

## Original Research Article

# Prevalence of stress among medical students and music to alleviate the stress

Shifa Zareena\*

MBBS, Meenakshi Medical College Hospital and Research Institute, Kanchipuram, Tamil Nadu, India

**Received:** 20 March 2017

**Accepted:** 19 April 2017

**\*Correspondence:**

Dr. Shifa Zareena,

E-mail: shifa1603@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

**Background:** Stress has become a cup of coffee in everybody's life. Adults to some extent are able to cope with it. But the young chaps are put into more stressful situations by the society. They find it difficult to handle it at a very early age and end up being a victim of various addictions. The aim of the study was to survey the prevalence of stress among the medical students and their choice of preference to alleviate from stress.

**Methods:** The study was a cross sectional study of random sampling method with a sample size of 100 medical students belonging to age group 18-21 years. Informed consent was obtained from each individual. The study was cleared by the ethics committee. The stress level of each participant was assessed using the student stress scale questionnaire.

**Results:** Of the 100 students who completed the questionnaire, 38% of the students belonged to the 'no stress' category, 51% fell under 'mild stress' category, 8% under 'moderate stress' and 3% under 'severe stress' category. Of the 62 students who showed certain degree of stress levels, 47 (76%) students prefer music as a choice for relief from stress and 15 (24%) prefer other modes of relief such sleeping or talking to a friend, etc.

**Conclusions:** Medical students are prone to a lot of stress during their course of study and music is the preferred choice for most students to relieve them from stress.

**Keywords:** Medical students, Music, Stress

### INTRODUCTION

The moment people hear the word stress all that comes to the mind is tension, pain, frustration, etc. but the main culprit behind the term stress are actually the hormones. During times of stress our body releases few hormones of which cortisol and adrenaline plays a very important role. These hormones mainly affect the brain especially the amygdala- the emotional command centre and arouse the body for emergency action. Stress is defined as anything that disrupts the normal person's physical and mental well-being.<sup>1</sup> Stress is of two types: eustress and distress. Former is a positive stress which triggers the body alarm and enhances attention, performance and creativity where

latter is a negative stress which has negative effect on the body.<sup>1</sup> In today's generation almost every individual especially school and college going kids are vulnerable to different levels of stress. The probable reasons for stress would be relationship with peers, examinations, fear of failure and worries about future, career choices, family issues and what not. Mild form of stress would manifest as a bad mood while extreme form may lead to act of violence, burnout and suicide.<sup>1</sup> Education plays a role in posing the threat to the kids these days. The thought of not getting through the exams or entrances, the fear of failure, the pressure from parents on pursuing good grades, the peer comparisons, etc. alters the stress hormones drastically that it affects their day to day life.

Medicine is an emotionally demanding training and therefore a career in medical education can sometimes be stressful.<sup>2</sup> Though medical education is a life-saving field requiring lot of dedication and sacrifice by the individual, in the long run it affects the mental status of the medico. Studies in the United States suggested that the practice of medicine entails certain risks to the mental health of both qualified physicians and students.<sup>3-7</sup> The medical students and doctors seemed to be under more stress than the general population. Medical education is a challenging field that requires a lot of patience, confidence, audaciousness as well as skill and knowledge. It also acts as a triggering factor for stress. The demise of a patient be it expected or unexpected could be a stressful event to few doctors and students. A medico is bound to deal with the stressors of everyday life and the profession as well. A study done in Qazvin University by Barikani showed half of the students (45%) experienced intermediate or higher level of stress.<sup>8</sup>

All students in general are interested in music these days especially students living in hostels and working in hospitals during the course of study. Access to music these days has become handy with the improvement in technology such as smart phones with ear sets/headset or iPods. Music is closely linked with emotions, it moderates our emotional state.<sup>1</sup> The limbic system of the brain is a relative cause of our response to music. Music activates the release of endorphins which act as natural stress killers giving a feeling of well-being.<sup>9</sup> Stress is unavoidable but it can be eased by listening to music as it helps us open ourselves emotionally and release feelings. The main purpose of this study was to assess the stress level of the medical students and their choice of preference to distract them from the stress.

**METHODS**

The study was a cross sectional study of simple random sampling method. Students with in the age range of 18-21 years i.e. first year to final year students were chosen for the study. Written informed consent was obtained from them. The study was cleared by the ethics committee. The purpose of the study was explained to them. A total of 200 medical students from Meenakshi medical college in Kanchipuram district, Tamilnadu, India were considered. Of which only those present at the time of survey were taken into account. Students who were voluntarily interested to be a part of the study were only considered. Students under psychiatric treatment were excluded from the study. Using the roll number lot method 132 samples were chosen and given the questionnaire. Only 100 students managed to complete the questionnaire successfully. The stress level of each participant was assessed using the questionnaire- student stress scale. The demographic details such as age, sex, frequency of getting stressed, the mode of relief they preferred such as music, sleeping, venting to a pal, etc. were also obtained from each participant. The questionnaire and the demographic detail enquiry were

self-administered to each participant and they were given an hour’s time to complete it.

**Questionnaire**

Student stress scale was developed by Akbar Hussain, Tabbasum Rashid and Mussadiq Jahan. It consists of 57 items with four responses corresponding to each question i.e. no stress at all, slight stress, lot of stress and extreme stress. They are scored as 0,1,2,3 respectively.<sup>10</sup>

**RESULTS**

100 medical students actively participated in the survey of which 42 were male candidates and 58 were female. Table 1 includes the number of students under each age group. Of which more than 50% fell between 19-20 years of age, which is considered as the end of teen phase.

**Table 1: Students under different age group.**

Age	No. of students
18	15
19	29
20	39
21	17
Total	100

**Table 2: Represents how often the students experience stress according to their personal analysis.**

Gender	Male	Female	Total
Frequently stressed	4	20	24
Sometimes	20	22	44
Rarely	15	14	29
Never	3	0	3
Total	42	54	100

Table 2 shows the frequency of occurrence of stress as mentioned by the students. It shows that 24% get stressed frequently while 44% sometimes. Over more than half the students experience stress on a regular basis.

**Table 3: represents the levels of stress after analyzing the responses from the questionnaire and the mode of preference for relief as chosen by the students.**

Stress levels	Music	Sleeping	Vent to a pal	No. of students
No	-	-	-	38
Mild	40	5	6	51
Moderate	6	0	2	8
Severe	1	1	1	3
Total	47 (76%)	6 (10%)	9 (14%)	100

Table 3 indicates the degree of stressfulness the students’ experience. This was assessed using the student stress scale. 51% resulted in having mild stress. It is a natural

phenomenon for everyone to be under some sort of stress be it personal issues or family or career etc. especially medicos tends to be under stress more often than their peers in other professions. Even though there are many ways such as sleeping, talking to a friend, playing games, watching television, etc. to abate stress; music is preferred by many. 76% stated music as their choice to calm them down. Listening to music has become very easy and convenient to them in this generation with the development of technology.

## DISCUSSION

This study shows mild prevalence of stress among undergraduate medical students which supports the work done by Asst. Prof. Barkani A, MD, MPH Qazvan University and by Sani et al, Jizan University.<sup>1,8</sup> Stress is unavoidable; everybody is in some sort of stress always either physical or mental. Examinations were most frequently perceived as high stressor, also significantly in females.<sup>11</sup> More frequently expressed factor leading to stress were initial adaptation to program (84.5%), apprehension of exam (41.3%) and economic issues (32.4%).<sup>8</sup> During the later phases of their education, work related stress are more pronounced in the hospital such as interaction with the patients and staffs.<sup>8</sup>

Apart from talking to patients the classes of events most often described as stressful by students concerned the effect their medical training was having on their personal life, the anxieties invoked by being asked to take part in ward rounds (although they are unchangeable aspects of training) and dealing with death and sufferings.<sup>12</sup> Medicos experience both physical and mental stress at the same time. They have to hunt for time to ease them. That is where music proves to be very convenient for them and with the emerging trend in technology things have become much easier. Earlier radio was the only source through which music can be listened to and it would be disturbing to some at inappropriate situations. But in the current situation all they need is earphones with iPod or mobile phones; they can ease them in a matter of few minutes by just listening to their favourite track without disturbing anybody.

We would have noticed many doctors humming while doing a surgery or any paperwork or when alone, it is one of the easy ways to kill the stress and it boosts them to function efficiently. Music has proven to be both a relaxation technique and stimulant, anyone can benefit from music be it infants or elderly.<sup>13</sup>

The major reason why people listen to music is to moderate the emotional state.<sup>14</sup> Stress does have an influence on learning and performance of the students, to overcome this effect they get side tracked into drug abuse, alcohol addiction, sometimes self-mutilation in an attempt to seek attention. Therefore, it is the duty of the parents and the education system to give appropriate guidance and counselling to students and give them the

mental preparedness to pursue the medical career in a less stress state.

## CONCLUSION

This study assessed the stress levels of the medical college students and it appeared to be that majority of the students are under mild levels of stress at a younger age. Music played a key role and many stated that listening to music relaxed them at all times rather than trying to explain it verbally to their kith and kin.

## ACKNOWLEDGEMENTS

Author would like to thank Medical students of Meenakshi medical college, Kanchipuram for their cooperation.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Sani M, Mahfouz MS, Bani I, Alsomily AH, Alagi D, Alsomily NY, et al. Prevalence of stress among medical students in Jizan University, Kingdom of Saudi Arabia. *Gulf Med J.* 2012;1(1):19-25.
2. Niaura R, Herbert PN, Saritelli AL. Lipid and lipoprotein responses to episodic occupational and academic stress. *Arch Intern Med.* 1991;151(11):2172-9.
3. Vaillant GE, Sobowale NC, McArthur C. Some psychologic vulnerabilities of physicians. *New Engl J Med.* 1972;287(8):372-5.
4. Vincent MO. Some sequelae of stress in physician. *Psychiatry Univ Ottawa.* 1983;8:120-4.
5. Mc Cue JD. The effect of stress on physicians and their medical practice. *N Engl Med J.* 1982;306:458-63.
6. Pitts FN, Winokur G, Stewart MA. Psychotic syndromes, anxiety symptoms, and response to stress in medical students. *Am Psychiatr.* 1961;118:333-40.
7. Lloyd C, Gartrell NK. A further assessment of medical students stress. *Med Educ.* 1983;58:964-7.
8. Barikani A. Stress in medical students. *J Med Educ, Winter Spring.* 2007;11(1-2):41-4.
9. Harvey. Music, the brain and stress relief, part II. Presentation for the New York Open Centre Music and Sound Institute, 2011. Available at [http://www.musicforhealthservices.com/Music\\_as\\_therapy/Pages/Module%2005\\_Music\\_Therapy\\_and\\_Music\\_Medicine/5.2\\_Musc\\_Brain\\_and\\_Stress\\_Relief.pdf](http://www.musicforhealthservices.com/Music_as_therapy/Pages/Module%2005_Music_Therapy_and_Music_Medicine/5.2_Musc_Brain_and_Stress_Relief.pdf).
10. Husain A, Rashid T, Jahan M. Student Stress Scale. In: Hussain A, Khan MI, eds. *Recent Trends in Human Stress Management.* New Delhi: Global Vision Publishing House; 2006:254-257.

11. Backovic DV, Zivojinovic JI, Maksimovic J, Maksimovic M. Gender differences in academic stress and burnout among medical students in final years of education. *Psychiatria Danubina.* 2012;24(2):175-81.
12. Firth J. Levels and sources of stress in medical students. *Br Med J.* 1986;292:1177-80.
13. Griffin M. Study, stress and music, 2011. Available at [http:// www.musiceducationworld.com/ files/ Study\\_Stress\\_and\\_Music\\_M\\_Griffin2.pdf](http://www.musiceducationworld.com/files/Study_Stress_and_Music_M_Griffin2.pdf).

**Cite this article as:** Zareena S. Prevalence of stress among medical students and music to alleviate the stress. *Int J Res Med Sci* 2017;5:2512-5.