Galore International Journal of Applied Sciences and Humanities
[Indexed, Peer Reviewed Journal]
Vol. 9; Issue: 2; April-June 2025
Website: www.gijash.com
Research Paper *P-ISSN: 2456-8430*

Prevalence of Stress Level in Engineering Students Across Ahmedabad – A Cross-Sectional Study

Dr. Nikita Tripathi[1], Dr. Hemal Patel[2]

[1] Master of Physiotherapy, JG College of Physiotherapy, Ahmedabad, Gujarat
[2] Lecturer, PG Guide, JG College of Physiotherapy, Ahmedabad, Gujarat

Corresponding Author: Dr. Nikita Tripathi

DOI: https://doi.org/10.52403/gijash.20250208

ABSTRACT

BACKGROUND: Stress is a huge problem for many university students, especially those studying challenging fields like engineering. Engineering students often deal with intense pressure, which can take a toll on their health and make it harder for them to do well in their studies. Despite the growing recognition of this issue, limited research has been conducted on the prevalence of stress levels specifically within the context of engineering students in Ahmedabad. Understanding the prevalence of stress levels in this population is crucial for developing effective support systems.
OBJECTIVES: To find the prevalence of stress levels among engineering students in Ahmedabad, using the Perceived Stress Scale (PSS-10).
METHODOLOGY: Data was collected through Google Forms from 100 engineering students. The data was then analyzed using MS Excel 2010 to categorize stress levels into three categories: low stress, moderate stress, and high stress.
RESULTS: The study found that 83% of the engineering students experienced moderate stress, 8% experienced high stress, and 9% experienced low stress levels.
CONCLUSION: The majority of engineering students in Ahmedabad exhibited moderate levels of perceived stress. These findings highlight the need for targeted interventions and support systems to address the mental health and well-being of this population.

KEYWORDS: Stress level, Engineering Students, Ahmedabad

INTRODUCTION

Psychological stress results from an imbalance between the external environmental demands and an individual's perception of meeting them. Studies have suggested that mental stress is often associated with depression, anxiety, and physical conditions including cancer and cardiovascular diseases. [1,2,3,4] Stress has become a big topic in today's world, with more attention given to it since Selye's early work. [5] While stress can sometimes help us respond to emergencies, it's also a normal part of college life. [6] College life can bring some healthy stress, but it also creates many situations where students feel overwhelmed. In some rare cases, stress can become so intense that it leads to tragic outcomes, like suicide. Recently, there has been more focus on the stress that college students experience, with many reporting high levels of stress, despite this, students' stress isn't always the main focus of research in this area. [7] Stress happens when we feel like we don't have the resources to cope with a situation, whether it's from the past, present, or future.[8] It's triggered by fear, which makes our body react instinctively with a "fight or flight" response. Stress is different

for everyone; what one person finds stressful may not be stressful to someone else. The real issue is that the harm from stress comes from how we perceive and interpret the demands on us, not the demands themselves.[9] The original perceived stress scale (PSS) had 14 items, but the updated 10-item version (PSS-10) was created to make it more reliable, with better consistency and structure. Because of these improvements, Cohen and Williamson (1988) suggested using the PSS-10 instead of the original version in research.[10] It is widely accepted that gender influences stress and females reported higher levels of daily stressors as compared to males. [11,12] McDonough and Walters reported approximately 23% higher distress scores in the females than males. [13] Thus, the need of the study is to find the prevalence of stress level in engineering students across Ahmedabad.

MATERIALS & METHODS

Study design: Cross sectional study
Sample selection: According to inclusion & Exclusion criteria
Sample design: Random sampling
Sample size: 100 engineering students
Source: Engineering students of different engineering Colleges.

SELECTION CRITERIA

INCLUSION CRITERIA: Undergraduate engineering students between the ages of 18-22. Both male and female. Students from any engineering discipline (civil, mechanical, computer science, etc.). Consent to participate in the study.

EXCLUSION CRITERIA: Students outside the age group of 18-22. Students not enrolled in engineering programs. Students who did not complete the survey or did not provide valid responses. Postgraduate students, Students with pre-existing mental health conditions.

STUDY PROCEDURE: A google survey form was generated and circulated through online Mode via mail, WhatsApp, messenger, Telegram among the engineering students. The form was self-generated from with the questions regarding their Demographic data and perceived stress level scale. 100 engineering students were included into the study. According to inclusion and exclusion Criteria. stress was Evaluated by the help of perceived stress scale questionnaire. The data was collected and prevalence has been found out.

OUTCOME MEASURE

PSS was used to Assess level of stress in past one month. PSS scores Ranged from 0 to 40 with higher scores indicating higher Perceived stress. The PSS score was calculated by summing Up the scores of all respondents. As per the manual of the Scale, scores ranged from 0-13 was considered low stress, Scores between 14-26 was considered moderate stress and Scores ranging from 27- 40 was considered severe stress. Reliability and validity of scales (Cohen and Williamson 1988) reported PSS-10 score having internal consistent reliability α=0.78 and validity of concurrent criteria with experience of stress during an average week r=0.32, $p<0.05$ [14]

STATISTICAL ANALYSIS

Statistical analysis was done using the Microsoft excel 2010 and was represented in form of table. The online survey has been done for the study. Students completed 10-item questionnaire of the perceived stress scale (PSS).

RESULT

A Total 100 number of engineering students were included in this study with response. Among respondents, female participants were 48 while the majority of male participant were 52. Data analysis on the basis of PSS 10 questionaries found prevalence of perceived stress level in which 8% participants reported high stress level, 83% moderate stress and 9% low stress level among total engineering students. [Table 1].

STRESS LEVEL	HIGH STRESS	MODERATE STRESS	LOW STRESS
PERCENTAGE	8%	83%	9%

TABLE 1: TOTAL PERCENTAGE WITH PERCEIVED STRESS LEVEL

	HIGH/ MODERATE STRESS	LOWSTRESS
MALE	19.2%	15.4%
FEMALE	27.6%	12.2%

TABLE :2 PERCENTAGE OF HIGH/ MODERATE STRESS AND LOW STRESS IN MALES AND FEMALE

DISCUSSION

In the study of Avani K Ghediya Prevalence of stress level in physiotherapy professors in Gujarat – an observational study. This study concluded that high prevalence of stress is found in Assistant Professors, moderate prevalence in Associate Professors and low prevalence in Principal. Study also depicting female perceiving high stress rather male. [14]

In the, another study, Bayram n et al The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. The study showed the high prevalence of depression, anxiety and stress symptoms among university students is alarming.[15]

CONCLUSION

The study indicates that stress is prevalent among engineering students in Ahmedabad, with the majority reporting moderate stress levels. This highlights the need for targeted interventions to address stress management, particularly in high-stress academic environments like engineering. Females showed slightly higher prevalence of high/moderate stress compared to males. Need for targeted interventions and support systems for student well-being.

Declaration by Authors

Ethical Approval: Approved
Acknowledgement: None
Source of Funding: None
Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Sreeramareddy CT, Shankar PR, Binu VS, Mukhopadhyay C, Ray B, Menezes RG. Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal. BMC Medical education. 2007 Dec; 7:1-8.
2. Lönngren J, Bellocchi A, Berge M, Bøgelund P, Direito I, Huff JL, Mohd-Yusof K, Murzi H, Farahwahidah Abdul Rahman N, Tormey R. Emotions in engineering education: A configurative meta-synthesis systematic review. Journal of Engineering Education. 2024 May 15.
3. Bomhof-Roordink H, Seldenrijk A, van Hout HP, van Marwijk HW, Diamant M, Penninx BW. Associations between life stress and subclinical cardiovascular disease are partly mediated by depressive and anxiety symptoms. Journal of psychosomatic research. 2015 Apr 1;78(4):332-9.
4. Payne JK. State of the science: stress, inflammation, and cancer. In Oncology Nursing Forum 2014 Sep 1 (Vol. 41, No. 5).
5. Anderson P, Pulich M. Managing workplace stress in a dynamic environment. The health care manager. 2001 Mar 1;19(3):1-0.
6. Schafer W. Stress management for wellness. Harcourt Brace College Publishers; 1996.
7. Robotham D, Julian C. Stress and the higher education student: a critical review of the literature. Journal of further and higher education. 2006 May 1;30(02):107-17.
8. Biggs A, Brough P, Drummond S. Lazarus and Folkman's psychological stress and coping theory. The handbook of stress and health: A guide to research and practice. 2017 Apr 19:349-64.
9. Ross S, Cleland J, Macleod MJ. Stress, debt and undergraduate medical student performance. Medical education. 2006 Jun;40(6):584-9.
10. Denovan A, Dagnall N, Dhingra K, Grogan S. Evaluating the Perceived Stress Scale among UK university students: implications for stress measurement and management.

Studies in Higher Education. 2019 Jan 2;44(1):120-33.
11. Salleh MR. Life event, stress and illness. The Malaysian journal of medical sciences: MJMS. 2008 Oct;15(4):9.
12. Schneiderman N, Ironson G, Siegel SD. Stress and health: psychological, behavioral, and biological determinants. Annu. Rev. Clin. Psychol. 2005 Apr 27;1(1):607-28.
13. Andreou E, Alexopoulos EC, Lionis C, Varvogli L, Gnardellis C, Chrousos GP, Darviri C. Perceived stress scale: reliability and validity study in Greece. International journal of environmental research and public health. 2011 Aug;8(8):3287-98.
14. Ghediya AK. Prevalence of Stress Level in Physiotherapy Professors in Gujarat-An Observational Study.
15. Bayram N, Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. Social psychiatry and psychiatric epidemiology. 2008 Aug; 43:667-72.

How to cite this article: Nikita Tripathi, Hemal Patel. Prevalence of stress level in engineering students across Ahmedabad – a cross-sectional study. *Galore International Journal of Applied Sciences & Humanities*. 2025; 9(2): 55-58. *DOI: https://doi.org/10.52403/gijash.20250208*

******