Original Article

Depression, Anxiety, and Stress among Health Science Students belonging to Non-affluent Families: A University-based Study

Kartheek R Balapala[1], Devasena Indla[2]

[1]Assistant Professor, Department of Physiology, Maharajah's Institute of Medical Sciences, Nellimarla, Vizianagaram, Andhra Pradesh, India, [2]Assistant Professor, Department of Physiology, Andhra Medical College, Visakhapatnam, Andhra Pradesh, India

Abstract

Introduction: In due course of training, the health science students confront significant stress in psychological, academic, and existential domains. Coping strategies are definitely needed for a medical student placed in a new school with new teaching schedule.

Objective: To study depression, anxiety and stress (DAS) levels among the health science students belonging to academic years 1-5 of University Tunku Abdul Rahman in Malaysia, and the associated factors.

Methods: Undergraduate Health Science students of courses medicine, traditional Chinese medicine, and physiotherapy were selected for the study. DAS scale 21 questionnaire was used for analyzing the level of stress and other parameters before the examinations in 134 students. General health questionnaire 12 (GHQ 12) was used for assessment of general health among students of various health science courses.

Results: The three domains of DAS were significantly correlated. Depression was found significantly among female students (38%) more than male students (18%). DAS were all significantly high among the first year students as compared to the final year examination going students in MBBS course. Depression and stress were associated more with those students having adverse life events encountered in the recent past 1 year. Severe depression was found in 9.7% students. Combined depression and anxiety was found in 42% of students belonging to health science courses. GHQ scores for 134 participants of all health science courses were score >6 in 39.55%, score = 6 in 9.7%, and others in 50.75%.

Conclusion: A significant number of health science students were having higher levels of DAS and were associated with several important factors. There is a need to adopt a better counseling and mentoring techniques among the university staff, with better connectivity among health science students. Proactive steps must be implemented at the community level for the amelioration of the drawbacks.

Key words: Anxiety, Depression, Health science, Stress, Students

INTRODUCTION

In due course of training, the health science students confront significant stress in psychological, academic, and existential domains. Coping strategies are definitely needed for a medical student placed in a new school

with new teaching schedule. Hence, such students experience depression, anxiety and stress (DAS) to varying levels.

Original Objective

a. To investigate the stress level among students on facing examinations in a Malaysian university setting.
b. To discover the main or top stressors among students in a Malaysian university setting.
c. To compare the difference in stress level on facing examinations among medical students, non-medical health science students, and non-medical non-health science students in a Malaysian university setting.

Corresponding Author: Dr. Kartheek R Balapala, Department of Physiology, Maharajah's Institute of Medical Sciences, Medical College Campus, Nellimarla, Vizianagaram, Andhra Pradesh, India. Phone: +91-7093657203. E-mail: katek2030@gmail.com

d. To compare the difference in stress level between first year and final year students of the cohorts mentioned above.

Depression in younger population has been associated with increased risk of suicidal behavior, homicidal ideation, and substance abuse into adulthood.[1] Most of the suicides among students in India are by people below the age of 30 years. Nearly 90% deaths by suicide have a mental disorder.[2] Mental health of students in higher education is of extreme concern in the recent times. The present study was done with an objective to study the levels of DAS among health science students belonging to non-affluent families in Malaysia, and the association with various sociodemographic characteristics of the students. The hypothesis was that the DAS levels would be high among final year students compared to other academic years.

MATERIALS AND METHODS

The study was an institution-based study undertaken in the year 2014. Permission for carrying out the study was obtained from the Institutional Ethics Committee of University Tunku Abdul Rahman, Kuala Lumpur, a not for profit university having students mostly belonging to non-affluent families in state of Selangor, Malaysia.

Number of Participants
A total of 134 undergraduate health science students were included in the study.

Period of Study
Ten months.

All available students of health science courses were included in the study. In each class, informed consent from the students was taken after explaining and orienting about the study purpose and that their responses kept as confidential. All students in the selected classes were eligible to participate, who were present on that day of the survey conducted, allowing for confidential and voluntary participation. Depression, anxiety and stress scale (DASS) questionnaire was used as self-administered scale along with a sociodemographic data collection questionnaire. DASS consists of a set of three self-report scales meant to measure the negative emotional states of DAS.[3] In addition to the basic 42-item questionnaire, a short version of DASS 21 is available with 7 items per scale.[4] Earlier studies mentioned that the DASS was developed essentially with non-clinical samples as a study sample, it is suitable for screening normal adolescents and adults. For every item question, the respondent students are to rate the extent to which they have experienced the given state over the past week that uses a 4-point severity scale. DAS scores are calculated by addition of scores for the relevant items.[5] In the present study, the short version of DASS (21-item) was used. As recommended, the obtained scale scores are multiplied by 2 so as to make scores comparable to the DASS normative data scores. The adolescent students of school and university levels both were tested earlier with the DASS questionnaire.[6-8]

Nearly 75% of the students (100) came from nuclear families. Most (102) were living in rented shared homes or with guardians, while only 26 (20%) residing with their own family in the downtown. A majority (120, 90.0%) had mothers who were nongraduates. Regarding the mothers' occupation, a majority (76.8%) were homemakers. Only 6 (4.5%) reported having a parent not alive, which was not relevant for the analysis of association with DAS.

Data Analysis
Table 1 shows the % of incidence of DAS. The incidence of both depression and anxiety together in single participants was greater (Figure 1).

Table 2 projects the number of students with DAS depending on severity (Figure 2).

Table 3 gives the % of stress-inducing factors; perception of academic factors as more stressful by students than any other factors (Figure 3).

General health questionnaire 12 (GHQ 12) appropriately measures the current status of mental health focusing

Table 1: Number and percentage of students showing depression, anxiety, and stress levels

| N=134	Number of students (%)
Depression	34 (25.4)
Anxiety	15 (11.2)
Stress	7 (5.22)
Depression+anxiety	56 (42)
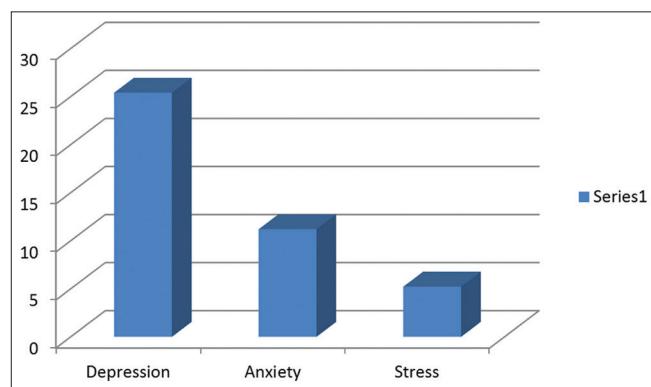
Figure 1: Percentage of students having depression, anxiety, and stress

on two critical areas: (a) The inability of carrying out routine day-to-day activities and (b) the appearance of distressing new experiences. Each item question is rated in a 4-point Likert scale that asks whether the respondent had experienced any symptom or behavior recently during the past few days. Past research indicates that clinical assessments of the severity of psychiatric illness are proportional to the number of symptoms mentioned in GHQ 12.[9]

Table 4 gives the scoring by GHQ 12 questionnaire among health science students of university. Scores higher than 6 indicate some problem risk (Figure 4).

DISCUSSION

A self-rated DASS questionnaire was administered on 134 health science students in university to assess and analyze the levels of DAS. The outcome measure of this screening reflects during the past week duration. Hence, the survey questionnaire was administered 2-3 days before the periodical examination so as to do better screening of nervous symptoms and tension effects. The incidence of mild stress was found to be 5.22%, anxiety 11.2%, and depression as 25.4%. Moderate stress was found in 0.75%, anxiety 14.93%, and depression 43.3%. No severe stress was recorded but severe anxiety in 4.5% and severe depression in 9.7%. Both anxiety and depression were seen in 42% of students which sounds alarming (Table 2). The incidence of depression was more prevalent.

Academic factors were perceived as critical in inducing stress among students. About 18.60% of students perceived stress due to change in methods of assessment tools and its unpredictability and other students performing better (Table 3). Academic factors were perceived more burden/influence than physical emotional and social factors ($P < 0.05$) among all the stress-inducing factors. Past research revealed similar findings that the chief stressors were related to medical training rather than their own personal problems in the first year.[10]
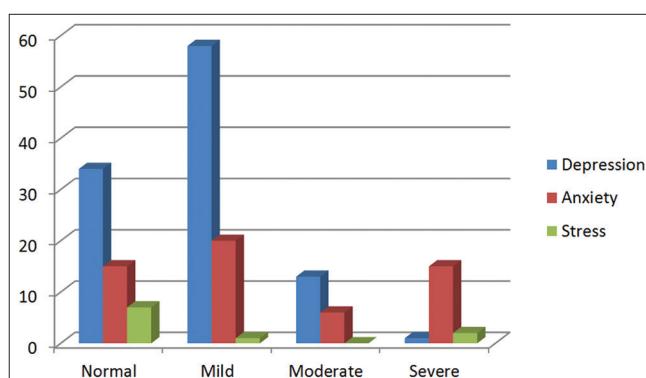
Figure 2: Levels of depression, anxiety, and stress

Figure 3: Percentage of stress-inducing factors
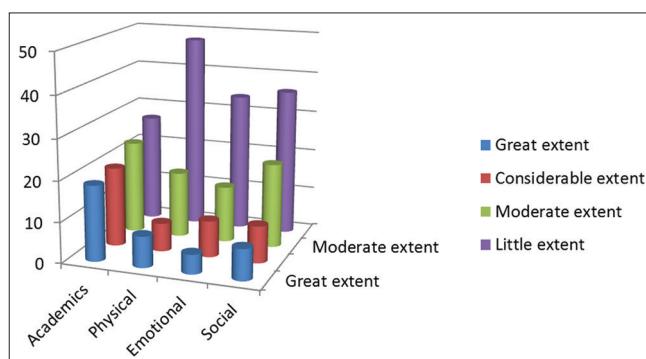
Table 2: Levels of depression, anxiety, and stress among students

N=134	Depression	Anxiety	Stress
Normal	34	15	7
Mild	58	20	1
Moderate	13	6	0
Severe	1	15	2

Table 3: Percentage of stress-inducing factors

Magnitude	Academics	Physical	Emotional	Social
Great extent	18.60	7.66	4.78	7.67
Considerable extent	19.50	6.93	8.90	9.06
Moderate extent	22.80	16.2	13.80	20.66
Little extent	26.62	47.65	33.87	36

Table 4: GHQ 12 scores in number of students and percentage

Score	Number (%)
>6	53 (39.55)
=6	13 (9.7)
Others	68 (50.75)
Total	134

GHQ: General health questionnaire 12
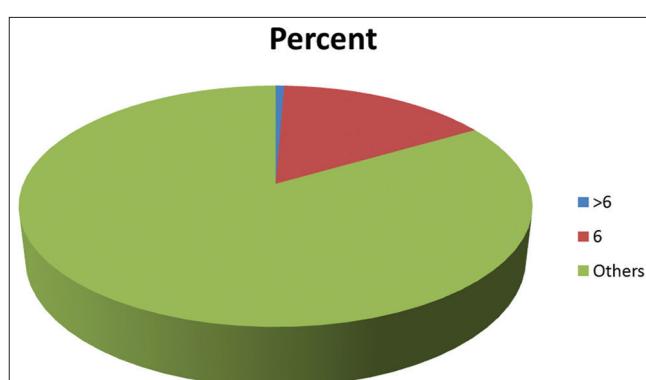

Figure 4: Percentage of general health questionnaire 12 scores

Greater number of students were found to be having significantly higher levels of D, A, and S. Depression was more among female students compared to males, and this is in conformity with the past research evidence.[11] This indicates that irresistible pressure is faced by the students with regard to their performance in the medical board examinations. Undue emphasis is placed by the parents and society on just the paper-based results of the examinations, which is taken as a measure of their entire academic caliber among the health science courses. This is definitely a shortcoming that is leading to the higher levels of negative mental states like DAS among the health science course joined students. A strong predisposing factor for DAS among the students may be due to intense pressure to perform well in academic examinations during the formative assessment is reinforced by finding that all these negative states were greater in students with lower grade marks in their last academic year examinations. This might be a reflection of parental attitude and immense pressure (or perceived pressure of students) to get better their academic performance in the form of better marks during the assessment reports. Study done by Bayram and Bilgel 2008 indicated that students satisfied with their education had lower DAS scores than the other unsatisfied students.[6] Adverse life events in the recent past such as death of a family member, illness in family, and accident show a considerable effect on the DAS levels among the young fresher students, similar in the present study. This suggests that a special support is of utmost importance for such students. Both the family and the school authorities need to do the required updates into the curriculum so as to be more sensitive to the needs of such susceptible students for better prop up and guidance.

Major limitation in this study is that it was done in a setting of a single university. Hence, the generalizability of the factors found here may be impacted. Moreover, the data mentioned by students on their demographics and academic grades were self-reported and not verified with the school authorities. The crucial utility of the present research study is that several factors exist among the health science students for DAS including those from relatively non-affluent family backgrounds. Academicians working with such students in educational institutes must be fully aware of and responsive to these negative mental health states so that timely support is offered to mitigate this problem.

CONCLUSION

Considerable amount of depression and anxiety were found among the first year medical students and first year health science students. These negative mental states are related to academic factors more than other factors that induced stress among students. Comprehending the prevalence of DAS and its associated factors would help in the designing and implementation of school-based counseling and treatment options exclusively for newly joined students of health science courses. This might go a long way in ensuring that the university students can emerge as healthy adult citizens of the nation.

ACKNOWLEDGMENT

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