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PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1685922>Available online at: <http://www.iajps.com>**Research Article****STRESS AND COPING STRATEGIES AMONG MEDICAL
STUDENTS OF A PUBLIC MEDICAL COLLEGE IN LAHORE****Dr. Saman Chaudhry, Dr. Mishal Sabir, Dr Mehrun.Nisa Tariq**
Lahore General Hospital**Abstract:**

Post-secondary education is considered to create a highly stressful environment for students and a further addition to that already stressed environment is medical education and training. **Objective:** This descriptive cross sectional survey method research aimed to investigate relationship between stress, Coping Styles, socio demographic (Gender & Academic Year) and to identify most influencing source of stress and widely used Stress coping styles among medical students studying at Ameer ud din medical College Lahore during 2017.

Methodology: The purposive sampling technique was used for selecting 100 MBBS regular and host elite students (50 girls and 50 boys) with age range 18-26 (M= 21) from all 5 study years of medical education. A self-Designed demographic questionnaire, The Medical Students Stress Questionnaire MSSQ-40 (Yusoff, Rahim, 2010) was used to assess sources of stress among students, whereas The Brief Coping Orientation to Problems Experienced COPE-28 (Montel, Albertini, Desnuelle, Spitz, 2012) was applied to find coping strategies adopted by students. Pearson product moment correlation analysis was performed to identify relationships among stress and coping strategy and demographics of medical students. T-Test and Anova was carried out to find the differences of study variables and demographics. **Results:** Results revealed a high stress level in female students as compared to male students. Academic stressor was found to be the most influencing factor whereas Avoidance coping is mostly used by medical students at Ameer ud din Medical College. ANOVA explored study year differences, a higher stress rate was observed in final year medical students among all study years.

Conclusion: Stress has a positive relationship with coping and significant differences were found regarding socio-demographics (gender, year of study).

Keywords: Medical Students, Stress, Coping strategies, gender, year of study

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INTRODUCTION:

Stress is defined as the body's nonspecific response or reaction to demands made on it or to disturbing events in the environment (David Rosenhan & Martin Seligman, 1989). While Personal and environmental events that cause stress are known as stressors (Lazarus & Folkman, 1984) so we can derive stress as an emotional disturbance or change that is caused by stressors. Post-secondary education is regarded as highly stressful environment to students. Medical training further adds to the already stressed environment. Stress related different stressors in the life of medical students has long been a topic of research study and researchers have recognized different important stressors including issues of time management, financial matters, interaction with lecturers, personal goals, social behavior, adjustment in the academic culture lack of support system (Wilks, 2008), admission process, high expectation of parents, curriculum comprised of complex concepts, unbalanced student-teacher ratio, physical environment of classroom, too many or complex assignments, teaching methodology, unconcerned teacher's attitude and overemphasis on weaknesses rather than acknowledging strengths (Masih & Gulrez, 2006). So it is important to overcome stress triggers by adapting coping skills to alter and deal effectively with stressful events. Coping occurs in response to stress—usually triggered by changes—in an effort to maintain mental Physical and emotional well-being. Lazarus and Folkman (1984) suggested there are two types of coping strategies Problem-focused (tackle cause of the problem) Emotion-focused (handle feelings of distress). Each person copes with stress differently. Some strategies perform better than others in terms of how well they reduce stress and help to manage problems.

Stress has become one of the 'buzzwords' of modern society (Anderson & Pulich, 2001). It arises when there are burden on the person which exceed his available assets. If stress is harsh and extended, it can lessen academic performance, hinder with a student's capability to involve in and add to academic life, and raise the probability of potentially destructive behaviors (Richlin-Klonsky & Hoe, 2003). Stress related different stressors in the life of medical students has long been a topic of research study and researchers have recognized different important stressors which include excessive assignments, unhealthy competition among class students, fear of failure in educational achievement (Fairbrother & Warn, 2003). A systematic study conducted in 2013 indicated that stress level in Malaysian medical students is as high as 56% which is alarming. Year of study, relationship problem and financial problem

were significantly associated with stress, the main stressor was identified as academic and examination related. A cross-sectional study of six months duration was conducted at Allied Health Science department of Rawalpindi Medical College in 2015 that showed stress was more common in female students as compared to male students, irrespective of disciplines or academic year. Medical students in Lahore, Pakistan, completed a cross-sectional, self-administered questionnaire in 2013 on the sources and severity of various stressors. The authors studied the prevalence of psychological morbidity, sources and severity of stresses, as well as coping strategies in Pakistani medical students. Prevalence of psychological morbidity was 23.3 %; 52.3 % respondents showed evidence of distress.

Objective of the study:

The study focus to identify the sources of stress and coping skills adopted by medical students and to investigate the relationship between stressors, coping skills and demographics including gender, year of study among medical students of Ameer ud din Medical College Lahore.

METHODOLOGY:

It is a descriptive cross sectional survey method research design. The study was conducted at Ameer ud din medical College Lahore during January 2017 to November 2017

Sample:

The purposive sampling technique was used for selecting 100 medical students from Public medical college of Lahore (50 girls and 50 boys) with age range 18-26 from all 5 study years of medical education. MBBS regular and host elite students were the focus of study.

Research Instruments: A self-Designed demographic questionnaire, The Medical Students Stress Questionnaire MSSQ-40 (Yusoff, Rahim, 2010) was used to assess sources of stress among students, whereas The Brief Coping Orientation to Problems Experienced COPE-28 (Montel, Albertini, Desnuelle, Spitz, 2012) was applied to find coping strategies adopted by students.

Statistical Analysis: Pearson product moment correlation analysis was carried out to identify relationships among stress and coping strategy and demographics of medical students. T-Test and Anova was performed to explore the differences of study variables and demographics.

RESULTS:

Reliability analysis was determined. Cronbach's alpha values of the MSSQ scale is ($\alpha = .93$), Coping Orientation to Problems Experienced COPE-28 was measured on four point Likert scale with ($\alpha = .83$). These results indicate that the scales are reliable for this particular study. Test revealed student stress differs between males and females with $t = -4.63$ (198), $p < .02$. On a one-way between subjects ANOVA revealed a statistically significant difference in study years regarding Stress $F(4) = 3.53$, $p = .001$. No significant difference was found regarding Coping strategies. Medical students according to their study year were included from (1st year, 2nd year,

3rd year, 4th year and 5th year). Post hoc comparisons indicated that the mean score for Stress in 2nd year ($M = 111.22$, $SD = 26.68$) was significantly high. The results also depicted that Social support ($M = 15.76$) strategies and Avoidance coping ($M = 15.71$) were used more often for a variety of stressors, while some coping mechanisms seemed less likely to be used when experiencing stresses. Alcohol or drugs were hardly mentioned as a coping method. Mean differences regarding stress showed that Academic matters ($M = 36$) as most influencing stressor among medical students.

Table 1: Descriptive Statistics

| Variables | M | SD | f | % age |
|----------------------|----|-----|----|-------|
| Age (18-26) | 21 | 1.5 | | |
| Gender | | | | |
| Male | - | - | 50 | 25 |
| Female | - | - | 50 | 25 |
| Year of study | | | | |
| 1 st year | - | - | 20 | 10 |
| 2 nd year | - | - | 20 | 10 |
| 3 rd year | - | - | 20 | 10 |
| 4 th year | - | - | 20 | 10 |
| 5 th year | - | - | 20 | 10 |

Table 2: Mean, Standard Deviation and Alpha's of Study Variables

| No | Scales | k | M | SD | R/ (min-max) | α |
|----|---|----|--------|-------|-----------------|----------|
| 1 | Medical student stress Questionnaire (MSSQ) | 40 | 100.18 | 25.57 | 1.5/1.88 | .93 |
| 2 | Coping Orientation to Problems Experienced (COPE) | 28 | 49.81 | 9.74 | 1.07/1.87 | .83 |

Table 3: Differences regarding Stress and Coping Strategies by Gender (N=100)

| Variables | Group | | | | 95% CI for Mean Difference | | | Cohen's d | | |
|-----------|-------|-------|--------|-------|----------------------------|----|-----|-----------|--------|-----|
| | Male | | Female | | t | df | sig | | LL | UPL |
| | M | SD | M | SD | | | | | | |
| MSS | 85.26 | 19.01 | 101.50 | 27.51 | -3.43 | 98 | .01 | -6.85 | -25.62 | 0.7 |
| CS | 51.18 | 14.90 | 50.06 | 5.81 | 0.49 | 98 | .06 | -5.60 | -3.3.6 | 0.1 |

Note:

Medical student stress = (MSS), Coping strategies = CS

Table 4: Differences regarding Stress & Coping Strategies by Year of Study (N=100)

| Study Variables | Sum of Square | Mean Square | F (df) | sig |
|------------------------|---------------|-------------|---------|-----|
| Medical student stress | 8584.86 | 2146.21 | 3.86(4) | .01 |
| Coping Strategies | 1319.96 | 329.99 | 2.78(4) | .03 |

p is significant at the .05

Note: Sample=(N), Degree of freedom=(df), Level of significance=(p), Mean difference of variance=(F)

Post hoc comparisons indicated that the mean score for Stress in 5th year (M = 104.05, SD = 6.10) was significantly high than the 1st year, 2nd year, 3rd year, 4th year. Summing up all assessments, results suggested that stress really do have an effect on overall medical education years. 5th year medical students have highest levels of stress, A significant moderate stress has been observed in 1st year. Students of 2nd year almost have equal stress level. In 4th year relatively high stress was noticed.

The results depicted that Avoidance coping (M=15.71) were used more often than others strategies for a variety of stressors, while some coping mechanisms seemed less likely to be used when experiencing stresses. Alcohol or drugs were hardly mentioned as a coping method. Mean differences regarding stress showed that Academic matters (M=36) are considered most influencing stressor among medical students from both sectors as compared to drive and desire, social relations, teachers related and group activity stressors.

DISCUSSION:

A positive correlation between stress and coping showed that with the increased level of stress trend of adopting avoidance coping skills increased in students but Students are less inclined toward using other coping strategies during stressful situations is common. Same findings were observed in a study conducted by Ana bassols (2015) on perception of coping among medical students studying at Federal University of Rio Grande do Sul, Brazil, where use of escape/avoidance copying showed a positive association with stress. The overall low coping trend to overcome stress can be attributed to the lack of time and strict routine of medical studies that students feels themselves unable to get time. As in our stress questionnaire most of the students also mentioned that that they find it difficult almost impossible to find time for themselves and family.

Female students were found to be more stressed than male students comparatively. This could be because

of their sensitivity towards their duties and responsibilities. They seem to take every task more seriously. The present study observed that level of stress increased as the year of study progressed. Year-4th medical students was found to be more stressed than other study years. Anova results indicated that stress gradually increased in third year, 4th year and final year. 1st year and 2nd year student also reported a low level of stress. In final year due to clinical rotations many students perceive that it is almost impossible to complete education in time and properly. This can be attributed to the new time tables and study burdens that gradually increase with study year.. In fresh year they expected medical to be an ideal place of their dreams from the second year they started realizing their responsibilities.so after understanding and coping with the situations stress level in 3rd year falls. In the present study, as the year of study increases, prevalence of stress was increasing This finding is in agreement with results of study by Eva in 2008. Academic factors could be regarded as cause for the development of stress in students and could also determine the extremity of stress. The students from all five years of study reported academic stress more than other stress causing factors. The famous Researchers Behere (2011) and Abu-Ghazaleh (2016) has studied the significance of different academic factors which can increase stress. Hence, the results observed in the current study are in line with the conclusions of these researchers. Some strategies were used more often than others for a variety of stressors, while some coping mechanisms seemed less likely to be used when experiencing stress. Earlier studies in Malaysia and Jordan reported similar findings. Alcohol or drugs were hardly mentioned as a coping method in this study, as alcohol is prohibited in Pakistan for religious reasons, and this is in line with the findings in study on stress of Malaysian medical students.

CONCLUSION:

The Findings of present study verified that stress, and coping capabilities are interrelated if it comes to medical education. Academic Stress is more common

in students. Female medical students have more stressor than male students. While both male and female students mostly using avoidance coping. Medical student faces more Stress with the increasing study years. Whereas final year students are facing more stress as compared to other study years. The study will be beneficial for medical college's management as they could take steps to increase academic performance of students via student counseling services. Psychometric assessment will help students to get aware of their underlying stress factors. They would be able to decide whether to take student counseling services. Student Psychologists and medical colleges' administration should help students to overcome stress experienced by them.

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Authors' Contributions

All authors contributed in research design, data collection, drafting article and analysis of data.

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