

Original article:

Stress in first year MBBS Students of freshly started medical college: Role of regular counseling

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Abstract:

One of the most common problem facing college students is anxiety. Students are burdened with the pressure of being in a new environment. Medical students often experience different stresses which may affect emotional, psychological and physical health especially in freshly started medical college. A study of anxiety score, auditory reaction time (ART) and visual reaction time (VRT), hand steadiness response was carried out on 100 medical students in the first two week of their new curriculum. We intervened timely counseling and preventive mental health services integrated with other creative and extracurricular and regular curricular activities throughout the year. Anxiety score, ART and VRT and hand steadiness again we measured at the end of their curriculum. We found statistical significant decreased in anxiety score, auditory reaction time & visual reaction time and improvement in hand steadiness response.

Introduction:

A college life is a beginning of a journey away from home for most of the students. This stage is a mixed emotion for students as well as parents. The emotions like excitements, happiness, anxiety, fear. The young adults have to pass through a new world with expectations and fears untold. Even though being well adjusted, they have apprehension about moving away from home for the first time. Taking admission in freshly started medical college is itself a very big tension for the students and their parents. All students worked very hard to get the admission in medical college through a very tough common entrance test. Students and parents are both very anxious about the new environment and students may face many psychological problems most frequent is the anxiety disorders. Typically, anxiety disorders involve disturbances in mood, thinking, behavior and physiological activity. They present as adjustment disorders with anxious disorders, test or performance anxiety, social phobia and sometimes may turn into severe forms as depression and panic disorders. Therefore it is usually not very helpful to pretend that anxiety will simply go away on its own. More ever the incidence of stress and related disorders, illnesses such as anxiety and depression among students, qualified physicians internationally is increasingly reported (Elzubeir MA and Elzubeir KE, 2010). Indeed studied also indicate that medical students face unique academic challenges that make them more vulnerable to stress and anxiety than students in other faculties. (Helmets KF et al, 1997) .Expectations and pressure to succeed from parents, coaches and the students themselves increases anxiety (Melman, Little & Akin –Little). The students often worry excessively about performance quality and competence even when they are not being evaluated by other (APA2000). Levine indicated there are three times as many diagnoses in students from high socioeconomic families as compared to general population. Well educated and well –meaning parents sometimes intervene on behalf of their children as opposed to supporting the child

attempts to problem-solve. In doing, the adolescent is robbed of the opportunity to develop the skills necessary to approach situation that may evoke anxiety.

Human reaction time is the amount of time it takes for a person to respond to stimuli, or to perform simple reflexive functions. It is the measure of sensory –motor association. (Misra N and Mahajan KK, 1985) The increase in the reaction time indicates that the consciousness and coordination of an individual is slow. This is due to different factors like arousal, age, gender, fatigue, fasting, anxiety, stress, personality type etc. So reaction time was used as a tool to find out the effect of anxiety on cognitive functions in students. During stress motor skills are also affected. Here we measured hand steadiness response as a tool for motor skills. It is important to understand the causes or triggers of anxiety, the major role of counselor is to focus on identification of the problem in order to understand and support students with anxiety and help them succeed.

It is clearly observed in the first year medical students who get admission in a freshly started medical college, more so if there are no senior batch students, this need to be tackled meticulously for better outcome. Many studies have been performed to assess the stress and different causes of stress in students during their college life, but very few studies are done to find out the role of counseling in reducing anxiety in the students. Therefore the present work was conducted as a preliminary effort to see the psychological status of the students by anxiety score as a indicator of stress, during their first step in the new program of study and the effect of timely counseling on their anxiety status.

Material and methods

The present study was carried out on 100 MBBS students admitted in the first batch of government medical college Chandrapur, Maharashtra, India, in the first two week after admission in the college with voluntary participation after understanding the nature of study. Ethical clearance was obtained. All the students were in age group of 18 – 19 years. They were informed that the information given by them was for the research and evaluation purpose only would be kept confidential. All the tests were performed in the physiology department GMC Chandrapur. After detailed history taking and medical checkup none of them was suffering from any major medical or psychiatric illness.

Anxiety was assessed using Hamilton anxiety scale (Sajatovic M and Ramirez FL, 1998). It is a widely used scale to evaluate anxiety symptoms at baseline and consists of 14 items. Each item is rated on a 0-4 scale (0 = not present, 4 = severe) with a final item which rates behavior. Sum of the score of each was noted as anxiety score. Visual reaction time and auditory reaction time were measured by using Digital Response time apparatus having accuracy of 1 millisecond. Green light was used as a stimulus to measure visual reaction time. High pitch sound was used to measure auditory reaction time. The reading was taken between 11 am – 1 pm in a quiet secluded room. For each test, practice trials were administered until we were satisfied that the subjects have understood and performed the task as required.

Digital hand steadiness apparatus was used to assess the motor performance of the students. This apparatus is having a metal plate consists of holes with different diameter. We selected the hole with smallest diameter. This plate is attached with digital box which shows duration for test and number of contacts made by the pins. We selected duration of 30 seconds. This digital box is attached with blunt long pin through cable. The reading was taken between 11 am – 1 pm in a quiet secluded room. The instrument is kept on the table in front of the subject. The height is so adjusted. Each student has given three trials before the start of the test. Set the duration of 30 seconds and the start the test. In 30 seconds how many contacts are made between the smallest hole and pin by student was automatically noted by the apparatus. Anxiety score, VRT, ART and hand steadiness response were performed on the students at the first two week of admission and again at the end of first year session. In the academic year we have involved the students various extracurricular activities.

We divided the students in small groups for regular counseling from the teachers. Here we discussed their various problems.

Every 15 days throughout the academic year we did counseling .Apart from terminal and preliminary examinations for the improvement of their academic performance we arranged seminars, tutorials, group discussion for various difficult topics from the syllabus, we carries out semester wise part completion tests and oral examination for the same topics. We conducted revision for the physiology practical's many times, apart from terminal and preliminary examination as per university. With this curricular activity students attended Ganesh festival program, annual functions and one day excursion with all college teaching staff.

Statistical analysis

The results were analyzed using a statistical program SPSS version 10.0 Mean and standard deviations were tested statistically by Paired t- test. Statistical significance was accepted at $P < 0.05$ level and highly significant at $P < 0.001$.

Observation and results

Table showing effect of counseling on parameters before and after academic session

PARAMETERS	PRE	POST	P value
Anxiety score	12 ± 6.57	6.88 ± 4.66	$P < 0.00001^*$
Visual reaction time(sec)	285.57±37.04	224.53±22.18	$P < 0.00001^*$
Auditory reaction time(sec)	254.37±55.42	186.38 ± 23.04	$P < 0.00001^*$
Handsteadiness score	34.68 ± 4.157	31.92 ± 3.859	$P < 0.01^*$

Discussion

Tertiary education has always been regulated as highly stressful environment to students. Studies have revealed a high prevalence of stress in medical students ranging from 30% to 50% (Supe)

First year student in India have to undertake repetitive summative examination of the three subject with 8 hrs of teaching in a day. They hardly have spare time for de-stressing. When the students enter college, they leave behind the comfort that their parents and home provide them. In a place where everything is new right from room to person, the anxiety in college students, where they find it difficult to share with another person. This condition predisposes students to a lot of psychological, mental and physical stress.

In the present study, the anxiety as depicted by the anxiety score was present in the new students. We observed significant decreased in anxiety score and significant improvement in the reaction time and hand steadiness response. In our study in the counseling we found that 25% students reported high stress levels related to academic that included frequent examination of

assessment method, grading methods, academic schedule and lack of time for review. Only 9% of the students face high stress due to relationship with one's own self including poor motivation to study, health problems and self- conflict which was more in females. Only 2% students found difficulty with colleagues and problems with roommate. Lesser stress associated with faculty behavior among first year students of dental college by Acharya S. Social stress was also observed by Shah et al.

Moderate to high stress due to unwillingness to study or study by compulsion was evident in both males and females. Parental compulsion was observed to be 6% responsible cause of stress in study by Shah et al. Female seem to cope better to the stress as compared to the males as they have good social support and they inherit faster sex processing speed for timed intelligence tests than males(Richards wood)

Life as a medical student possesses particular challenges and stressors which can impact quality of life (Taha AZ and Sabra AA, 2012). Various studies on the medical students have reported high levels of stress and psychological morbidity among medical students (Guthrie EA et al 1995). Social stress was more in males than in females which can be due to inquisitive nature of males and the liberty taken by them away from home.

Many previous studies conducted on stress reveals that the prevalence of stress among medical students ranges from 30% - 50% (Firth –Cozens J et al, 2001). This level is high in comparison to that of general population and that of the students in other study courses. Al- Dabal BK showed that stress prevalence was higher among first year MBBS students and diminishes progressively by fourth year (Al-Dabal BK et al 2010).

The potential sources of stress among students may include academic stress, enormous syllabus to be covered in a limited period of time, sudden change in their style of studying, lack of proper guidance, thought of failing exams, relationship with peer group, expectations of parents, change in medium of education and to all above the hostilities have their own set of problems including hostel friends, hostel food, peer pressure and displacement from home.

The WHO (World Health Organization, 2004) estimate that mental disease, including stress related disorders will be the second leading cause of disabilities by the year 2020. Stress coming from different sources like academics, personal situations, time or economic circumstances, personal situations can have negative outcomes on student's health, grades and personal adjustment (Nelson NG et al.2001)

Here is the role of professional counselor as a partner in treatment. For early identification of stress, the college provides an opportunity to incorporate support from parents, teachers and peers in a natural setting. Because treatment of anxiety focuses on identifiable symptoms and behavior rather than a specific diagnosis, prevention and treatment can be delivered efficiently prior to a diagnosis. Counselor can increase the ability of teacher and other parson to recognize anxiety. Avoidance of college and classes is often a symptom of anxiety. It is important to get the students back in the college quickly as possible (Chansky 2004). The longer a student stays away from college, the harder it is for him or her to return.

Low motivation may prevent the development of a productive working relationship between the counselor and student. Student participation in the plan development may increase motivation. The counselor or parent must initially take the lead in cooperatively establishing a manageable plan. An effective professional counselor can help to develop trust among parents, teachers and other professionals so the team can establish respectful cooperation. The team must be focus on success of small steps so that students does not discourage or overwhelmed, and the goal of the action plan should be specific and measurable so that students can recognize accomplishment. Expectations regarding attendance may need to allow late entry or absence from some classes. An assignment requiring group work or an oral presentation may seem instrumental for a student with anxiety. Teacher can take small steps to reduce the overall anxiety level in their classroom by creating a nonjudgemental and accepting atmosphere in the classroom.

In the study of anxiety, depression and coping strategies, Matos et al (2008) found a positive correlation between psychological disorders and poor coping strategies. Assessing coping skills is integral to understanding performance under stressful events. Counselor can assess individual coping skills and work with students exhibiting anxiety to help them develop more effective coping skills. Young people often imitate their parents methods of handling stress. Therefore it is important to consider family dynamics and if possible, includes the parents with anxiety.

Our study has shown statistically significantly prolonged visual and auditory reaction time in the students. High levels of stress are known to affect cognitive functions. It has an impact on concentration, memory, learning and arousal. It is proposed that stress affects cognitive functions via epinephrine and slowly via glucocorticoid. (McEwen BS and Sapolsky RM, 1995). In our study regular counseling for their problems helped the students to decrease their anxiety score. This decreased stress improves reaction time and hand steadiness response.

The study is baseline for authorities to look with more depth into student's health and well being. We recommended the establishment of students counseling unit, supportive and preventive mental health and services which may enable them to cope up with their new phase of life, and may be integrated with extracurricular activities like yoga, meditation, sports etc. It is important to identify the students who are more vulnerable to mental stress. These attempts may help to alleviate academic pressure and develop perfectionist standards in medical career which requires emotionally demanding training to deal with different aspects of life (human suffering, death, fear, sexuality) (Takeichi M and Sato T, 2001)

The use of a team approach which includes administrator and appropriate health experts may be the most appropriate protocol to follow in case of severe anxiety. Communication is the key to collaborative consistent support for student with anxiety.

Conclusion:

Looking into the results of the study it is important to take necessary steps so that there is improvement and excellence in student's adjustment and performance in the medical profession. As we look back into the ancient education system where apart from teaching importance was given to physical as well as mental education. Different strategies can be adopted including: Mentorship, Yoga and meditation, Personality assessment, Counseling : emotional (coping with hostel life, teenage issues, mild depression due to difficulty in studying) Career counseling. Workshops can be organized on personality development, goal setting and stress & time management.

Limitations:

This cross sectional study was based on self reported information provided by students, therefore the limitations are: Some potential for reporting bias, interpretation of the questions or desire to report their emotions in certain ways, inaccuracies of responses.

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