BACKGROUND MUSIC AT THE TIME OF ACADEMIC ASSESSMENT AS STRESS BUSTER: PERCEPTION OF THE STUDENTS AT GOVT. MEDICAL COLLEGE, BILASPUR

Atul Manoharrao Deshkar¹, Sujit Kumar Naik², Akshataa Atul Deshkar³, Vijaybabu Verma⁴, Mrithunjay Rathore⁵

ABSTRACT: Music has numerous applications within a clinical setting. It can be in the form of background music too. It is known that some students study and learn more effectively while listening to music. METHODS: The present study was intended to evaluate the perception of the students at medical college for the innovative idea of playing of background music during examination as a stress buster and their response for including it as one of the measure for reducing the stress among medical students. RESULT: The subjects were divided into three groups on the basis of suffering from anxiety and stress during examination – No Anxiety (N), Occasional Anxiety (O), Anxiety (A). The groups were subjected to Spearman Correlation (SPSS). When the No Anxiety (N) group and Occasional Anxiety (O) group were compared, it showed positive correlation (0.482), but failed to show statistical significance [0.189]. However, the comparison of the Occasional Anxiety (O) group and Anxiety (A) group showed positive correlation (0.873) which was statistically significant. CONCLUSION: This study indicates that it is the innovative idea of playing background music liked by most of students and even may reduce anxiety and stress which is likely to improve performance. We are encouraged with the positive trends and results of the study.

KEYWORDS: Music Therapy, Stress Buster.

INTRODUCTION: Anxiety is a vague, uneasy feeling of discomfort or dread accompanied by an autonomic response. It involves anticipating future danger, and the response can actually help us to prevent potential danger – the “Fight or flight response”. The triggers include psychological threats, the unexpected, novelty, social/ performance situations, cognitive mechanisms, and conditioned associative memories.[¹]

There are different ways used by individuals to cope with various situations eliciting anxiety in our day to day life, like prayer, meditation, watching television, conversation with friends, listening to music. The Oxford dictionary defines music as vocal and/or instrumental sounds combined in such way as to produce beauty of form, harmony and expression of emotion. Music has been found to induce relaxation and to alter pain perception, blood pressure and respiratory and heart rates.[²] Soft, slow, non-lyrical music significantly decreased systolic blood pressure, heart rate, respiratory rate and oxygen saturation.[³] Traditional systems of healing in India such as Ayurveda and Yoga systems include various musical treatment approaches.[⁴] Music has numerous applications within a clinical setting.
It can be in the form of background music, group singing sessions and music to accompany dance apart from music therapy per se. There are numerous benefits of the application of music in a therapeutic environment such as making positive alteration in mood and emotional states, improving concentration and attention span, developing coping and relaxation skills, exploring self-esteem and personal insight enhancing awareness of the self and the environment and improving social interactions.[5]

A Cochrane review identified many studies comparing music therapy with standard care with or without cognitive behavioural therapy that found reductions in symptoms of depression.[6] There are different Indian studies,[7],[8] showing improvement in depression when subjected to listening to music. Similarly different studies have subjected positive results of music therapy in patients with schizophrenia,[9],[10] dementia,[11] autism,[12],[13] The assessment and evaluation like screening with colposcopy for cervical cancer in women cause significant anxiety which is reduced on playing music during the procedure.[14]

It is known that some students study and learn more effectively while listening to music. Indeed, some researchers have explored the possible transfer of cognitive abilities to other curricular areas by theorizing that exposure to music, through participation and formal instruction can facilitate non-musical learning.[15],[16],[17]

Studies have attempted to draw a cause and effect relationship between music study and academic achievement.[18] It has been shown that background music had a statistically significant effect on psychological test scores.[19] Background music can be defined as any music played while the listener's attention is focused primarily on a task or activity other than listening to the music.[17]

The academic assessment and examination of an individual is a situation that is likely to induce anxiety. It is known that there is increase in stress and anxiety in medical students during the period of assessment which may interfere in their performance.[20],[21] Although a reasonable degree of anxiety is adaptive, sometimes anxiety symptoms can become extreme, maladaptive, and disabling. This decreases the performance in different situations adversely affecting achievement, preventing the individual from reaching his or her maximum potential.

The finding of optimum academic study and testing conditions for a variety of students is of interest to educators in all fields. Also, the effects of environmental conditions on learning and performance may reveal keys to the inner workings of the human thought process. However, the direct effects of exposure to music during study or academic testing have received comparatively little attention.

The present study was intended to evaluate the perception of the students at medical college for the innovative idea of playing of background music during examination and their response for including it as one of the measure for reducing the stress among medical students. As there is paucity of data and studies in this direction on, the present study can be one of the pilot study in the Indian Medical Education System and can be one of the remedy for stress related issues.

MATERIAL & METHODS: The present study was carried out in Department of Physiology Govt. Medical College Bilaspur by forming a team comprised of physiologist, medical educationist and psychiatrist. It was cross-sectional study comprising of questionnaire and semi structured
interview by faculty for the assessment of the perceived stress scale for efficacy of the background music as one of the stress relieving measure.

Ninety Seven students pursuing First year MBBS course at Govt. Chhattisgarh Institute of Medical Sciences, Bilaspur were selected for the study. Informed consent was taken from the students before the examination. All the students were subjected to playing Indian Classical Music in the background when they appeared in the examination. The subjects were assessed after the examination with a subjective rating scale for Effect of Music administered by a team of assessors along with a psychiatrist who were previously instructed about the administration of the scale.

The subjects were asked if they suffered from anxiety/stress during examination which they responded to as – 0 = No, 1 = occasionally, 2 = Yes. They also were asked to rate their reaction to the effect of music played during the examination in a scale which were scored with - 2 = irritable, -1 = felt it to be noise, 0 = no effect, 1 = Good ambience, 2 = Decreased anxiety and stress, 3 = Created positive energy.

The subjects were divided into three groups on the basis of suffering from anxiety and stress during examination – No Anxiety (N), Occasional Anxiety (O), Anxiety (A). The data was analyzed with SPSS for Spearman Correlation.

RESULTS: The study subjects consisted of 97, comprised of 67(69.1%) male subjects and 30(30.9%) female subjects of which 39(40.2%) subjects were in the age group of 15-19 years, 58(59.8%) subjects in the age group of 20-24 years.

The habit of listening to music during study regularly was reported by 14(14.4%) subjects, whereas 71(73.2%) reported of listening to music only occasionally during study and 12(14%) subjects of never indulging in the habit.

Anxiety and stress during examination was reported by 29 (29.9%) subjects, although 59 (60.8%) subjects reported only occasionally and 9 (9.3%) did not report anxiety.

The study sample was subjected to rating the Effect of Music during assessment of which only 2(2.06%) subjects rated it as feeling irritable, 2(2.06%) subjects felt it to be noise, 11(11.34%) subjects rated it having no effect, 31(31.96%) subjects felt music to provide good
ambience, 31(31.96%) subjects reported decrease in anxiety and stress, 20(20.62%) subjects reported further creation of positive energy.

The subjects were divided into three groups on the basis of suffering from anxiety and stress during examination – No Anxiety (N), Occasional Anxiety (O), Anxiety (A). The groups were subjected to Spearman Correlation (SPSS). When the No Anxiety (N) group and Occasional Anxiety (O) group were compared, it showed positive correlation (0.482), but failed to show statistical significance [0.189]. Similarly the comparison between No Anxiety (N) group and Anxiety (A) group also showed positive correlation (0.601), but it failed to show statistical significance (0.087). However, the comparison of the Occasional Anxiety (O) group and Anxiety (A) group showed positive correlation (0.873) which was statistically significant.

The three groups on the basis of suffering from anxiety and stress during examination – No Anxiety (N), Occasional Anxiety (O), Anxiety (A) were subjected to Kruskal Wallis test (SPSS). When the groups were compared with each other with regard to score of the subjective rating scale for Effect of Music, there was no statistically significant difference between the groups.

Kruskal-Wallis Test:

Ranks:

| GROUP            | N   | Mean Rank |
|------------------|-----|-----------|
| No Anxiety       | 9   | 47.00     |
| Occasional Anxiety | 60  | 47.23     |
| Anxiety          | 28  | 53.43     |
| Total            | 97  |           |

No Anxiety (N), Occasional Anxiety (O), Anxiety (A) were compared with each other with regard to the scores in the subjective rating scale for Effect of Music there was no statistically significant difference which indicates that subjects in all the groups rated the effect of music in similar way. In the No Anxiety (N) and Occasional Anxiety (O) groups, we see more subjects have rated the effect of music as good ambience, whereas in the Anxiety (A) group, subjects rated more in reduction of anxiety.
DISCUSSION: In this study, anxiety and stress during examination was reported by 29 (29.9%) subjects, although 59 (60.8%) subjects reported only occasionally and 9 (9.3%) did not report any. Stress and anxiety among medical students in US and Canada was found to be higher than the age-matched general population. It is also known that there is increase in stress and anxiety in medical students during the period of assessment which may interfere in their performance. A systematic review of electronic databases from 1991 to May 2014 including 23 studies concluded that there is evidence to suggest academic assessment is associated with psychological distress among medical students and there may be existence of a relationship between assessment stress or anxiety and impaired performance.

The study sample was subjected to rating the Effect of Music during assessment of which only 4.12% rated it negatively (Music made them irritable or they felt it to be noise) and 11.34% rated it as having no effect, whereas the rest 84.54% subjects rated it having positive effect. Baste & Gadkari have reported statistically significant effect of music on perceived stress and suggested music for therapy in the highly demanding medical curriculum. Chan et al reported the effectiveness of listening to music in reducing depressive symptoms in adult population. In a randomized control trial, Chan et al reported a statistically significant reduction in depression levels was found over time in the music group compared with non-music group.

CONCLUSION: Music has been used in the background as a positive stimulus or even for therapy in various conditions. This study indicates that it is liked by most of students and even may reduce anxiety and stress which is likely to improve performance. We are encouraged with the positive trends and results of the study. We attribute non-significant statistical significance in the correlation to our limitations in the present study and in our extension of this project we can
objectively assess on the basis of anxiety before the assessment and preference for the type of music can be noted for further evaluation although Further study with objective assessment of anxiety and outcome using music as stimulus needs to be planned so that it can be used to enhance the performance of students and also make the academic assessment less stressful.

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| AUTHORS:                                                                 |
|------------------------------------------------------------------------|
| 1. Atul Manohar Rao Deshkar                                            |
| 2. Sujit Kumar Naik                                                    |
| 3. Akshataa Atul Deshkar                                               |
| 4. Vijay babu Verma                                                   |
| 5. Mrithunjay Rathore                                                  |

| PARTICULARS OF CONTRIBUTORS:                                           |
|-----------------------------------------------------------------------|
| 1. Associate Professor and HOD, Department of Physiology, Coordinator  |
| Medical Education Unit, CIMS, Bilaspur, Chhattisgarh.                  |
| 2. Associate Professor and HOD, Department of Psychiatry, CIMS,        |
| Bilaspur, Chhattisgarh.                                                |
| 3. Demonstrator, Department of Physiology, CIMS, Bilaspur, Chhattisgarh|

| NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:                     |
|-----------------------------------------------------------------------|
| Dr. Akshataa Atul Deshkar, Demonstration, Department of Physiology,    |
| Government Chhattisgarh Institute of Medical Sciences, Bilaspur,       |
| Chhattisgarh.                                                         |
| E-mail: drakshataadeshkar@gmail.com                                   |
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