

Stress, Causes of Stress and Coping Strategies of Pakistani Medical Students

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Abstract

Background: Medical education can be highly stressful and impacts students' mental health. The only way to deal with stress is better understanding of coping mechanisms and their use.

Objective: To identify the level of stress and stressors among medical students. Another aim of this study was to investigate a relationship between perceived stress and coping strategies among medical students.

Study type, settings & duration: A descriptive cross sectional study was conducted at Fatima Jinnah Medical University and King Edward Medical University, Lahore from August to December 2021.

Methodology: The purposive sampling technique was used to collect the data. The sample was comprised of 200 medical students (boys=100, girls=100). Perceived stress scale (PSC) and brief cope inventory by Carver was used to collect the data.

Results: The mean age of participants was 20.6 years. The findings showed a high prevalence (59%) of stress among medical students. The results also showed that perceived stress had a significant positive relationship ($r=.51^{**}$) with coping. Students who suffer from stress use active coping strategies as compared to passive coping strategies. Analyses also showed that female students had more stress (68%) as compared to male students.

Conclusion: Medical students face a high level of stress (59%). According to our findings, female students suffer more in stress. Students engage in both active and passive coping strategies, but active coping strategies are more used by male students and are found more useful to cope stress.

Key words: Coping, medical field, perceived stress.

Introduction

Stress is defined as emotional disturbance with physical, behavioral and biochemical changes. Stress is the condition in which one cannot perform their daily routine work properly. Stress is major cause to damage our body.¹

Medical students suffer from stress in their studies. Previous research reported increased levels of stress particularly among students of medical field.² Dyrbye reported that 31.2% of the students at British universities suffer in stress.³

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Authors Contribution

AA conceptualized the project. AA & MM did the literature search and statistical analysis. AA & TA did the data collection. Drafting, revision & writing of manuscript were done by all authors.

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Another study was conducted in Iranian medical institutes and reported 61.4% of stress level in medical students.⁴ Stress among medical students starts from the beginning of their choice of medical field. In Pakistan, the medical students are always in great stress from the beginning because of the strong competition in this field. After the completion of their secondary school education, they choose the pre-medical line to fulfill their dreams. But interestingly even after getting 90% or above marks in pre-medical classes they must pass a medical entrance test for admission in any government medical college. From the last 5 years the merit of medical colleges goes high and high because of the huge number of candidates with high marks and the limited number of seats. Parental pressure is also a cause of stress in students.⁵ As the expenses of private medical colleges are very high. So, medical students experience more stress than any other field of students.

Negative effects of stress occur when victims perceive stressful situations as alarming. High blood pressure, muscle tension, cardiovascular problems and disturbance in metabolic system (problem in this system arise risk of type 2 diabetes

mellitus) may also consequence of stress.⁶ Stress also affects social relationships that impact on their psychological well-being. A study conducted in the Sweden reported that 2.7% of medical students attempted suicide.⁷

A study was conducted on a sample of 200 students taken from Bharati Vidyapeeth Medical College India.⁸ Their results showed that causes of stress students described were economical and educational matters. They also reported that when stress increases then their ability to cope decreases.

Coping is the struggle to reduce the demands and/or to master the situation that causes stress. Coping approaches are divided into two categories called emotion and problem focused coping.⁹ Passive coping (emotion focused) helps to minimize negative emotions connected with stress.¹⁰ But when emotion focused coping strategies are used students remain unable to find enduring solutions to their problems. Studies in literature also advocate that passive coping strategies i.e. ignore the problem and seek emotional support help students temporarily.¹¹ Active coping techniques are implied to search permanent solution of any problem.^{12,13} In active coping strategies a user carefully analyzes the situation. Such types of strategies are e.g. taking help from experts, making plans and actively working for a solution.

Male students use active coping strategies as compared to female students. Medical students who coped with their stress successfully fulfilled their dream. But the student who fails to do this ultimately falls in extreme depression and in some cases, they commit suicide. So, there is a need to train the students to overcome their failures.

Stress among medical students has not achieved a great deal of attention as compared to work-related stress. Small numbers of research examined students' stress perception and their way to cope with it. So, the goal of the present study was to check perceived levels of stress, to figure out what causes stress, and use of coping techniques by students.

Methodology

Sample for this study was consisted of 200 medical students (boys=100, girls=100) taken from FJMU (Fatima Jinnah medical university) and KEMU (King Edward medical university), Lahore (one of the highly enriched cities for medical institutes of Pakistan). Samples with age ranged 19 to 23 years (M = 20.6, SD= 1.5) were gathered using purposive sampling technique. The Sample

was carefully selected after determining and finalizing sample size (N), alpha level (.05) and effect size (small, medium and large) using criterion given by Field and Francis (2010),¹⁴ and Althubaiti.¹⁵ It was also ensured that students from the first year of medical study to final year of medical took part. Mostly students were in the first year of medical education, 45%. The students with any clinical or psychiatric illness were excluded from this research. Demographic information sheet was developed to collect information like age, gender of student and study year etc. To examine psychological stress, the perceived stress scale was used.¹⁴ Stress scale comprised of fourteen items scored on 1 (never) to 5 (very often). Stress scale possesses high reliability value. 90. Higher scores on this scale means greater stress. A brief cope inventory by Carver (1997) was used to examine the techniques that helped to cope stress.¹¹ According to carver victims use some strategies more to cope stress than others. Carver scale is comprised of 28 strategies, in which 14 items are emotion focused and 14 are problem focused strategies. This scale is scored on a four-point scale ranging from never (1) to very often (4). Alpha value of emotion focused coping sub scale is .91 and for problem focused coping strategy sub scale .89. A higher score means more use of that coping strategy.

Each participant's consent was also taken. Participants were provided with information regarding the purpose and procedure of the research. They filled questionnaires individually in their classes. Participants were also told that their information will be used only for this research purpose. To analyze the data, SPSS 20 was used. Descriptive statistics, Pearson product moment correlation and t test were employed to check the objectives of this study.

The ethical approval was obtained from the Research Ethics Committee of Govt. M. A. O. College, Lahore vide letter no. 3212.

Results

In the present study, Table-1 shows correlation between stress and both types of coping strategies. Findings show significant positive correlation among study variables.

Table 1: Correlation between perceived stress, active coping and passive coping. (N= 200)

Variables	1	2	3	p Value
Perceived stress	-	.51**	.49**	.002
Active coping	-	-	.62**	.004
Passive coping	-	-	-	.002

Table 2: Percentage of student according to stress. (N= 200)

Stress	Frequency	Percentage
<i>Boys</i>		
Perceived Stress	50	25
No stress	50	25
<i>Girls</i>		
Perceived Stress	68	34
No stress	32	16

Table 3: Comparison between students according to their use of coping category. (N= 200)

Variables	Not Perceived (n=82)	Perceived Stress (n=118)	t	df	p Value
A-coping	11.89 (4.07)	12.85 (5.48)	-1.65	198	.001
P-coping	10.04 (3.11)	10.58 (4.32)	-0.83	198	.61

Table 4: Comparing the mean score of male and female students on perceived stress and type of coping. (N=200)

Scales	Male (n=100)	Female (n=100)	t	df	p Value
Perceived stress	50 (8.21)	68.38 (6.50)	-18.38	198	0.00
Active coping	66.12 (8.77)	9.30 (12.07)	-12.07	198	0.001
Passive coping	55.02 (10.97)	10.30 (13.5)	-13.55	198	.002

Table 5: Students who described that a particular item is source of stress.

1. Worry about future	146	73
2. Finance problems	135	67
3. Non-availability of study material (notes, tools)	117	58
4. Interpersonal conflicts	64	32
5. Family problems	28	14
6. Conflict with room mate	24	12
7. Failure to have support of teachers to find solution study related issues	63	31
8. Stay away from parents	50	25
9. Non availability of good food	50	25
10. Sleep difficulties	56	28
11. Alcohol/drug abuse/ Smoking	68	30
12. 12.Performance in examination	56	28
13. 13.Competition with peers	50	25
14. Performance in practical examination	23	11
15. High parental expectations	70	35
16. Relation with opposite gender	28	14
17. Lack of entertainment in the institution	24	12
18. . Living conditions in the hostel.	26	13
19. Lack of personal interest in medical field	66	33

Table-2 describes that 59% of the students reported perceiving stress while 41% of the students reported no stress. Female students reported to

perceive more stress (34%) than their male counterparts. Table-3 shows that students who had perceived stress employ active coping strategies more than passive coping strategies.

Tables-4 indicate a significant difference in the score of male and female their use of coping strategies. Females suffer more in stress, and they use passive coping strategies more as compared to male students. Table-5 shows cause of stress. Main cause of stress described by students were worries of the future (73.0%), financial difficulties (67%), non-availability of study material (58%), and lack of personal interest in the medical field (33%) respectively.

Discussion

This study aims to examine the association between stress and the use of coping among medical students. The results of the present research showed that perceived stress was significantly and positively correlated with coping. This research reveals that 59% of students have stress. So, prevalence of stress was found to be high among medical students (59%). This prevalence rate was more than previous studies conducted in Malaysian with 42.8% and 30.06%,^{16,17} and among medical students of Saudi Arabia, at 56.10%.¹⁸ Findings of this study described that students in stress employ more active coping (accept that problem exists and planning to remove elements of stress) than passive coping (alcohol, blame him or herself, deny the existence of stress). Previous findings also support our results. A study conducted in Malaysia depicts that students prefer to use active coping to solve their problems. Another study was conducted on the students of Saudi Arabia and found similar results.¹⁹

Another hypothesis of the research checked the relation coping and perceived stress. The results of the present research indicate positive correlation with perceived stress and coping. So, the students who have stress use coping strategies to manage stress. Previous studies¹⁷ also found positive correlation was found between stresses and coping, this means the perception of stress might decide which coping strategy they will use to cope their stress.¹⁸ The result of present study also described that female suffer more in stress and male students use more coping strategies as compared to female. Our results match with previous study.¹⁹

Every culture has its own sources of stress. To deal with the stressors, it is mandatory to know about its sources, so another major aim of this research was to explore causes or sources of stress among medical students of Pakistan. The findings of

this study showed the major cause of their stress was “worry about their future” (73.0%), “Finance problems” (67%), and “Non availability of study material related to study” (58%). Previous studies also showed similar results.¹³ Students related to the medical field not only face trouble at the time of their admission in medical college, but they also have uncertainty about their future career. Most of the students face problems with their financial needs. Most of the students who meet the merit come from poor class families. So, to pay high fees is a big source of stress for them. Non-availability of books, study material and tools in labs is also a big source of stress for students. The present study assists to recognize the stressors among medical students. Knowing the causes of stress of students will be helpful to find out the solution to the problem. This study will also be helpful for the administrators to stop stressors. This study emphasizes the need for stress management programs in all medical colleges. Furthermore, studies indicate that counselors may help students to overcome stressful situations.

The present findings show that students in the medical field suffer from a high level of stress. Furthermore, this study found that they are also exposed to numerous stressors during their academic period. Another objective was to explore the relationship between stress and the use of coping mechanisms that medical students use. Findings of this study showed that students who have stress will use more active coping strategies. Moreover, it was also concluded that a significant difference is found in perception and use of coping between male and female. Female students suffer more from stress and employ more passive coping strategy to deal with stress. Keeping in view the findings of this study coping training and programs for male and female students can be organized.

Conflict of interest: None declared.

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