

## Evaluation of the effect of 3 melodic scales of Indian music on the brain rhythms and stress levels

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Music listening is said to reduce stress. But evidence regarding Indian music is meager. Indian music is classified into Hindustani and Carnatic music, each with a system of melodic scales (ragas). In this study effect of passive listening to Hindustani ragas on stress and electroencephalogram (EEG) was evaluated.

Healthy individuals were randomly divided into 3 groups that received music intervention (Ahir bhairav, Kausi Kanada and Bhimpalās ragas). EEG was recorded prior to, during, post-intervention, each condition for 10 minutes) and. Stress was scored using State trait anxiety inventory (STAI) before and after the intervention. Data was analyzed using SPSS 20.0 version.

All 3 ragas reduced STAI score significantly. Between conditions effects in theta, alpha, beta and gamma bands were observed which got restricted to only the alpha band at right frontal region after collapsing the conditions. First 2 minutes data revealed predominant effects on raga A on theta, alpha, beta, gamma power; raga B on alpha, beta gamma power, and raga C showed a significant difference all 5 wave power of EEG. State and trait anxiety reduced with passive listening to ragas for about 10 minutes.

Music medicine (passive listening to music) thus has therapeutic implications for anxious individuals in different medical disorders. It is the scale presented as a whole, as it unfolds, that affected the EEG. The significant hemispheric differences with each raga, particularly, frontal asymmetry is in line with the model of hemispheric specialization concerning perceived positive or negative emotions proposed by Heilman.