

ASSESSMENT OF STRESS LEVEL AMONG UNIVERSITY STUDENTS AND LOCAL POPULATION

**Dr. Maqsood Ahmed Khan*, Dr. Sadaf Merchant, Dr. Faiza Majeed, Dr. Shumaila
Shiwani, Dr. Zohra Zindani, Imran Ali, Zeb Unisa, Dr. Rasheeda Fatima,
Dr. Sarwat Jahan and Dr. Mudassar Hussain**

Faculty of Pharmacy Ziauddin University Karachi Pakistan.

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*Corresponding Author

Dr. Maqsood Ahmed Khan

Faculty of Pharmacy
Ziauddin University Karachi
Pakistan.

ABSTRACT

There is increasing evidence that university students are particularly susceptible to feelings of stress. Stress in medical education is common and process-oriented. It often exerts a negative effect on their academic performance, physical health, and psychological wellbeing. This study aimed to assess the stress level experienced by students and others at a private university and the factors most associated with this stress. Current study is an observational prospective study. Stress levels of participants were tested through applying questionnaire of International Stress Management Association. A total of 250

Individuals participated in the study. The participants were randomly selected. Study was conducted in four months period from September to December 2016. Descriptive statistics and chi square were used to analyze the study data using SPSS. It was observed that out of 250 participant 8(3.2%) posses less stress, 138 (55.2%) posses moderate stress, 104 (41.6%) posses high stress.). Based on qualification 68 (42.77%) of participant with a qualification of graduation were with high stress. the difference was statistically significant ($p=0.001$). Based on residence 36 (65.454%) of participant reside in DHA were with high stress and the difference was statistically significant ($p= 0.000$). The researches recommend that university decision makers have to provide students with a psychological, social and academic 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 gaps between them; also they have to provide students with a suitable teaching and learning methods in order to decrease their academic stress.

KEYWORDS: Stress, physical health, and psychological wellbeing.

INTRODUCTION

Stress is the “wear and tear” our bodies experience as we adjust to our continually changing environment; it has physical and emotional effects and can create positive or negative influence on us^[1] (Eliza Omar Eva et al, 2015) Stress has turned into an imperative theme in scholastic circle and additionally in our general public.^[2] It is not an ailment essentially is a condition which accompanied physical, psychological on social complaints or dysfunction and which result from individual response unable to bridge gap with requirement or expectation located on them actual when an specific is confronted by a situation that they perceive as over whelming and cannot cope up so it may be diminish success at work and may cause health.^[3]

Signs of stress can be seen in people's behavior, especially in changes in behavior. Severe retort to stress may be in the zone of feelings (for example, anxiety, depression, irritability, fatigue), behavior (for example, being withdrawn, aggressive, tearful, unmotivated), rational (for example, difficulties of concentration and problem solving) or physical symptoms (for example, palpitations, nausea, headaches). If stress perseveres, there are changes in neuroendocrine, cardiovascular, autonomic and immunological functioning, leading to intellectual and physical ill health (for example anxiety, depression, heart disease).^[4] A study which explained that some drivers of occupational stress have been projected in the literature such as somatic environmental work load management elegance.^[5] in another study which explained that it is also considered to be a part of student life because of academic work is always stressful activity.^[6]

The workplace features that have been found to be an allied with stress and health risks can be ranked as those to do with the content of work and those to do with the social and organizational context of work. Those that are intrinsic to the job include long hours, work overload, time pressure, difficult or complex tasks, lack of breaks, lack of variety, and poor physical work conditions (for example, space, temperature, light).^[4] Excessive stress can cause problems for physical and psychological wellbeing which results in behavioral change. In students, stress can affect physical health, psychological wellbeing and social relations.^[7]

This study aimed to assess the stress level experienced by students and others at a private university and the factors most associated with this stress. Stress is one of the serious issues

that affect university student's life, its effects could be reflected in student social, academics, and mental health. So each university has to assess its students stress in order to provide them with the suitable mental health care and the efficient methods to cope with stress. This study will provide stakeholders with scientific information related to stress level in order to help students to avoid stress from the beginning.

METHODOLOGY AND PROCEDURE

Study design

Current study is an observational prospective study.

Instrumentation

Stress levels of participants were tested through applying questionnaire of International Stress Management Association.^[8] This instrument has been designed by expert researchers and psychologists at the International Stress Management Association and is available online at www.isma.org. This instrument is an open access document and can be used to research purposes free of cost. This questionnaire consists of 25 self-reported dichotomous items. Respondents have to answer yes or no at the end of every question statements about their personal lives and daily activities. This questionnaire required 10 to 15 minutes to answer after which the stress levels of respondents is analyzed through the formula prescribed by the test makers.

Selection of Participants

A total of 250 individuals participated in the study. The participants were randomly selected. It consisted of equal population of males and female participants. The participants were categorized according to the qualification and the areas of residence. Among them were considerable number of students, bankers, house wives and doctors, who were residing in variable areas of Karachi, Pakistan. These individuals volunteered to be tested for existence of stress. Participants were ensured anonymity and confidentiality of their reports and provided Informed consent to participate in the research. The administration of the questionnaires was done both individually and in groups, depending on the conditions.

Study duration

Study was conducted in four months period from September to December 2016.

Procedures

A questionnaire, structured on the guidelines of International Stress Management Association^[8] (ISMA-2011) was distributed among randomly selected individuals. It also consisted of the participant's demographic details. The yes and no answers to the questions were analyzed as numerical values. E. g.: Yes=1 and No=0. The total score was then calculated and levels of stress determined according to ISMA guidelines. Here, the total score if consisted of a value less than 4, was considered as "Least" prone to stress, while a score between 5-13 suggested "More" prone to stress and any value greater than 14 is suggested to be "Most" prone to stress. The questionnaire had a good internal consistency, $\alpha = .859$.

Statistical Analysis Descriptive statistics and chi square were used to analyze the study data using SPSS.

RESULTS

A total of 250 individuals participated in this study. Initially 300 questionnaires were distributed only 250 questionnaire were filled and returned. Out of 250 individuals 124(49.6%) were male and 126(50.4%) were females. Age wise distribution is described in table 1. The age range was from 23 years to greater than 35 years. Among different age group participants 91(36.4%) was the highest percentage of the participants age ranges. Among different body individuals most of the participant 134(53.6%) were with a normal weight. The distribution of participant based on qualification were matric 28(11.2%), intermediate 40(16%), graduate 159(63.6%) and master were 23(9.2%). The distribution of participant based on Profession were Banker 56 (22.4%), students 156(62.4%), house wife 17(6.8%), businesses 6(2.4%), other job 8(3.2%) and doctor were 7(2.8%). The distribution of participant based on residence were DHA 55(22%), Garden 40(16%), North nazimabad 44(17.6%), gulistane johar 39(15.6%), kharadar 19(7.6%), sohrab goth 11(4.4%), Taric road 21(8.4%) and Malir were 21(8.4%).

Table 2 Describe the variables, means, standard deviation and interpretation.

Level of Stress

It was observed that out of 250 participant 8(3.2%) possess less stress, 138 (55.2%) possess moderate stress, 104(41.6%) possess high stress. The proportion of stressed with respect to gender is depicted by the fact that 70(55.56%) females were with moderate stress and 53(42.06%) were with severe stress and men 51(41.129%) were with severe stress and

68(54.84%) were with moderate stress level. But the difference was statistically insignificant ($p=0.759$). As regard to age 48(60%) with an age range of 26-35 were with moderate stress and 44 (48.35%) with the age range of 23-25 years were with severe stress but the difference was statistically insignificant ($p= 0.156$). With regard to BMI 52 (38.81%) of participant with a normal body weight were with high stress. but the difference was statistically insignificant ($p=0.059$). Based on qualification 68(42.77%) of participant with a qualification of graduation were with high stress. the difference was statistically significant ($p=0.001$). Based on profession 73(46.79%) of participants with student status were with high stress. but the difference was statistically insignificant ($p=0.475$). Based on residence 36(65.454%) of participant reside in DHA were with high stress and the difference was statistically significant ($p= 0.000$).

Table 3 summarized the stressor which is mainly responsible of stress. The analysis of the participant responses showed that the highest items caused stress were Item 2, item3, item 4, item 9, item 14, item 16 and item 19.

Table 1: Demographic characteristics.

| Characteristics | Frequency | Percentage (%) | Mean | Standard deviation |
|-----------------|-----------|----------------|-------|--------------------|
| Male | 124 | 49.6 | 12.14 | 4.007 |
| female | 126 | 50.4 | 12.35 | 3.903 |
| Age in years | | | | |
| 23-25 | 91 | 36.4 | 12.88 | 3.915 |
| 26-35 | 80 | 32 | 11.84 | 3.96 |
| >35 | 79 | 31 | 11.93 | 3.928 |
| BMI | | | | |
| Under weight | 26 | 10.4 | 11.92 | 3.979 |
| Normal weight | 134 | 53.6 | 12.40 | 3.895 |
| Over weight | 68 | 27.2 | 12.12 | 3.807 |
| obese | 22 | 8.8 | 12.05 | 4.825 |
| Qualification | | | | |
| Metric | 28 | 11.2 | 11.54 | 3.415 |
| Inter mediate | 40 | 16 | 11.78 | 4.423 |
| Graduate | 159 | 63.6 | 12.74 | 3.814 |
| Master | 23 | 9.2 | 10.48 | 4.1106 |
| Profession | | | | |
| Banker | 56 | 22.4 | 12.04 | 3.552 |
| Student | 156 | 62.4 | 12.54 | 4.147 |
| House wife | 17 | 6.8 | 10.18 | 2.789 |
| businesses | 6 | 2.4 | 14.33 | 3.326 |
| Other job | 8 | 3.2 | 10.13 | 3.871 |
| doctor | 7 | 2.8 | 12.86 | 3.949 |
| AREA | | | | |

| | | | | |
|-----------------|----|------|-------|-------|
| DHA | 55 | 22 | 12.98 | 4.556 |
| Garden | 40 | 16 | 12.75 | 2.817 |
| North nazimabad | 44 | 17.6 | 11.95 | 4.286 |
| Gulistane johar | 39 | 15.6 | 10.74 | 3.733 |
| Kharadar | 19 | 7.6 | 11.16 | 3.919 |
| Sohrab goth | 11 | 4.4 | 11.91 | 2.071 |
| Tariq road | 21 | 8.4 | 12.24 | 4.158 |
| Malir | 21 | 8.4 | 13.9 | 3.562 |

Table 2: Result of Isma Questionnaire.

| ISMA Score | Frequency | Percentage | Meaning |
|------------|-----------|------------|-----------------|
| 0-4 | 8 | 3.2 | Low stress |
| 5-13 | 138 | 55.2 | Moderate Stress |
| 14-22 | 104 | 41.6 | High Stress |

Stress Level

| Characteruistics | Score level | | | total | p-value |
|------------------|---------------------|---------------------------|------------------------|-------|---------|
| | 0-4 (low stress) | 5-13 (moderate stress) | 14-25 (High stress) | | |
| gender | | | | | 0.759 |
| Male | 5(4.032%) | 68(54.838%) | 51(41.129%) | 124 | |
| Female | 3(2.380%) | 70(55.555%) | 53(42.063) | 126 | |
| Age | | | | | 0.156 |
| 23-25years | 2(2.197) | 45(49.450) | 44(48.351%) | 91 | |
| 26-35years | 5(6.25%) | 48(60%) | 27(33.75%) | 80 | |
| >35 years | 1(1.265%) | 45(56.962%) | 33(41.772) | 79 | |
| BMI | | | | | 0.059 |
| Under weight | 3(11.538%) | 11(42.307%) | 12(46.153%) | 26 | |
| Normal weight | 2(1.492%) | 80(59.701%) | 52(38.805) | 134 | |
| Over weight | 1(1.470%) | 37(54.411%) | 30(44.117%) | 68 | |
| obese | 2(9.090%) | 10(45.454%) | 10(45.454%) | 22 | |
| Qualification | | | | | 0.001 |
| Metric | 0(0%) | 19(67.857%) | 9(32.142%) | 28 | |
| intermediate | 5(12.5%) | 15(37.5%) | 20(50%) | 40 | |
| Graduate | 1(0.628%) | 90(56.603%) | 68(42.767%) | 159 | |
| master | 2(8.695%) | 14(60.869) | 7(30.434%) | 23 | |
| Profession | | | | | 0.475 |
| Banker | 2(3.571%) | 35(62.5%) | 19(33.928%) | 56 | |
| Student | 6(3.846%) | 77(49.358%) | 73(46.794%) | 156 | |
| House wife | 0(0%) | 14(82.352%) | 3(17.647%) | 17 | |
| businesses | 0(0%) | 3(50%) | 3(50%) | 6 | |
| Other job | 0(0%) | 5(62.5%) | 3(37.5%) | 8 | |
| Doctor | 0(0%) | 4(57.142%) | 3(42.875%) | 7 | |
| Residence | | | | | 0.000 |
| DHA | 15(27.272%) | 14(25.454%) | 36(65.454%) | 55 | |
| Garden | 0(0%) | 25(62.5%) | 15(37.5%) | 40 | |
| North nazimabad | 1(2.272%) | 27(61.363%) | 16(36.36%) | 44 | |
| Gulistane johar | 2(5.128%) | 27(69.230%) | 10(25.64%) | 39 | |
| Kharadar | 0(0%) | 15(78.947%) | 4(21.052%) | 19 | |

| | | | | | |
|-------------|-------|-------------|-------------|----|--|
| Sohrab goth | 0(0%) | 10(90.909) | 1 | 11 | |
| Tariq road | 0(0%) | 10(47.619%) | 11(52.380%) | 21 | |
| Malir | 0(0%) | 10(47.619%) | 11(52.380%) | 21 | |

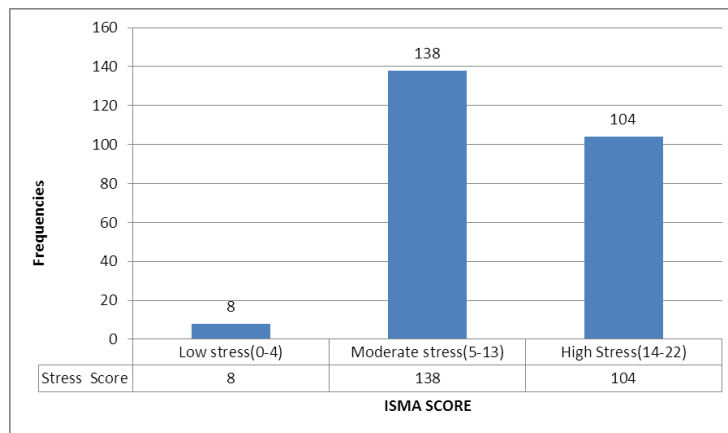


Figure 1: Stress Score.

Table 3: background variable and questions.

| | Back ground variable /Questions | Yes/no | frequency | percentage | mean | St. deviation |
|----|---|-----------|------------|---------------|---------------|---------------|
| 1 | I frequently bring work home at night | Yes no | 131 119 | 52.4 47.6. | 0.5240 | 0.5004 |
| 2 | Not enough hours in the day to do all the things that I must do | Yes no | 151 99 | 60.4 39.6 | 0.6548 | 0.4762 |
| 3 | I deny or ignore problems in the hope that they will go away | Yes no | 149 101 | 59.6 40.4 | 0.6387 | 0.4812 |
| 4 | I do the jobs myself to ensure they are done properly | Yes no | 160 90 | 64 36 | 0.6419 | 0.4802 |
| 5 | I underestimate how long it takes to do things | Yes no | 142 108 | 56.8 43.2 | 0.6194 | 0.4863 |
| 6 | I feel that there are too many deadlines in my work / life that are difficult to meet | Yes no | 139 111 | 55.6 44.4 | 0.6161 | 0.4871 |
| 7 | My self-confidence / self-esteem is lower than I would like it to be | Yes no | 92 158 | 36.8 63.2 | 0.4065 | 0.4919 |
| 8 | I frequently have guilty feelings if I relax and do nothing | Yes no | 132 118 | 52.8 47.2 | 0.5280 | 0.5002 |
| 9 | I find myself thinking about problems even when I am supposed to be relaxing | Yes no | 160 90 | 64 36 | 0.6400 | 0.4809 |
| 10 | I feel fatigued or tired even when I wake after an adequate sleep | Yes no | 124 126 | 49.6 50.4 | 0.4960 | 0.5009 |
| 11 | I often nod or finish other | Yes | 78 | 31.2 | 0.3120 | 0.4642 |

| | | | | | | |
|----|--|-----------|------------|--------------|---------------|--------|
| | peoples sentences for them when they speak slowly | no | 172 | 68.8 | | |
| 12 | I have a tendency to eat, talk, walk and drive quickly | Yes no | 142 108 | 56.8 43.2 | 0.5680 | 0.4964 |
| 13 | My appetite has changed, have either a desire to binge or have a loss of appetite / may skip meals | Yes no | 134 116 | 53.6 46.4 | 0.5630 | 0.4997 |
| 14 | feel irritated or angry if the car or traffic in front seems to be going too slowly/ I become very frustrated at having to wait in a queue | Yes no | 177 73 | 70.8 29.2 | 0.7080 | 0.4555 |
| 15 | If something or someone really annoys me I will bottle up my feelings | Yes no | 141 109 | 56.4 43.6 | 0.5640 | 0.4969 |
| 16 | When I play sport or games, I really try to win whoever I play | Yes no | 175 75 | 70 30 | 0.7000 | 0.4592 |
| 17 | I experience mood swings, difficulty making decisions, concentration and memory is impaired | Yes no | 116 134 | 46.4 53.6 | 0.4640 | 0.4997 |
| 18 | I find fault and criticize others rather than praising, even if it is deserved | Yes no | 45 205 | 18 82 | 0.1800 | 0.3849 |
| 19 | seem to be listening even though I am preoccupied with my own thoughts | Yes no | 168 82 | 67.2 32.8 | 0.6720 | 0.6720 |
| 20 | My sex drive is lower, can experience changes to menstrual cycle | Yes no | 203 47 | 81.2 18.8 | 0.1880 | 0.3915 |
| 21 | I find myself grinding my teeth | Yes no | 122 128 | 48.8 51.2 | 0.4880 | 0.5009 |
| 22 | Increase in muscular aches and pains especially in the neck, head, lower back, shoulders | Yes no | 56 194 | 22.4 77.6 | 0.2240 | 0.4178 |
| 23 | am unable to perform tasks as well as I used to, my judgment is clouded or not as good as it was | Yes no | 113 137 | 45.2 54.8 | 0.4520 | 0.4987 |
| 24 | I find I have a greater dependency on alcohol, caffeine, nicotine or drugs | Yes no | 96 154 | 38.4 61.6 | 0.3840 | 0.4873 |
| 25 | I find that I don't have time for many interests / hobbies outside of work | Yes no | 71 179 | 28.4 71.6 | 0.2840 | 0.4518 |

DISCUSSION

An attainable and satisfactory rate of response is around 75% for interviews and 65% for self-administered questionnaire.^[9] Our study response rates were 83.33% this it can be considered as satisfactory. But in some other studies 70% were considered as 'relatively higher score.'^[10,12] This study included individuals from different area consisting of banker, students, house wife businessman and doctors but main focus was on the pharmacy students.

The Present study aimed to investigate level of stress and factors associated with stress. This study showed that large proportion of participants were in stress 138(55.2%) were with moderate stress 104(44.6%) were with high stress and 8(3.2%) were with low stress. Gender, different age groups and BMI were not significant predictors. Level of education, profession and place residence were the significant predictors. In terms of gender, in the present study results showed no significant differences in stress levels; thus, men and women did not differ in reported stress levels, a finding which is in line with some research in the area.^[13] In addition, both genders do not differ in terms of the specific stressors they report, suggesting no gender specificity in the appraisal of stressors in the working environment.^[14] Recent studies in Sweden and in Pakistan showed similar results in terms of overall gender differences.^[15,16] However, a study conducted in Egypt on 288 undergraduate medical students reported no gender differences for stress.^[17]

Based on age group results showed no significant differences in stress levels; comparing to other studies Nonetheless they are not in line with findings from the Health and Safety Laboratory and Health and Safety Executive (2005) report which showed that the age group between 45 and 54 years reports the highest levels of stress.^[18]

In the current study also out of all specific stress-related factors, only level of education and place of residence were significant predictors. These findings are in line with those reported by a study and explained that more specifically, findings on level of education showed that higher levels of education were related to higher stress,^[19] and the results are in line with the study of by some studies and explained that a possible explanation could be that a higher level of education might make it more difficult to successfully manage some challenges of the job role nonetheless, this claim should be tested in further research.^[20,22]

Among above stated stress factors the present study further analyzed that the item 2,3,4,9,14,16,19 are mainly responsible for the stress among the individuals and the item 14,16 and 19 were prominent stressor.

The researches recommend that university decision makers have to provide students with a psychological, social and academic 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 gaps between them; also they have to provide students with a suitable teaching and learning methods in order to decrease their academic stress.

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