

Study of Heart Rate in College Students Owing to Examination Stress

Dr.Manisha Mathur, Gaurang Mathur

G.N.Khalsa College, Matunga, Mumbai, India.

Geetanjali Medical College, Udaipur, Rajasthan, India

ABSTRACT: Pre-examination Stress is a common condition faced by students prior to exams and is quite predominant among medical students. No study have been conducted to assess the impact of stress on students just prior to examinations owing to their Heart Rate .Therefore, we aimed at interpretation of Heart Rate among medical and MSc students,for comparison. Questionnaires were filled by 50 students , out of which 25 students were from Msc-I & II, Zoology Department of Khalsa College, Mumbai and 25 students were from First Year MBBs ,of Geetanjali Medical College ,Udaipur .The stressor for medical students was their semester exams. In MSc students of Khalsa college,the stressor was Seminars/presentations ,which was part of their curriculum ,carrying 40 marks(Internal Examination). Data was analysed. 81.3% of students were found to be scared of examination and were found with various symptoms of anxiety.Some felt sickness and nervousness,some had loss of appetite,sleeplessness,Palpitations,High BP,fear of not passing the exam, fear of getting low marks.Maximum(81%) were found to be stressed and in tension just before the examination irrespective of their preparations for exams.Some had severe depression and some suffered with diarrhoea.Two MSc students started crying and shivering.Out of these 50 students 75 % students suffered with some or the other clinical symptoms(as per the questionnaires filled by the students) like increased heart beats,raised body temperature,Nervousness,headache or body ache,fever,stomach pain and Diarroeha.25% students were found relaxed and with no clinical symptoms. 81% students were found relaxed immediately after the presentation was over ,and their heart beats came back to normal ,while 18.8% students were still stressed ,thinking that they could not present well and could not answer the questions asked by their colleagues and the teachers judging the presentation.Some of these students were found with even more increased heart beats after the presentation due to fear of getting less marks. (Fig1) Two started crying and shivering and one showed the symptom of Irritability,shouting and aggressiveness.

KEYWORDS: Heart Rate, Examination, Stress, college students.

I. INTRODUCTION

Medical students experience stress at every phase of curriculum more so before examination. This stress may affect physiological, psychological and cognitive functions of the students.Students Often feel nervous ,depressed and scared during examinations. This is anxiety. (Dimitriy et.al,2016)There can be a lot of pressure on young people to do well in exams which can cause a lot of stress and anxiety.You might have been predicted certain grades or put into a higher set, and feel if you don't get the grade you'll let your teachers or parents down.

Stress is an emotional disturbance caused by stressors. Some stress among students is essential for learning.Stress may be of two types i.e., Favourable stress and Unfavourable stress.Favourable stress promotes learning where as unfavourable stress suppress learning (Fontana,et.al,1999)Assessing the effect of examination stress in college students,unfavourable stress is associated with difficulties in solving interpersonal conflicts,increased alcohol and drug consumption,anxiety and depression,reduced concentration and academic dishonesty,sleeping disorders(Zeller A1, 2004;13(1):20-4)Unfavourable stress is also associated with inhibition of student's academic achievement and personal growth development.As a result , students may feel in unsatisfied in their carrier in the future. Mental health is regarded as an essential component of health by the World Health Organization. Many researchers have stated the

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 7, Issue 2, February 2018

importance of early diagnosis as well as effective Psychological services which can prevent possible future illnesses among students(Craske, et.al;1995)

In the classroom, taking a written exam or giving an oral presentation are two experiences that may be particularly stressful to most students and may cause extensive nervousness and anxiety leading to a cascade of physiological events (release of adrenaline and other hormones) that stimulate increased heart rate (Booth-Kewley& Friedman, 1987). Currently several universities are having their students learn how to deal with stress because later it will often occur in relation to their job. Our general hypothesis is that there will be an increase in heart rate when the students are exposed to specific stressors in the classroom or laboratory.

II.OBJECTIVES

To find out the changes in Heart Rate owing to examination Stress in College .

III. MATERIAL AND METHODOLOGY

- 1)Fifty medical students were selected by questionnaire method(Medical Students Stressors Quistionnare),by sending the online quistionnare via E-mails or via whatsapp.)
- 2)They were made aware of the current study,before filling the questionnaire.
- 3) Their data was kept confidential.
- 4) Responses was studied carefully .
- 5)Heart Rate was recorded in all these test subjects in two sittings(i.e;one just before the examination and second 15 mins after the examination.).
- 6)The Heart Rate was recorded in sitting position.
- 7) Heart rate was recorded by Handheld Monitor of Choicemed Company .
- 8)Result analysis will be done .

IV. RESULTS AND DISCUSSIONS

Questionnaires were filled by 50 students , out of which 25 students were from of Msc-I & II Zoology of Khalsa College, Mumbai and 25 students were from First Year MBBs ,of Geetanjali Medical College Udaipur .The stressor for medical students was their semester exams. In MSc students of Khalsa college,the stressor was Seminars/presentations ,which was part of their curriculum ,carrying 40 marks(Internal Examination). Data was analysed. 81.3% of students were found to be scared of examination and were found with various symptoms of anxiety.Some felt sickness and nervousness,some had loss of aappetite,sleeplessness,Palpitations,High BP,fear of not passing the exam, fear of getting low marks.Maximum(81%) were found to be stressed and in tension just before the examination.One out of 50, started crying just before exams due to nervousness and depression, inspite of preparing for the exams.18.8% students were found to be normal /not scared of examination whether prepared or not.

Out of these 50 students 75 % studends suffered with some or the other clinical symptoms(as per the quistionnaires filled by the students) like Higher heart beats,raised body temperature,Nervousness,headache or body ache,fever,stomach pain and Diarroeha.25% students were found relaxed and with no clinical symptoms.

81% students were found relaxed immediately after the presentation was over ,and their heart beats came back to normal while 18.8% students were still stressed ,thinking that they could not present well and could not answer the questions asked by their colleages and the teachers judging the presentation.Some of these students were found with even more increased heart beats after the presentation due to fear of getting less marks. (Fig:1)

V. CONCLUSION

Exams are stressful most of the time. Pre-examination Stress is a common condition faced by students prior to exams and is quite predominant among medical students. No study have been conducted to assess the impact of stress on

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 7, Issue 2, February 2018

students just prior to examinations owing to their Heart Rate .Therefore, we aimed at interpretation of Heart Rate among medical students in just before and 10 mins after the examination .More than 80% students were found with increased heart rate ,nervousness and anxiety inspite of preparing for the exams.approximately 20% students showed clinical symptoms like vomiting,diarrhoea,fever,severe headache and palpitations.Headache and increase in heart rate was very commonest symptom .Among this group of 50 students or among the 80% students showing increase in heart rate,more than 50 % were medical students . Two out of 50,started crying and shivering and one showed the symptom of Irritability,shouting and aggressiveness.Twenty percent students were relaxed.They did not suffer with increased heart rate.They had heart rate between 72 and 79 i.e.,within the normal range. Hence it can be concluded that the students which get overstressed during examination and suffer with above mentioned symptoms,should be counselled few times before examination and motivated just before examination.

ACKNOWLEDGEMENT

I dedicate my work to my Father Mr.K.G.Mathur,Mother Amar Mathur,My Brothers Prasoon Mathur and Arvind mathur and my Bhabhies who are my backbone.Without their blessings my work is never possible.I acknowledge my heartiest feelings for the sacrifice of my husband Sanjay and my children Kartik,Gaurang,Mohit and Rimjhim during my study.

REFERENCES

- 1)Booth-Kewley, S., & Friedman, H.S. (1987). Psychological predictors of heart disease: A quantitative review. Psychological Bulletin, 101: 342-362
- 2) Craske, M.G., Brown, T.A., Meadows, E.A., & Barlow, D.H., (1995). Uncued and cued emotions and associated distress in a college sample. Journal of Anxiety Disorders, 9: 125-137.
- 3) Fontana, A.M., Hyra, D., Godrey, L., & Cermak, L. (1999). Impact of a peer-led stress inoculation training intervention on state anxiety and heart rate in college students. Journal of Applied Biobehavioral Research 4, 1: 45-63.
- 4)[Zeller A¹, Handschin D, Gyr N, Martina B, Battegay E., Blood Press.](#) Blood \ pressure and heart rate of students undergoing a medical licensing examination.(2004);PUBMED.gov,US National Library Of Medicine, National Institutes Of Health.13(1):20-4)