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## **STRESS AMONG MEDICAL STUDENTS IN THE DEEP SOUTH OF THAILAND**

### **Abstract:**

Medicine has been widely known as a high stress profession and medical school is often where stress begins. Identifying the common stressors among the medical students in our Medical Education Center, would help the supervisors to develop the suitable curriculum structure. This study aims to investigate the perceived sources of stress among 4th and 5th year medical student at Medical Education Center, Yala Hospital, Thailand, and to compare if the student with different gender, religion and study year perceives the source of stress differently. A descriptive cross sectional quantitative study was conducted using a 40 items self administered questionnaire adapted from the Medical Student Stressor Questionnaire (MSSQ). The determinants are gender, religion and the study year. T-test was used for analyzing the difference in group. A 92.73% response rate was obtained. The results indicated that falling behind in reading schedule, test and examination, large amount of content to be learnt, national test exam, and lack of time to review what have been learnt were the first five commonest stressors for students. Interestingly, the Muslim students had significantly higher total stress scores than Buddhist students, and the fifth year students had significantly higher stress than the fourth year students. In contrast, gender did not associated with the total stress scores. Medical instructor should design and develop a curriculum structure which is enhancing the student's well being and focus on academic and clinical performance for producing graduates with a positive professional attitude.

### **Keywords:**

stress, the Medical Student Stressor Questionnaire, medical student.

## Introduction

The term stress is defined as pressure or worry caused by problems in someone's life (physical or mental) on an individual's physical and psychological wellbeing (Hornby, 2010). It is not just a stimulus or a response but it is a process by which we perceive and cope with environmental treats and challenges. Personal and environmental events that cause stress are known as stressors (Yusoff *et al*, 2010). Good stress which can be promote and facilitate learning is needed in medical training but bad stress that can inhibit and decrease learning should be avoided (Linn and Zeppa, 1984). Medical students experience substantial stress. Previous studies showed relatively high level among medical students (Amr *et al*, 2008). The main factors causing stress in undergraduate medical students including academic, intrapersonal and interpersonal, teaching and learning, social drive and desire, and group activities (Yusuff *et al*, 2010). It is important for medical educator to monitor and identify stress levels among medical students, take steps to avoid stressors and ensure that teaching curriculum provides them with lifelong stress management tools.

Yala medical education center is the first medical center in the three southernmost provinces of Thailand that admits students mainly from local area. Students take the first three years of the course in Prince of Songkla University and then complete their clinical rotations in Yala hospital. There has been established since 2009 to provide graduated medical practioners for rural places. Nowadays there has no study about stress of medical students, especially in Yala medical education center. The objectives of this study are to identify the sources of stress among medical students in Yala medical education center, Thailand and also compare their gender, religion and study year with medical student stressors.

## Methods

In February 2015, all 55 undergraduate medical students of fourth and fifth year enrolled at the Yala medical education center, Thailand were ask to complete an anonymous Thai questionnaire, which was distributed at the end of whole class training in community hospital. The questionnaire that used to identify stressors among medical students in this study is the Medical Student Stressor Questionnaire (MSSQ). This questionnaire has been validated on medical student across study year and across medical school of Malaysia (Yusuff, 2011). The questionnaire has 40 items of stressor divided into six domains such as academic related stressors (*ARS*, 13 items), intrapersonal and interpersonal related stressors (*IRS*, 7 items), teaching and learning related stressors (*TLRS*, 7 items), social related stressors (*SRS*, 6 items), drive and desire related stressors (*DRS*, 3 items) and group activities related stressors (*GARS*, 4 items). The recommended scoring method was the least intensity of causing stress answer score 0 and the most intensity of causing stress answer score 4. The mean score can interpret as: 0.00-1.00, "mild stress"; 1.01-2.00, " moderate stress"; 2.01-3.00, " high stress"; and

3.01-4.00, "severe". Data were analyzed using R-programme. The internal consistency of the questionnaire was tested using Cronbach Alpha. Data analyses included frequency distribution and Student's t-test. A p value of  $\leq 0.05$  was considered statistically significant.

## Results

A total of 51 completed and return their questionnaire, representing a 92.73% response rate. Table 1 shows frequency distributions of the categorical determinants. Most of them are female (76.5%). The majority are Bhudists (64.7%). The proportion of class in year 4 and 5 are 58.8% and 41.2%. Their age are 22 years old in mean.

Table 1: frequency distributions of the categorical determinants

Categorical Variables	Categories	Frequency	Percentage
Gender	Male	12	23.5
	Female	39	76.5
Religion	Buddhist	33	64.7
	Muslim	18	35.3
Study year	fourth	30	58.8
	fifth	21	41.2
Age	mean= 22, sd=1.02, min= 20, max= 25		

The overall reliability coefficient alpha was 0.94. Table 2 shows the mean score of the MSSQ items. "Falling behind in reading schedule" is the most stressor for students. "test/ examination", "large amount of content to be learnt", "national test" and "lack of time to review what have been learnt" also ranked among the top 5 stressors for students.

The academic related stressors is the highest mean score while teaching and learning related stressors is the lowest mean domain score.

Table 2: Mean medical stressors

Stressor items	mean	sd
<b>Academic related stressors (ARS)</b>	<b>2.19</b>	<b>0.64</b>
1. test/ examination	2.86	1.04
2. falling behind in reading schedule	3.12	0.77
3. large amount of content to be learnt	2.78	0.88
4. having difficulty understanding the content	2.43	1.10
5. getting poor mark	2.22	0.99

<b>Stressor items</b>	<b>mean</b>	<b>sd</b>
6. national test	2.71	0.94
7. lack of time to review what have been learnt	2.53	0.95
8. need to do well (self expectation)	2.10	1.22
9. full of competition	1.94	1.17
10. unable to answer the questions from the teachers	2.20	1.06
11. heavy workload	2.20	1.36
16. unjustified grading process	0.76	1.11
17. not enough medical skill practice	0.80	1.02
<b><i>Intrapersonal and interpersonal related stressors (IRS)</i></b>	<b>1.41</b>	<b>0.73</b>
25. conflicts with other students	1.24	1.26
26. poor motivation to learn	1.29	1.57
27. verbal or physical abuse by other student	1.53	0.86
28. verbal or physical abuse by teacher	2.14	1.23
29. verbal or physical abuse by personnel	1.47	1.20
30. conflict with personnel	0.92	0.87
31. conflict with teacher	0.90	0.92
<b><i>Teaching and learning related stressors (TLRS)</i></b>	<b>0.97</b>	<b>0.76</b>
19. teacher lack of teaching skill	0.63	0.89
20. not enough study material	0.67	1.44
22. inappropriate assignments	1.78	1.21
34. lack of guidance from teacher	1.1	1.37
35. not enough feedback from teacher	1.06	1.17
36. uncertainty of what is expected of me	1.24	0.99
37. lack of recognition for work done	1.02	0.91
<b><i>Social related stressors (SRS)</i></b>	<b>1.08</b>	<b>0.66</b>
18. lack of time for family and friends	0.51	0.81
21. unable to answer question from patient	1.06	1.07
23. talking to patient about personnel problem	1.08	0.93
24. facing illness or death of the patients	1.27	1.22
38. working with computer	1.18	0.91
39. frequent interruption of my work by others	1.35	1.16
<b><i>Drive and desire related stressors (DRS)</i></b>	<b>1.24</b>	<b>0.84</b>
32. unwillingness to study medicine	0.76	0.89
33. parental wish for you to study medicine	0.90	1.06
40. family responsibility	2.04	1.2
<b><i>Group activities related stressors (GARS)</i></b>	<b>1.47</b>	<b>0.81</b>
13. participation in class presentation	1.84	1.14
12. participation in class discussion	1.18	1.11
14. need to do well (imposed by others)	1.02	1.1

Stressor items	mean	sd
15. feeling of incompetence	1.82	1.23

### Demographic factors and stress

Table 3 shows the mean stress scores according to demographic factors. Gender is not relate to stress ( $p= 0.87$ ). Muslim medical students have total stress score higher than Buddhism students ( $p= 0.04$ ). Fifth year students have total stress score higher than fourth year students ( $p< 0.001$ ).

*Table 3: Stress score by demographic factors*

Demographic factors	Mean medical stress	P-value
Gender		
male	1.51	0.87
female	1.55	
Religion		0.04
Budhist	1.42	
Islam	1.76	
Study year		<0.001
fourth	1.29	
fifth	1.89	

### Discussion and conclusion

This is the first study to explore level of stress in medical student of Yala medical education center. The results show that “falling behind in reading schedule” is the most stressor for students. “Test/ examination”, “large amount of content to be learnt”, “national test” and “lack of time to review what have been learnt” also ranked among the top 5 stressors for students. These results are consistent with a study of stress and it’s coping in medical students at Khonkaen University (Apiwatanasiri *et al*, 2007).

The finding that gender is not relate to stress. This finding is similar with a study in Egypt (Amr *et al*, 2008). However Sisomprasong (2009) and Abdulghani\_ *et al* (2011) suggested higher stress among female students in Thailand and Saudi Arabia, respectively.

Muslim medical students have higher stress score than those Buddhism students. This result is contrast to the findings in dental nurse students in Thailand, religion is not relate to stressors (Mudor A, 2014).

Fifth year students have total stress score higher than fourth year students. This finding may be explain by there are more academic activities, preparedness for national test and comprehensive test for student in year five, especially they must pass comprehensive test before passing to final year.

This study identifies perceived sources of stress among medical students of a particular institute in Thailand. These results partly can be generalized to other Thai medical schools. It also highlights the necessity for medical school instructor training and need to provide students support system for fifth year medical students. Further study should follow up the level of stress in the same students in the next academic year.

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