



ORIGINAL RESEARCH PAPER

Zoology

A STUDY OF STRESS, ANXIETY, AND DEPRESSION AMONG UNDERGRADUATE AND POSTGRADUATE DEGREE STUDENTS

KEY WORDS: DASS 21, depression, anxiety, stress, graduate students

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ABSTRACT

Introduction: Academic stress, anxiety and depression among graduate students are a cause of concern. Stress is an external constraint which upsets an individual both mentally and physically. Research survey on college students' reports at any given time there will be 10 to 20% of student population suffering from psychological problems (Stress, Anxiety & Depression). The postgraduate students suffer from higher stress that definitely affects the mental wellbeing of these students.

Study Design: It is a cross-sectional, observational study.

Objectives: The objective of the present study was to explore the level of stress, anxiety and depression among the postgraduate medical students. The secondary objective was to find out the factors affecting the stress, anxiety and depression level in these students.

Materials and Methods: 200 under graduate and post graduate students from College and University were selected. Depression, anxiety and stress scale 21 questionnaires were given for assessment of stress level. A completed scale was taken for assessment from the students.

Result: The mean depression score was 40 ± 28.88 , the anxiety score was 40 ± 14.14 and the mean stress score was 40 ± 26.07 . The present study showed 35% students are in mild stress level and 28% students were in moderate anxiety level and 24% were in extreme severe anxiety level, whereas 24% students were in moderate stress level.

Conclusion: The present study concluded that a high level of anxiety and depression was seen in undergraduate and post graduate students. The study further concluded that there are various factors which can affect the level of stress. These factors should be assessed separately for the further study.

Introduction

According to WHO definition, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"(1). Many people perceive health as being physically well and free of any diseases, and thus they have neglected the importance of mental health. Therefore, mental health is an irreplaceable aspect of health. Poor mental health will lead to many life threatening diseases such as cardiovascular disease deaths, deaths from external causes, which was only associated with psychological distress at higher levels (2) Depression, anxiety and stress levels in the community are considered as important indicators for mental health. Failure to detect and address to these emotional disorders will unfortunately lead to increased psychological morbidity with undesirable impacts all through their professions and lives (3)

Stress is a state of an individual that results from the interaction of the individual with the environment that is perceived as threatening to the well-being. It is an external constraint which directly upsets the individual both mentally and physically. (4) Individual in a stressful situation is influenced by his or her mental ability to carry out ongoing tasks (5, 6).

The three main stressors identified are examinations, work and financial responsibilities. Several other factors such as curriculum, traumatic events related to patients, ethical dilemmas also make them vulnerable to depression. (7) Gender, lack of family support, are also one of the risk factors. (8) Students exposed to work overload in a competitive environment with constant pressure of assessment bring various changes in their daily habits such as lack of sleep, irregular diet, substance abuse. (9) There are very few studies in this context in India and very few in Maharashtra. Keeping all these factors in mind; the present study was planned to describe findings of stress among graduate and postgraduate students of Colleges and Universities. It is a comparative study to see the prevalence of stress and related depression and anxiety among these students.

Materials and Methods

Depression, Anxiety and Stress Scale (DASS 21): It is a self-rated questionnaire which assesses the severity of the symptoms of

depression, anxiety and stress. It contains statements referring to the past week. Each item is rated on a 4point scale (Did not apply to me at all means score of 0, Applied to me very much or most of the time means score of 3). Subjects are asked to circle a 0-3 number indicating how much each statement applied to him/her in the last week. Scores for depression, anxiety and stress are calculated by adding the scores for the relevant items. Each subscale is divided into normal, mild, moderate, severe and extremely severe as in table 1.

Table 1: DASS severity levels

	Depression	Anxiety	Stress
Normal	0-9	0-6	0-10
Mild	10-12	7-9	11-18
Moderate	13-20	10-14	19-26
Severe	21-27	15-19	27-34
Extreme Severe	28+	20+	35+

100 under and 100 post-graduate students of both sex were selected. The details included age, gender, was recorded. A written consent was taken and complete confidentiality was assured. A questionnaire depression, anxiety and stress scale 21 (DASS 21) was given to each participant along with a standard preface explaining the purpose of the study and was asked to fill. The DASS 21 scale described by Lovibond and Lovibond (10) is a survey that measures the level of depression, anxiety and stress levels in an individual. The structure of the DASS is similar to the tripartite model of Clark and Watson (11) which conceptualizes depression and anxiety as having unique distinguishing features and some common symptoms as well. The scoring of the DASS 21 ranks each participant's depression, anxiety, and stress levels, classifying each area as either "normal," "mild," "moderate," "severe," or "extremely severe." The DASS 21 has 7 items for each of the three scales. Question Items 1, 6, 8, 11, 12, 14, 18 for the stress, The anxiety scale has 7 items, question 2, 4, 7, 9, 15, 19, 20 and question no 3, 5, 10, 13, 16, 17, 21 is for depression. The respondents rate the extent to which they have experienced the symptoms over the previous week on a four-point rating scale. The sum of scores obtained from the 7 items in each scale and the scale severity is interpreted as shown in Table 1. The scale has been

tested and found to possess excellent reliability, good validity and simple in language and required less time. (12)

Results

A total of 200 completed questionnaires were returned. The age of the participants ranged from 17 to 24 years. Among 200 participants; 80 were males and 160 were females. When we analyzed, the depression scale, among total of 200 participants; there were no evidence of depression early. 16.5% showed mild depression, 24% showed moderate depression; 7.5% were having severe depression and 9% showed extreme depression. Table 2 showing overall DASS score. The anxiety scale reported 44 (22%) normal interpretation. Among the remaining participants, 20 (10%) showed mild anxiety, 56 (28%) moderate and 32 (16%) were in severe anxiety status. 48 (24%) cases reported extreme severe anxiety status. The study reported 61 (30.5%) normal cases for stress scale. 70 (35%) were having mild stress, 39 (19.5%) were moderate stress and 23 (11.5%) case reported severe stress score. 7 (3.5%) cases showed extreme severe stress level (Table 2). The results showed a moderately higher level of depression and anxiety and mild degree of stress level in post graduate students. We further grouped the sample into different groups to observe the correlation of factors on the stress level in under graduate and post-graduate students. The data was grouped into four types; UG-male, UG-female, PG-male and PG-female (Tables 3-5).

Table 2: Overall DASS score (n=200)

	Normal	Mild	Moderate	Severe	Extreme Severe
Depression	86 (43%)	33 (16.5%)	48 (24%)	15 (7.5%)	18 (9%)
Anxiety	44 (22%)	20 (10%)	56 (28%)	32 (16%)	48 (24%)
Stress	61 (30.5%)	70 (35%)	39 (19.5%)	23 (11.5%)	7 (3.5%)

Table 3: Stress score

	Normal	Mild	Moderate	Severe	Extreme Severe
UG (male) n=40	12 (30%)	17 (42.5%)	8 (20%)	3 (7.5%)	0 (0%)
UG (female) n=60	13 (20.8%)	18 (28.8%)	18 (28.8%)	7 (11.2%)	4 (6.4%)
PG (male) n=40	19 (47.5%)	15 (37.5%)	3 (7.5%)	2 (5%)	1 (2.5%)
PG (female) n=60	17 (27.2%)	20 (32%)	10 (16%)	11 (17.6%)	2 (3.2%)

Table 4: Anxiety score

	Normal	Mild	Moderate	Severe	Extreme Severe
UG (male) n=40	9 (22.5%)	6 (15%)	14 (35%)	4 (10%)	7 (17.5%)
UG (female) n=60	9 (14.45%)	4 (6.4%)	17 (27.2%)	13 (20.8%)	17 (27.2%)
PG (male) n=40	15 (37.5%)	5 (12.5%)	6 (15%)	5 (12.5%)	9 (22.5%)
PG (female) n=60	11 (17.6%)	5 (8%)	19 (30.4%)	10 (16%)	15 (24%)

Table 5: Depression score

	Normal	Mild	Moderate	Severe	Extreme Severe
UG (male) n=40	17 (42.5%)	7 (17.5%)	11 (27.5%)	2 (5%)	3 (7.5%)
UG (female) n=60	24 (40%)	13 (21.7%)	14 (23.3%)	2 (3.3%)	7 (11.7%)
PG (male) n=40	23 (57.5%)	5 (12.5%)	8 (20%)	1 (2.5%)	3 (7.5%)

PG (female) n=60	22 (35%)	8 (12.8%)	15 (24%)	10 (16%)	5 (8%)
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The above data analysis also showed that out 120 female participants 10.8 % were felt much more stress by thinking upon environment (Heavy traffic, Excessive noise, overcrowding, Weather), 48% felt stress on social stressors (Financial Problems, Loss of a Loved one, Jobs) 23% for physiological stressors (Sleep disturbances, Relationship Problems) and 12.5% for lack of time and 5% felt stress due to health problem (Table 6).

Table 6: Percentages of causes due to stress in student life (females).

Sources	Percentage (%)
Environment (Heavy traffic, Excessive noise, Overcrowding, Weather)	10.8
Social Stressors (Financial Problems, Loss of a Loved one, Jobs)	48
Physiological Stressors (Sleep disturbances, Relationship Problems).	23
Lack of Time	12.5
Health Problem (Illness).	5

Table 7: Percentages of causes due to stress in student life (males).

Sources	Percentage (%)
Environment (Heavy traffic, Excessive noise, Overcrowding, Weather)	8.75
Social Stressors (Financial Problems, Loss of a Loved one, Jobs)	51.25
Physiological Stressors (Sleep disturbances, Relationship Problems).	23.75
Lack of Time	15
Health Problem (Illness).	1.25

Table 7 shows the different kind of stress level on male. Data showed that out of 80 male participants 8.75 % were felt much more stress by thinking upon environment (Heavy traffic, Excessive noise, overcrowding, Weather), 51.25% felt stress on social stressors (Financial Problems, Loss of a Loved one, Jobs) 23.75% for physiological stressors (Sleep disturbances, Relationship Problems) and 15% for lack of time and 1.25% felt stress due to health problem.

Table 8 Percentage of student's healthy ways that they can handle stress (females).

Serial no.	Statement	Percentage (%)
1.	Talking to someone	27.5
2.	Reading a Book	5.83
3.	Listen to Music	21.6
4.	Exercising (Meditation ,Yoga)	2.5
5.	Smoking	7.5
6.	Healthy Diet and sleeping habits.	4
7.	Spending time with a friend.	28
8.	Others	2.5

Table 9 Percentage of student's healthy ways that they can handle stress (males).

Serial no.	Statement	Percentage (%)
1.	Talking to someone	26.5
2.	Reading a Book	3.75
3.	Listen to Music	22.5
4.	Exercising (Meditation ,Yoga)	6.25
5.	Smoking	7.5
6.	Healthy Diet and sleeping habits.	2.5
7.	Spending time with a friend.	25
8.	Others	7.5

Regarding handling the stress there are several ways to overcome. Data showed out of 120 girls 27.5% girls minimise stress by talking to someone, 5.83% read books, 21.6% by listen music, 2.5% by meditation or exercise, 7.5% smoked when stressed, 4% went for healthy diet and sleeping and 28% spend time with friends (Table 8). And for male participants (80) 26.5% manages stress by talking to someone, 3.75% read books, 22.5% by listen music, 6.25% by meditation or exercise, 7.5% smoked when stressed, 2.5% went for healthy diet and sleeping and 25% spend time with friends (Table 9).

Discussion

The objective of the study is to determine the prevalence of depression, anxiety and stress among undergraduate and postgraduate students. Stress is a natural phenomenon which cannot be escaped during our lifetimes. Thousands of different kinds of stress may experience throughout the lifetime of peoples. However, the level of stress could vary from very intense to minimal which depends on several factors. Regardless of the level, stress has an effect on a person's physical and emotional well-being. Reactions to stress effects us as well as people with whom we live, work, and encounter on a daily basis. It is important to learn how to recognize when your stress levels are out of control. The most dangerous thing about stress is how easily it can creep up on us. Stress is one kind of mental imbalance, low mental satisfactory condition. This study examined the students' stress during their college life. Stress disturbs the equilibrium of the body. It affects physically, emotionally, and mentally. When individuals experience stress or face demanding situation, they adopt ways of dealing with it, as they cannot remain in a continued state of tension. The signs and symptoms of stress overload can be almost anything. Stress affects the mind, body, and behavior in many ways, and everyone experiences stress differently. It has been found in our report that the various symptoms which lead to stress mostly seen in more numbers in females as compared to males.

A higher prevalence of depression, anxiety and stress could be attributed to the fact that enormous syllabus has to be covered in a limited time period, sudden change in their style of studying, thought of appearing or failing in exams, inadequate time allocated to clinical posting have become the main factors. Furthermore, social stress such as relationship with peer groups, hostel friends, displacement from home and financial problem have also potentially psychologically influence undergraduate students greatly.

The present study also showed a high-stress level in both undergraduate and postgraduate students and there were no significant differences. The depression and anxiety level in our study was also higher. (Table 3-5). The female students in all the occurrences felt more stressed than male students, although that was not statistically significant. It may be due to small and unequal sample size. Studies by Salam *et al.* (13) showed a higher prevalence of stress among female students that were not statistically significant. Similar findings were shown by Amar *et al.* (14) and Baldassin *et al.* (15). Similar findings were shown by Johari *et al.* (16).

Stress can occur because of variety of factors like social adjustment to the environment, assignments, peer relationship, peer pressure to secure a high marks in exams. The ability to adapt to stress depends on the individual coping strategies. Extensive course, examinations, hectic traffic, financial problems, personal life, future professional life were some of the major cause of stress among students. Overexposure to stress can lead to physical, emotional and mental health problems. (17) The study reported that there was significant association between emotional disorders and students relationship with their parents, siblings and lecturers, as well as level of pressure prior to exam. It is essential to search emotional disorders at an early stage so as to offer treatment to those who are affected. (18)

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limited time period. Furthermore, social stress such as relationship with peer groups, hostel friends, displacement from home and financial problem have also potentially psychologically influence undergraduate students greatly.

This paper classified the stress sources among college students. Stress source is significantly differed across different level groups. The result showed that there was no significant difference between undergraduate and postgraduate students in terms of feeling stress. If we carefully observed than we will find that physical and mental effect is much higher in females than males.

Now it is need for universities to implement a systematic and continuous method to monitor the mental health of their students. We are suggesting that, given the multitude of students in this study indicating extreme depression, anxiety, and stress, as well as the overall increasing trend of severe psychological symptoms in college students (19, 20), universities should consider implementing a similar type of survey to evaluate the psychological health of their students on a regular basis. This type of monitoring, along with increased availability of programs, would allow universities to evaluate the mental health needs of their students as well as asses and improve the efficacy of their existing counselling programs. Moreover, collaboration and sharing of information between university counselling centres and student life, as well between universities, could prove beneficial in the effort to reduce the psychological suffering of college students.

Conclusion

Our study revealed a raised level of depression, anxiety and stress among the both under graduate and post graduate students, although there was no significant difference found between under and post graduate student. However, it was found that female students felt little bit higher stress than male students.

Early interventions are the need to improve the quality of life and reduce the stress among students. Multiple factors like feeling of incompetence, lack of motivation to learn and difficulty of class work might act as sources of the stressors that may precipitate depression, anxiety and stress. Universities need to undertake a programme to discuss in detail the students' problems which will help them to release the tension applied on them so as to motivate them to give a better effort in their study. Constant watch should be on frequency and difficulty of the tests that are given to students so that the students are not overburdened which may exhaust them physically and mentally. We want to conclude by saying that emotional disturbances in the form of depression, anxiety and stress are exists in high rate among undergraduate and post graduate science students that require early intervention.

Suggestions

Suggested preventive measures to be taken by colleges and Universities such as setting up student counselling centres, create awareness among students in seeking help with counselling centres. A student health committee should be formed in each college with mental health professionals as its members. There should be regular seminar & workshop for teachers & students on various issues of psychological problems and its coping mechanisms.

Limitations

As it was a questionnaire-based study, the response made by the students may not be true information. The data were collected randomly and not at a particular time. Hence, the students may not be in similar mental state which could have affected the findings of the study. Proportionate sampling was not done; sample size was small which might have affected the results of our study. So, further studies with more sample size using multivariate techniques are to be planned.

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