Original Article

Stress Levels in students

An Observational Study done to Determine the Contrast in Stress Levels between Medical and Non-Medical Students conducted in Different Institutes in Karachi

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ABSTRACT

Objective: To compare the stress level of Medical Students and their Non Medical counterparts in different Institutes of Karachi.

Study Design: Retrospective / observational study.

Place and Duration of Study: This study was carried in various professional institutes i.e. AKMU, JMDC, LNMC, NUST, Bahria University, FAST, at various engineering schools. i.e. Karachi school of Arts, Iqra University and Indus Valley School of Arts, IoBM, Bahria University, SZABIST from April –August 2014.

Materials and Methods: With the help of Convenient Sampling Method, 12 different colleges were shortlisted. A total of 571 students were chosen with the help of Simple Random Sampling Method. For the purpose of data collection, a questionnaire was developed which was pre tested and pre coded. Data was analyzed with the help of SPSS version 20.0.

Results: Average age of students came out to be 20± 6 years. 76.3% (n= 113) of the medical students studied long hours at night in comparision to students of engineering 53.2% (n=77), arts 19.2% (n=26) and commerce/MBA/accounts 64.8% (n=92). 60.1% (n=89) of the medical students complained of constant tiredness and exhaustion. 68.3% (n=101) medical students complained of deadlines that were difficult to meet, as compared to 62.8% (n=91) of engineering students, 58% (n=79) of arts students and 60.6% (n=86) of commerce/MBA /accounts.

Conclusion: it is concluded from our study that the medical students are more prone to get stressed as compared to other non medical students.

Key Words: Medical Students, Stress, Non Medical Professionals

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INTRODUCTION

Various studies have defined Stress as variation/ imbalance in the internal environment of human being's physiology. This stress can have either a positive or negative perspective depending on the outcome, as inflicted by this particular stress. Positive stress compels a person to continue striving for the goals that he has set for himself. However, some times this Positive stress may turn into Negative stress, when an individual fails to cope with the burden of this added stress/pressure. As a result of this negative pressure, the person may lose his interest in the tasks that he has chosen for the achievement of his goals, with no sense of mental relaxation whatsoever [1]. This observation was also enforced by another study that considers stress as not only a mental character, but also implies that stress has a physical component, affecting the overall health and wellbeing of an individual. It is a validated fact that professional education and especially medical education among the rest of other Professional courses, is more strainful and hectic. This in turns leads to higher levels of stress and fatigue in medical students. [2] For

medical students immense load of studies, continues mental strain and fatigue and lack of awareness about stress coping techniques are continuous stressors. A large majority of medical students have confided as being under unbearable strain at some point in time during their medical course, however the students of fourth and final years experienced far greater stress as compared to students of the first three years of medical school. During this period of stress majority of the students experience feeling of helplessness, mood swings, lack of concentration and anger bouts. Further more these complains were enhanced during studies and assessments. The level of stress was found to be

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inversely proportional to the educational accomplishment [2,3,4,5,6,7,8].

The fact has been scientifically proven by research that the undergraduate students of medical college faces immense stress which leads to deterioration of their learning capabilities and their ability to deal effectively complex and challenging situations. This decline in mental wellbeing of the students is a progressive phenomenon throughout their entire duration of their training as medical professionals [4,9,10,11,12,13,14].

In studies conducted in Malaysian and Thai universities, it was observed that the medical students are more psychologically effected as compared to general population. However, this disturbance in the emotional wellbeing was more pronounced in students of these universities as compared to students attending British universities. The situation become grimmer when these students refuse to consult doctors for such problems, as primary stress can be a useful predictor of other health threatening conditions. In grave circumstances some students may experience complex psychological outcome and may not even refrain from attempting suicide. Therefore it is imperative for the councelors and facilitators to understand these stressors as they may not only have an impact on the educational achievement of these students but may also be detrimental to their health in general [2,5,11,15,16].

It has also been observed that a number of medical schools follow stern and strict discipline leading to further increase in pressure on students to give their best in their academic performance. This educational culture promotes a feeling of rivalry and contest among students rather than healthy collaborative activities leading to further increase in the level of stress. This undue strain which initiate at the very level of undergraduate medical studies may prosper during the course of post graduate education and may even become a permanent part for the rest of their lives [11]

Multiple factors have been recognized as significant stressors, for instance, hectic study schedule, long course duration, less availability of time and lack of appropriate utilization of available time. It would be wrong to blame only the academics for the increase stress on the medical students as the psychological susceptibility of the students may also be a contributory factor for this stress to some extent. As a method of coping strategy of this stress students should be encouraged to avail professional help that may lower down their stress level [17].

According to one of the studies, more than half of the students of a medical college affirmed of being affected by some degree of strain, however only a small percentage of these students admitted of having exceptionally increased levels of stress [18].

In contrast to medical studies, students attending other courses which incorporate psychology and sports in their curriculum experience much lower stress levels.By introducing stress coping strategies and creating students friendly educational culture the detrimental effects of stress can be reduced [19].

In one of the studies it was found that the students living in the hostels were significantly over- stressed in comparison to the students who live with their families. Similarly the students who have had adverse life experiences in their childhood were more prone to stress as compared to their fellow colleagues [20].

Researchers have found that as medical students initiates their course, their mental and emotional condition is almost same as that of the general population.However as their studies progress the level of stress increases. Females are more prone to get stressed as compared to their male counterparts [2, 21].

MATERIALS AND METHODS

A cross sectional study was undertaken with second and third year students of a number of professional schools. The study was conducted from April –August 2014 .With the help of Non-Randomized Convenient Sampling method, 12 professional schools of Karachi were identified .They were categorized into medical, engineering, arts and commerce/MBA/accounts and among these, 3 schools from each category were chosen for data collection.

The Aga Khan Medical University (AKMU), Jinnah Medical & Dental College (JMDC) and Liaquat National Medical College (LNMC) were selected under the category of medical schools. National University of Science and Technology (NUST), Bahria University and Foundation of Advancement of Science and Technology (FAST) were selected for the various engineering schools. Karachi school of Arts, Iqra University and Indus Valley School of Arts were opted in for the arts category. Whereas Institute of Business Management (IoBM), Bahria University and ShaheedZulfiqar Ali Bhutto Institute of Science and Technology (SZABIST) were decided on as Commerce/MBA/accounts category for the data collection. Approval from concerned authorities were taken before initiation of the data collection. The sample size of 600 students was taken from the 12 professional schools. 50 students per school were selected with the help of Simple Random Sampling methods. Their attendance sheets were utilized for this very purpose. Strict ethical discipline was maintained and prior consent was taken from the participants with the assurance that the specific information would not be shared publically. For the purpose of data collection a questionnaire was developed by seeking assistance from other stress standardized questionnaire however, making modifications as per our requirements. Questionnaire was piloted and coded prior to initiating data collection. For the purpose of data analysis SPSS version 20.0 was utilized.

RESULTS

From the sample size of 600, 571 respondents were finalized for analysis. Stress came out to be high among medical students as compared to their non-medical counterparts in almost all the groups. 20±6 year was the average age of the responding students. When asked about studying late at night 76.3 %(n=113) of the medical students replied in affirmation. However 53.2% (n=77) of the engineering, 19.2% (n=26) of arts and 64.8% (n=92) of commerce/MBA/accounts students replied that they study late.

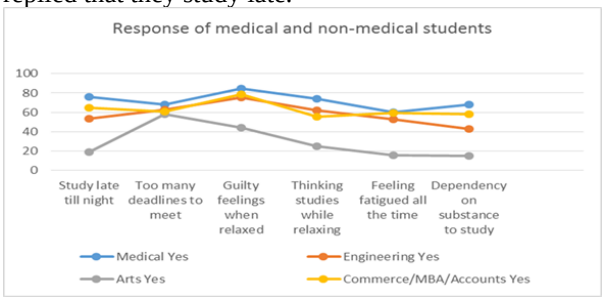

Figure No.1: Shows contrast between responses of medical and non-medical students

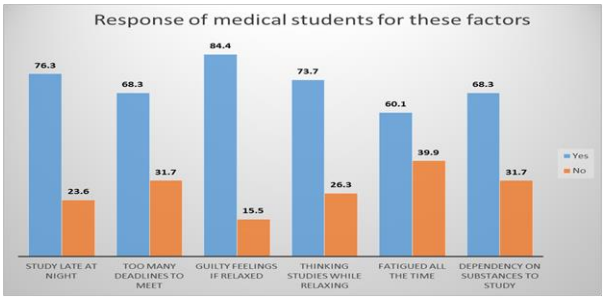

Figure No. 2: Demonstrate the replies of medical students for different variables

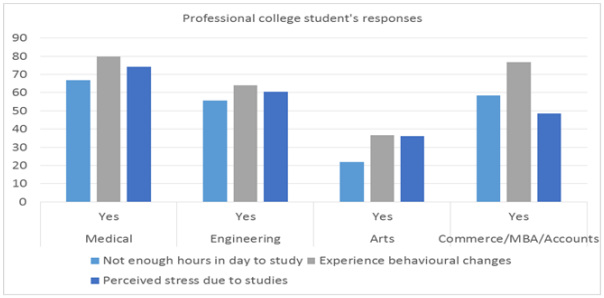

Figure No. 3: Represents answers of Professional students for different variables

When enquired about the deadlines 68.3% (n=101) medical students opined that there are too many deadlines to meet which are hard to cope with. On the other hand 62.8% (n=91) of the engineering students, 58% (n=79) of arts and 60.6% (n=86) of commerce/ MBA/accounts had this issue.

With respect to the guilt feeling which majority of the students experience when they are not studying, 84.4% (n=125) of medical students confided as having these feelings. Similarly 75.2% (n=101) of engineering students 44.1% (n=60) of arts students and 78.9% 9n=112) of commerce/MBA/accounts perceived these feelings.

Interestingly 60.1% (n=89) of medical students experience fatigue and tiredness despite having adequate sleep. This feeling of fatigue was shared with 52.2% (n=76) of engineering students, 15.4% (n=21) of arts and 59.2% (n=84) of commerce/MBA/accounts students.

When asked about reliance on stimulants in order to stay awake late at night for the purpose of study, 68.3% (n=101) of medical students 43% (n=62) of engineering students, 14.8% (n=20) and 57.8% (n=82) of commerce/MBA/accounts students were found to be dependents on such substances.

DISCUSSION

Different studies have scientifically proven a variety of contributing factors for causation of stress. This stress results in prominent physiological, emotional and social challenges [3,4,11,22]. Generally, professional students are affected more by stress but this phenomenon is enhanced particularly so in medical students [2,3,9,10,23].

This specific research was conducted with the aim to ascertain the difference in the levels of stress between medical and non-medical professional students.In our study we observed that stress level was higher in medical students as compared to engineering, arts and commerce/MBA/accounts students. Similar findings were also found in some other studies [5,10,13,16.]

The stress was prevalent in medical students with 73% of them suffering from it as compared with 56% of non-medical students. These observations were also seen in some other national and international studies [5,15.]

In our study one of the most prominent factor for the initiation and progression of stress was found to be gender with females responding to be more stressed than their male colleagues. This observation was also re-enforced by different other studies [2,6,9,10,21,24].This variation in the level of stress in the male and female can be contributed to the physiological, social and cultural responsibilities associated with to females [2,7,9].

Besides other stressors, academics and assessments were found to be most eminent and vital, negatively affecting the educational outcomes of the students. These stressors also add to the grievousness of stress[3,10,17,25]. A directly proportional association has been scientifically validated between stress and educational achievement of students attending medical school[3,5,10,11,24]. Students try to make use of miscellaneous techniques to get rid of their stress which may include listening music, involvement in sports and social interaction with friends [2,3,17,19].

More than half of the medical students replied that they get refractory guilt while they relax. According to them the time they spend on relaxation is considered a luxury that should rather be spent on more important academic

activities. Despite their attempt to relax, they get more fatigued due to these feelings of regret. On the other hand 73% of the medical students affirmed that their thoughts keep revolving around their studies even during their leisure time. Such feelings may further propagate their stress [7]. is a proven conviction that stress and fatigue decrease our intellectual performance [3,4,8,11,21,26,27] and on the other hand has an adverse affect on our physical soundness which may decrease overall efficiency and robustness. [3,5,13].

60% of the medical students complained of constant exhaustion even after taking sufficient sleep, whereas 59% of the students of Commerce/MBA/Accounts had this similar problem as compared to only 15% of their Arts counterparts.

As a method of stress management, drugs and alcohol may be seen as a hideout by some students. However, this strategy adversely affects their physical, emotional and educational performance. This might be an initial step that may lead to permanent adherence to these substances. [26,28].

CONCLUSION

This study concludes that the stress experienced by the medical students exceeds the stress experienced by other non medical professional students. Teachers in medical institutes have an important responsibility of identification of different stressors amongst their students, and they should be propoerly equipped with appropriate techniques to manage the factors leading to stress.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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