)	0.593
Overweight	18 (16)	73 (19.7)	0.353	6 (21.9)	9 (14.3)	0.362

Note: Yes means the percentage of students with each variable who had at least one of the underlying diseases which mention in general definition.
No means the percentage of students with each variable who had no underlying diseases.

Table 7. Compare the percentage and odds ratio (OR) of stress, depression, daytime sleepiness (ESS), sleeps deprivation and overweight in medical students to students from Faculty of Humanities, Srinakharinwirot University.

Variable	Number of students F.of Medicine (%)		Total	Number of students F. of Humanities (%)		Total	OR	p-value
	Yes	No		Yes	No			
Stress	248 (47.8)	271 (52.2)	519	59 (66.3)	30 (33.7)	89	0.61	0.032
Depression	42 (11.5)	481 (88.5)	523	19 (12.2)	70 (87.8)	89	0.93	0.840
ESS	235 (48.9)	246 (51.1)	481	44 (49.4)	45 (50.6)	89	0.98	0.920
Sleep dep.	69 (14.9)	394 (85.1)	463	27 (31)	60 (69)	87	0.39	< 0.001
Overweight	94 (18.9)	405 (81.1)	499	15 (16.9)	72 (83.1)	87	1.15	0.642

Note: Yes means the students who had that variable defined as note below table 2.

No means that they had no that variable.

Odds ratio are the ratio of odds of the students from Faculty of Medicine who have that variable divide by odds of the students from Faculty of Humanities who have that variable.

each faculty had effect on health problems. The administrators of each faculty should adjust the curriculum and train the advisors to support their students, especially class 3 in the Faculty of Humanity and class 6 in the medical students.

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ปัญหาทางจิตเวช และน้ำหนักตัวเกินปกติในนิสิตแพทย์เปรียบเทียบกับนิสิตคณะมนุษยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

กิตติพงษ์ คงสมบูรณ์

ภูมิหลัง: นิสิตแพทย์พบความชุกของความเครียด อารมณ์ซึมเศร้า ความง่วงในตอนกลางวัน ภาวะอดนอน และน้ำหนักตัวเกินปกติค่อนข้างสูง ตรงกันข้ามนิสิตทางสายสังคมศาสตร์ เช่น คณะมนุษยศาสตร์น่าจะมีปัญหา แตกต่างกันไปบ้าง จึงทำการศึกษาเปรียบเทียบระดับความเครียด อารมณ์ซึมเศร้า ความง่วงในตอนกลางวัน ภาวะอดนอน และน้ำหนักตัว เกินปกติในนิสิตแพทย์กับนิสิตคณะมนุษยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

วัตถุประสงค์และวิธีการ: ทำการศึกษาแบบภาคตัดขวางในนิสิตแพทย์จำนวนทั้งสิ้น 646 คนและนิสิตสาขาวรรณกรรมสำหรับเด็ก ภาควิชาบรรณารักษ์ คณะมนุษยศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒจำนวนทั้งสิ้น 103 คน ตอบแบบสอบถามร้อยละ 75 และร้อยละ 83.5 ตามลำดับ เก็บข้อมูลตั้งแต่วันที่ 11 กุมภาพันธ์ ถึงวันที่ 4 มีนาคม 2551 ด้วยแบบคัดกรองภาวะซึมเศร้า (Health-Related Self-Reported (HRSR) Scale) ของกรมสุขภาพจิต แบบทดสอบความเครียดของโรงพยาบาลสวนปรุง และแบบวัดความง่วง (Epworth sleepiness scale) เปรียบเทียบข้อมูลเชิงคุณภาพด้วย Chi-square test หรือ Fisher exact test ที่ระดับนัยสำคัญ p -value < 0.05

ผลการศึกษา: ความชุกของอารมณ์ซึมเศร้าในนิสิตแพทย์และนิสิตคณะมนุษยศาสตร์เท่ากับร้อยละ 11.5 และร้อยละ 12.2 ตามลำดับ นิสิตแพทย์ชั้น Clinic มีความเครียดระดับสูงถึงรุนแรงมากกว่านิสิตแพทย์ชั้น Pre-clinic และนิสิตแพทย์ชั้นปีที่ 6 อดนอนมากที่สุด นิสิตแพทย์ชายอดนอนและมีน้ำหนักตัวเกินปกติมากกว่านิสิตแพทย์หญิง นิสิตแพทย์ที่มีโรคประจำตัวมักจะมีอาการเครียดระดับสูงถึงรุนแรงแต่นิสิตคณะมนุษยศาสตร์ที่มีโรคประจำตัวมักจะมีภาวะซึมเศร้า นิสิตแพทย์มีค่า Odds ratio ของความเครียดและภาวะอดนอนเทียบกับนิสิตคณะมนุษยศาสตร์เป็น 0.61 และ 0.39 ตามลำดับ

สรุป: นิสิตคณะมนุษยศาสตร์มีความเครียดระดับสูงถึงรุนแรงและภาวะอดนอนมากกว่านิสิตแพทย์แต่นิสิตทั้งสองคณะไม่มีความแตกต่างกันในเรื่องภาวะซึมเศร้า ความง่วงในตอนกลางวัน และน้ำหนักตัวที่เกินปกติ ผู้บริหารของแต่ละคณะควรปรับปรุงหลักสูตรและอบรมอาจารย์ที่ปรึกษาเพื่อคอยให้คำแนะนำและดูแลนิสิตต่อไป
