



PSYCHOLOGICAL DISTRESS AND ACADEMIC RELATED FACTORS AMONG UNDERGRADUATE STUDENTS

Psychiatry

Dr. Mallikarjuna Rao Asistant Professor, Department of Psychiatry, Govt General Hospital & College, Ongole, Andhrapradesh.

Dr. P. Viswanatha Reddy* Clinical Psychologist, Department of Psychiatry, Narayana Medical College & Hospital, Nellore, Andhrapradesh. *Corresponding Author

ABSTRACT

The mental health of university students is an area of increasing concern worldwide. Psychological distress encompasses symptoms of common mental health problems anxiety and depression. The transition from high school to higher education for students is a stressful experience as they struggle to cope with an array of changing conditions and students can face numerous stressors in addition to academic demands that can contribute to the development or exacerbation of mental health problems. This study determines the prevalence of psychological distress and associated factors among regular undergraduate students at Narayana Professional Colleges. Cross-sectional study conducted. The study used Self Reporting Questionnaire (SRQ-20) which was designed by WHO. Bivariate and Multiple logistic regressions have been used to determine associations. Higher level of psychological distress were observed among students who were not interested to join field of engineering, with less than mean adjustment score, with physical and mental illnesses. One-in-four students had psychological distress and this calls for some form of psychological and/ material support. Compromising students' preference to get their field of interest had significant association with psychological distress.

KEYWORDS

Introduction:

Stress is viewed as a negative emotional, cognitive, behavioral and physiological process that occurs as a person tries to adjust to or deal with stressors [1]. Stress is a necessary and inescapable concomitant of daily living-necessary because without some stress we would be listless and apathetic creatures, and unavoidable because it relates to any external event, it is agreeable or anxiety producing. Stress is defined as a feeling of tension that is both biological and psychological. It refers to the consequence of the failure of an organism – human or animal – to respond appropriately to emotional or physical threats, whether actual or imagined. Stress consists of any event in which environmental demands, internal demands or both tax or exceed the adaptive resources of the individual, social system or tissue system.

A person's response towards stress depends on whether an event is appraised as a challenge or a threat [2]. Stress symptoms commonly include a state of alarm and adrenaline production, short-term resistance as a coping mechanism, and exhaustion, as well as irritability, muscular tension, inability to concentrate and a variety of physiological reactions such as headache and elevated heart rate. Stress is widely accepted to have two opposite effects on individuals – good stress (eustress) and bad stress (distress). Han Selye noted that eustress provides challenges that motivate individuals to work hard and meet their goals meanwhile distress results from the stressful situations that persist over time and produces negative health outcomes [3]. Broadly, it can be concluded that the acceptable levels of stress help to improve the individuals' performance whilst excessive amounts of stress can lead to a decreased performance. Stress has become an important topic in academic circle as well as in our society.

Psychological distress is the end result of factors like; psychogenic pain, internal conflicts, and external stress that prevent a person from self-actualization and connecting with significant others. It encompasses mainly symptoms of anxiety and depression and depression is recognized to be the most common mental health issue in the student population. Depression is a common emotional disorder, which causes distress and impairs functioning. The cognitive, physiological, behavioral and motivational symptoms are the core features of depression [4].

Leaving home for college is a developmental milestone that can exacerbate existing psychological difficulties or trigger the emergence of new ones. University setting is a new, challenging experience which mostly corresponds to the early adulthood. Early adulthood in general, is marked by more new roles like developing partnership, leaving parents' homes, and beginning work or joining higher education. Although this period is the best time of physical strengths, it is the worst time of mental health due to the demanding tasks [5]. Being a

university student is another milestone of early adulthood. Most of the young people live apart from their families, know new people, try to find new friends and shoulder financial responsibilities. Studies reported high psychological distress among university students and high distress is one of the reasons of poor academic performance, dropout, requesting withdrawal and dismissal either due to different distress inducing mental health problems or secondary to serious mental health disorders. Unfortunately this is a period in life at which time severe psychiatric disorders causing disability if untreated like bipolar disorder, schizophrenia and depression start in those who are vulnerable needing very close specialist attention. Supporting this fact, high rates of mental disorders among university students are also reported by different studies.

Statement of problem:

Students struggling with mental health concerns ranging from self-esteem issues and developmental disorders to depression, anxiety, eating disorders, self-mutilation behaviors, and suicidal behavior. Significant distress and functional impairments are the core criteria indicative of mental health problems. The impact of mental health problems on the individual student can be devastating both socially and academically. Psychological distress is feeling of upset, tense, anxious, depressed and any emotional and psychological symptoms which one feel may be hindering normal healthy functioning and mainly encompasses symptoms of common mental disorders, anxiety and depression. The period of undergraduate study is a sensitive period in an individual's life span and this period is regarded by many as important for developing systems and intervention methods that may prevent or reduce mental health problems.

Literature review:

Psychological distress has been defined as the "unpleasant subjective states of depression and anxiety, which have both emotional and psychological manifestations". Psychological distress is a major issue for college students. Research indicates that nearly half of all college students have met DSM-IV criteria for having a psychiatric disorder in the past year [6]. Stress can be prevalent in just about everyone but it is especially true for college students because they are still learning to adjust to college life. They also have to focus on their studies more so their social time is cut down considerably. Finally, college students have to adjust to different living arrangements such as living in a dorm or in their first apartment without their parents around. The majority of the time these students do not previously know the people they have to live with for the year.

There is a common perception that college students lack sleep during those first four years, focused on the relationship between lack of sleep and depression, anxiety, and intrusive thoughts. They found that "sleep

disturbances and depression are highly associated with psychological and biochemical imbalances [7]. Three of the components of psychological distress are depression, anxiety, and insomnia. Therefore, this study reiterates the fact that prolonged sleep deprivation can lead to multiple negative outcomes such as depression and may lead to academic problems. Not getting enough sleep can lead to "...tension, anger, depression, fatigue, and confusion; concentration and memory difficulties...". This can potentially lead to psychological distress. As they stated, only a small percentage of college students (11%) actually get the recommended sleep they need to function every day. This is an increasing problem that directly affects college students because academic demands cause students to choose between their grades and their sleep. College students face stressors such as "academic overload, continual pressure to succeed, competition against peers, financial hardship, and worries about the future [8].

Prevalence of psychological distress:

According to a research conducted in 2008 to assess the prevalence of psychological distress and self reported treatment rate among medicine, law, psychology and mechanical engineering students in University of Adelaide, Australia, Of the 955 undergraduate students who completed the psychological distress scale, 48% were psychologically distressed which equated to a rate 4.4 times that of age-matched peers in the community (11%). Among the undergraduates from five universities in Sri Lanka 39.8% had scores for psychological distress. A significantly greater proportion of those entering from rural schools were psychologically distressed than those from suburban and urban schools (65.4%, 36.4% and 37.5% respectively) [9].

Socio-demographic factors:

According to a research conducted in 2008 to assess Prevalence of psychological distress among university students in Australia women are more likely to report mental health problems than men, the highest prevalence of psychological problems is found in young adults 18-24 years of age (27%) the age of onset of many major mental health disorders with 75% having an onset before 25 years of age. In a study involving trainee teachers at Rivers State College of Education Port Harcourt, Nigeria in the year 2009, 36% of students classified as experiencing psychological distress and higher frequency of attending religious activities was associated with lower risk of psychological distress [10].

Academic related factors:

The non-health disciplines were significantly more distressed than the health disciplines 58% of law 52% of mechanical engineering followed by 44% of medical students and 40% of psychology students. Mechanical engineering students were the least likely to sought help as revealed by a 2007 cross-sectional study conducted to assess Distress Levels and Self-Reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students in Australia. A cross sectional study conducted in southeastern France in 2005-2006 has revealed that the prevalence of psychological distress was 25.7%, 15.7% in men and 33.0% in women that was more than double compared to men. The score of adjustment to university academic environments had significant association (OR = 1.14) with psychological distress [11]. In a research conducted in the University of Cape Town, South Africa, significant difference was found between year of study and the total psychological distress score. First-year undergraduate students reported less distress than subsequent year undergraduate students. Analysis conducted to explore whether initial level of anxiety-depression has effect on students academic performance show that there is a strong and significant relationship between high levels of anxiety and poor examination results.

Objectives:

- To determine prevalence of psychological distress among undergraduate students
- To identify socio-demographic factors associated with psychological distress among undergraduate students.
- To identify academic demand related factors associated with psychological distress among undergraduate students

Hypotheses:

- There would be significant impact of psychological distress on undergraduate students
- There would be significant impact of socio-demographic factors on psychological distress among undergraduate students

There would be a significant impact of academic factors on psychological distress among undergraduate students

Inclusion Criteria:

Regular students from Narayana Engineering campuses, Nellore-Andhrapradesh.

Sample size:

The sample size was calculated using a single population proportion formula by using proportion of psychological distress among university students using 'SRQ-20 items.4% marginal error and standardized normal distribution at 95% CI.

$$n = Z_{\alpha/2}^2 \frac{P(1-P)}{d^2}$$

$$n = 1.96^2 \times \frac{0.491(1-0.491)}{(0.04)^2} = 601$$

Where;

- n- Is the minimum required sample size
- P- Proportion of university students with psychological distress d- Is the margin of sampling error tolerated (4%)
- Z $\alpha/2$ the standard normal variable at (1- α) % confidence level and, α is mostly 5% i.e., with 95% confidence level.

Results and Discussion:

SRQ-20 was administered to 612 students of whom 566 responded making response rate of 92.5%. Reasons for the remaining 7.5% of students not to be included in this study were unwillingness to participate and incomplete questionnaire especially for those questions which addressed the dependent variable. Majority (79.7%) of them were males. The mean age of study participants was 20.57 (SD=1.514) years.

Table 1: Socio-demographic characteristics of respondents

Variable	Character	Frequency%
Sex	Male	451(79.7)
	Female	115(20.3)
Age	≤ 18	44(7.8)
	19-22	470(83.0)
	23-26	52(9.2)
Relationship	single	559(89.9)
	girl/boy friend	42(7.4)

The prevalence of psychological distress was 24.9% with mean SRQ-20 score of 6.92 + SD 4.93. Sixty five (11%) of the respondents reported that they had experienced a wish to die in the last one month. The prevalence was virtually identical in male and female, 24.83% and 25.21% respectively and it was higher (29.5%) in age group 18 year and less followed by age group 19-22 year which was (25.5%).

The distribution of prevalence of psychological distress based on relationship status revealed that 26.1% among unmarried and have no boy/girl friend, 16.7% in unmarried.

Table2. Association of socio-demographic factors with psychological distress among undergraduate students

variable	character	Psychological Distress		COR (95% CI)	P-value
		Yes %	No %		
Sex	Male	112(24.8)	339(75.2)	1	0.932
	Female	29(25.2)	86(74.8)	1.021(0.637,1.636)	
Age	≤ 18	13(29.5)	31(70.5)	2.306(0.854,6.229)	0.099
	19-22	120(25.2)	350(74.5)	1.886(0.863,4.119)	0.112
	23-26	8(15.4)	44(84.6)	1	-
Relationship	Single	113(26.1)	376(73.9)	4.952(0.645,38.023)	0.124
	Boy/Girl friend	7(16.7)	35(83.3)	2.800(0.315,24.895)	0.356

Study participants, 162 (28.6%) were first year and 208 (36.7 %) second year the rest third up to fifth year constitute lower proportion. One hundred sixty (28.3%) were pre-engineering students, 163(28.8%) were civil engineering, 70 (12.4%) were electrical engineering, 67 (11.8%) were water resource and environmental engineering, 61 (10.8%) were mechanical engineering, 18 (3.2%) were information technology, 18 (3.2%) were computer science, 8

(1.4%) were biomedical engineering and one student failed to report the field of study.

Four hundred seventeen (73.7%) of respondents reported that they have joined field of engineering based on their priority choice whereas 149 (26.3%) reported that engineering was not their first choice when completing their preparatory education. Surprisingly, all 65 (100%) of students who reported wish to die in the last one month were not interested to join field of 29 engineering prior to their entry to university and 24 (36.9%) of them were freshman pre-engineering students.

The prevalence psychological distress was higher in first year students (30.9%) followed by second year (26%) but among final year students it was less than half of that of the prevalence in first year 13.9%. With regard to the field of study, the prevalence was higher (34.4%) in pre-engineering students followed by 27.1% in electrical engineering, 23.9% in water resource and environmental engineering. Around 45.3% of students having psychological distress, reported that they didn't put engineering first when they made choice of their field of interest prior to joining university.

The mean score of adjustment to university academic environment on a 24 point measurement scale was $14 \pm SD 3.29$. The prevalence of psychological distress was higher (37.2%) among those with adjustment score below mean than those scored above mean (13.8%). Results from bivariate regression analysis showed that all academic demand related factors considered in this study, study year [COR 2.768, 95% CI (1.017, 7.536)], field of study [COR 1.807, 95% CI (1.083, 3.016)], interest to field of engineering [COR 0.462 95% CI (0.312, 0.686)] and score of adjustment to university academic environment [COR 3.695, 95% CI (2.447, 5.577)] have shown statistically significant association with psychological distress.

Table3: Association of academic related factors with psychological distress among students

Variable	Character	Psychological Distress		COR (95% CI)	p-value
		Yes %	No %		
Study period	1 st Year	50(30.9)	112(69.1)	2.768(1.017,7.5236)	0.046
	2 nd Year	54(26.0)	154(74.0)	2.174(0.804,5.875)	0.126
	3 rd Year	24(20.0)	96(80.0)	1.550(0.545,4.408)	0.411
	4 th Year	8(20.0)	32(80.0)	1.550(0.457,5.259)	0.482
Field of Study	Civil	32(19.6)	131(80.4)	1	-
	Electrical	19(27.1)	51(72.9)	1.525(0.794,2.931)	0.205
	Mechanical	13(21.3)	48(78.7)	1.109(0.537,2.288)	0.780
	CS	5(27.8)	13(72.2)	1.575(0.523,4.737)	0.419
Interest to field	Yes	101(24.2)	316(75.8)	1	
	No	40(26.8)	109(73.2)	0.462(0.312,0.686)	0.001**

The prevalence was virtually identical in male and female; 24.83% and 25.21% respectively. Higher prevalence of psychological distress was observed in those aged 18 or less. In this study, prevalence of mental distress (24.9%) was found consistent with but a little bit higher than the prevalence of mental distress using the same instrument.

Compared to findings from a study conducted in 2008 in University of Adelaide, Australia, which found 48% prevalence of psychological distress [12] and 49.1% prevalence among undergraduate students [13], the prevalence found in our study is less by half. The inclusion of multiple disciplines in the above two studies conducted in University of Adelaide, Australia could explain the difference implying that the rate as well as level of psychological distress may vary across disciplines and in every field of study various factors could contribute for psychological distress in student population.

More than eleven percent prevalence of experiencing a wish to die in the last one month from our study needs further investigation to prevent suicide because a large study revealed suicide is the second leading cause of death among college students and 10-20% of student's display 38 Suicidal gestures or attempt suicide during their college life [14]. There were many students in our study who have reported mental illnesses in the last one month confirmed by health professionals so that they may not be on appropriate follow up and experiencing a wish to die could be the symptom of these illnesses. The finding that all students who had reported having a wish to die were not interested to join field of engineering indicates that compromising students interest

to join certain field due to policy driven widening of participation in higher education particularly in field of technology, which pushed some students to learn engineering losing their prime preference over certain field, needs further research and designing proper mental health services for university students.

Our study finding indicated no significant association of psychological distress with gender and age was completely consistent with a 2002 research among the undergraduates from five universities in Sri Lanka [15]. In this study the score in the measurement scale was slightly higher in females than males. This gender-based variation could be explained by the difference in biological as well as community assigned roles in male and female. In our study, the prevalence of psychological distress in those aged ≤ 18 year was higher than other age category and similar finding from University of Cape town, South Africa, described that the prevalence was higher in the younger age groups.

Several studies found that the rate of psychological distress drops as the study year advances [16]. Our finding is in agreement with these studies; prevalence of psychological distress in graduating class students dropped by greater than half of the prevalence in first year students (30.86% and 13.88%) respectively. But, on multiple logistic regressions this finding failed to show statistically significant association. Adjustment problems to university academic environment are among factors involving in students psychological symptoms. Furthermore, like that of study conducted in France [17], the score of adjustment to university academic environments in this study was one of the variables significantly associated with psychological distress while controlling for other variables. Our cross-sectional study design, however, prevents us from reaching a conclusion about the direction of the link: poor perceived adjustment to the academic environment may increase the risk of Psychological distress or Psychological distress may increase the difficulties in adjusting to the academic environment, or both. Many attribute adjustment problems mostly to freshman students. But, the changing demand in every aspect of student's life like academic, relation, age or thinking over the new life after graduation also put students at varying degree of adjustment tasks and the problem continue throughout the whole study years.

Regarding the interest of students to the field of study, the odds of having psychological distress among students who preferred field of engineering before joining it was 2.162 gives important clue to give better consideration for students' preferences as the capacity of universities improve. The finding in our study also revealed that the likely hood of psychological distress in students whose first choice was engineering was lower than those engineering was not their first choice. The association was statistically significant [18]. This inferred that compromising student's preference due to policy driven increment in the number of students who join field of engineering has to be supplemented with adequate counseling and other mental health services which help students understand the reality and prepare themselves psychologically for the possible academic stress and design positive coping strategies while studying the field in which they are assigned.

Conclusion:

Academic factors are found to be the most important stressors. So there is a pressing need for definite measures to decrease substantially the burden of stress on the students. Teaching techniques and college environments should be adapted to the needs of the students. The productive utilization of existing student welfare systems, development of more 'student-friendly' environments and regular periodic extracurricular activities with universal participation can prove to be useful stress-busters. Stress reducing techniques need to be encouraged in professional courses and counselors for the effective addressing and solving the problems is required in all professional courses. Parents and students should be aware that unnecessary expectations about academics can lead to stress.

REFERENCES:

- Bernstein DA, Penner LA, Stewart AC, Roy EJ. Psychology (8th edition). Houghton Mifflin Company Boston: New York, 2008.
- Lazarus RS, Folkman S. Stress, Appraisal, and Coping. New York: Springer, 1984.
- Landy FJ, Conte J. Work in the 21st Century: An Introduction to Industrial and Organizational Psychology. Oxford: Blackwell Publishing Company, 2007.
- Khawaja Nigar G, Duncanson Krystle. Using the University Student Depression Inventory to Investigate the Effect of Demographic Variables on Students' Depression. Australian Journal of Guidance and Counseling, 2008; 18(2):1-15.
- Redhwan Ahmed al Naggara. Prevalence and associated factors of phobia and social

- anxiety among university students. *ASEAN Journal of Psychiatry*, 2012; 13(2).
6. Blanco, Carlos, Mayumi Okuda, Crystal Wright, Deborah Hasin, Bridget Grant, Shang-Min Liu, & Mark Olfson (2008). Mental Health of College Students and Their Non-College- Attending Peers. *Arch Gen Psychiatry* 65(12): 1429- 1437.
 7. Field, Tiffany, Miguel Diego, Martha Pelaez, Osevelia Deeds, & Jeanette Delgado (2012). Breakup Effects on University Students' Perceived Academic Performance. *College Student Journal*: 615-619.
 8. Toveski, DL, Milovancevic MP, Gajic SD. Personality and psychopathology of university Students. *Curr Opin Psychiatry*. 2010;23:48-52.
 9. Catherine M. Leahy, Ray F. Peterson, Ian G. Wilson, Jonathan W. Newbury, Anne L. Tonkin, Deborah Turnbull. Distress Levels and Self-Reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students: Cross-Sectional Study. *Aust NZJ Psychiatry*, 2007; (44).
 10. Helen M Stallman. Prevalence of psychological distress in university students: implications for service delivery. *Australian Family Physician*, 2008; 37(8):673-77.
 11. Eva Biro, Roza Adany, Karolina Kosa. Mental health and behavior of students of public health and their correlation with social support. *BMC Public Health*, 2011; 11:871.
 12. Catherine M. Leahy, Ray F. Peterson, Ian G. Wilson, Jonathan W. Newbury, Anne L. Tonkin, Deborah Turnbull. Distress Levels and Self-Reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students: Cross-Sectional Study. *Aust NZJ Psychiatry*, 2007; (44).
 13. Tesfaye A. Prevalence and correlates of mental distress among regular undergraduate students of Hawassa University: a cross sectional survey. *East Afr J Public Health*, 2009; 6(1): 85-94.
 14. Redhwan Ahmed al Naggar. Prevalence and associated factors of phobia and social anxiety among university students. *ASEAN Journal of Psychiatry*, 2012; 13(2).
 15. Kuruppuarachchi K, Wijerathne S, Williams S. Psychological distress among students from five universities in Sri Lanka. *Ceylon Medical Journal*, 2002; 47(1).
 16. Alem A, Araya M, Melaku Z, Wendimamegn D, Abdulahi A. Mental distress in medical students of Addis Ababa University. *Ethiop Med J*, 2005; 43(3):159-66.
 17. Pierre Verger, Jean-Baptiste Combes, Viviane Kovess-Masfety et al. Psychological distress in first year university students: socioeconomic and academic stressors, mastery and social support in young men and women. *Psychiatry psychiatr Epidemiol*, 2009; 44: 643-650.
 18. Nuran Bayram, Nazan Bilgel. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Soc Psychiatry*, 2008; 43:667-672.