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Immediate effect of listening to Sri Mahishasura Mardini Strotram on memory in healthy females.

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ABSTRACT

In Hinduism, Goddess Durga was called as Mahishasura Mardini as she killed buffalo headed devil called Mahishasura. This occasion was celebrated by Hindus as Navaratri. Sri Mahishasura Mardini Stotram was first explained by Shri AdiShankara Acharya. Though it was reported in traditional books about the beneficial effects of the stotram listening, the scientific evidence is lacking. Hence, the present study was undertaken to observe the immediate effect of listening to Sri Mahishasura Mardini Stotram on memory in healthy females. A total of thirty apparently healthy female participants were included in the study after obtaining the written informed consent. Sri Mahishasura Mardini Stotram sung by Nitya Santhoshini was played iPod (MEDION) through headphones. Standardized spatial and verbal memory test described in the literature was used in the study to assess the memory of the participants. There was improvement in spatial memory followed by intervention. However, the difference was not statistically significant. There was improvement in verbal memory scores followed by the intervention. The difference was statistically significant ($P < 0.001$). The study results provide scientific evidence for beneficial effects of listening to Mahishasura Mardini Stotram on memory and on verbal memory in specific. We recommend further detailed studies in this area to recommend listening stotram on memory.

Keywords: Stotram, Spatial memory, Verbal memory, Females.

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INTRODUCTION

In Hinduism, Goddess Durga was called as Mahishasura Mardini as she killed buffalo headed devil called Mahishasura. This occasion was celebrated by Hindus as Navaratri. Sri Mahishasura Mardini Stotram was first explained by Shri Adi Shankara Acharya [1]. This stotram is very powerful and it is based on Devi Mahatmyam where Goddess Durga takes different forms to kill the demons like Mahishasura, Shumbha, Nishumbha, Madhu and Kaitabha. In Devi Mahatmyam, it was explained that whoever chants or listens to the Mahishasura Mardini Stotram, Goddess Durga will stay with them and protects their health and wealth. Reciting or listening to this stotram removes all negative emotions like fear, anger, ego and offers victory [2]. In fact, it was mentioned that reading or listening to the stotram removes all sorrows in the life. Spatial and verbal memories are domains of cognition. Spatial memory is memory of space whereas verbal memory is memory of words. Out of these two, the verbal memory has significant importance especially for student population. Reciting the stotram may be difficult for students but listening can be very easily done as they like to listen more than chant. Though it was reported in traditional books about the beneficial effects of the stotram listening, the scientific evidence is lacking. Hence, the present study was undertaken to observe the immediate effect of listening to Sri Mahishasura Mardini Stotram on memory in healthy females.

MATERIALS AND METHODS

Study design: Experimental study. The participants were assembled at 7:00 am in the research lab of Physiology Department. After recording the demographic data, pre-intervention scores of spatial and verbal memory were recorded. Then the participants heard the stotram in the research lab sitting in sukhasana on a yoga mat. Soon after listening to stotram the post-intervention scores were recorded and compared.

Study setting: The present study was conducted at Research lab, Department of Physiology, Vishnu Dental College, Bhimavaram, in collaboration with Division of Yoga and Physical Sciences, Swami Vivekananda Yoga Anusandhana Samsthana, Bengaluru.

Study participants: A total of thirty apparently healthy female participants were included in the study after obtaining the written informed consent. Participants acted as self-controls. Participants willing to hear the stotram were included in the study. Those with any kind of diseases or those under any kind of treatment were excluded from the study.

Sri Mahishasura Mardini Stotram listening: Sri Mahishasura Mardini Stotram sung by Nitya Santhoshini was played iPod (MEDION) through headphones.

Assessment of spatial memory: Standardized spatial and verbal memory test described in the literature was used in the study to assess the memory of the participants. [3-5]

Ethical consideration: The present study was approved by institutional research committee of Vishnu Dental College. Informed consent was obtained from all the participants. Confidentiality of data was maintained.

Data analysis: Data was analyzed by using SPSS 20.0. Student t test was applied to observe the significance of difference between the groups. P value less than 0.05 will be considered significant.

RESULTS

Results are presented in table no 1 and 2. Table 1 presents demographic data of the participants. Table 2 presents the spatial and verbal memory scores before and after the intervention. There was improvement in spatial memory followed by intervention. However, the difference was not statistically significant. There was improvement in verbal memory scores followed by the intervention. The difference was statistically significant ($P < 0.001$).

Table 1: Demographic data of the participants (Data was presented as mean and SEM)

Parameter	Mean ± SEM
Age (years)	18.8±0.13
Height (cm)	161.4±0.79
Weight (kg)	56.0±1.84
BMI	21.48±0.66

Table 2: Spatial and verbal memory scores of the participants before and after intervention (Data was presented as mean and SEM)

Parameter	Before	After	P value
Spatial memory	16.03 ± 0.51	17.00 ± 0.67	0.2550
Verbal memory	13.07 ±0.43	16.73±0.72	<0.0001***

(*P<0.05 is significant, **P<0.01 is significant, ***P<0.001 is significant).

DISCUSSION

The present study was undertaken to observe the effectiveness of listening to Sri MahishasuraMardiniStrotram on memory in healthy females. There was a significant improvement in verbal memory scores followed by the listening the strotram. Earlier studies reported that listening to the mantras and strotrams will alter the mood. This effect is mediated by mesocorticolimbic system. [6] The neurotransmitters mediates the effect includes dopamineand opioids. [7] Further listening to these mantras decreases heart rate and blood pressure and decrease the stress levels also. [8] It was reported that listening to the mantras and chants caused decrease in the anxiety and also showed improvement in the physiological parameters. [9] Listening to the mantras offers relaxation which helps to modulate the neuro-transmitters levels like acetyl choline and increases cognition. It also increases sleep quality that indirectly increases the cognitive functions. It was reported that listening to mantras causes structures changes in the areas of brain related to processing of pain, cognition, sleep, reward, attention and emotions. [12-14] Interestingly, it was reported that the reciting/ listening to the strotrams and mantras can increase the gray matter volume and density in the central nervous system. It also increases the connections between brain structures involved in the regulation of sleep, cognition pain and other major regulatory mechanisms. [15-17] Our study results are in accordance with earlier studies. However, the participants included in our study are healthy individuals unlike some disease condition in above studies. The improvement in verbal memory followed by chanting is very helpful for the students as it helps them to perform well in their academics. Regular practice of the listening may have much more beneficial effects and also improve the quality of life.

CONCLUSION

The study results provide scientific evidence for beneficial effects of listening to Mahishasura Mardinistrotram on memory and on verbal memory in specific. We recommend further detailed studies in this area to recommend listening strotram on memory.

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