

# Stress: A Silent Threat to University Students

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## Author's Contribution

All the authors contributed significantly to the research that resulted in the submitted manuscript.

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## ABSTRACT

**Objective:** To assess the level of stress among university students.

**Materials and Methods:** A cross-sectional questionnaire-based study constituting approximately 200 randomly selected university students. For convenience confidentiality is maintained. Stress is measured by using stress scale of 24 closed ended questions. The questionnaire is filled by university students under the supervision of pharmacist.

**Results:** The study shows that approximately 82 percent student showing a great trait and characteristics of stress that are creating un-healthy behaviours. 17% of students have low self-esteem and 13% of students were always preoccupied with thoughts and 11% of students keeps on thinking even if relaxing and 50% of the students face problem regarding their sleep pattern which is badly influencing the behaviour of the students. This suggest that they are more prone to experience stress related illnesses like diabetes, irritable bowel, migraine, back and neck pain, high blood pressure, heart disease/strokes, mental ill health (depression, anxiety & stress). The extent of stress level observed among university student is certainly alarming and thus. Approaches are needed that reduce the negative aspects of stress (distress).

**Conclusion:** The prevalence of stress among university students is alarming. The study suggests that there is a need for primary and secondary preventive measures, with the development of adequate and appropriate support services for this group.

## INTRODUCTION

Stress is simply the body's non-specific response to any demand made on it. Stress has become an important topic in academic circles. Institutional level stressors include overcrowded lecture halls, semester system, and inadequate resources to perform academic work. Stress in academic institutions can have both positive and negative consequences if not well managed the results of continuing stress can result in feelings of rejection, anger, depression which ultimately may lead to health problems.

Stress is one of the main aspects of our present life, as a result of abrupt changes in human life, so this called the era of stress. Stress is an involuntary response of our body to any condition. Stress has become an important topic in university circles.

The situations that provokes the stress are known as stressor. The sources of stress in university students are the exams, fear of falling, short time period, decrease in self-confidence and affect the time spent in recreational activity have been associated with higher stress levels [1] as shown in Figure 1.

Stress is necessary to challenge students to learn. How we perceive a stress provoking event and how we react to it reveal its impact on our health. We may be motivated and invigorated by the events in our life, or we may consider some conditions as “stressful” and respond in a manner that may have a negative effect on our physical, mental, and social wellbeing [5] as shown in Table 1.

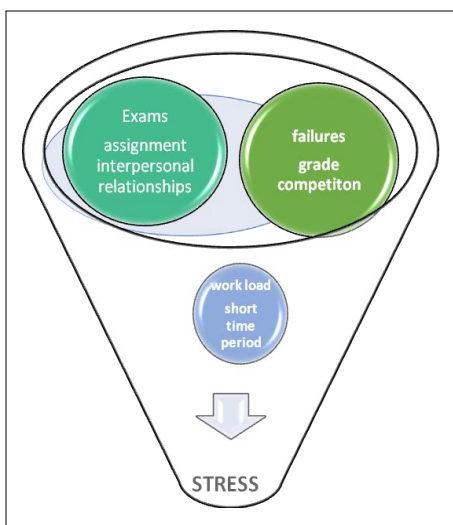


Figure 1. The sources of stress.

Table 1. Different types of stress and their effects.

TYPES OF STRESS	EFFECTS
Physical stress	Headaches, dizziness, rapid heartbeat, Muscle pain, nausea and constipation.
Behavioral stress	Sleeping too much or less, Eating more or less, Isolating yourself from others, Cigarette and alcohol use
Emotional stress	Often feel anxious or fearful, Rapid mood swings, Sense of loneliness etc.
Cognitive stress	Inability to concentrate, Forgetfulness, Poor judgment, Increase worrying

Stress is part of our life and it is necessary for the achievements of our goals. If we always respond the situation in a negative way, our health and

happiness will be affected. By considering ourselves and our response to stress-provoking situations, we can learn to handle stress more effectively.

## METHODOLOGY

A cross-sectional questionnaire-based study constituting approximately 200 randomly selected university students. Stress will be measured by using stress scale of 24 closed ended questions. The questionnaire will be filled by final year Pharm. D. students. For convenience confidentiality would be maintained. The main domains which are assessed are effect of stress on cognition and stress marker mostly observed in university students.

## RESULTS

Out of the 200 participants in the study, 163 students (81.5 percent) ranked on a scale of 14 or more points. Whereas the ranking of stress among 35 students (17.5 percent) ranked on a scale of 5-13 points and only 2 students (1 percent) scores 4 points or as shown in Figure 2.

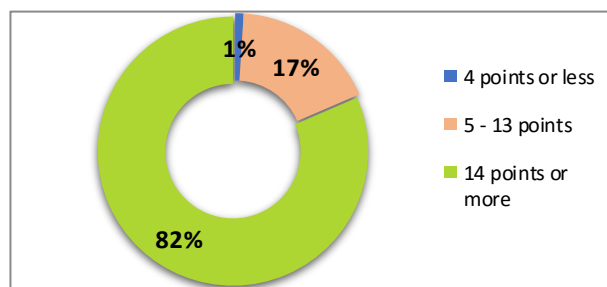
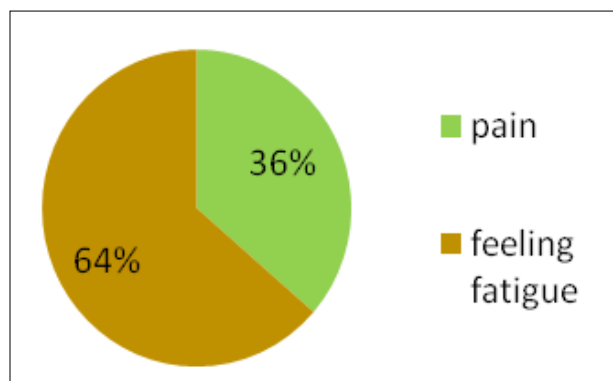


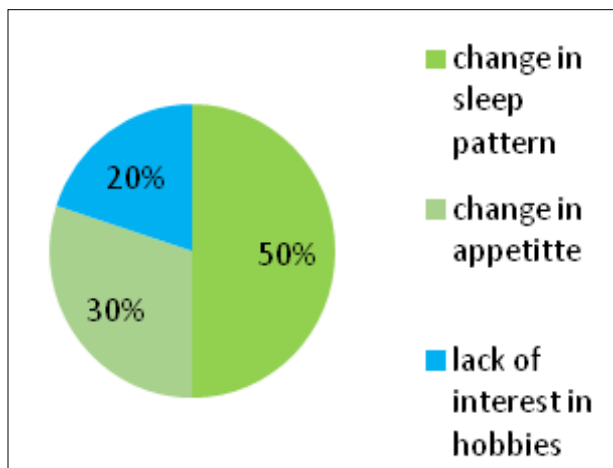
Figure 2. Estimated level of stress

Figures 3, 4, 5 and 6 show the effects of stress on different activities of students. In the present study 50% of the students face problem regarding their sleep pattern which is badly influencing the behavior of the students. The second important factor to be seen in student is change in appetite which was 30% which is due to deprivation of sleep because it can exacerbate appetite. 36% of students feel pain because the increased level of stress among students causes physical changes in body. 17% of students have low self-esteem

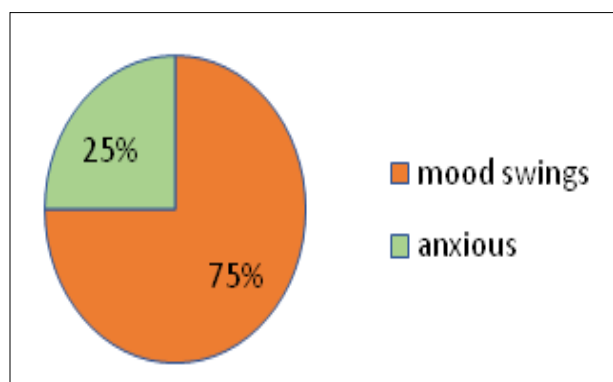
and 13% of students were always preoccupied with thoughts and 11% of students keeps on thinking even if relaxing.



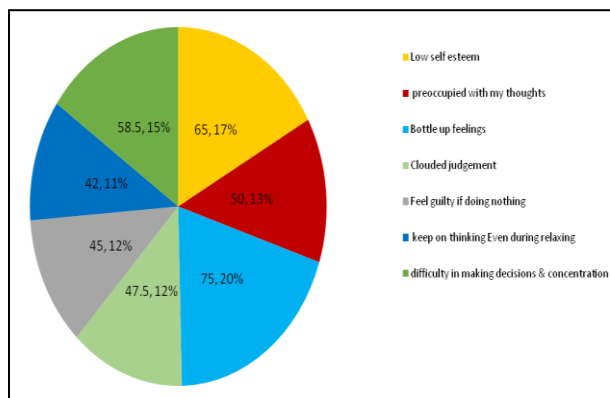
**Figure 3.** Effect of physical stress on university students.



**Figure 4.** Effect of emotional stress on university.



**Figure 5.** Effect of behavioral stress on university students.



**Figure 6:** Effects of stress on cognition.

## DISCUSSION

Stress can be elucidated as a procedural pressure from the surroundings that endangers the variable capability of individuals to acquire biological and psychological changes, which can give rise to certain diseases. Diseases that are caused by stress occur due to the fact that our physiological system which usually retaliate to acute somatic crisis but we stimulate it for months and so [2]. The liability to chronic stress can lead to several health-related issues. It is very unfortunate that our study substantiate that 82% of university student suffers from high degree of stress and already showing the health issues due to stress [3] and 17% of the students shows moderate stress level. It is noteworthy that stress is encumbrance to academic performance [2].

The effects of stress that are self-perceived by the students do vary but the most prevalent are change in appetite, inadequate sleep, physical changes i.e. headache, backache and neck ache, mood swings, anxiety, lack of self-confidence and self-esteem, difficulty in making decision and lack of concentration etc.

Stress causes the activation of the sympatho-adreno-medullary (SAM) and Hypothalamus pituitary adrenal axis (HPA), which in turn hyper activates the release of catecholamine, Adrenocorticotrophic hormone (ACTH), and corticotrophin releasing hormone (CRH) and cortisol [1].

In our present study 50% of the students face problem regarding their sleep pattern which is

badly influencing the behavior of the students in two ways i.e. one by the release of cortisol which provoke alertness and secondly by the increased adrenocorticotrophic hormone which has influence on awakening so sleep disruption in stress condition can be due to increased level of ACHT [4]. Researchers have found that immune system is more competent during rest. Hence sleep deprivation causes several health issues [5]. In the present study the second important factor to be seen in student is change in appetite which was 30% which is due to deprivation of sleep because it can exacerbate appetite by increasing ghrelin and decreasing leptin [6] whereas the loss of appetite can occur due to CRH release after acute stress [7].

In the present study 36% of students feel pain because the increased level of stress among students causes physical changes in body i.e. painful muscle tension due to repeated excitatory neural stimulation results in tension headaches, back ache and neck aches and stiffness [8] In our present study 60% of students complain about fatigue that may be due to chronic stress causes adrenal burnout which causes the diminish release of DHEA and cortisol. This adrenal insufficiency causes fatigue, dizziness and low blood sugar [8]. Stress effects the behavior of students, in the current study 75% of students suffers from mood swings. Study shows that the stress increases the cortisol level and decreases mood with negatively affecting the quality of communication tasks and humorous situation thus affecting mood [9]. In the current study 25% of students suffers from anxiety because stress also cause adrenal fatigue by which serotonin release is inhibited causing anxiety and depression and increased cortisol level also causes anxiety [8].

The effect of stress on most of the student is observed on their cognition. Stress can affect cognition in many ways, mainly by rapidly acting catecholamine and very slowly through glucocorticoids. Stress for longer duration causes the loss of neurons of the hippocampus which is responsible for cognitive impairment mainly retardation of memory. On the contrary, catecholamine effects on emotionally loaded memories by producing effects on amygdala [10].

In the present study 17% of students have low self-esteem, other study conducted by Heinrichs, S. and D. Richard (1999) shows that greater the number of life stressor experienced, lower will be the self-esteem in the individual. And it is the major reason behind prevalence of stress [11]. Whereas higher level of cortisol causes to decrease the level of confidence in individual because of its effect on the biological mechanism [12].

In the present study 13% of students were always preoccupied with thoughts and 11% of students keeps on thinking even if relaxing. Research Study by Goette, L., et al. (2015) and McEwen, R.M. Sapolsky also states that preoccupied person always fears with the consequences of failure which are required to meet the challenges and due to this lost the task concentration [13] which ultimately effects the performance level [14].

In the present study 15% of students were indecisive and lack concentration. In a study by Kontogiannis and Kossiavelou (1999), defines the decision-making patterns of individual in stressful emergencies and concluded that stress decreases alertness, decreases the proportion of working memory, and diminishes the ability to assess the alternatives which results in increased workload [15].

In current study 20% of individual bottle up feelings and 12% of students have clouded judgement. In a study conducted by Kowalski-Trakofler and others also suggest that individual under stress have uncertain, non-functional and partial judgment. In other words it can be said as stress shrinks the Centre of attention and individual only focuses on the negative issues [14,16] and skin conductance due to activation of sympathetic nervous system which leads to poor health consequences [17].

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## CONCLUSION

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The prevalence of stress among university students is alarming. The study suggests that there is a need for primary and secondary preventive measures, with the development of adequate and appropriate support services for this group.

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