

EVALUATION OF STRESS AMONG COLLEGE STUDENTSVadivelan Ramachandran^{1*}, Keerthana Chandrasekar², Punitha Nanjudan¹, Megala Mani¹, Surendaran Baskaran¹¹Department of Pharmacology, JSS College of Pharmacy, (Jagadguru Sri Shivarathreeshwara University, Mysuru) Udhagamandalam, Nilgiris, Tamilnadu, India-643001.²Department of Pharmacy Practice, JSS College of Pharmacy, (Jagadguru Sri Shivarathreeshwara University, Mysuru) Udhagamandalam, Nilgiris, Tamilnadu, India-643001.***Corresponding Author: Vadivelan Ramachandran**

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ABSTRACT

Background: Aim: This study aims to evaluate the stress among JSS college of Pharmacy, Ooty, The Nilgiris, Tamilnadu. **Methods:** The Total sample size was 130 students. A questionnaire survey was adopted in this paper. A questionnaire consisting of two sections, including "basic data" and "sources of stress" was developed. Liker's 5point-scale questionnaire was administered to students of JSS College of Pharmacy using convenience sampling method. **Conclusion:** According to survey, Female (38%) stressed on emotional factor and Males (68%) stressed on academic factor.

KEYWORDS: College students, academic and educational stress, anxiety, counseling.**INTRODUCTION**

Stress is defined as a response to a demand that is placed upon you. The word stress is derived from the Latin word "stringi", which means, "to be drawn tight". In medical terms stress is described as, "a physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness." When you are under stress, your adrenal gland releases corticosteroids, which are converted to cortisol in the blood stream. Cortisols have an immune suppressive effect in your body.

Stress in a normal reaction when your brain recognizes a threat. When the threat is perceived, your body releases hormones that activate your "fight or flight" response. This fight or flight response is not limited to perceiving a threat, but in less severe cases, is triggered when we encounter unexpected events. Psychologist Richard S. Lazarus best described stress as "a condition or feeling that a person experiences when they perceive that the demands exceed the personal and social resources the individual is able to mobilize." For most people, stress is a negative experience.

Stress may cause you to have physiological, behavioral or even psychological effects. Physiological- hormone release triggers your fight or flight response. These hormones help you to either fight harder or run faster. They increase heart rate, blood pressure, and sweating. Stress has been tied to heart disease. Because of the increase in heart rate and blood pressure, prolonged

stress increases the tension that is put on the arteries. It also affects your immune system which is why cold and flu illness usually show up during exams.

Behavioral – it may cause you to be jumpy, excitable, or even irritable. The effects of stress may cause some people to drink or smoke heavily, neglect exercise or proper nutrition, or overuse either the television or the computer. Psychological – the response to stress may decrease your ability to work or interact effectively with other people, and be less able to make good decisions. Stress has also been known to play a part in anxiety and depression.

Types of stress

Acute stress: Acute stress is the most common form of stress. It comes from demands and pressures of the recent past and anticipated demands and pressures of the near future. Acute stress is thrilling and exciting in small doses, but too much is exhausting. By the same token, overdoing on short-term stress can lead to psychological distress, tension headaches, upset stomach and other symptoms.

Because it is short term, acute stress doesn't have enough time to do the extensive damage associated with long-term stress. The most common symptoms are.

Emotional distress: some combination of anger or irritability, anxiety and depression, the three stress emotions. Muscular problems including tension

headache, back pain, jaw pain and the muscular tensions that lead to pulled muscles and tendon and ligament problems. Stomach, gut and bowel problems such as heartburn, acid stomach, flatulence, diarrhea, constipation and irritable bowel syndrome. Transient to over arousal leads to elevation in blood pressure, rapid heartbeat, sweaty palms, heart palpitations, dizziness, migraine headaches, cold hands or feet, shortness of breath and chest pain.

Episodic acute stress: There are those, however, who suffer acute stress frequently, whose lives are so disordered that they are studies in chaos and crisis. They're always in a rush, but always late. If something can go wrong, it does. They take on too much, have too many irons in the fire, and can't organize the slew of self-inflicted demands and pressures clamoring for their attention. They seem perpetually in the clutches of acute stress. It is common for people with acute stress reactions to be over aroused, short-tempered, irritable, anxious and tense. Often, they describe themselves as having "a lot of nervous energy." Always in a hurry, they tend to be abrupt, and sometimes their irritability comes across as hostility. Interpersonal relationships deteriorate rapidly when others respond with real hostility. The workplace becomes a very stressful place for them. The symptoms of episodic acute stress are the symptoms of extended over arousal: persistent tension headaches, migraines, hypertension, chest pain and heart disease. Treating episodic acute stress requires intervention on a number of levels, generally requiring professional help, which may take many months.

Chronic stress: While acute stress can be thrilling and exciting, chronic stress is not. Chronic stress destroys bodies, minds and lives. It wreaks havoc through long-term attrition. Chronic stress comes when a person never sees a way out of a miserable situation. It's the stress of unrelenting demands and pressures for seemingly interminable periods of time. With no hope, the individual gives up searching for solutions. Some chronic stresses stem from traumatic, early childhood experiences that become internalized and remain forever painful and present. Some experiences profoundly affect personality.

Physical stress: Trauma (injury, infection, surgery), intense physical labor/over-exertion, environmental pollution (pesticides, herbicides, toxins, heavy metals, inadequate light, radiation, noise, electromagnetic fields), illness (viral, bacterial, or fungal agents), fatigue, inadequate oxygen supply, hypoglycemia I (low blood sugar), hormonal and/or biochemical imbalances, dietary stress (nutritional deficiencies, food allergies and sensitivities, unhealthy eating habits), dehydration, substance abuse, dental challenges, and musculoskeletal misalignments/imbances.

Psychological stress: Emotional stress (resentments, fears, frustration, sadness, anger, grief/bereavement),

cognitive stress (information overload, accelerated sense of time, worry, guilt, shame, jealousy, resistance, attachments, self-criticism, self-loathing, unworkable perfectionism, anxiety, panic attacks, not feeling like yourself, not feeling like things are real, and a sense of being out of control/not being in control), and perceptual stress (beliefs, roles, stories, attitudes, world view).

Psychosocial stress: Relationship/marriage difficulties (partner, siblings, children, family, employer, co-workers, employer), lack of social support, lack of resources for adequate survival, loss of employment/investments/savings, loss of loved ones, bankruptcy, home foreclosure, and isolation.

Psycho-spiritual stress: A crisis of values, meaning, and purpose; joyless striving (instead of productive, satisfying, meaningful and fulfilling work; and a misalignment within one's core spiritual beliefs. Overall, improperly or ineffectively managed stress usually takes a toll on the body. When stress-related feelings, moods, emotions are pushed into the body, the soma, this is usually termed psychosomatic or psychogenic illness, including headaches, heart palpitations, physical/cognitive/emotional pain and suffering, constricted throat and shallow, constricted breathing, clammy palms, fatigue, nausea, anxiety, allergies, asthma, autoimmune syndromes related to an ineffective functioning of the immune system, hypertension (high blood pressure), and gastrointestinal disturbances such as diarrhea, upset stomach, duodenal ulcers and esophageal reflux syndrome. Prolonged stress can result in suppressed immune function, increased susceptibility to infectious and immune-related diseases and cancer. Emotional stress can also result in hormonal imbalances (adrenal, pituitary, thyroid, etcetera) that further interfere with healthy immune functioning.

Cognitive: Anxious thoughts, fearful anticipation, poor concentration, difficulty with memory.

Emotional: Feelings of tension, irritability, restlessness, worries, inability to relax, depression.

Stress related disorder Stress and anxiety that occur frequently or seem out of proportion to the stressor may be signs of an anxiety disorder. People with these disorders may feel anxious and stressed on a daily basis and for prolonged periods of time. These disorders include:

Generalized anxiety disorder (GAD) is a common anxiety disorder that causes uncontrollable worrying. Sometimes people worry about bad things happening to them or loved ones, and at other times the person may not be able to identify any source of worry.

Panic disorder is a condition that causes moments of extreme fear, a pounding heart, and shortness of breath, commonly known as panic attacks.

Post-traumatic stress disorder (PTSD) is a condition that causes flashbacks or anxiety as the result of a traumatic experience. Social phobia is a condition that causes intense feelings of anxiety in situations that involve interacting with others.

Obsessive-compulsive disorder is a condition that causes repetitive thoughts and the compulsion to complete certain ritual actions

Adolescence is a stage of human development that occurs between childhood and adulthood. Although there are varying definitions of adolescence, adolescence is generally viewed as a stage where young people experience rapid growth of their body and mentality to full maturity during 12~25 years of age.^[1] In education system, adolescents are those receiving education in junior high schools, senior high schools, vocational high schools, colleges or universities. Due to fast physical changes and mental development at this stage, students may sometimes experience incompatibility of their mental development with their physical changes or with the social environment and thus suffer from problems arising from inadequate adaptations. These problems may further cause psychological troubles and even induce deviant behaviors.

According to a survey titled "Depression among Adolescents in Taipei Area" conducted by John Tung Foundation (2004), 84.2% of the surveyed adolescents have experienced depression, 15.3% reported that they feel depressed almost every day, and 33.6% said that depression occurs to them once a week. In terms of stress sources, 56.7% of them considered that their depression comes from school stress, 50.9% thought that their depression is caused by interpersonal relations, and 45.6% attributed their depression to academic tests. From the above statistics, it can be inferred that school is the main source of stress for adolescents, and stress is one of the important factors causing depression. Besides, the survey also revealed that depressed people are eight times more likely to commit suicide than normal people.^[2]

In all levels of schools, deaths caused by self-injury and suicide account for 12% of all deaths, a ratio slightly smaller than that of traffic accidents.^[3] According to Campus Security Report Center, Ministry of Education (2009), college students have most reported suicide cases, followed by senior/vocational high school students and junior high school students. College students are at a critical period where they will enter adulthood. They are expected to be the elites in the society. Thus, they should enhance their stress management abilities so as to live a healthy life after entering the society.

Adolescence is a dangerous period of time where young people experience self organization and role confusion. For them, stress mainly comes from academic tests, interpersonal relations, relationship problems, life

changes, and career exploration. Such stress may usually cause psychological, physical, and behavioral problems. According to statistics of 2005~2008, the number of suicide (including self-injury) cases is the highest among college/university students, and female students take a much larger proportion of the suicide (including self-injury) cases. Among the causes of suicide or self-injury, relationship problems are the leading cause, followed by depression and academic stress. Obviously, stress is the primary cause of suicide (or self-injury) among college/university students.^[4]

Stress Management Strategies: Learn how to say "NO!" – know your limits and do not compromise them. Taking on more than you can handle is not a good choice. It is ok if you don't do every single activity that your club, fraternity, sorority or your friends are doing.

Attitude – it is human nature to want to freak out. Your mind is a powerful tool; use it in your favor. Thinking rationally can take you a long way. Laugh – Do something that you enjoy, take on a hobby, hang out with friends, and learn to balance your life. If you are feeling upset, express your feelings. Don't keep them to yourself because that will only add to your stress. Avoid alcohol and cigarettes – this is just a quick fix. Once the chemical leave your body, you are back to feeling stressed and you are probably worse off than when you started. Healthy eating – get the proper nutrition. Eat at least one hot-home cooked meal a day.

Exercise – physical activities can help you in not only burning off calories, but burning off stress. Exercise helps release tension. Exercise for 30 minutes a day for at least 3 times per week. Relaxing your mind and body – take deep breaths. Visualize success. Set some "alone time" where you do something you enjoy. Practice "mindfulness", focusing your attention on the present moment.

Sleep – at least 7 hours of sleep are needed in order for your brain and body to function at optimum level. Avoid taking naps for more than 1 hour. Healthy relationships – talk and hang out with friends. Find some you relate to and with whom you can share your problems with.

Time management – get a planner, create a schedule, or even a to-do list. Map out what your quarter will look like. Once you have done that, do a schedule for each week. Then create a schedule for each day. Be specific. Mark down your class meeting times, study time for a specific subject, mealtimes, fun activities, and sleep.

Organization – learn how to organize your notes, keep track of your assignments and note important due dates or date of exams. Establish your priorities for the day.

Budget – create a budget for your monthly expenses. Distribute your money according to the bills you need to pay for the quarter (i.e. rent, tuition, groceries, personal

items, house bills, gasoline, etc.). Determine about how much money you will be able to spend “for fun.”

Spirituality – spiritually is regarded as finding meaning in your life, the ability to connect with others. Determine your learning style – find out whether you are a visual, auditory or kinesthetic learner.

Slow Down – take a deep breath and know your limits. Take your time so that you can ensure a well done job.

Find a support system – whether it’s your mom, sister, brother, friend or counselor, find someone you feel comfortable sharing your feelings with. Sometimes all we need is to vent off the frustration. Make changes in your surroundings – if you find it difficult to study in your dorm try moving to a place where there is no loud music, and brighter lights.

Delegate responsibilities – when school or work becomes overwhelming, dividing up the work or responsibilities helps alleviate pressure and stress.

Hancock *et al.*, (2008) noted that two general themes characterize modern stress theory. First, the presence of a mechanism through which individuals evaluates events in terms of their meaning fullness to the psychological or physical well-being.^[5] Second, individuals regulate their internal states and engage these mechanisms to compensate for perturbations induced by external events, including task demands. As any psychological concept, stress has different definitions. Ibrahim *et al.*, (1998) defined stress as a severe emotional response resulted from internal or external change.^[6]

According to Greenberg *et al.*, (2000) stress is personal, physiological and emotional reactions against stimulus.^[7] Hussien and Hussien defined stress as the situation by which the individual suffers from physical and psychological hyper tension resulted from factors that can't be handled and exceeds human ability to cope with.

Stressors refer to the factors or stimulators that cause psychological physical stress. Some scientists classify these stressors according to their frequency or duration.^[8]

As the number of college students drastically increased in recent years, this study focused on college students to explore their stress sources and coping strategies through a questionnaire survey.

MATERIALS AND METHODS

A questionnaire survey was adopted in this paper. A questionnaire consisting of two sections, including “basic data” and “sources of stress” was developed. Likert’s 5point-scale questionnaire was administered to students of JSS College of Pharmacy using convenience sampling method. Participants were recruited from a population of first year B.Pharm, Pharm D and D.Pharm students of JSS College of Pharmacy, Ootacamund, Nilgiris, Tamilnadu.

The study used (20) items questionnaire (Appendix1) to gather information regarding levels of stress, these items assess (4) main domains; the first is the physical factor (05) items, the second is the academic factor (05) items, the third is the behavioral factor (04) items and fourth is the emotional factor(06) items.

The questionnaire was previously reviewed by experts in mental health, assessment, and psychology in order to check its validity and they made some adjustments.

The questionnaires were randomly distributed to their students within the college premises/a total of 130 copies were distributed and 104 valid responses were obtained.

RESULT

Out of 130 Students, Data analysis was performed for the 100 students. Result shows that different type of stress and its percentage.

Table 1: Indications of stress based on physical factor.

Question No.	Percentage (%)				
	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	10%	18%	27%	32%	13%
2	14%	46%	10%	12%	18%
3	11%	18%	28%	23%	20%
4	15%	18%	28%	20%	19%
5	9%	20%	28%	26%	17%

Table 2: Indications of stress based on academic factor.

Question No.	Percentage (%)				
	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	8%	15%	32%	24%	21%
2	7%	15%	29%	34%	15%
3	12%	16%	22%	27%	21%
4	16%	22%	28%	20%	14%
5	15%	18%	22%	25%	20%

Table 3: Indications of stress based on behavioral factor.

Question No.	Percentage (%)				
	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	6%	14%	26%	35%	19%
2	18%	11%	24%	27%	20%
3	15%	17%	19%	33%	16%
4	14%	11%	24%	21%	30%

Table 4: Indications of stress based on emotional factor.

Question No.	Percentage (%)				
	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	13%	22%	31%	23%	11%
2	11%	25%	19%	34%	11%
3	10%	25%	22%	24%	19%
4	13%	9%	28%	26%	24%
5	11%	17%	32%	21%	19%
6	11%	18%	21%	26%	24%

DISCUSSION

The college students experienced a moderate physical, academics, emotional, and behavioural stress level. The research concludes that colleges have to provide students with a physical, academic, emotional, behavioural, counseling in order to decrease the students' stress. So they can achieve better and have a good mental health. They have to involve students with different activities to reduce the gap between them; also they have to provide students with a suitable teaching and learning methods in order to decrease their academic stress.

College students should pay attention to their physical and mental health and examine their emotions at all times to avoid onset of stress-induced depression or physical disorders. Besides, they should learn to understand, accept and recognize themselves, take a positive attitude towards getting along with their friends, learn to express and manage their emotions and effectively manage their emotions so as to develop positive relations and an optimistic view of life. In their learning process, they should cultivate and undaunted spirit.

CONCLUSION

The college students experienced academic and emotional stress levels. Thus the stress level management remedies should be undergone to protect and prevent the future generations from various stress-related disorders like anxiety, depression. This report has clearly shown the impact of persons undergoing stress and it should be controlled to avoid further consequences leading to other mental diseases.

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