Original Article

Gender Based Comparison of Stress in Students Appearing for University Entrance Test

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ABSTRACT

Objective: To evaluate the Gender based comparison of stress in students appearing for university entrance test.
Study Design: Descriptive / cross sectional study
Place and Duration of Study: This study was conducted at the Karachi Medical & Dental College, Karachi for two months from August to September 2021.
Materials and Methods: The 498 students were enrolled from various Entrance test/ aptitude training (M-CAT/E-CAT) centers of Karachi and students were having history of psychiatric illness or history of taking drugs like anxiolytics or antidepressants were excluded from study. The Perceived Stress Scale was used to evaluate the degree of stress level in students. Data were analyzed by using SPSS- IBM 23.0 version, Counts with percentages were reported for baseline qualitative characteristics of studied samples included gender, educational board, education type, college. Mean Comparison of Perceived stress scores was done, by using ANOVA for the baseline factors. The results were having p-value <0.05, will be considered as statistically significant.
Results: The majority of participants were females 82% and 18% males, the mean age of samples was 18 (SD=±0.83) years, There were 42.1% students were having moderate stress level ranges between 14 – 26 units, and the mean perceived stress scores of sample was 21(SD=±10) and gender based comparison of perceived stress scores showed significant differences (P<0.05) in students.
Conclusion: It is observed from these observations in this research that mean gender based comparison with stress, showed significant difference (P<0.05), so we should have to work to elevate stress, so that achievements can be acquired.
Key Words: Gender, Perceived Stress, students

INTRODUCTION

"Stress" is a word, which is used widely in everyday life and it is defined as the insight of impropriety between factors or stressors and ability of human body to cope these strains or it is defined as the undesirable response of the human body against burden or any type of strains placed on them.

Stress is developed in the human body as it faces or deals with an environment or situations, like physical or psychological challenges. These are recognized as an inevitable or irresistible and that cannot be coped up or

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cannot be managed easily.[1] So our body's response (physiological, biological, or psychological) to the changing surroundings or environmental stimulus or stressors, which are in any form affecting the human body. The response of Human body occurs physically, mentally, and with emotional capabilities. Stress is worthy regard to consider as dangerous to human health as it affects the normal daily activities or functioning or performance.[2,3] There are two types of stress, first is the negative form or distress and second form is positive form or eustress. Both experts different effects on the human body. The distress form or negative form, in which most people are associated with stressed out condition, which exerts effects or develop sign and symptoms like insomnia or lack of sleep, tension, irritability or anger and headache. The peoples responds destructively with collapse of the body or develops suicidal ideation or suicidal attempts or exerts negative effects on human body. The positive form or eustress, will boost or energize and motivate, which results in achievements of goals or destinations or high dignity and exerts positive effects on human body.[4] Adolescence is a transition period from childhood to adulthood during which emotional, social and cognitive development occurs. They are the more than 1.5 billion

and considered as one fifth of the total population in the world.[5] In Adolescence, transition occurs in education level from higher secondary schools or degree colleges to professional universities (Medical / Engineering), so crises increases in the human body and this issue can be assessed by psychologically parameters, like Academic stress. This type of stress is considered as pervasive problem, which is prevalent in our society, as well as in each ethnic group in our country. As to continue their higher educations, everyone is facing or dealing with different types of pressures, like environmental/ personnel/familial.[6] The 30% to 75% is prevalence of anxiety, depression and stress in pre-adolescent children's, while in adolescent's age group is 25% to 50%.[5] As change in living trends in our societies, which will be likely responsible for development of stress in students, so incidence increased dramatically.[7] Every student have a right to achieve respect or pride in society by pursuing higher professional educations, that needs very high academic progress and this can be achieved by hard working for success as to get rid of various pressures or demands to perform best in entry exams especially in college students, so that they are not enjoying life during this life period. As every student passing joyless life, and feeling burden on family or relatives or society, which leads to development of psychological disturbances or negative effects on human health (anxiety, depression and stress), so every student is working hard as to get highest marks or percentage or grades or best scores in entry exams. The psychological disturbances (anxiety), caused by examination stress reaches at peaks, as dates comes near the exams, which leads to development of more and more symptoms. This psychological disturbances will be responsible for interference in getting good sleep, problem in memorizing or difficulty in recalling subject's knowledge, irritability, lack of appetite or nausea or vomiting. This leads to development of distress in human life. The fear of failure is one of the factor exerts negative effects on physiological functions of the human body and self-respect or self-esteem of the many students too. Every student is working hard with dedication and motivation as to achieve the higher education as a reward. The current study aimed to evaluate the stress in Degree College or higher secondary school students. Objective of study is to evaluate the gender based comparison of stress in students appearing for university entrance test (M-CAT/E-CAT). Our research will help to fill the gap by raising awareness about the stress, and highlighting the levels of stress in students by using Sheldon Cohen's Perceived Stress Scale (PSS),[8,9] who are appearing the university admission test (M-CAT/E-CAT).

MATERIALS AND METHODS

It is a descriptive cross-sectional study, and duration of study was two months, which was done in 2021, through non probability convenience sampling technique. Sample size was calculated by Rao soft calculator [10] i-e 377 (5% margin of error and 95% confidence level), but at the time of data collection, 498 students was available, so we included all. Written informed consent will be taken from each responder. Enrolled from various Entrance test/ aptitude training (M-CAT/E-CAT) centers of Karachi and students having history of psychiatric illness or history of taking drugs like anxiolytics or antidepressants were excluded from study.

The Sheldon Cohen's Scale (PSS), is used to assess the stress in the students, and it measures the degree of perceived stress. It includes 10 items version of Sheldon Cohen's Perceived Stress Scale. [9] The PSS uses a 5 point rating scale ranging from "0" to "4". 0 = Never, 1=0 = almost never, 2 = Sometimes, 3 = Fairly Often, and 4 = Very Often, and 4, 5, 7 and 8 items are reversed scored in perceived stress scale, for e.g. 0=4, 1=3, 2=2, 3=1 and 4=0 and then sum all 10 items of Sheldon Cohen's Perceived Stress Scale, with range of 0 to 40. This perceived stress scale is applicable to age group of 18 years and above this age group. The different researchers showed different reliability (0.78-0.98) of perceived stress scale (PSS). [11-13] The Sheldon Cohen's Perceived Stress Scale (PSS), with high score near 40 is considered as mentally wellbeing or out of distress. Data were analyzed by using SPSS- IBM 23.0 version, Counts with percentages were reported for baseline qualitative characteristics of studied samples included gender, educational board, education type, college. Mean Comparison of Perceived stress scores (PSS) was done, by using one way of variance (ANOVA) for the baseline factors.

The results were having p-value <0.05, will be considered as statistically significant. The permission for doing research was taken by from Ethical & scientific review committee, (Reference No: 029/18, date 10 November 2018) Karachi Medical & dental college, Karachi.

RESULTS

The data were collected from 489 samples among them including 401 (82%) female and 88 (18%) males, the mean age of samples was 18 (SD=±0.83) years, 438 (89.6%) data were received from the Sind educational board and regular students, 259(69.9%) were studying in the government college, as summarized in Table 1. There were 206 (42.1%) students were having moderate stress level with perceived stress scores (PSS) ranges between 14 – 26 units, and the mean perceived stress scores (PSS) of sample was 21(SD=±10), as summarized in Table 2. The mean comparison of perceived stress scores (PSS) of samples with respect to gender, results showed a significant differences (P<0.05), while educational board (AKU-EB, Sindh, Federal, Cambridge and others) type of education (Regular and Private), college (Government and Private) were found statistically insignificant (P>0.05) results, as summarized in Table 3.

Table No.1: Baseline Characteristics of Studied Samples (n=489)

Characteristics		N	%
Gender of student	Male	88	18.0
	Female	401	82.0
Age (years)	Mean ±SD	18±0.83	
Educational Board	AKU-EB	15	3.1
	Sindh	438	89.6
	Federal	11	2.2
	Cambridge	21	4.3
	Other	4	0.8
Education Type	Regular	259	87.8
	Private	36	12.2
College	Government	342	69.9
	Private	147	30.1

Table No.2: Perceived Stress Score (PSS) 10 Outcomes

Perceived Stress Score	N	%	Interpretation
Perceived Stress Score (PSS) 0-13	126	25.8	Low Stress level
Perceived Stress Score (PSS) 14-26	206	42.1	Moderate stress level
Perceived Stress Score (PSS) 27-40	157	32.1	High level of perceived stress.
Perceived Stress Scale (PSS)	Mean ±SD		21±10

Table No.3: Mean Comparison of PSS with respect to studied Factors

Factors		Perceived Stress Scores (PSS)		p-value
		Mean	SD	
Gender of student	Male	18	9	<0.01*
	Female	21	10	
Educational Board	AKU-EB	22	10	
	Sindh	20	9	
	Federal	26	10	0.29
	Cambridge	21	9	
	Other	25	15	
Education Type	Regular	20	9	0.90
	Private	21	11	
College	Government	21	10	0.89
	Private	21	10	

*p<0.05-statistically significant.

DISCUSSION

The aim of this study is to evaluate the Gender based comparison of stress in students appearing for university entrance test. The students are prone to develop stress in academics due to various factors or pressure sources (environmental and personal), huge curriculum and family or relative or society stressors are involved in this transition period of life, which becomes progressively problematic for adolescents who intend to continue higher education as to achieve admissions in professional degree awarding universities as to acquire education in medical or engineering institutes for saving their future. Every student is working hard with dedication and motivation as to achieve the higher education as a reward or academic success in life for getting respect and pride in society. This results in extremely high academic demands and extraordinary pressure on students and specially adolescents. According to our study results, outcome of Perceived Stress Score (PSS), low stress level (25.8%), Moderate stress level (42.1%) and High level of perceived stress (32.1%), as summarized in Table II, similar to our findings. Graves et al [14] and Brougham, Zail, Mendoza and Miller[15] were agreed too. In our study results, mean comparison of perceived stress scores (PSS) of samples with respect to gender, results showed a significant differences (P<0.05), as summarized in Table 3, like our results Graves et al [14], Schmaus, et al.[16], Thawabein and Quaisy [17] agreed with Harutyunyan, Musheghyan, Hayrumyan.[18] Moderate level of Perceived Stress Score (PSS) is observed mostly in female gender, that leads to the failure to achieve the academic goal or admissions in Professional universities (Medical/ Engineering). It is also observed in our society, that getting admissions in Medical colleges are merely to acquire matrimonial match for girls, so it is main reason, for developing more stress in females.[19,20] hypothalamic-pituitary-adrenal axis and Autonomic nervous system (ANS), are considered as a two major systems, which reacts to stress in human body via fight-or-flight response and release of cortisol. Acute or chronic stress may induce problems in regulation of these systems in human body like serotonin system, epinephrine &norepinephrine system and adrenocortical system. Cortisol hormone is considered as stress hormone, as it influences the functions of human body like psychological effects, immunological effects and metabolic effects.[21] The impact of ongoing academic-related Perceived Stress Scale (PSS) to student is multidimensional and multi-systemic on human body, which is mainly distress form or negative form. It is due to educational stress, parental expectations and environmental factors or society, for best performance in getting admissions in professional universities, best for carrier growth, fear of failure or nor meeting the expectations of teacher, parents or relatives and society.[22]

More research is required in Pakistan in this age group (adolescents), who are preparing for admissions in medical and engineering universities, for their future brightness, and role of parents, consultant psychiatrics

or councilors and teachers become very important for better management or cope of perceived stress in students, who are preparing for entry test.

CONCLUSION

Despite all the limitations of the study, it is observed from these observations in this research that mostly students were having moderate stress level, and mean gender based comparison with stress, showed significant difference (P<0.05) on Perceived Stress Scale (PSS), so we should have to work to elevate stress, so that achievements can be acquired.

Author's Contribution:

Concept & Design of Study:	Saleem Ullah Abro
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