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Effectiveness of 8 weeks of Panchakshari mantra chanting on cognitive and psychological parameters in young adults

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ABSTRACT

Background: It was reported that those who practice chanting of the Shiva panchakshari mantra can overcome stress, attain prosperity, and get stability in life. However, there are no research studies in this area in the PubMed literature to support scientific evidence. **Aims and Objectives:** The present study was undertaken to observe the effectiveness of 8 weeks of Panchakshari mantra chanting on cognitive and psychological parameters in young adults. **Materials and Methods:** A total of 60 young adults were part of the study after obtaining the written informed consent. After recruiting, they were randomly assigned to two groups, control and experimental groups with 30 participants in each group. After recording the baseline, the participants in the experimental group were trained in chanting the panchakshari mantra for a week under the supervision of Vedic teachers. The participants in the control group were not allowed to chant during the study period. All the parameters were recorded in both groups after 8 weeks of the intervention. **Results:** There was a significant decrease in the depression, anxiety, and stress scores of the participants of the experimental group after the intervention. There was a significant improvement in the scores of spatial and verbal memory in the participants of the experimental group followed by the intervention. **Conclusion:** There was a significant improvement in the verbal memory scores in the participants of the experimental group. There was a significant decrease in the depression, anxiety, and stress scores of the participants followed by the chanting. The study recommends further detailed studies in this area to provide further scientific evidence.

Key words: Stress; Panchakshari mantra; Chanting; Cognition

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INTRODUCTION

The rhythmic repetition of a phrase or word is called chanting. It is practiced in many traditions and in India, it is part of culture and tradition. While chanting, the vibrations generated by these words or phrases stimulate certain brain areas that are associated with cognitive functions.[1] In Indian tradition, the word that is recited is called a mantra. Chanting is used throughout the world for healing many psychological disorders.[2,3] Repetition of the mantra along with slow breathing activates the vagal system and offers relaxation and a positive mood.[4,5] There is also evidence that chanting can cause hormonal changes such as decreasing cortisol levels and relieving stress.[5] In Hindu tradition, these words include "Om" as a prefix and most of the mantras end with Namaha. The syllable Om has been proven to be very effective if chanted on a regular basis.[6] "Om Namah Shivaya" is called the panchakshari mantra in Hindu tradition. Lord Shiva was explained to have five faces and the five syllables of panchakshari were produced from each face. The instructions given to study group were to sit in the sukhasana with closed eyes and chant the

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Panchakshari mantra 108 times. It was reported that those who practice this chanting of the Shiva panchakshari mantra can overcome stress, attain prosperity, and get stability in life. However, there are no research studies in this area in the PubMed literature to support scientific evidence. Hence, the present study was undertaken to observe the effectiveness of 8 weeks of Panchakshari mantra chanting on cognitive and psychological parameters in young adults.

Aims and objectives

The present study was undertaken to observe the effectiveness of 8 weeks of Panchakshari mantra chanting on cognitive and psychological parameters in young adults.

MATERIALS AND METHODS

A total of 60 young adults were part of the study after obtaining the written informed consent. The study protocol was approved by the institutional human ethical committee No EC/389-9/19. Male and female participants within the age group of 18–24, willing to participate in the study, mild to moderately anxious individuals were included in the study after screening with the generalized anxiety disorder-7 scale. After recruiting, they were randomly assigned to two groups, control and experimental groups with 30 participants in each group. As this is a pilot study, the sample size in each group was fixed at 30 as a thumb rule. After recruitment, baseline values of cognitive parameters were recorded using spatial and verbal memory tests. These tests include projecting 10 slides of pictures or words for 2 min. Then, there will be a pause for 1 min where the participant keeps busy asking to solve mathematical problems. Immediately after 1 min, they will be asked to recall the pictures or words that they have seen earlier. Each correct answer is given a score of one. Different slides were used for pre-intervention and post-intervention recordings. Psychological scores were assessed using the depression, anxiety, and stress scale which is a standardized scale. It is a self-administered questionnaire. Soon after recording the baseline, the participants in the experimental group were trained to chant the panchakshari mantra for a week days under the supervision of Vedic teachers. The participants have to sit in sukhasana and concentrate on their breathing for 5 min. Soon after, they start chanting panchakshari mantra 108 times as instructed. After completion of chanting again, they have to concentrate on their breathing for 5 min. After a week, all the participants started chanting the mantra at their convenient place at 6 am daily for 8 weeks. All the participants were monitored through the Zoom meeting app. The participants in the control group were neither trained nor allowed to chant during the study period. All the parameters were recorded in both groups after 8 weeks of the intervention.

Statistical analysis

Data were analyzed using SPSS 21.0 version software. A student t-test was applied to observe the difference between the scores of pre-and post-intervention in both groups. A probability value of <0.05 was considered significant.

RESULTS

The results are presented in Tables 1 and 2. Depression, anxiety, and stress are not significantly different among the control and experimental groups before the intervention. There was a significant decrease in the depression, anxiety, and stress scores of the participants of the experimental group after the intervention. Spatial and verbal memory scores are not significantly different between the control and experimental groups. There was a significant improvement in the scores of spatial and verbal memory in the experimental group participants followed by the intervention.

DISCUSSION

The present study was undertaken to observe the effectiveness of 8 weeks of Panchakshari mantra chanting on cognitive and psychological parameters in young adults. Depression, anxiety, and stress are not significantly different among the control and experimental groups

Table 1: Comparison of the psychological and cognitive parameters among control and experimental groups before intervention

Parameter	Control group (n=30)	Experimental group (n=30)	P-value
GAD-7	10.40±2.06	10.27±2.60	0.8776
Depression	13.07±3.51	14.80±3.78	0.2042
Anxiety	10.40±1.84	10.67±1.99	0.7062
Stress	19.27±2.55	18.47±2.28	0.3711
Spatial memory	6.80±1.42	6.60±1.55	0.7156
Verbal memory	5.20±0.94	4.93±0.96	0.4490

Data were presented as mean and SD. **P<0.01 is significant, ***P<0.001 is significant, GAD-7: Generalized anxiety disorder

Table 2: Comparison of the psychological and cognitive parameters among control and experimental groups after intervention

Parameter	Control group (n=30)	Experimental group (n=30)	P-value
GAD-7	10.00±1.77	8.00±2.00	0.0072**
Depression	13.80±2.48	10.87±1.77	0.0009***
Anxiety	10.00±1.46	8.20±1.61	0.0034**
Stress	19.33±2.47	16.53±2.10	0.0023**
Spatial memory	7.33±1.40	6.60±1.55	0.1842
Verbal memory	5.40±0.99	6.93±1.03	0.0003

Data were presented as mean and SD. **P<0.01 is significant, ***P<0.001 is significant, GAD-7: Generalized anxiety disorder-7

before the intervention. There was a significant decrease in the depression, anxiety, and stress scores of the participants of the experimental group after the intervention. Spatial and verbal memory scores are not significantly different between the control and experimental groups. There was a significant improvement in the scores of spatial and verbal memory in the experimental group participants followed by the intervention. It was explained that chanting OM reduces stress, anxiety, and depression levels in hypertensive individuals.[7] It was reported that chanting modulates negative emotions by modulating neuronal processing.[8] Interestingly, chanting mantras were reported to correct autonomic dysfunctions and also regulate the lipid profiles provided that they are practiced correctly for the long term.[9] Chanting mantras are also reported to improve the endurance of the respiratory muscles.[10] Hence, chanting mantras will improve the positive mood in an individual ultimately helping to improve the quality of life.[11,12] Another study reported that mantra chanting was an effective adjunctive therapy in the management of depression as it improves positive mood. The present study results are in accordance with the earlier studies.

The chanting mantra was reported to improve attention and reaction time as well. It contributes to this improvement through improvement in the velocity of conduction in the sensory and motor nerve fibers. Further, there will be a speedup in the processing of these impulses in the somatosensory cortex. Mantra chanting offers a state of relaxation that favors the improvement of cognitive functions.[13,14] To support this view, some studies have reported a decrease in the serum cortisol levels followed by the chanting of the mantras on a regular basis.[15,16] In the current lifestyle, stress, sleep disturbances, and cognitive decline are the key problems faced by the individuals. Hence, chanting mantras was a traditional and simple way but the most effective way to manage psychological distress and to improve cognitive functions.[17] There was a significant improvement in the verbal memory scores in the experimental group participants. There was a significant decrease in the depression, anxiety, and stress scores of the participants followed by the chanting. The study recommends further detailed studies in this area to provide further scientific evidence.

Limitations of the study

The sample size of the study is small. Hence, the results cannot be generalized.

CONCLUSION

There was a significant improvement in the verbal memory scores in the experimental group participants. There was a significant decrease in the depression, anxiety, and stress scores of the participants followed by the chanting. The study recommends further detailed studies in this area to provide further scientific evidence.

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AL, BSK- Design of the study, review of literature, analysis, and preparing the manuscript; **SSD, YGR**- Data collection, preparing the manuscript; **SSKG, MJK**- Analysis and preparing the manuscript.

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