



## ASSESSMENT OF STRESS AND ITS EFFECTS ON MEDICAL STUDENTS WITH MEDICAL STUDENTS STRESSOR QUESTIONNAIRES AND STRESSOR DOMAINS

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### ABSTRACT

Medical education is perceived as being stressful, and a high level of stress may have a negative effect on cognitive functioning and learning of students in a medical school. This cross-sectional study was conducted to determine the prevalence of stress among medical students and to observe an association between the levels of stress and their academic performance, including the sources of their stress. The prevalence of stress was higher during the initial three years of study and among the female students. Physical problems are associated with high stress levels. Preventive mental health services, therefore, could be made an integral part of routine clinical services for medical

students, especially in the initial academic years, to prevent such occurrence. This Critical Synthesis Package contains: (1) a Critical Analysis of the psychometric properties and application to health sciences education for the Medical Student Stressor Questionnaire (MSSQ); and (2) a copy of the MSSQ instruments and manual and scoring guide developed by Muhamad Saiful Bahri Yusoff, MD. The purpose of the MSSQ is to identify sources of stress in medical students. Such sources include academic stressors, interpersonal stressors, teaching and learning stressors, social stressors, drive/desire stressors, and group activity stressors. The MSSQ is a self-report, self-scoring instrument with 40 items that ask students to rate the intensity of stress caused by each item on a 5-point Likert-type scale of 0-4 (0 = causing no stress, 4 = causing extreme stress). Preliminary validation studies indicate that the items are reliable and have a high level of internal consistency (Cronbach's alpha = 0.7). Factor analysis indicates that all items have construct validity and should be included in the



ulcers. Partial loss of body hair (alopecia areata) or even total loss of all body hair (alopecia universalis) can also result from stress.

### **Is stress necessary?**

Naturally everyone needs a certain amount of “pressure” to perform at their best.

But when pressures exceed a person’s ability to cope, the result is stress.

Prolonged stress can set up distress and shut down the ability to cope with ordinary situations causing illnesses.

Stress during medical school can lead to problems later in professional life compromising patient care.

Stress has been reportedly associated with anxiety, depression and psychological symptoms plausibly having a negative impact on student’s academic performance.

Stress in medical students has been a global issue.

### **Stress response**

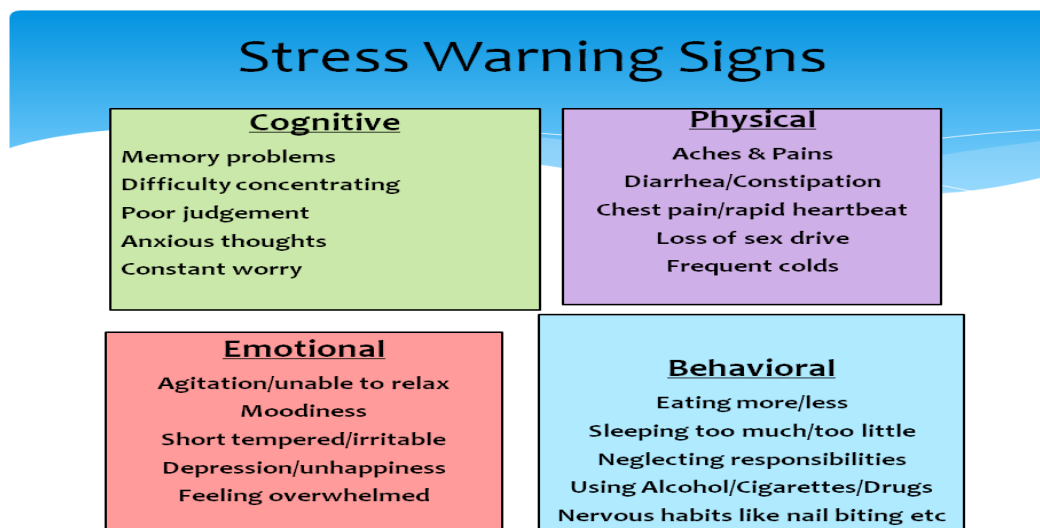
The fight-or-flight response (also called hyperarousal, or the acute stress response) is a physiological reaction that occurs in response to a perceived harmful event, attack, or threat to survival.

### **Stress components**

The stress-response includes two endocrine responses (from the same endocrine gland - the adrenal).

The adrenal cortex releases glucocorticoids (about 50 different related hormones); the adrenal medulla releases epinephrine.

These two endocrine responses comprise the two primary components of the stress response



### Study objectives

- (a) To evaluate medical students stress indicators.
- (b) To assess the cause of medical students' stress.
- (c) To evaluate medical students stress coping mechanism

### Educational Objectives

1. To describe the purpose and basic properties of the Medical Student Stressor Questionnaire (MMSQ), including number of items and scales, and psychometric properties;
2. To describe the application of the MMSQ to the field of health sciences education;
3. To evaluate the relative strengths and weaknesses of the MMSQ;
4. To provide the MMSQ and supplemental materials to aid in its administration.

### The Medical Student Stressor Questionnaire (MSSQ)

The MSSQ was developed to identify the stressors of medical students as well as measure the intensity of stress caused by the stressors.

The six domains of stress measured by the MSSQ were developed based on various researches.

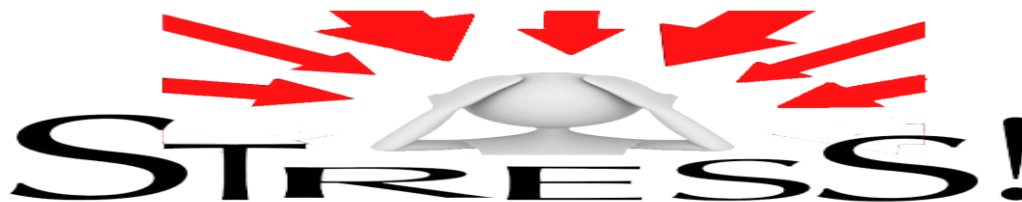
The items of MSSQ were selected from literature review related to stress researches.

All the items were designed based on its suitability and compatibility with the local cultures and values.

The SSQ grouped stressors into six domains, each based on a common underlying theme

They include

1. Academic related stressors (ARS)
2. Intrapersonal and interpersonal related stressors (IRS)
3. Teaching and learning-related stressors (TLRS)



4. Social related stressors (SRS)
5. Drive and desire related stressors (DRS)
6. Group activities related stressors (GARS)

#### The validity of the MSSQ

The MSSQ consists of 40 items representing the six stressor domains.

A validation study was conducted on 761 medical students representing multiple ethnicities, religions and cultures.

The validation found that the MSSQ has good psychometric properties; it is a valid and reliable instrument that can be used to identify students' stressors as well as measure the intensity of the stressors.

Factor analysis shows that all the items are well distributed according to the six groups. Reliability analysis shows that the MSSQ has a high internal consistency as Cronbach's alpha coefficient value was 0.95 which is more than the acceptable cut-off point of 0.6 (35).

#### Stressors with Cronbatch's alpha coefficient value

Academic related stressors (ARS)	0.921
Intrapersonal & interpersonal related stressors(IRS)	0.895
Teaching & learning related stressors (TLRS)	0.858
Social related stressors (SRS)	0.710
Devine & desire related stressors (DRS)	0.648
Group activity related stressors (GARS)	0.728

### Significance of MSSQ Scores

Having a high score in a particular stressor group generally indicates that you perceive events, conditions or situations from that particular group as causing you stress.

The scores, however, do require your frank and honest response in order for it to be of any use.

The scores are also affected by factors which can falsely increase or lower the scores, but generally the validity and reliability studies have indicated that the scores from the questionnaire are highly trustworthy.

Having an insight about our stressors can help us to understand the sources of our stress.

On top of that, it helps us to improve our ways of handling stressors so that we can manage our stress better.

Stressor domain	Mild	Moderate	Severe	High
ARS	Indicates that it doesnot cause any stress on you. Even if it does, it causes mild stress.	Indicates that it reasonably causes stress on you. However you can manage it wel	Indicates that it causes a lot of stress on you	Indicates that it causes lots of stress. Distrubs the emotions badly, daily activities are compramised.
IRS				
TLRS	Indicates that it does not cause any stress on you. Even if it does, it just causes mild stress.			
SRS				
DRS	Indicates that it does not cause any stress on you. Even if it does, it just causes mild stress.	indicates that it reasonably causes stress on you, but can be managed.	indicates that it causes lots of stress. Emotions seemed to be distructive, daily activities are compromised.	
GARS	Indicates that it does not cause any stress on you. Even if it does, it just causes mild stress.			



## CONCLUSION

Stress being a common issue faced by every human being either mildly, moderately or in severe amounts.

Stress level depends upon the mental ability of a human being.

To evaluate the level & severity of stress in students of medical field, medical student stressor questionnaires are used with various stressor domains.

By the use of stressor questionnaires & stressor domains we can estimate the level of stress in medical students.

A student or any other humans can manage stress through the non pharmacological treatments.



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