



## EFFECT OF MUSIC THERAPY ON STRESS AMONG PHYSIOTHERAPY STUDENTS IN BANGALORE

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### ABSTRACT

**Background:** Stress in medical students is well established. It may affect students' academic performance and lead to anxiety and depression. Stress not only affect their academics but also affect their mental health and productivity. Music therapy seems to alleviate the stress thus this study was conducted to find out the effect of music therapy on stress among physiotherapy students in Bangalore.

**Methodology:** The primary data was collected from the students studying in various physiotherapy colleges in Bangalore. Google forms of Perceived Stress Scale were distributed among 145 students of various colleges of Bangalore, out of which 120 students having moderate to severe stress were selected for this study. 7 minutes of music therapy was given for 1 month and its effect on stress was evaluated.

**Results:** The results of this study showed that there was significant effect of music therapy on stress among physiotherapy students.

**Discussion:** Music therapy seems to have a significant effect on physiology, associated with stress reduction, pain management rehabilitation and behavior modification thus helping the students to relieve their stress significantly.

**Conclusion:** From our study we conclude that music therapy has significant effect on stress among physiotherapy students and thus music therapy can be recommended for the same.

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### INTRODUCTION

Stress is "any external event or any internal drive which threaten to upset the organism equilibrium is stress". Stress is a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize. Academic stress among students have long been researched on, and researchers have identified stressors as too many assignments, competition with other students, failures, lack of pocket money, poor relationships with other students or lecturers, family or problems at home. In the present competitive age it is reported that young generation are found to be more in stress. We got the information related to depression, attempt to suicide and some psychological symptoms among the youth. Most of us are aware about the stressor which affects the college students and maintain the environment which induces positive thinking among youth. The measures have also been taken by the individuals and different organizations to conduct the various programs to reduce the stress. Adolescence is a dangerous period of time where young people experience self-organization and role

confusion. For them, stress mainly comes from academic tests, interpersonal relations, relationship problems, financial, and career exploration.

Such stress may usually cause psychological, physical, and behavioral problems. Taking all these factors into account an effort is made to understand the stress and emotional adjustments of today's youth. The inference of this study may lead to better adjustment and academic performance of the students.<sup>1</sup>

Environmental sounds that exist without controls for volume, duration, or cause/effect relations are perceived as noise. The most well-known adverse effects of exposure to excessive noise are related to hearing damage; noise also contributes to fatigue, hyperalerting, insomnia, and decreased appetite. In mice, exposure to noise leads to physiological stress, manifested as significantly increased airway reactivity and increased allergic reactions.

Music is ubiquitous in all human cultures and is listened to by persons of all ages, races, and ethnic backgrounds. One measure of the popularity of a topic is the number of Internet sites devoted to that topic.<sup>2</sup>

Stress in medical students is an established phenomenon encountered worldwide and such students seem to be under all stages of their academic career, including pre clinical, para

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clinical, and clinical years. Their overall psychological distress is consistently higher than in the general population and may impact on their academic performance. Stress may foster anxiety, substance abuse, burnouts leading to abandonment of studies, depression, and even suicidal ideation. There are many possible stressors to which medical students may be exposed. The pressure of a rigorous academic curriculum coupled with frequent examination schedules is an obvious factor. Various other perceived sources of stress include personal factors such as staying away from family, adjustment to unfavorable hostel conditions, parental expectations.<sup>3,4,5.</sup>

The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. The PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. Moreover, the questions are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way<sup>6</sup>

*Stress is quite common among physiotherapy students and it is seen that music therapy may help in relieving the stress but the effect of it is not studied among physiotherapy students hence there was a need to do this study*

## METHODOLOGY

The main source of the data was taken from physiotherapy students studying in Bangalore. Students either studying Bachelors and Masters or pursuing their internship were included. For the collection of data perceived stress scale was circulated among the physiotherapy students of different age ranging from 18 to 30 years. The responses to the questionnaire was however not forced and only willing participants were taken and pre and post music therapy responses were recorded. Out of 145 students who responded to the google form 120 students were found to have moderate and high stress. These students were then made to listen to the music therapy of 7 minutes every day for 4 weeks between 1 July 2021 to 29 July 2021. The post data was then collected and was analyzed.

## RESULTS

After obtaining 120 responses (post music therapy) through google forms, the statistical analysis was done using SPSS software version 20.

The results obtained are shown in Table.1

**Table 1** Demographic Data

Sl. No.	Characteristics	Values
1.	Age	22.43 ± 1.98
2.	Male/Female	35/85

**Table 1** shows the demographic data

**Table 2** Pre Post values of Perceived Stress Scale

Scale	Pre (Mean ± SD)	Post (Mean ± SD)	P Value
PSS	20.7 ± 3.58	17.65 ± 3.45	<0.05*

\*Statistically Significant

Table 2 shows the between group comparison of stress values were statistically significant as P value was less than 0.0

## DISCUSSION

In previous study it was seen that there are changes in physiology, cognition and brain chemistry and morphology induced by music when studied in animal models, providing evidence that music may affect animals to humans.<sup>7</sup>

In our study, there is reduction in stress among physiotherapy students. This might be due to the fact that music therapy have a significant effect on physiology and is widely used as an effective therapeutic tool in stress and pain management, rehabilitation and behavior modification.<sup>8</sup>

Similar to our study results, music listening is strongly associated with stress reduction by the decrease of physiological arousal as indicated by reduced cortisol levels, lowered heart rate and decrease in mean arterial pressure.<sup>9</sup>

It is also seen that music modulates activity in brain structures, such as amygdala and mesolimbic reward brain system, which are known to be involved in emotional and motivational process.<sup>10</sup>

Also, through music therapy there is would have been amelioration of stress of the participants in the study, improving the overall mental health of participants. In our study, music therapy seems to decrease the stress which is similar to previous research showing that music therapy can improve mental health.<sup>11</sup>

As there was no regular follow up whether the subjects really listened to the music daily for estimated amount of time, this might have limited the study findings. Future studies can consider group therapy of music for more accurate results.

## CONCLUSION

This study established the efficiency of music therapy on the reduction of stress among physiotherapy students. This intervention programme produced a significant effect on management on stress among the participants. The researchers therefore arrived at a conclusion that music therapy plays a major role in reducing stress among physiotherapy students.

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